Word Play: A Top-Down Approach to Text Analysis of BDSM Practitioners' Written Language

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Abstract

Power play, or consensual power changing between "Dominant" and "submissive" role partners, is common practice within BDSM culture. In fact, to many BDSM practitioners, their D/s role is an integral part of their sexual identity and behavior, which informs not only their sexual scripts, but also their non-sexual social interactions. This two-part research study used computerized text analysis to determine whether BDSM practitioners relative to non-practitioners, and among D/s role identities, differed in their language use. Study 1 utilized a sample of 13,374 web-scraped comments from BDSM- and non-BDSM-related subreddits. Study 2 used a recruited sample of 285 self-identified Dominants, submissives, switches, and non-BDSM practitioners. Results suggest that BDSM practitioners consistently use role-specific language outside of scenes and sexual contexts. Findings from this top-down approach, coupled with a bottom-up approach published previously (Crane & Ireland, 2022), intend to facilitate a comprehensive analysis to inform future research of marginalized persons with diverse sexualities.

Keywords: BDSM, language analysis, LIWC, power, identity, individual differences

Introduction

In recent years, there has been a boom in using computerized text-analysis to probe connections between language and identity. Advances in technology have allowed researchers to explore differences in language use across various cultures, periods, people, and contexts. This type of research may be particularly useful to distinguish individual differences of stigmatized communities from the general population in an effort to refine resources. People who engage in BDSM, for example, may experience identity-based prejudice and discrimination that goes unnoticed and unvalidated. That is, if their involvement becomes known, BDSM practitioners may face discrimination at work, experience backlash or ostracization from family, friends, or partners, be targets of online harassment or cyberbullying, encounter bias in healthcare settings, or even be subject to legal scrutiny (Parchev et al., 2018; Reynish et al., 2022; Roush et al., 2016; Weiss, 2008; Wright, 2006). Thus, the present work sought to extend understandings of language to the unique context of BDSM and BDSM practitioners, to legitimize their status as a minoritized sexual identity. This, in turn, may encourage protections against such discrimination.

BDSM is a form of consensual sex play that involves, but is not limited to, bondage and restraint (B), discipline in the form of rewards and punishment (D), domination and submission-based power play (DS), and the application of intense or painful sensations through sadism and masochism (SM). Given the variation in sexual identities, behaviors, fantasies, and motivations, the term "BDSM" represents an encompassing umbrella term for these various kinks (Faccio et

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al., 2020). BDSM play does not necessitate enactment of one kink over the other, but some appear more frequently than others in relationships and during scenes. Power play[2], or the eroticization and/or implementation of power differences between partners, is a common kink employed by BDSM practitioners. In power play, one or more partners typically assume a controlling role while other partner(s) adopt an obedient role. Partners might also "switch" between roles depending on the scene, who they are playing with, and other situational factors.

In effect, Dominants[3] exert consensual control over submissive partner(s) by directing the scene, choosing the tools and activities, giving orders, and sometimes inflicting pain and/or discipline. Submissives, in turn, relinquish control and trust the Dominant(s) to precipitate pleasure. Because partners negotiate their desires, goals, and limitations before play begins, Dominants and submissives employ consensual, temporary, and illusory power dynamics to achieve scene objectives. However, many BDSM practitioners prefer to maintain one type of role regardless of variable situations and partners (Alison et al., 2001; Martinez, 2018). To these individuals, "Dominant," "submissive," and "switch" are self-defining labels pertinent to behavior broadly, and in some instances, one's identity.

Many BDSM practitioners have asserted that their power play role is a core component of their identity beyond a mere performance of sexual behaviors (Sprott & Williams, 2019; Williams et al., 2016), and instead reveals a facet of their sexual orientation (Bezreh et al., 2012; Carlström, 2019; Gemberling et al., 2015) or erotic orientation (Ortmann & Sprott, 2012). That is, erotic and sexual experiences are not mutually exclusive and an individual might adapt BDSM as a sexual behavior (e.g., during sex or intercourse), a nonsexual behavior (e.g., shibari, fireplay), a lifestyle (e.g., 24/7 power play), and/or as an aspect of one's identity (e.g., labeling oneself as a Leatherwoman). BDSM, and likewise power play roles, seems to emulate identity attributes that support these conceptualizations. Personality research reveals that BDSM practitioners exhibit higher levels of subjective well-being, less neuroticism, less agreeableness, more extraversion, more openness, and more conscientiousness relative to "vanilla"[4] or non-BDSM practitioners (Wismeijer & van Assen, 2013). The researchers also found that Dominants reported being less neurotic, more extraverted, more open to new experiences, more conscientious, and less rejection-sensitive compared to switches and submissives. A separate study found similar results such that Dominants expressed greater desire for control, extraversion, self-esteem, and life satisfaction relative to submissives (Hébert & Weaver, 2014). Moreover, Hébert and Weaver (2014) found that submissives demonstrated higher emotionality compared to Dominants. Damon (2003) also found that Dominant men exhibited higher levels of self-esteem than submissive men, corroborating results from Luo and Zhang (2018) in which Dominants reported higher trait self-esteem and romantic relationships satisfaction than submissives. Additionally, Luo and Zhang (2018) found that switches expressed more trait empathy than submissives and Dominants, especially among female participants. These findings suggest characteristics unique to BDSM practitioners generally, and trait-based differences

[2]I use the terms "power play" and "power dynamic" intentionally. Phrases such as "power exchange" reinforce hegemonic gender and sexual norms of power by suggesting that certain roles are "normal," (i.e., dominant men and submissive women) and any variation in these roles are "abnormal" (Pitagora, 2019).

[3] Throughout this document, I use the traditional difference in capitalization between power play roles to symbolically refer to their innate power differences.

[4] Vanilla is a community-based term that is widely used by BDSMers and academics.

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between specific D/s role identities. Evidently, power play role appears to be an integral element of BDSM practitioners' sexual identity, which informs not only their sexual behavior but also their behavior outside of BDSM playtime.

In fact, power play role identity may influence non-sexual social interactions outside of BDSM relationship dynamics. BDSM is not inherently a sexual activity, although it can be sexual. BDSM actively de-centers sexual intercourse and phallocentrism (Faccio et al., 2020; Pitagora, 2019), which makes it appealing and accessible for asexual individuals too (Sloan, 2015). Therefore, typical BDSM practices are unrelated to erogenous zones, genital areas, intercourse, and orgasm and instead focus on emotional intimacy, vulnerability and trust, close relationships, self-discovery and enhancement, psychological stimulation, and spiritual transcendence (Carlström, 2019; Faccio et al., 2020; Sloan, 2015). BDSM practitioners can also extend power play to other aspects of their relationships in the form of 24/7 lifestyle play. In these contexts, division of household labor, daily activities such as dressing, eating, and sleeping, and sexual interactions are executed with respect to predetermined power play roles (Dancer et al., 2006) yet remain separate from intercourse and BDSM scenes. In other words, non-sexual aspects of daily life are structured within the power dynamic but are not overtly sexual or confined to a specific time. Instead, 24/7 power dynamics guide, maintain, and strengthen the interpersonal relationship between practitioners entirely. Consequently, one's role as Dominant or submissive may shape day-to-day behaviors, thoughts, feelings, motivations, and interactions outside the confines of BDSM-specific contexts.

Language

Patterns in one's language use, particularly their use of function words (e.g., pronouns, prepositions, articles) can reveal how a person thinks, feels, and behaves. Several studies have found connections between use of function words to social and psychological processes (Pennebaker, 2011; Tausczik & Pennebaker, 2010), personality traits (Cohen et al., 2008; Groom & Pennebaker, 2002; Hirsh & Peterson, 2009; Park et al., 2014; Yarkoni, 2010), and behavior (Niederhoffer & Pennebaker, 2002; Pennebaker & Lay, 2002; Simmons et al., 2005).

