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Sexual activity and romantic relationships after burn injury: A Life Impact Burn Recovery Evaluation (LIBRE) study

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Abstract

Background: Engaging in healthy sexual activity and romantic relationships are important but often neglected areas of post-burn rehabilitation. The degree to which persons with burn injuries engage in sexual activity and romantic relationships is not well understood. This study examined demographic and clinical characteristics predicting engagement in sexual activity and romantic relationships in a sample of adult burn survivors compared to a general United States sample.

Methods: Data for the adult burn survivor sample were from 601 adult burn survivors who participated in field-testing for the calibration of the Life Impact Burn Recovery Evaluation (LIBRE) Profile, a burn-specific instrument assessing social participation on six scales including sexual activity and romantic relationships. Comparison data were obtained from a general population sample of 2000 adults through sample matching. Demographic predictors of sexual activity and romantic relationship status were examined in each sample using modified Poisson regression analyses. Clinical predictors of engaging in sexual activity and romantic relationships were also examined in the LIBRE sample.

Results: Participants were slightly more likely to report being sexually active in the adult burn survivor sample than in the general sample (65% vs. 57%, $p < 0.01$). There was not a significant difference in romantic relationship status between the two samples (64% vs. 62%, $p = 0.31$).

In multivariable regression analyses, men in both samples were more likely to report being in a sexual relationship (RR in LIBRE sample = 1.23, 95% CI 1.08–1.39; RR in general sample = 1.10, 95% CI 1.02–1.18). Participants in both samples who were not working were less likely to

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Conflict of interest

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report being sexually active or in a romantic relationship (RRs ranging from 0.73 to 0.83, $p < 0.05$ for all estimates). In the adult burn survivor sample, respondents with hand burns were more likely to report being sexually active and in a romantic relationship (RR = 1.16, 95% CI 1.01–1.33). Time since burn injury, burn size, and burns to other critical areas were not significantly associated with either outcome in adjusted analyses.

Conclusions: The likelihood of engaging in sexual activity and romantic relationships is similar among adult burn survivors and the comparison group representing a general United States sample of adults. Further research addressing sexual activity and romantic relationships after burn injuries will help to foster better patient-clinician dialogue, pinpoint barriers, design interventions, and allocate appropriate resources.

Keywords

Burn injury; Sexual activity; Romantic relationships

1. Introduction

Throughout the last 50 years, there have been significant advances in burn care and as a result, survival rates have increased [1–3]. In turn, there is a greater need to study long-term social recovery in the burn survivor population. Research shows that approximately 30% of burn survivors experience moderate to severe social difficulties after injury and have trouble participating in social activities, especially with family and friends [2,4,5]. Engaging in sexual activity and romantic relationships are important aspects of social participation and are an essential component of the human experience. Despite this, barriers to participating in these activities are often unrecognized challenges of post-burn rehabilitation [6]. These areas may be neglected because patients are shy or too embarrassed to bring the topic up with their physician [6]. Furthermore, healthcare providers may be uncomfortable discussing sex and intimacy with their patients [7]. As a result, the degree to which people with burn injuries engage in sexual activity and romantic relationships is not well understood. Additionally, there is a lack of educational materials and resources on these topics for clinicians and patients [7].

Previous literature has provided little information regarding the predictors of sexual activity and romantic relationships as it might relate to patient reported activities of those with burn injuries. Consideration of the sociodemographic characteristics as predictors of these activities provides important guidance to those treating and caring for burn survivors. Prior research on sexual activity and romantic relationships in people with disabilities has focused on describing experiences and satisfaction with relationships rather than determining predictors of being in a relationship. To date, there are no studies comparing burn survivors' relationship status and predictors to the general population. Within the spinal cord and traumatic brain injury populations, several studies have examined marital status before and after injury [8–13]. Sexual function and satisfaction with sexuality was recently examined within the burn population, however, there is little information on frequency of sexual activity [6,14–18]. Overall, research on sexual satisfaction after burn injury suggests gender differences. Men are more vocal about sexuality in both the general and burn survivor

populations, while women have more trouble talking about sexuality. Additionally, there is a strong correlation between poor body image and lower sexual satisfaction [15,18].