Language reflects and predicts individual differences, which differ according to personality and mental health. Linguistic style has been shown to be consistent with big-five personality traits. People who scored high on extraversion used more verbs (Lee et al., 2007), social words, more positive emotion, less complex language (Pennebaker & King, 1999), and fewer negative emotion words (Tausczik & Pennebaker, 2010). Additionally, Mehl et al. (2006) found that higher word count and fewer large words predicted high extraversion scores. Conversely, people who scored high on neuroticism used frequent negative emotional words and first-person singular pronouns (Pennebaker & King, 1999). Relatedly, depressed and suicidal individuals are more self-focused (i.e., use first-person singular pronouns), express more negative emotion, and often use more death-related words (see Tausczik & Pennebaker, 2010 for a review). Words therefore provide clues to people's character and wellbeing.

Research has also found that linguistic style can be used to infer social hierarchy. Fragale (2006) demonstrated that speech styles influence others' trait inferences about the speaker. Participants conferred high status, respect, and agency to an actor who used confident statements

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and commands in their speech, but conferred low status, negative attributions, and communality to an actor whose speech included hesitations, qualifiers, and disclaimers (Fragale, 2006). Similarly, Carney et al. (2005) reported that participants believed that high-powered individuals used more smooth and confident speech and were more successful at interrupting. These studies indicate that nonverbal cues and linguistic styles affect whether someone is deemed powerful, confident, respectable, successful, or not.

In a study of leadership rank and pronoun use, Kacewicz et al. (2013) found that higher rank was linked with other-focus, marked by second-person pronouns (e.g., you, your) and first-person plural pronouns (e.g., we, us), whereas lower rank was linked with self-focus, marked by use of first-person singular pronouns (e.g., I, me). Moreover, the use of these pronouns was a good predictor of high or low status. Evidently, people in differing hierarchical positions of power focus their attention differently depending on what role they are in. Language thus shapes interpersonal relationships and how various components of hierarchy are communicated.

Overview of the Present Research

The present research had two aims. First, I sought to determine whether BDSM practitioners differed regarding their linguistic style relative to non-practitioners. Second, the present research aimed to uncover content and language style differences between Dominant and submissive role identities[5]. Because power play is a common practice and self-defining element among BDSM practitioners, I hypothesized that BDSM practitioners would use more power-based content words relative to non-practitioners. Moreover, I anticipated that BDSM practitioners would use more reward-based content words than non-practitioners given that allocation of rewards and punishments is associated with upholding power differences between partners. Additionally, past research evinces that BDSM practitioners exhibit higher levels of well-being (Connolly, 2006) and lower levels of neuroticism (Wismeijer & van Assen, 2013) compared to non-BDSM controls. I thus predicted that greater use of positive affect words and fewer use of negative affect words among BDSM practitioners would be associated with a healthy psychological state relative to non-practitioners. Given that BDSM practitioners have been shown to score higher than non-BDSM practitioners on self-reported personality factors, such as extraversion and openness (Hébert & Weaver, 2014; Wismeijer & van Assen, 2013), which may be associated with risk-taking (Cross & Matheson, 2006) and sensation-seeking (Dawson et al., 2016; De Neef et al., 2019), I hypothesized that BDSM users would use more risk-based content words than their counterparts. Also, because consent, often expressed through verbal negotiations, is essential to BDSM, I predicted that BDSM practitioners would use more assent-based words than non-practitioners. Finally, because BDSM practices are described using jargon distinct from non-kinky, vanilla sexual practices, I created a BDSM dictionary to capture the distinct vocabulary utilized by BDSM users. In turn, I hypothesized that BDSM practitioners would use more BDSM dictionary words than non-practitioners. Thus, the hypotheses for language differences between BDSM practitioners and non-practitioners were as follows:

[5]I did not make any predictions among switches given that they adopt both Dominant and submissive roles, thereby eliciting a conflated language style. However, exploratory comparisons were informally conducted for each outcome in Study 2.

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1a) BDSM users use significantly more power words than non-BDSM users;

1b) BDSM users use significantly more reward words than non-BDSM users;

1c) BDSM users use more positive emotion words and fewer negative emotion words relative to non-BDSM users;

1d) BDSM users use more words associated with risk than non-BDSM users;

1e) BDSM users use more assent language than non-BDSM users;

1f) BDSM users use more BDSM dictionary words than non-BDSM users.

In line with my second aim, I anticipated that differences in content and style would appear when comparing Dominant and submissive language samples. Given previous findings that people in powerful or high-status status positions focus on others, rather than the self, in written and spoken language (Kacewicz et al., 2013; Sexton & Helmreich, 2000), I hypothesized similar results: Dominants would use more first-person plural pronouns, second-person pronouns, and third-person plural pronouns. I anticipated the opposite for submissives such that they would use more first-person singular pronouns. I also hypothesized that Dominants would use more verbs based on research suggesting increased power leads to action (Galinsky et al., 2003). Furthermore, due to their increased power, I predicted that Dominants would use more power-driven words than submissives. Additionally, I hypothesized that because submissives are often the continuously consenting and subservient party, they would use more assent-based words than Dominants. That is, one who "accepts" things is likely a passive decision-maker or of lower agency (Sap et al., 2017). Because submissives might be highly motivated to obtain pleasure as a reward, I likewise hypothesized that submissives would use more reward-based words. Finally, I hypothesized that submissives would express greater emotionality through affective language, along with more negative affect words given higher rates of neuroticism relative to Dominants (Hébert & Weaver, 2014; Wismeijer & van Assen, 2013). Thus, the hypotheses for language differences between Dominants and submissives were as follows:

2a) Dominants use more first-person plural pronouns, second-person pronouns, and third-person plural pronouns than submissives;

2b) submissives use more first-person singular pronouns than Dominants;

2c) Dominants use more verbs than submissives;

2d) Dominants use more power-driven words than submissives;

2e) submissives use more assent words than Dominants;

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2f) submissives use more reward words than Dominants;

2g) submissives use more negative emotion words relative to Dominants.

I tested my predictions in two studies using computerized text analysis. In Study 1, I used web-scraped comments from relevant subreddits to test my hypotheses using organic language samples outside BDSM scene-specific contexts. Due to concerns with lack of control over the subject matter discussed in subreddit samples and inability to directly assess users' power play role identification, I conducted a second study addressing these limitations. Study 2 tested my predictions using focused writing prompts solicited from a sample of recruited participants. The hypotheses remained the same between the two studies, but samples differed such that Study 2 utilized focused writing prompts from recruited participants rather than scrapings from Reddit community pages.

The present studies use a theoretically informed, exploratory approach to examine differences in linguistic style between self-identified BDSM practitioners and non-practitioners as well as between Dominants, submissives, and switches. This top-down approach coupled with a bottom-up approach published previously (Crane & Ireland, 2022) is meant to facilitate a thorough analysis and a comprehensive interpretation of these data.

Study 1

Study 1 examined differences between BDSM practitioners' and non-practitioners' use of linguistic content words and style words in written language. The primary categories of interest were: power, reward, positive emotion, negative emotion, risk, assent, BDSM dictionary, first-person singular pronouns, first-person plural pronouns, second-person pronouns, third-person plural pronouns, and verbs. Although not hypothesized, I also included personal pronouns, third-person singular pronouns, affective processes, anxiety, anger, and sadness categories out of interest.

Method

Text Samples

I identified several subreddit communities that would diversely represent and be comprised of BDSM practitioners (i.e., 'r/BDSMcommunity', 'r/BDSMAdvice', 'r/BDSMfaq', 'r/BDSM'), Dominants (i.e., 'r/GentleDomination', 'r/Domspace', 'r/FemDomCommunity'), submissives (i.e., 'r/SubSanctuary', 'r/DDLG', 'r/Petplay', 'r/DDLGconfess'), and non-BDSM practitioners (i.e., 'r/DeadBedrooms', 'r/Marriage', 'r/Dating'). I used the reddit function in R to scrape and download 200 posts with linked titles and comments from each of the subreddits. The total sample included 13,374 web-scraped comments (3,309 BDSM; 1,464 Dominant; 2,397 submissive; 6,204 non-BDSM).

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Data Analysis

Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2015) was used to process responses in addition to a sex dictionary and a BDSM dictionary that I created (see Crane & Ireland, 2022 for a detailed description of these dictionaries and development process). The software compares texts against internal dictionaries (lexicons or word lists) and outputs the percentage of total words in the text that matched each word list. LIWC's standard categories include linguistic (e.g., conjunctions, personal pronouns), psychological (e.g., anxiety, affiliation motives), and content (e.g., work, leisure) categories.

Before running analyses, I manually cleaned the text samples for spelling errors, abbreviations, contractions (e.g., verb contractions, possessive vs. is apostrophe+s, it's, apostrophe +d), and shorthand using the Reformatting Transcripts for LIWC 2015 guide and the Find and Replace function in Microsoft Excel. I then ran the text samples through LIWC to calculate the percentage of words that fell into the word categories of interest. In addition to the self-created BDSM dictionary, the internal LIWC dictionaries used in analyses were first-person singular pronouns, first person plural pronouns, third-person pronouns, verbs, assent words, positive emotion words, negative emotion words, power words, reward words, and risk words.

Using Microsoft Excel and SPSS Statistics, I tested for differences in positive emotion, negative emotion, power, reward, risk, assent, and BDSM dictionary usage (hypotheses 1a-f) between BDSM subreddit text samples and non-BDSM subreddit text samples. I also tested for differences in first-person singular pronoun, first person plural pronoun, third-person pronoun, verb, positive emotion, negative emotion, power, reward, and assent word usage (hypotheses 2a-h) between Dominant subreddit and submissive subreddit text samples. I calculated frequency means for each LIWC category of interest and conducted independent sample t-tests to compare BDSM and non-BDSM text samples, as well as Dominant and submissive text samples.

Results

Independent sample t-tests revealed that there were significant mean differences between BDSM text samples and non-BDSM text samples for four LIWC categories: positive emotion, negative emotion, assent, and BDSM dictionary words. BDSM subreddit text samples contained more overall affective processes, $t(5536)= 5.43$, $p <.001$, $d= 0.12$ including significantly more positive emotion words compared to non-BDSM text samples, $t(5321)= 7.13$, $p <.001$, $d= 0.16$.

Non-BDSM text samples however, used significantly more negative emotion words, $t(6899)= 3.37$, $p <.001$, $d= 0.07$, more anxiety words, $t(8048)= 2.58$, $p <.01$, $d= 0.05$, and more sadness words, $t(7571)= 5.92$, $p <.001$, $d= 0.12$, relative to BDSM text samples. BDSM text samples also contained significantly more assent words, $t(4859)= 3.37$, $p <.001$, $d= 0.08$, and BDSM vocabulary, $t(3987)= 27.91$, $p <.001$, $d= 0.66$, compared to non-BDSM text samples. There were no significant mean differences between BDSM and non-BDSM text samples for power, $t(5729)= 1.71$, $p =.09$, $d= 0.04$, risk, $t(6634)= 1.64$, $p = .10$, $d= 0.04$, or reward categories, $t(5476)= 0.88$, $p = .38$, $d= 0.02$. It might be worth noting that although not significant, BDSM text samples were comprised of more power words than non-BDSM text samples. Table 1 lists

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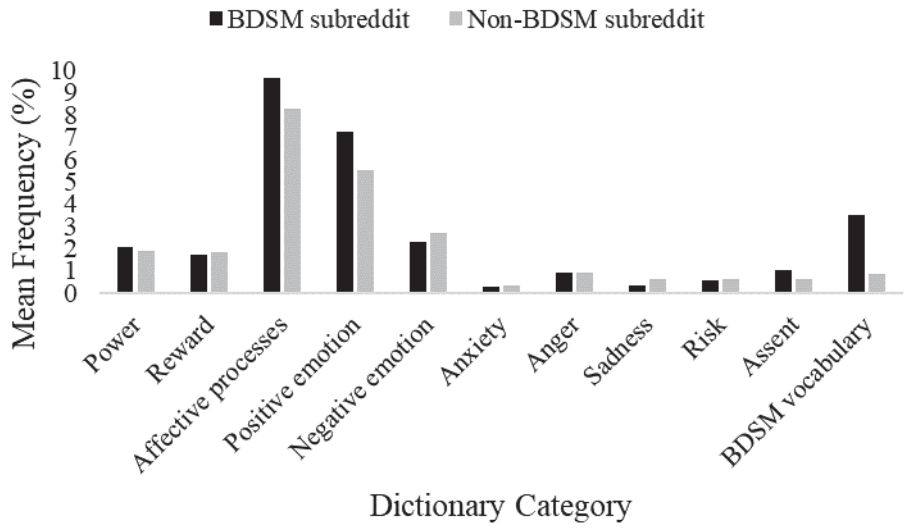
the means and standard deviations for the LIWC categories. Figure 1 displays mean differences for each LIWC category.

Table 1.
Means and standard deviations for LIWC categories as a function of BDSM or Non-BDSM subreddit text samples

		BDSM		Non-BDSM	
LIWC Category	Examples	*M*	*SD*	*M*	*SD*
Power	superior, bully	2.05	4.47	1.89	3.68
Reward	take, prize, benefit	1.74	4.71	1.82	3.66
Affective processes	happy, cried	9.68	12.79	8.28	10.07
Positive emotion	love, nice, sweet	7.27	12.39	5.52	9.26
Negative emotion	hurt, ugly, nasty	2.32	4.82	2.67	4.95
Anxiety	worried, fearful	0.29	1.08	0.35	1.33
Anger	hate, kill, annoyed	0.92	3.21	0.92	3.34
Sadness	crying, grief, sad	0.36	1.91	0.62	2.19
Risk	danger, doubt	0.54	1.79	0.61	1.75
Assent	agree, OK, yes	1.05	6.29	0.65	4.12
BDSM vocabulary	kink, choke, masochism	3.52	5.19	0.88	2.26

Figure 1.
Mean frequencies for LIWC categories as a function of BDSM or non-BDSM subreddit text samples



There were significant mean differences between Dominant and submissive text samples for eight LIWC categories: first-person singular pronouns, first-person plural pronouns, third-person pronouns, positive emotion, negative emotion, power, assent, and BDSM dictionary words. Submissive subreddit text samples contained significantly more first-person singular pronouns, $t(3701)= 4.44$, $p <.001$, $d= 0.14$, and second-person pronouns, $t(3819)= 5.35$, $p <.001$,

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d= 0.17, compared to Dominant text samples. Conversely, Dominant subreddit text samples utilized significantly more first-person plural pronouns, *t*(3048)= 3.36, *p* <.001, *d*= 0.11, third-person singular pronouns, *t*(2917)= 7.244, *p* <.001, *d*= 0.24, and third-person plural pronouns, *t*(3241)= 2.24, *p* <.05, *d*= 0.07, relative to submissive text samples. Dominant text samples also used significantly more power-based words relative to submissive text samples, *t*(3133)= 6.82, *p* <.001, *d*= 0.23. Additionally, submissive text samples displayed higher rates of assent words than Dominant samples, *t*(3859)= 2.33, *p* <.05, *d*= 0.07. Submissive text samples contained a high degree of overall affective processes, *t*(3857)= 9.35, *p* <.001, *d*= 0.29, including a high percentage of positive emotion words, *t*(3858)= 10.86, *p* <.001, *d*= 0.34. Dominant sample texts contained more negative emotion words, *t*(3422)= 3.32, *p* <.001, *d*= 0.11, anger words, *t*(3105)= 3.57, *p* <.001, *d*= 0.12, and marginally more anxiety words, *t*(3469)= 1.89, *p* = .06, *d*= 0.06, than submissive sample texts. There were no significant mean differences for verbs, *t*(3762)= 0.30, *p* = .77, *d*= 0.01, reward words, *t*(3833)= 1.63, *p* = .10, *d*= 0.05, and sadness words, *t*(3695)= 0.31, *p* = .75, *d*= 0.01. Table 2 and Figure 2 display the means and standard deviations for each LIWC category.