Measures used in these studies have inherent limitations. Some apply only to married individuals and measure satisfaction but not predictors of relationship status, whereas others are generic measures that do not assess aspects of sexual activity and romantic relationships specifically relevant to burn survivors [6,15,19–23]. While the existing literature provides important insights regarding how burn injury affects sexual activity and romantic relationships, characteristics that predict engagement in sexual activity and romantic relationships have not been examined and compared to other general populations.

The Life Impact Burn Recovery Evaluation (LIBRE) Profile is a new burn-specific instrument that assesses social participation in six different areas, including sexual activity and romantic relationships (marital and non-marital) [24,25]. The LIBRE Profile is conceptually grounded in the World Health Organization International Classification of Functioning as well as the Burn Outcomes Questionnaire and has been shown to be reliable and valid [24,26–30]. Three LIBRE Profile scales (Work, Sexual Activity, and Romantic Relationships) are administered only if the content is relevant for the individual. Prior to responding to these LIBRE Profile items, participants complete yes/no screening questions to determine which of these 3 scales will be administered. Screening questions for these 3 scales include: “Are you currently working for pay?”; “Are you currently in a romantic relationship?”; and “Are you currently sexually active?”. Responses to these LIBRE Profile screening questions provide an opportunity to examine the characteristics of burn survivors who are engaged in sexual activity and those who are in romantic relationships. As part of the LIBRE Profile calibration study, data were also collected for a sample of the United States (U.S.) general population. Therefore, in the present study, predictors of sexual activity and romantic relationship status were measured in burn survivors and compared to the general sample.

2. Methods

2.1. Study design and participants

This study included secondary data collected during field-testing for the LIBRE Profile calibration study in two samples: adult burn survivors and a general population convenience sample. For the adult burn survivor sample, LIBRE items (192 total) were administered to 601 burn survivors between October 2014 and December 2015. Burn survivors were recruited through burn peer support groups, social media, burn clinics, the Phoenix Society for Burn Survivors, and at the 2014 and 2015 Phoenix World Burn Congress meetings. Burn survivors over the age of 18 with injuries to 5% total body surface area (TBSA) or burns to critical body areas (hands, feet, face, or genitals) were eligible to participate. The general population sample (N = 2000) was obtained through the YouGov survey research firm (Palo Alto, CA) using sample matching, with samples representative of a study-appropriate target population constructed from large (over one million respondents) but unrepresentative pools of opt-in survey respondents in the United States (U.S.), aged 18–85. Matching was done based on gender, racial/ethnic background, age, education, and employment status, weighted equally.

2.2. Demographic and clinical characteristics

Demographic and clinical variables were collected through self-report. For both samples, demographic variables included age at time of survey, gender, race/ethnicity, education level, and marital status. For the burn survivor sample, clinical variables included TBSA burned (median value used when a range was reported), presence of burns to critical areas, and time since burn injury.

2.3. Outcome measures

Adult burn survivors responded to LIBRE Profile questions by online survey or phone interview. Development of the 126-item LIBRE Profile from the LIBRE-192 has been described previously [24]. Responses to the screening questions: “Are you currently sexually active?” (yes/no) and “Are you currently in a romantic relationship?” (yes/no) served as the outcome variables for the present analyses. No definition of what it means to be sexually active or in a romantic relationship is provided, so it is up to each participant to interpret the screening questions and respond as they see fit. As with the adult burn survivor sample, those in the general population sample responded to questions asking if they were currently sexually active and if they were in a romantic relationship. Questions were administered online by YouGov, and the study authors received a coded data set for analysis.

2.4. Statistical analyses

Demographic characteristics for adult burn survivor and general population sample participants were compared based on whether individuals reported being sexually active or in a romantic relationship. For the adult burn survivor sample, clinical characteristics were also examined. Modified Poisson regression with robust variance estimation was used to estimate relative risks for predictors of the two outcome variables in each sample. Predictor variables were selected based on univariate associations with the outcome variables and inclusion of clinical variables identified a priori in the LIBRE sample as relevant burn characteristics.