Table 2.
Means and standard deviations for LIWC categories as a function of Dominant or submissive subreddit text samples

		Dominant		submissive	
LIWC Category	Examples	*M*	*SD*	*M*	*SD*
Personal pronouns	I, them, her	11.31	7.70	12.30	10.62
First-person singular	I, me, mine	4.93	5.39	5.84	7.18
First-person plural	we, us, our	0.53	1.73	0.34	1.70
Second-person	you, your, thou	3.29	5.71	4.51	8.44
Third-person singular	she, her, him	1.94	3.40	1.14	3.16
Third-person plural	they, their	0.62	1.91	0.47	2.04
Verb	eat, come, carry	18.35	10.93	18.48	15.23
Power	superior, bully	2.21	3.32	1.45	3.37
Assent	agree, OK, yes	0.67	4.20	1.08	6.91
Reward	take, prize, benefit	1.70	3.04	1.92	5.42
Affective processes	happy, cried	9.03	10.61	13.18	16.98
Positive emotion	love, nice, sweet	9.03	10.11	13.18	16.78
Negative emotion	hurt, ugly, nasty	2.01	4.34	1.50	5.00
Anxiety	worried, fearful	0.29	1.29	0.20	1.52
Anger	hate, kill, annoyed	0.83	2.71	0.51	2.72
Sadness	crying, grief, sad	0.33	1.88	0.31	2.50

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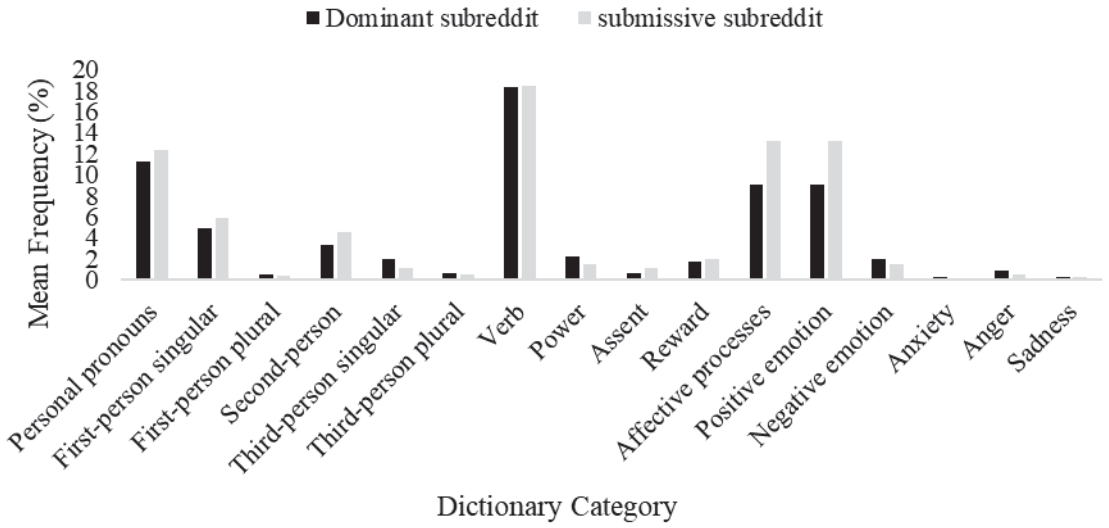
Figure 2.
Mean frequencies for LIWC categories as a function of Dominant or submissive subreddit text samples



Discussion

These data lend support to hypotheses 1c, 1e, and 1f. Study 1 provided an initial demonstration that language use indeed differs between BDSM-affiliated texts and non-BDSM texts. Moreover, within the BDSM community, language use differences seem to imitate the power play differences fundamental to Dominant and submissive roles. Although not statistically significant, BDSM subreddit texts included slightly more power words than non-BDSM sample texts, which may tentatively support hypothesis 1a. Additionally, BDSM sample texts demonstrated greater positive affect and psychological well-being than non-BDSM sample texts, thus supporting hypothesis 1c. BDSM sample texts also used more assent words, supporting hypothesis 1e, which is indicative of the consent and negotiation conversations foundational to BDSM. Finally, hypothesis 1f was supported through substantially greater use of BDSM-specific vocabulary in BDSM subreddit texts. Because no differences were found in use of reward and risk categories between BDSM and non-BDSM sample texts, neither hypothesis 1b nor 1d were supported. Perhaps because users were often asking questions or for advice on the 'r/BDSMAdvice', 'r/BDSMfaq', and 'r/DeadBedrooms' subreddits, the selected text samples may have reflected high levels of uncertainty (which is related to risk) and dissatisfaction (which is related to reward).

Results also supported differences in pronoun usage between Dominant and submissive subreddit users. As predicted by hypothesis 2a, Dominant text samples were more focused on others, relative to the self, as indicated by greater use of first-person plural pronouns and third-person plural pronouns. However, submissive text samples used more second-person pronouns than Dominant text samples. This finding was not anticipated, therefore hypothesis 2a is only partially supported. Submissive sample texts contained significantly more first-person singular

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pronouns compared to Dominant texts, which supports hypothesis 2b. Hypothesis 2d was also supported such that Dominant subreddit sample texts contained a higher percentage of power words than submissive sample texts. Moreover, submissive sample texts used more assent words than Dominant sample texts, thereby supporting hypothesis 2e. Interestingly, submissive sample texts had more affective process words than Dominant sample texts. Yet, contrary to hypothesis 2g, Dominant texts rather than submissive texts exhibited more negative affect words. Finally, because no significant differences in verb or reward categories were found between Dominant and submissive samples, hypotheses 2c and 2f were not supported.

Study 1 replicated the findings from Kacewicz et al. (2013) such that writing samples extracted from lower status (e.g., submissive) subreddits used overwhelmingly more first-person singular pronouns, and that writing samples extracted from higher status (e.g., Dominant) subreddits used more first-person plural pronouns and third-person plural pronouns. The underlying power play structure and system of rewards in BDSM is reinforced by my finding that Dominant text scrapings contained more power words, whereas submissive scrapings contained more assent words. Although no significant differences in reward words were found, means indicate that submissive texts used slightly more reward words, which may reflect the system of rewards and punishment in BDSM relationships. Text samples from Dominant subreddits also used significantly more verbs, which demonstrates that power is associated with efficacious action even in settings where power differences are not directly experienced (Galinsky et al., 2003). Despite research showing that Dominants display somewhat better subjective wellbeing compared to submissives (Hébert & Weaver, 2014; Wismeijer & Van Assen, 2013), these data unexpectedly indicate the opposite. Although submissive text samples contained more emotional words, Dominant samples used significantly more negative emotion words and submissive text samples contained more positive emotion words. This difference seems to be driven by Dominant samples containing significantly more anger words compared to submissive samples.

Although Study 1 was not limited regarding sample size, the text samples that were scraped from subreddits were based on popularity and recency. The algorithm employed by Reddit may inherently exhibit bias in determining which posts to prioritize and promote over others. Furthermore, I had no control regarding the subject matter of posts and comments, and I could not determine users' BDSM affiliation or role identification. Instead, I had to assume that users posting in the selected subreddits were members of, or related to the theme of, a particular subreddit. I sought to resolve these limitations in a second study that tested the same hypotheses and LIWC categories using a collected sample of participants.

Study 2

Study 2 expanded on the first study in several ways. First, language data were collected directly from study participants instead of being scraped. This allowed me to collect information about participants' role as a Dominant, submissive, or switch in addition to other demographic variables absent from Study 1. Secondly, because Study 2 was conducted using a survey containing predetermined writing prompts, I was able to better control for what participants were saying. That is, data were gathered from participants discussing the same topic via common

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writing prompts, as opposed to being compiled from disjointed conversations in group forums. The same hypotheses and LIWC categories tested in Study 1 were also tested in Study 2.

Method

Participants

Participants consisted of 285 self-identified BDSM and non-BDSM practitioners recruited from online communities (of the original 1,659 cases, 1,372 were removed from the data set for no response to either writing prompts). Most participants self-identified as BDSM practitioners (53.7%), cisgender women (46%), and heterosexual/straight (27.4%). Participants also varied in level of activity in BDSM. See Table 3 for a full list of participant demographics.

Table 3.
Demographic Characteristics of Participant Sample (N = 285)

	n	%
Self-identified BDSM practitioner		
Yes	153	53.7
No/I am vanilla	79	27.7
Not sure	53	18.6
Self- Identified power play role		
Dominant	23	15
submissive	84	54.9
Switch	46	30.1
BDSM activity level		
Not at all/I am vanilla	44	15.4
Just curious right now	31	10.9
Curious and want to try	53	18.6
Once in a while to spice it up	61	21.4
I live the lifestyle when I can	77	27
24/7	19	6.7
Gender		
Cisgender Women	131	46
Cisgender Men	86	30.2
Transgender Women	25	8.8
Transgender Men	13	4.6
Non-binary	24	8.4
Questioning	6	2.1

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Sexual Orientation		
Asexual	13	4.6
Bisexual	71	24.9
Heterosexual/Straight	78	27.4
Mostly Heterosexual	46	16.1
Homosexual/Gay	17	6
Homosexual/Lesbian	14	4.9
Pansexual	37	13
Demisexual	6	2.1
Another Orientation (e.g., sexual, androsexual)	3	1.1
Education		
Less than high school	6	2.1
High school	42	14.7
Some college	91	31.9
Associate's degree	20	7
Bachelor's degree	79	27.7
Master's degree	35	12.3
Professional degree	6	2.1
Doctoral degree	6	2.1

Procedure

An online study to assess how BDSM practitioners' language use and personality differed relative to that of non-practitioners was conducted between July and September 2019. This study was approved by the Texas Tech University Institutional Review Board and all participants consented to their participation before the start of the survey. The full survey consisted of four different measures and was posted as a link in forums on several social networking sites, including FetLife, Reddit, 3DXChat, Twitter, Facebook, and in a university listserv. Explicit permission was acquired from moderators to post a link to the study in Reddit subcommunities (e.g., r/BDSMAdvice) and Fetlife groups (e.g., Daddy Doms and babygirls). Recruitment posts for non-practitioners were published in Reddit subcommunities not directly affiliated with BDSM (e.g., r/love, r/asktransgender). Everyone over the age of 18 was invited to participate and participation was not limited by gender, sexuality, or behavior. As compensation, participants were entered in a raffle to win one of eight $30 Amazon eGift cards. Given my explicit interest in outcomes related to language use, only data from participants who completed at least one writing prompt were included in the following analyses.

Measures

Demographics. Participants were asked to provide basic demographic information, including BDSM practitioner identity, power-exchange role identity, gender, sexual orientation, romantic relationship status, sexual relationship status, and highest level of education completed.

Writing Prompts. Participants were asked to complete two writing prompts, writing at least 200 words each before moving to the next section. One writing prompt asked participants to

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write about a current/most recent romantic or sexual relationship; the second writing prompt asked participants to write a short romantic or erotic story. This writing prompt noted that the "story could be sexually explicit, but the 'rating' of the story (e.g., PG or NC-17) was entirely up to the participant." The instructions in both writing prompts clarified that the story should have at least two characters but may have more; individuals' internal dialogue, spoken dialogue, or descriptions of actions could be written entirely from a first-person/inside or third-person/outside perspective; and the story could be completely fictitious or be based on personal experiences. The writing prompts also asked participants to consider addressing some suggested questions in their narratives, including "What is the relationship between the characters?" and "What are the characters' motives?" among others (see Supplementary File for the full list of questions).

Data Analysis

The same procedure for cleaning language transcripts in Study 1 was used in Study 2 before running them through LIWC. Of the original 1,659 cases, 1,372 were removed from the data set for no response to either writing prompts. Two additional cases were flagged for having inappropriate responses in the word prompts and hence removed, leaving 285 cases in the sample.

LIWC was used to process responses in addition to a sex dictionary and a BDSM dictionary created by the primary researcher. Participants' responses from both writing prompts, if applicable, were included in data analysis. Mean scores were calculated for each dictionary category and used for analyses. Once again, I used independent sample t-tests to compare self-identified BDSM and non-BDSM practitioners' written responses, as well as self-identified Dominants' and submissives' written responses. Although not hypothesized, several analyses of variance (ANOVA) were run to compare Dominants', submissives', and switches' use of pronouns, verbs, power, assent, reward, and affective processes.

Results

There were significant mean differences between self-identified BDSM practitioners' written responses and non-BDSM practitioners' written responses for two LIWC categories: power and BDSM vocabulary. Self-identified BDSM practitioners used significantly more power words, $t(230)= 4.49$, $p < .001$, $d= 0.67$, and BDSM dictionary words, $t(227.92)= 8.72$, $p < .001$, $d= 1.06$, compared to non-BDSM practitioners. However, there were no significant differences in use of reward, $t(230)= 0.12$, $p = .91$, $d= 0.07$, positive emotion, $t(230)= 1.04$, $p = .30$, $d= 0.23$, negative emotion, $t(230)= -0.52$, $p = .60$, $d= 0.03$, risk, $t(230)= -1.637$, $p = .10$, $d= 0.23$, or assent words, $t(230)= -1.43$, $p = .15$, $d= 0.06$ between BDSM practitioners and non-practitioners.

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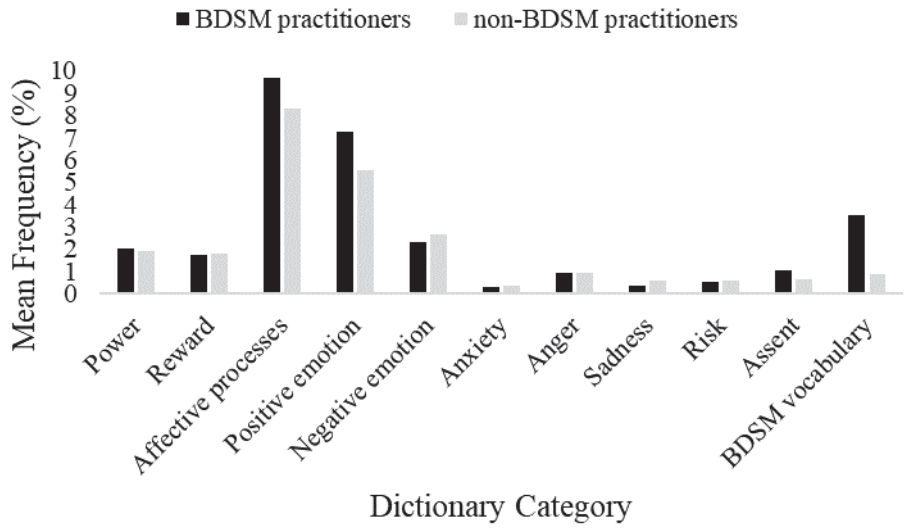
Table 4.
Means and standard deviations for LIWC categories as a function of BDSM or Non-BDSM practitioner self-identification (N=232)

		BDSM practitioners		Non-BDSM practitioners	
LIWC Category	Examples	*M*	*SD*	*M*	*SD*
Power	superior, bully	2.47	1.18	1.79	.89
Reward	take, prize, benefit	1.32	.72	1.31	.69
Affective processes	happy, cried	5.80	1.67	5.67	1.47
Positive emotion	love, nice, sweet	4.03	1.50	3.82	1.28
Negative emotion	hurt, ugly, nasty	1.71	.90	1.78	.93
Anxiety	worried, fearful	.35	.35	.39	.41
Anger	hate, kill, annoyed	.66	.60	.55	.46
Sadness	crying, grief, sad	.28	.28	.35	.43
Risk	danger, doubt	.36	.34	.45	.46
Assent	agree, OK, yes	.15	.22	.21	.40
BDSM vocabulary	kink, choke, masochism	2.75	1.85	1.20	.86

Figure 3.
Mean frequencies for LIWC categories as a function of BDSM or non-BDSM practitioner self-identification



There were significant mean differences between Dominants' and submissives' written responses for only one LIWC category: first-person singular pronouns. Self-identified submissives used overwhelmingly more first-person singular pronouns (M =7.10, SD = 4.30) compared to Dominants (M = 4.90, SD = 3.43). Although not significant, $t(105)$= 1.90, p = .06, d= 0.39, Dominants trended toward using more second-person pronouns (M = 1.37, SD = 1.90) compared to submissives (M = .74, SD = 1.25). No significant differences were found for first-person plural pronouns, $t(105)$= 0.09, p = .93, d= 0.004, third-person plural pronouns, $t(105)$= 1.09, p = .28, d= 0.39, verbs, $t(105)$= -1.33, p = .19, d= 0.24, power, $t(105)$= -0.28, p = .78, d=

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0.09, assent, $t(105)= -0.37$, $p = .71$, $d= 0.09$, reward, $t(105)= -0.57$, $p = .57$, $d= 0.06$, or negative emotion words $t(105)= -1.80$, $p = .08$, $d= 0.37$.