Model fit was examined using Pearson Chi-Square tests. First, subjects were broken into 10 groups of approximately equal size (deciles) based on the order of the probability of being sexually active (or in a romantic relationship). Second, the difference between the observed and predicted numbers of participants who were sexually active (or in a romantic relationship) in each group and the ratio of the squared difference to the predicted number were calculated. Third, the value sum of the ratio across 10 groups was compared with Chi-Squared distribution with 9 degrees of freedom. A p-value of <0.05 indicated poor fit of the data to the model. The expected and observed probability for each group was plotted to identify the source of any misfit. Collinearity between independent variables was examined by calculating variance inflation factors (VIF), with a VIF of >10 deemed to indicate problematic collinearity. The robustness of the parameter estimates was tested using bootstrap techniques [31,32]. Whether the point estimates and 95% confidence intervals of the regression coefficients remained stable across 200 bootstrap subsamples was examined.

3. Results

Demographic characteristics of the two study samples are presented in Tables 1a and 1b. In both samples, men were significantly more likely to report being sexually active, whereas reporting being in a romantic relationship did not vary by gender. Participants who were not married and those who were not working were significantly less likely to report being sexually active and in a romantic relationship. In the adult burn survivor sample, participants with hand burns were more likely to report being sexually active and in a romantic relationship. Burn injury to other critical areas and burn size were not associated with being sexually active or in a romantic relationship. Time since burn injury was not associated with being in a romantic relationship. However, burn survivors who were at least 3 years out from their burn injury were significantly more likely to be sexually active than those less than 3 years from injury (68% vs. 57%; $p = 0.02$).

Table 2 compares sexual activity and romantic relationship status in the adult burn survivor sample with the general population sample. Participants from the burn survivor sample reported being sexually active significantly more frequently (65%) compared to the general population sample (57%), whereas romantic relationship status did not differ significantly between the two groups. Fifty-seven percent of respondents in the adult burn survivor sample and 51% of respondents in the general population sample reported being both sexually active and in a romantic relationship, whereas 28% of the adult burn survivor sample and 32% of the general population sample reported being neither sexually active nor in a romantic relationship. Sixteen percent of respondents in the adult burn survivor sample and 18% in the general population sample gave discordant responses to the two screening questions (i.e. sexually active but not in a romantic relationship or in a romantic relationship but not sexually active).

Tables 3a and 3b show results from adjusted regression analyses in the two samples. Due to high levels of collinearity between marital status and other independent variables in the model, inclusion of marital status in adjusted models resulted in unstable estimates for the other predictors, thus marital status was not included in the final models. In the adult burn survivor sample, time since injury was not significantly associated with being sexually active or in a romantic relationship in adjusted analyses and was thus not retained in the final models.

Men were more likely to report being in a sexual relationship in both samples (RR in adult burn survivor sample = 1.23, 95% CI 1.08, 1.39; RR in the general population sample = 1.10, 95% CI 1.02, 1.18), and participants who were not working were less likely to report both sexual activity and romantic relationship status (statistically significant RRs of 0.83 95% CI 0.71, 0.97 and 0.81 CI 95% 0.70, 0.95 in the adult burn survivor sample, 0.74 CI 0.63, 0.88 and 0.73 CI 0.61, 0.87 in the general population sample).

In the adjusted analyses in the burn survivor sample, burn size showed no association with the outcome variables. Coincidentally, estimates rounded to two decimal places were identical for the associations between hand burns and the two outcome variables (RR = 1.16, 95% CI 1.01, 1.33 for both sexual activity and romantic relationship status).

Tests of model fit by decile showed good model fit for sexual activity and romantic relationships in the burn survivor sample and for romantic relationships in the general sample ($p > 0.05$). For sexual activity in the general population sample, model fit was poor in the most extreme (first and tenth) deciles. However, the degree of misfit between observed and predicted probability of being sexually active was not severe (Supplementary Fig. 1). Collinearity diagnostics yielded no correlation problems between independent variables (all VIFs < 1.8 , data not shown). The point estimates and 95% confidence intervals from the bootstrap inferences remained stable (data not shown).