Table 5.
Means and standard deviations for LIWC categories as a function of Dominant or submissive self-identification (N=107)

		Dominants		submissives	
LIWC Category	Examples	*M*	*SD*	*M*	*SD*
Personal pronouns	I, them, her	14.77	4.07	16.25	4.54
First-person singular	I, me, mine	4.90	3.43	7.10	4.30
First-person plural	we, us, our	1.53	1.41	1.50	1.71
Second-person	you, your, thou	1.37	1.90	.74	1.25
Third-person singular	she, her, him	6.06	3.65	6.29	3.74
Third-person plural	they, their	.91	1.20	.62	1.11
Verb	eat, come, carry	15.74	2.57	16.64	2.94
Power	superior, bully	2.51	.86	2.59	1.32
Assent	agree, OK, yes	.14	.25	.16	.23
Reward	take, prize, benefit	1.29	.64	1.40	.80
Affective processes	happy, cried	5.82	2.03	5.87	1.55
Positive emotion	love, nice, sweet	4.33	2.13	3.94	1.30
Negative emotion	hurt, ugly, nasty	1.46	.80	1.86	.98
Anxiety	worried, fearful	.31	.28	.33	.39
Anger	hate, kill, annoyed	.56	.49	.74	.68
Sadness	crying, grief, sad	.23	.32	.32	.28

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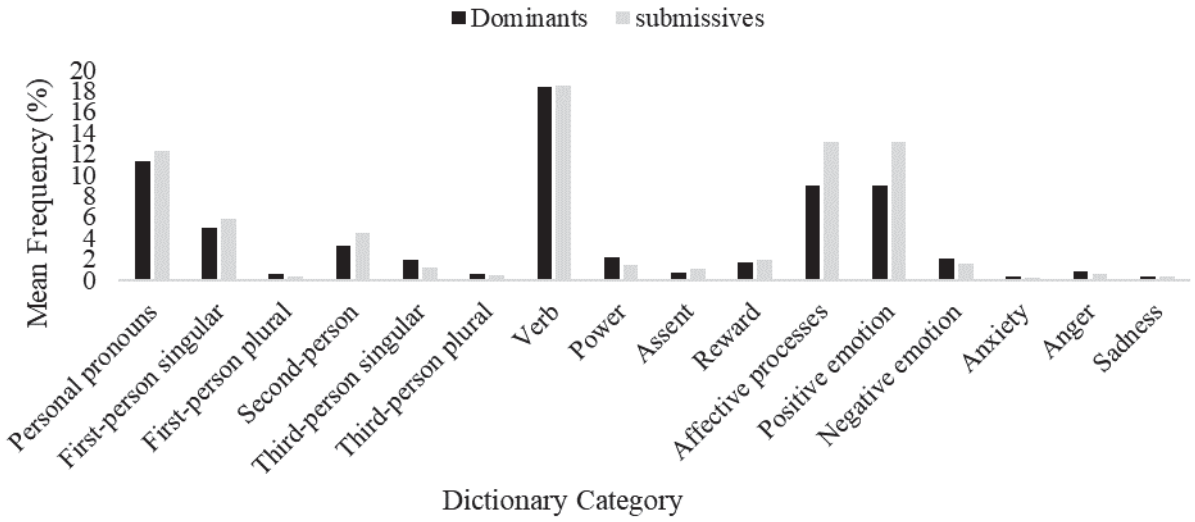
Figure 4.
Mean frequencies for LIWC categories as a function of Dominant or submissive self-identification



Analyses of variance revealed that significant mean differences were apparent between Dominants, submissives, and switches use of first-person singular pronouns $F(2, 152)= 6.24$, $p <.05$, $\eta^2= 0.08$. Submissives used significantly more first-person pronouns in their written responses ($M = 7.10$, $SD = 4.30$) compared to switches ($M = 4.73$, $SD = 3.77$) and Dominants ($M =4.90$, $SD = 3.43$). No other significant differences were found.

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Table 6.
Means and standard deviations for LIWC categories as a function of Dominant, submissive, or switch self-identification (N=153)

		Dominants		submissives		switches	
LIWC Category	Examples	*M*	*SD*	*M*	*SD*	*M*	*SD*
Personal pronouns	I, them, her	14.77	4.07	16.25	4.54	15.55	3.83
First-person singular	I, me, mine	4.90	3.43	7.10	4.30	4.73	3.77
First-person plural	we, us, our	1.53	1.41	1.50	1.71	1.24	1.36
Second-person	you, your, thou	1.37	1.90	.74	1.25	1.21	1.85
Third-person singular	she, her, him	6.06	3.65	6.29	3.74	7.36	4.47
Third-person plural	they, their	.91	1.20	.62	1.11	1.01	1.29
Verb	eat, come, carry	15.74	2.57	16.64	2.94	15.92	2.63
Power	superior, bully	2.51	.86	2.59	1.32	2.23	1.05
Assent	agree, OK, yes	.14	.25	.16	.23	.15	.22
Reward	take, prize, benefit	1.29	.64	1.40	.80	1.19	.59
Affective processes	happy, cried	5.82	2.03	5.87	1.55	5.68	1.73
Positive emotion	love, nice, sweet	4.33	2.13	3.94	1.30	4.04	1.48
Negative emotion	hurt, ugly, nasty	1.46	.80	1.86	.98	1.71	.90
Anxiety	worried, fearful	.31	.28	.33	.39	.39	.30
Anger	hate, kill, annoyed	.56	.49	.74	.68	.56	.46
Sadness	crying, grief, sad	.23	.32	.32	.28	.22	.23

Discussion

Data from Study 2 provided support to hypotheses 1a and 1f. BDSM practitioners' written responses incorporated significantly more power words than non-BDSM practitioners' responses. Additionally, language containing BDSM-specific terms was more frequent within BDSM practitioners' narratives despite not being instructed to write BDSM-explicit stories. These findings show that language use differs between BDSM practitioners and non-BDSM practitioners regarding power and use of BDSM vocabulary. However, because no significant differences were found regarding reward, positive emotion, negative emotion, risk, and assent LIWC dictionary categories, neither hypothesis 1b, 1c, 1d, nor 1e were supported.

Extending my finding from Study 1, self-identified submissives in Study 2 used more first-person singular pronouns in their written responses compared to self-identified Dominants, thus supporting hypothesis 2b. Like Study 1, Study 2 echoed results from Kacewicz et al. (2013) such that submissives (having low power and thus status) used more first-person singular pronouns compared to Dominants (who have high power and status). No significant differences between Dominants and submissives were found for use of first-person plural pronouns, second-person pronouns, third-person plural pronouns, verbs, power, assent, reward, or negative emotion words. Thus, hypotheses 2a, 2c, 2d, 2e, 2f, and 2g were not supported.

Because switches express both characteristics of Dominants and submissives depending on context, I was not sure if any differences would emerge regarding language use. Submissives

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used significantly more first-person pronouns compared to switches and Dominants, imitating the fact that switches fall somewhere in the middle of the Dominant-submissive spectrum. Switches neither have low or high status, nor are they entirely self or other focused, so this finding seems to mirror power play roles' function and attention. No other significant differences were found.