4. Discussion

Burn injuries are life-changing events and can substantially impact intimate relationships. Prior research shows that burn survivors have worse psychological health, quality of life, and self-esteem compared to general population samples [3,33,34]. As many as 73% of burn survivors have significant difficulty with their usual social activity and 53% have difficulty with self-care after injury [34]. Given this prior research, one might assume that burn survivors would be less likely to be involved in sexual activity or romantic relationships than the general population. However, findings from this study suggest that the likelihood of adult burn survivors being sexually active or in a romantic relationship does not significantly differ from a sample of the general population. In addition, the demographic and clinical predictors of relationship status are similar between the two groups.

The findings of this study fit well with the conceptual framework for the LIBRE Profile which is based on the World Health Organization International Classification of Functioning in addition to the Burn Outcomes Questionnaire [28–30]. These frameworks provide the foundation for the findings reported in this manuscript.

Interestingly, this study shows that adult burn survivors reported being sexually active more frequently than individuals from the general population sample. Additionally, 64% of the adult burn survivor sample and 62% of the general population sample were in romantic relationships. It appears that, despite the challenges posed by a burn injury, sexual and romantic relationship status among burn survivors are similar to the general population. This may be explained by a possible selection bias in the burn survivor sample. It is possible the individuals who responded to study recruitment strategies are more active in burn survivor support and advocacy groups and are more likely to be adjusting well after their injury. Previous research on the LIBRE Profile has shown that burn survivors who participate in peer support score better on LIBRE Profile scales [35]. Further, one can postulate that the burn survivor sample scored well in both areas related to relationships due to increased resiliency, or ability to ‘bounce back’ after injury, and post-traumatic growth, the act of surpassing pre-trauma conditions, among burn survivors [36]. An overarching theme within the literature on resiliency and post-traumatic growth revolves around changes in relationships. Following injury, burn survivors have reported increased trust and loyalty with their partners and greater feelings of connectedness and closeness in their relationships in general [36–38]. In addition, research has shown that active relationships and social support enhance post-traumatic growth and recovery [37]. These increased feelings of belonging

and emotional intimacy could lead to burn survivors being in romantic relationships and, in regards to sexual relationships, surpass their peers.

This study found that men in the adult burn survivor and general population samples were more likely to report being sexually active than women [19]. Other studies have found similar results, with men reporting more sexual experiences, higher sexual satisfaction, and more permissive attitudes about sex than women [19,20,39]. One study reported that over 80% of men in the sample expressed sexual satisfaction, whereas only 52% of women reported being satisfied [40]. Some theorize that this is due to cultural masculocentricity and increased pressure for men to be more vocal about their sexuality [19,40]. Others theorize that it is related to women's sexual health and body image [19,39,41,42]. In general, problems related to sexual desire are commonly found in women and have been shown to negatively impact personal and interpersonal relationships [19,39,41–43]. Within the burn survivor population, studies have found that women have more severe disturbances in body image across all stages of rehabilitation in comparison to men [19,44]. This body image disturbance can also increase in severity over time [19,44]. It is therefore plausible that body image is a contributing factor when examining sexual health in the general and burn survivor populations.

In this study, individuals who were working were more likely to be sexually active and/or in a romantic relationship in both the burn survivor and general samples. This finding stands in contrast with other studies showing no difference in outcomes between those who return to work and those who do not [45]. It is possible that those who are working feel more successful and well-established and are thus more open to relationships. In general, self-esteem has been positively related to relationship satisfaction [43]. Additionally, returning to work may be considered a surrogate marker of socioeconomic status. Lower socioeconomic status has been shown to be associated with worse outcomes in the general population and it is possible that added social stressors and worse health make it more difficult to stay in a relationship [44,45].

Importantly, this study found no significant association between sexual activity and romantic relationship status with burn size or burns to face or genital areas. In comparison, other studies have found increased body image and sexual dissatisfaction when burns were located on the breast, inner thigh, and scrotal area and in those with a higher TBSA burned [6,15,16,43,44]. Interestingly, participants in this study who had hand burns were more likely to be sexually active and/or in a romantic relationship than burn survivors without hand burns. It is possible that those with hand burns have more limited abilities and that, for those who have a romantic, sexual, or marital partner, the partner's support with caregiving helps strengthen the relationship. Some studies of individuals with spinal cord injuries have found that their injury "strengthened" their marital relationship and that this population did not have a higher divorce rate than the general population [8,11,13]. This suggests that providing care may enhance a caregiving spouse's sense of self-worth and increase marital satisfaction and stability [11,12]. It is possible that those with hand burns have more limited abilities, leading to more reliant relationships. In turn, this may strengthen the partnership and increase the likelihood of staying in a relationship. In addition, hand burns are not

inherently related to sexual function and therefore may not negatively impact those types of relationships.

There are several limitations to this study. The study used convenience samples that may be subject to selection bias and are limited in their generalizability. However, as previously reported, both samples were general in scope and represented a range of demographic and clinical characteristics [27]. The study also employed a cross-sectional design and thus only allows for a single snapshot into respondents' relationships. Additionally, approximately 50% of the burn survivor sample was more than 10 years out from their burn injury date. Cause and effect relationships cannot be inferred and only cross-sectional associations can be discussed. Potential confounding from unmeasured variables could affect the observations reported. Future studies should be conducted using prospective repeated measures cohort designs to provide stronger inferences between the independent and dependent variables. Such designs may be able to shed light on a period of possible disruption in sexual activity or romantic relationship status early after the burn injury. The current study did not examine satisfaction with sexual activity or the quality of the romantic relationship. Furthermore, the study did not screen for depression or post-traumatic stress disorder, both of which may impact sexual activity and relationship status. Finally, sexual orientation, gender identity, and cultural factors, all of which may affect relationships, were also not explored.

With an increasing divorce rate and changing views on sexuality and partnerships, it is important to understand how sexual activity and romantic relationships may change after burn injury. The findings from this study that the likelihood of engaging in sexual activity and romantic relationships for adult burn survivors is similar to the general sample is somewhat reassuring and argues for future research focusing on the quality of these relationships. Findings such as these should begin to guide clinicians so that they feel more comfortable approaching these topics, fostering patient-clinician communication, and, as a result, pinpoint barriers so that future interventions to address changes and concerns related to sexual activity and romantic relationships after burn injury can be designed with the allocation of appropriate resources.

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Table 1a –

Characteristics of adult burn survivor population by screening questions for romantic relationships and sexual activity.