General Discussion

The present work sought to determine if one's identification as a BDSM practitioner also manifests in their language use, thus distinguishing the BDSM community from the general population. Multiple findings were consistent across both studies which supports the validity of significant differences existing between BDSM practitioners and non-practitioners, as well as between power play roles. Although a few hypotheses were supported by both studies, several others were not. In the next section, I discuss each outcome in turn, as well as the broader implications of these individual differences.

Power and Discipline

BDSM practitioners utilized more power words and BDSM vocabulary than non-practitioners in online forums and creative writings, indicating distinct language differences between people who practice BDSM and those who do not. An important distinction to note is that the writing samples collected in both studies appeared outside of BDSM play scenes and the question prompts did not specify or encourage stories about BDSM. Moreover, no participants communicated with each other. That is, participants were not primed to be in the mindset of their D/s role, whether via a scene or a play partner, yet still used language reflecting those roles. Thus, BDSM and power play-specific language seemingly influences other forms of social communication irrespective of the setting and target of the conversation. BDSM practitioners, unlike non-practitioners, consistently use community-specific language across non-sexual contexts and without performing their Dominant or submissive role identity.

The underlying power play structure and system of rewards in BDSM is reinforced by my finding that Dominant text scrapings contained more power words, whereas submissive scrapings contained more assent words. Dominance and status are features of power. Because Dominant play partners are responsible for establishing control, facilitating physical and psychological sensations, and responding to the wellbeing of their partners, Dominants have more power and hence have increased influence over submissives. Dominants not only have power in sexual settings, but also may take more responsibility for family finances, childcare, housework, or producing income in a 24/7 lifestyle relationship, which may explain their power-based language within social contexts. Assent words signal level of agreement, or consent, between speakers. Submissive partners recurrently agree to activities set forth by Dominants during a scene, whereas Dominants must be alert to and fully responsive to submissives' signals and communication (Dunkley & Brotto, 2018). Because consent is a core tenant to BDSM and submissive roles, it may be habitual for individuals to use similar language in contexts outside of a scene. However, this significant difference was not replicated in Study 2. In fact, self-identified submissives used only slightly more power words and assent words than Dominants, whereas in Study 1, this difference was greater. Although submissives may be more aware of their

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subservient state from acquiescing to Dominant partners' commands, all parties are constantly negotiating power play boundaries. Relatedly, although no significant differences in reward words were found in either study, means indicate that submissive texts used slightly more reward words. These nonsignificant findings might be attributed to insufficiently powered independent t-test due to small sample sizes, or possibly because power-based status was not strongly primed or manipulated. Perhaps if power role was made more salient in future studies, as opposed to passively collecting participants' demographic data, significant differences in LIWC power, assent, and reward categories may appear between Dominants and submissives.

In both Study 1 and 2, verbs were no differently used by Dominants compared to submissives. Based on findings from Galinsky and colleagues (2003), I hypothesized that holding power increases an action orientation among Dominants, even in contexts where power is not directly experienced or salient. Verbs, by definition, are words that convey an action. Therefore, I expected that frequency of verb usage would convey greater efficacious action in participants' writings. However, power status and role identity were not primed in the present study, which may explain my nonsignificant findings. Furthermore, verbs may be too passive of an implicit measure to detect group differences, especially given that verbs are necessary elements of communication. Although power and action may indeed be positively related (Galinsky et al., 2003) and even hegemonically gendered (Sap et al., 2017), no differences in verb usage can be attributed to BDSM power play roles.

Pronouns

Self-orientation of low-status individuals was subliminally reflected in language use of submissive individuals. In both studies, submissive texts used more first-person singular pronouns than their Dominant counterparts. Hierarchical status is associated with attentional biases, such that lower rank is linked with self-focus first-person singular pronouns (Kacewicz et al., 2013). Submissive BDSM practitioners are often the recipients rather than administrators of pain and pleasure and hence pay more attention to their own thoughts, feelings, and behaviors in scenes. Moreover, submissives are concerned with what the Dominant thinks of them and are more focused on what they can do to impress and please the Dominant. Some researchers argue that self-focus may also be a function of involuntary defeat strategy (Sloman et al., 2003), such that submissive play partners self-handicap to avoid hierarchical competition with Dominants. However, my results do not indicate significantly greater depression scores among submissive texts compared to Dominant texts, so future research with BDSM practitioners might examine how language reflects corresponding psychological states associated with status. Like the findings reported in Kacewicz et al. (2013), results from Study 1 and Study 2 indicate a robust relationship between self-attention and lower status. Distinctive use of first-person pronouns may thus signify important individual differences between power play roles in BDSM.

Across both studies, Dominant texts used marginally more first-person plural and third-person plural pronouns compared to submissive texts. However, these differences in pronoun use were not significant. Kacewicz et al. (2013) found that high status individuals used first-person plural pronouns more frequently than low status individuals, with medium effect sizes across the five studies. On the contrary, Kacewicz and colleagues reported only marginally greater amounts of third-person plural pronouns in high status texts relative to those lower in status. Findings

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from the present study likewise mirror this pattern of first-person and third-person pronoun usage by Dominants, though not significantly. It may be the case that there are no substantial differences in language use between Dominant and submissive BDSM practitioners, thus hierarchical status has no effect on self- or other- focus. Or perhaps my non-significant findings could be attributed to insufficient sample sizes. Study 2 especially suffered from disproportionate power play role sample sizes which may have driven negligible group differences. Future studies should recruit more Dominant-identified practitioners, a population typically underrepresented in most BDSM research (Hébert & Weaver, 2014), to achieve comparable samples of power play roles.

Contrary to Kacewicz et al. (2013)'s findings, second-person pronouns were more common in submissive text samples relative to Dominant text samples in Study 1. This finding may indicate frequent conversations and social connection between the commenters and original poster (OP) in submissive subreddit forums. Submissive subreddit users commonly implicate the OP when giving advice or expressing appreciation (e.g., "thank you"), thus directing attention inward toward the person reading the message (Pennebaker, 2011). Responses in Dominant subreddits, though, seem to use "you" and "your" abstractly (e.g., "Sure you learn, but you cannot always control yourself."; "having an upright posture and open body language helps you to feel more confident") when giving advice. However, the relationship found in Study 1 was reversed in Study 2 in such a way that self-identified Dominants used marginally more second-person pronouns than submissives. Although Kacewicz and colleagues explain that high-status individuals use more collectively oriented language such as "we" and "you," their results demonstrated less robust use of second-person pronouns and yielded small effect sizes across their five studies (Kacewicz et al., 2013). Finally, given that the English language does not distinguish between singular and plural forms of the second-person, differences among hierarchies are difficult to interpret. More testing is needed to determine if use of second-person pronouns indeed reflects status hierarchies among BDSM practitioner's power play roles.

Affective Processes

Study 1 revealed significant differences in positive and negative affect processes between BDSM practitioners and non-practitioners as well as between power play roles. Although Study 2 did not replicate these significant differences between BDSM practitioners and non-practitioners, group means echoed the hypothesized difference such that BDSM practitioners used more positive emotion words and less negative emotion words in their stories compared to non- practitioners. These results tentatively support existing literature that BDSM is associated with comparable psychological wellbeing and sexual functioning among practitioners in relation to the general population (Ambler et al., 2017; Brown et al., 2020; Connolly, 2006; Cross & Matheson, 2006; Wismeijer & van Assen, 2013; Richters et al., 2008). Furthermore, this finding suggests that BDSM is not rooted in psychopathy or illness, despite historical prescriptions, but rather in healthy psychological functioning and sexual expression.