Variable	Value	All participants	In a romantic relationship	Not in a romantic relationship	Sexually active	Not sexually active
All participants		601 (100.0)	387 (100.0)	214 (100.0)	390 (100.0)	211 (100.0)
Age at time of survey						
	30	157 (26.2)	76 (19.6)	81 (38.0)**	100 (25.7)	57 (27.0)*
	31–50	207 (34.5)	145 (37.5)	62 (29.1)	144 (37.0)	63 (29.9)
	51–65	181 (30.2)	126 (32.6)	55 (25.8)	118 (30.3)	63 (29.9)
	>65	55 (9.2)	40 (10.3)	15 (7.0)	27 (6.9)	28 (13.3)
Gender	Female	329 (54.8)	206 (53.2)	123 (57.8)	197 (50.6)	132 (62.6)*
	Male	271 (45.2)	181 (46.8)	90 (42.3)	192 (49.4)	79 (37.4)
Race/ethnicity	White non-Hispanic	466 (78.2)	319 (82.6)	147 (70.0)**	311 (80.2)	155 (74.5)
	Black or African-American	56 (9.4)	30 (7.8)	26 (12.4)	37 (9.5)	19 (9.1)
	Hispanic/Latino	41 (6.9)	23 (6.0)	18 (8.6)	24 (6.2)	17 (8.2)
	Other ^a	33 (5.5)	14 (3.6)	19 (9.1)	16 (4.1)	17 (8.2)
Education	High school or less	248 (41.5)	149 (38.7)	99 (46.7)	149 (38.4)	99 (47.4)
	Technical/trade training or associate degree	100 (16.8)	71 (18.4)	29 (13.7)	71 (18.3)	29 (13.9)
	Bachelor's degree	165 (27.6)	105 (27.3)	60 (28.3)	108 (27.8)	57 (27.3)
	Graduate/professional/advanced degree	84 (14.1)	60 (15.6)	24 (11.3)	60 (15.5)	24 (11.5)
Marital status	Married/live with significant other	270 (45.2)	266 (68.9)	4 (1.9)**	239 (61.4)	31 (14.8)**
	Divorced/separated	85 (14.2)	29 (7.5)	56 (26.4)	33 (8.5)	52 (24.9)
	Widowed	19 (3.2)	6 (1.6)	13 (6.1)	5 (1.3)	14 (6.7)
	Single (never married)	224 (37.5)	85 (22.0)	139 (65.6)	112 (28.8)	112 (53.6)
Current work status	Working	322 (53.9)	219 (56.9)	103 (48.6)**	229 (59.0)	93 (44.5)**
	Not working	192 (32.2)	105 (27.3)	87 (41.0)	108 (27.8)	84 (40.2)
	Retired	46 (7.7)	35 (9.1)	11 (5.2)	26 (6.7)	20 (9.6)
	Other ^b	37 (6.2)	26 (6.8)	11 (5.2)	25 (6.4)	12 (5.7)
TBSA	0–20	143 (25.4)	90 (24.7)	53 (26.8)	89 (24.4)	54 (27.4)
	21–40	185 (32.9)	120 (33.0)	65 (32.8)	126 (34.5)	59 (30.0)
	41–60	116 (20.6)	75 (20.6)	41 (20.7)	76 (20.8)	40 (20.3)

Variable	Value	All participants	In a romantic relationship	Not in a romantic relationship	Sexually active	Not sexually active
	61–80	85 (15.1)	61 (16.8)	24 (12.1)	55 (15.1)	30 (15.2)
	81–100	33 (5.9)	18 (5.0)	15 (7.6)	19 (5.2)	14 (7.1)
Burns to critical areas	Yes	486 (80.9)	313 (80.9)	173 (80.8)	319 (81.8)	167 (79.2)
	No	115 (19.1)	74 (19.1)	41 (19.2)	71 (18.2)	44 (20.9)
Visible burns (hands and/or face)	Yes	442 (73.5)	286 (73.9)	156 (72.9)	293 (75.1)	149 (70.6)
	No	159 (26.5)	101 (26.1)	58 (27.1)	97 (24.9)	62 (29.4)
Hand burn	Yes	350 (58.2)	240 (62.0)	110 (51.4) [*]	245 (62.8)	105 (49.8) ^{**}
	No	251 (41.8)	147 (38.0)	104 (48.6)	145 (37.2)	106 (50.2)
Face burn	Yes	337 (56.1)	211 (54.5)	126 (58.9)	222 (56.9)	115 (54.5)
	No	264 (43.9)	176 (45.5)	88 (41.1)	168 (43.1)	96 (45.5)
Genital burn	Yes	35 (5.8)	18 (4.7)	17 (7.9)	19 (4.9)	16 (7.6)
	No	566 (94.2)	369 (95.4)	197 (92.1)	371 (95.1)	195 (92.4)
Time since burn injury	<3 years	156 (26.0)	96 (24.8)	60 (28.0)	89 (22.8)	67 (31.8) [*]
	3–10 years	166 (27.6)	101 (26.1)	65 (30.4)	116 (29.7)	50 (23.7)
	>10 years	279 (46.4)	190 (49.1)	89 (41.6)	185 (47.4)	94 (44.6)

^a Other reported race/ethnicity includes Asian (N = 8), American Indian or Alaska Native (4), Native Hawaiian or Pacific Islander (2), South Asian (1), Multiracial (16), American (1), and Italian (1).