Despite the finding that submissive text samples contained slightly more emotional words, Dominant samples in Study 2 used slightly more positive emotion words whereas submissive text samples contained significantly more negative emotion words. At first glance, results from the second study strengthen the extant literature, demonstrating that submissives

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express greater levels of emotionality, neuroticism, and stress compared to Dominants (Gemberling et al., 2015; Hébert & Weaver, 2014; Hébert & Weaver, 2015; Wismeijer & van Assen, 2013). However, this finding is contrary to results from Study 1, which indicated that Dominant subreddits, not submissive, used significantly more negative emotion and less positive emotion words in their language samples. Perhaps these inverse results in Study 1 are best explained by theories of emotional workload. Dominants, especially pro-dommes, take on more responsibility (mental, physical, and emotional labor) from degrading, punishing, and caring for submissive clients, which may lead to more negative affect associated with stress (Guy & Newman, 2004, from Pinsky & Levey 2015). Unlike submissives, Dominants may not be able to release negative emotions inconsequentially without first dealing with their role responsibilities. However, low sample sizes in Study 2, especially among Dominant BDSM practitioners, may be directly responsible for nonsignificant differences and high mean scores. More research is needed to determine if Dominants and submissives differ on implicit measures of neuroticism relative to explicit personality measures.

Risk

Finally, risk words were not used significantly more by BDSM practitioners than non-practitioners in either study. Some researchers have historically declared BDSM a pathological, abusive, or deviant risky (multiple partners, unprotected sex with strangers, and prostitution) behavior (Crown, 1983; Dawson et al., 2016; Freud, 1953; Krafft-Ebing, 1965; Moskowitz et al., 2011; White, 2006). Several studies (Dawson et al., 2016; Martin et al., 2016; Schuerwegen et al., 2020) have similarly asserted that sensation-seeking behavior, which is related to engaging in novel and/or risky sexual behaviors (Gaither & Sellbom, 2003), is prevalent among BDSM samples. Others (Connelly, 2006; Cross & Matheson, 2006) have reported no evidence that confirms this value judgment that BDSM practitioners are more risk-prone than non-practitioners. The hypothesized risk-taking tendencies were not supported in the present study. Given mottos such as “Safe, Sane, and Consensual (SSC)” and “Risk-Aware Consensual Kink (RACK),” it is obvious that the BDSM community acknowledges the intense and sometimes dangerous activities enacted by practitioners yet places great emphasis on safety and communication. My nonsignificant results may thus be explained by the fact that BDSM practitioners are more prone to risk-taking than non-practitioners. Moreover, these ratings may be similar across groups because Reddit users come from a place of uncertainty when asking for advice, which is related to risk. Means indicate that non-practitioners in both Study 1 and Study 2 used slightly more risk words than BDSM users, which may be due to the nature of web scraping and recruiting from depressing help-seeking subreddits such as DeadBedrooms. Implications that BDSM is inherently risky are problematic and inaccurate, so more work is needed to challenge these trait-based associations.

Limitations

This research is not without limitations. First, this project did not directly address the question of causality. These findings are also non-directional and merely indicate that individuals who engage in BDSM differ from those who do not, whether due to the attraction of diverse personalities to BDSM or the transformative impact BDSM may have on them. Additionally, no manipulations were used to make either BDSM or power play status salient separate from the

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demographic questions. It is not clear if manipulations or priming can ultimately activate personality traits, influence changes in status, or signal role-specific behaviors. Perhaps by prompting BDSM practitioners to respond with their identity in mind, distinctive language styles may appear more clearly and causally. Additionally, statistical analyses in Study 2 may have been affected by small sample sizes, which could have impacted both significant and nonsignificant results. Another drawback of these findings is that some non-practitioner text samples and participants were drawn from the DeadBedrooms subreddit, a help-seeking forum for long-term sexless relationships. Users belonging to this community may have more adverse sexual experiences than more truly neutral subreddits and thus may not be representative of the general population of non-practitioners. Future researchers should diversify their search and inclusion procedures when seeking to recruit more neutral "vanilla" comparison or control groups to counteract these potential biases.

I also acknowledge that I did not collect demographic information relevant to race, ethnicity, nationality, or socioeconomic status, country of origin, or whether English was participants' first language or not. Consequently, I was not able to control for confounds related to these demographics or explore their intersection with language use. There is little literature on how race, class, and culture intersect with alternative sexual identities and behaviors, unfortunately (Sheff & Hammers, 2011). To achieve greater representation and understanding of these complex intersecting identities, future research on these communities should account for race, ethnicity, ability, and class, among other defining identities.

Further, my positionality as a cisgender, heterosexual, White woman and as a researcher with professional expertise in diverse sexualities guided the present analyses and interpretation of results. I have worked as an instructor for 7 years and taught undergraduate courses on the psychology of human sexuality and gender. Also, I have facilitated various workshops and programs that educate about and destigmatize BDSM and plurisexuality. I am aware that my privilege in terms of gender, sexuality, race, and class may produce significant blind spots in my ability to explain participants' language use. Future research may benefit from exploring language use from other fields of study and diversifying the research team.

Future Directions

Future studies examining language use of BDSM practitioners might consider other methods for gathering text samples. One option is to non-invasively record the audio of a BDSM scene to determine how practitioners speak to one another naturally in realistic settings. However, several precautions would need to be set in place to avoid issues with confidentiality, safety, and discomfort for participants and the research team. Another method of data collection could be to conduct interviews and focus groups. In this manner, participants could speak freely and naturally in conversations with other BDSM practitioners as opposed to submitting edited, written responses.

Future researchers might also be interested in examining BDSM practitioners' experiences of code switching. Code switching, or the impression management strategy of adjusting one's style of speech, behavior, appearance, or expression to receive a desirable outcome in specific social contexts (McCluney et al., 2021), has often been studied with regard

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to race. For example, prior studies indicate that Black people might reduce their use of African American Vernacular English (AAVE) or Black English (BE) to promote perceptions of competence and professionalism and minimize discrimination in White-dominated spaces (Boulton, 2016; McCluney et al., 2021; Myers, 2020; Wood, 2019; Thomas, 2018). Researchers might explore language-based code switching for Black, Indigenous, and people of color (BIPOC) BDSM practitioners, given that BDSM spaces are often predominately White. Some BDSM practitioners might also code switch when engaging in power play, which may signify noticeable differences in natural language use that are context dependent. Switches might be at the nexus of such code switching since they have the unique experience of playing as both Dominant and submissive. Moreover, language use may differ between BDSM/kink subcommunities especially if practitioners embody and alternate between several roles and identities (e.g., Mommy, cuckqueen, and kitten).

Finally, researchers should consider asking BDSM practitioners their opinions regarding if and how practicing BDSM has shaped their own language use. Giving participants the freedom to self-reflect and respond to research questions would not only permit greater insight from community members, but also allow for collaboration. Many studies of BDSM practitioners have not involved members of the community in study design or data analysis, nor have participants directly benefited from studies. Consequently, BDSM practitioners have reported feeling objectified, exploited, and misrepresented by researchers. Keeping the BDSM community deeply involved in the process through community-based participatory research (CBPR), including cultural brokers during the planning, development, and implementation phases of the project (Gatlin & Johnson, 2017), and focusing on topics that benefit participants in a meaningful way (Owen-Smith, 2016) could alleviate feelings of frustration and mistrust among members. Moreover, community members' participation is one way to share information with the scientific community, which seems out of touch and unrepresentative of BDSM practitioners.

Conclusion

The present study was among the first to use computerized text analysis to examine language differences between BDSM practitioners and non-practitioners, and between power play roles. Findings from both studies suggest differential use of power words, BDSM vocabulary, and first-person pronouns and may point to true individual differences between BDSM practitioners and non-practitioners, as well as between Dominants and submissives. When we categorize the distinctive characteristics and life experiences of a particular community as a minority identity, we acknowledge and reduce the stigma linked to those identities. Research findings such as these could validate the BDSM community's classification as a sexual identity, potentially paving the way for protective measures against discrimination. This is achieved through the implementation of protections, anti-discrimination laws, and improvements in medical care. This study expands the scientific community's understanding of BDSM and informs future research of diverse sexualities. Due to this improved understanding, future studies may continue to authenticate BDSM as a protected minoritized group, thereby safeguarding practitioners from discrimination because of their sexual identities and practices.

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