^b Other work status includes homemaker/caregiver (N = 16), volunteer (21); “Permanently disabled” was available as a response choice only in the normative sample.

* p < 0.05.

** p < 0.01.

Table 1b –

Characteristics of general U.S. population sample by screening questions for romantic relationships and sexual activity.

Variable	Value	All participants	In a romantic relationship	Not in a romantic relationship	Sexually active	Not sexually active
All participants		2000 (100.0)	1242 (100.0)	758 (100.0)	1147(100.0)	853 (100.0)
Age at time of survey	30	440 (22.0)	257 (20.7)	183 (24.1)	271 (23.6)	169 (19.8)
	31–50	695 (34.8)	497 (40.0)	198 (26.1)	485 (42.3)	210 (24.6)
	51–65	597 (29.9)	358 (28.8)	239 (31.5)	298 (26.0)	299 (35.1)
	>65	268 (13.4)	130 (10.5)	138 (18.2)	93 (8.1)	175 (20.5)
Gender	Female	1122 (56.1)	705 (56.8)	417 (55.0)	622 (54.2)	500 (58.6)
	Male	878 (43.9)	537 (43.2)	341 (45.0)	525 (45.8)	353 (41.4)
Race/ethnicity	White non-Hispanic	1426 (71.3)	914 (73.6)	512 (67.6)	819 (71.4)	607 (71.2)
	Black or African-American	228 (11.4)	98 (7.9)	130 (17.2)	116 (10.1)	112 (13.1)
	Hispanic/Latino	220 (11.0)	157 (12.6)	63 (8.3)	145 (12.6)	75 (8.8)
	Other ^a	126 (6.3)	73 (5.9)	53 (7.0)	67 (5.8)	59 (6.9)
Education	High school or less	864 (43.2)	503 (40.5)	361 (47.6)	444 (38.7)	420 (49.2)
	Technical/trade training or associate degree	612 (30.6)	380 (30.6)	232 (30.6)	362 (31.6)	250 (29.3)
	Bachelor's degree	336 (16.8)	227 (18.3)	109 (14.4)	217 (18.9)	119 (14.0)
	Graduate/professional/advanced degree	188 (9.4)	132 (10.6)	56 (7.4)	124 (10.8)	64 (7.5)
Marital status	Married/live with significant other	1082 (54.1)	963 (77.5)	119 (15.7)	818 (71.3)	264 (31.0)
	Divorced/separated	260 (13.0)	85 (6.8)	175 (23.1)	95 (8.3)	165 (19.3)
	Widowed	86 (4.3)	10 (0.8)	76 (10.0)	14 (1.2)	72 (8.4)
	Single (never married)	572 (28.6)	184 (14.8)	388 (51.2)	220 (19.2)	352 (41.3)
Current work status	Working	1026 (51.3)	687 (55.3)	339 (44.7)	666 (58.1)	360 (42.2)
	Not working	155 (7.8)	75 (6.0)	80 (10.6)	72 (6.3)	83 (9.7)
	Retired	342 (17.1)	182 (14.7)	160 (21.1)	139 (12.1)	203 (23.8)
	Permanently disabled	170 (8.5)	82 (6.6)	88 (11.6)	63 (5.5)	107 (12.5)
	Other ^b	307 (15.4)	216 (17.4)	91 (12.0)	207 (18.1)	100 (11.7)

^aOther reported race/ethnicity includes mixed race/ethnicity (N = 57), Asian (45), Native American (9), Middle Eastern (4), American (3), and 1 each of 8 other responses.

^bOther work status includes homemaker (N = 188), student (91), temporarily laid off (8), and 3 or fewer of 16 other responses. p < 0.01 for comparisons of all variables except gender with being in a romantic relationship and with being sexually active; gender and romantic relationship: p = 0.44; gender and sexually active: p = 0.05.

Table 2 –

Participants reporting being in a romantic relationship and/or sexually active, adult burn survivor sample vs. general U.S. population sample.

	Adult burn survivor sample	General U.S. population sample	p-Value
Total	601 (100.0)	2000 (100.0)	
In a romantic relationship	387 (64.4)	1242 (62.1)	0.31
Not in a romantic relationship	214 (35.6)	758 (37.9)	
Sexually active	390 (64.9)	1147 (57.4)	<0.01
Not sexually active	211 (35.1)	853 (42.7)	
Sexually active and in a romantic relationship	341 (56.7)	1018 (50.9)	<0.01
Sexually active only	49 (8.2)	129 (6.5)	
In a romantic relationship only	46 (7.7)	224 (11.2)	
Neither sexually active nor in a romantic relationship	165 (27.5)	629 (31.5)	

Modified Poisson regression results predicting being in a romantic relationship and being sexually active in the adult burn survivor sample.

Table 3a –

	In a romantic relationship			Sexually active		
	RR	95% CI	p-Value	RR	95% CI	p-Value
Age at study, per 10-year increase	1.08	1.03, 1.13	< 0.01	0.97	0.93, 1.02	0.20
Male gender	1.08	0.95, 1.22	0.24	1.23	1.08, 1.39	< 0.01
Black or African-American	0.81	0.60, 1.10	0.18	1.02	0.81, 1.30	0.85
Hispanic/Latino	0.89	0.67, 1.19	.45	0.90	0.68, 1.19	0.47
Other race/ethnicity	0.73	0.50, 1.05	0.09	0.80	0.56, 1.14	0.22
Education, per category increase	1.02	0.96, 1.08	0.51	1.04	0.99, 1.10	0.13
Not working	0.83	0.71, 0.97	0.02	0.81	0.70, 0.95	0.01
Retired	0.88	0.71, 1.10	0.26	0.74	0.54, 1.02	0.07
Other work status ^a	1.03	0.82, 1.31	0.78	1.07	0.85, 1.35	0.56
TBSA quintile	1.02	0.96, 1.07	0.57	0.99	0.94, 1.05	0.85
Hand burn ^b	1.16	1.01, 1.33	0.03	1.16	1.01, 1.33	0.03
Face burn	0.91	0.80, 1.04	0.17	1.01	0.88, 1.16	0.87
Genital burn	0.85	0.62, 1.16	0.30	0.80	0.57, 1.13	0.21

The bolded text represent categories with statistically significant differences.

^a,"Permanently disabled" was available as a response choice only in the general U.S. population sample.

^b RR for hand burn and romantic relationship = 1.159 (95% CI 1.012, 1.328); RR for hand burn and sexually active = 1.162 (95% CI 1.012, 1.335).

Modified Poisson regression results predicting being in a romantic relationship and being sexually active in the general U.S. population sample.

Table 3b –

	In a romantic relationship		Sexually active			
	RR	95% CI	RR	95% CI		
Age at study, per 10-year increase	0.99	0.97, 1.02	0.53	0.93	0.90, 0.96	< 0.01
Male gender	0.98	0.91, 1.05	0.50	1.10	1.02, 1.18	0.02
Black or African-American	0.69	0.59, 0.80	< 0.01	0.90	0.79, 1.03	0.13
Hispanic/Latino	1.11	1.01, 1.22	0.03	1.11	1.00, 1.23	0.06
Other race/ethnicity	0.88	0.76, 1.03	0.11	0.86	0.73, 1.02	0.08
Education, per category increase	1.05	1.01, 1.08	0.01	1.07	1.03, 1.11	< 0.01
Not working	0.74	0.63, 0.88	< 0.01	0.73	0.61, 0.87	< 0.01
Retired	0.82	0.72, 0.93	< 0.01	0.77	0.66, 0.90	< 0.01
Permanently disabled	0.75	0.64, 0.89	< 0.01	0.64	0.52, 0.78	< 0.01
Other work status	1.04	0.95, 1.13	0.43	1.03	0.93, 1.13	0.61

The bolded text represent categories with statistically significant differences.