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**MEASURING BDSM ROLE IDENTITIES: VALIDATION OF BDSM ROLE
IDENTITY INVENTORY**

Research paper

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Measuring BDSM Role Identities: Validation of BDSM Role Identity Inventory

Abstract

BDSM is a subculture of alternative lifestyle practices and beliefs. Several different approaches have been used in measuring BDSM role identities, but currently, no standard scientific tool exists. However, there is a widely used test within the community. This study aims to explore the suitability of this test as a scientific tool for assessing and charting BDSM role identities. An online survey was conducted (n = 834) with the modified version of the community test. Exploratory factor analysis revealed a 10-factor model (submissive, dominant, switch, degradee, degrader, slave, sadist, non-monogamist, pet-play, age-play) with acceptable statistical fit, but theoretical inconsistencies. Consequently, the test was deemed mostly unsuitable as a research tool. Further research should prioritize the development of a more appropriate tool.

Keywords: BDSM, role identity, exploratory factor analysis

BDSM rolliidentiteetide mõõtmine: BDSM rolliidentiteetide mõõtevahend

Kokkuvõte

BDSM on alternatiivseid elustiilitavasid ja -uskumusi sisaldav subkultuur. BDSM rolliidentiteetide mõõtmiseks on kasutatud mitmeid lähenemisi, kuid hetkel ei eksisteeri teaduslikul maastikul ühtselt kasutatavat standartset mõõtevahendit. Siiski on kogukonnas olemas laialdaselt kasutatav test. Antud uuringu eesmärk on anda ülevaade antud testi sobilikkusest BDSM rolliidentiteetide mõõtmiseks ja kaardistamiseks. Kogukonnas kasutatava testi modifitseeritud versiooniga viidi läbi veebiküsitlus (n = 834), mille tulemusena leiti 10-faktoriline mudel (alluv, dominantne, vahelduv, alandav, alandaja, ori, sadist, mitte-monogaamne, looma-mäng ja vanuse-mäng) mis oli küll piisava statistilisuse sobivusega, kuid siiski oluliste teoreetiliste ebatäpsustega. Sellest tulenevalt järeltadi, et käesoleval kujul test uurimisvahendina kasutamiseks enamasti sobilik ei ole. Edasised uuringud peaksid jätkama keskendumist sobivama mõõdiku väljatöötamisele.

Märksõnad: BDSM, rolliidentiteet, uuriv faktoranalüüs

BDSM refers to a subculture of alternative lifestyle practices, beliefs, values, and attitudes. The word itself is an acronym, which encompasses six concepts: **B**ondage and **D**iscipline, **D**omination and **S**ubmission, as well as **S**adism and **M**asochism (Stiles & Clark, 2011). These notions succinctly summarise the basic relationship dynamics and concepts that are found within this subculture.

The mentioned BDSM relationship dynamics and concepts include the following:

- restraining or otherwise limiting the freedom of your partner with rope, handcuffs, tape, chains or other such materials (bondage);
- practices, where one partner sets certain rules or expectations for the other partner or their behaviour, which the latter must adhere to or, when violating those rules or expectations, be punished as a result (discipline);
- a relationship dynamic, where one partner has a previously agreed upon amount of physical or mental control and power over the other partner (dominance) and where the other partner relinquishes a previously agreed upon amount of physical or mental control and obeys the dominant partner (submission); and
- a relationship dynamic, where one of the partners feels pleasure and satisfaction from inflicting pain on or embarrassing the other partner (sadism) and where the other partner feels similar pleasure and satisfaction from receiving pain or experiencing humiliation (masochism) (Brown et al., 2019).

Although the presented list seems comprehensive, it is not all-encompassing and only outlines the fundamental principles of this subculture. All of the other notions, behaviours and customs within the BDSM community are inherently connected to the aforementioned concepts.

When researching the characteristics of BDSM practitioners, researchers commonly categorize participants into three broad groups based on their self-reported role identity: dominant, submissive, and switch (someone who at different times enjoys being both dominant and submissive) (Martinez, 2017; Williams et al., 2016; Wismeijer & van Assen, 2013; Yost & Hunter, 2012). This is due to the fact that BDSM practitioners have diverse interests, identities, and behaviours within the subculture, and it is not appropriate to treat them as a homogenous group. Several authors recommend that future research should highlight more than just two or three interest-based orientations (Hébert & Weaver, 2014; Paarnio et al., 2022; Wismeijer & van Assen, 2013). As reasoning, they cite that BDSM

interests are extremely diverse and discarding the notion of different role identity orientations can lead to not noticing important, distinctive information about each subcategory of interest. Some researchers have followed this directive and compiled a list of up to 10 different options for the participants to choose from. As an example, Yost & Hunter (2012) and Martinez (2017) have additionally included the following pairs of seemingly similar, but still unique and important role identities: sadist/masochist (dynamic contents described in the first paragraph,) and master/mistress and slave (referring to a relationship dynamic based on rigid authority, unquestioned obedience and servitude, where one partner's body and/or choices are, to a previously agreed upon degree, the property of the master/mistress). The inclusion of such identities helps to better avoid limiting individuals to only one or two excessively broad categories that may not fully capture their unique identity within this complex subculture.

It is often thought that BDSM is inherently sexual or erotic, but several studies point to a more complex nature of this subculture. Carlström (2018) observed that many of the participants in her study described BDSM as a complex and dynamically constructed process that is centred on voluntary behaviour and informed consent. She noted that, in the eyes of many practitioners, BDSM was not about sex but instead mainly about power exchange, discipline, and creating a sense of security. Newmahr (2010), who conducted a study on a community of BDSM practitioners, pointed out that BDSM was not a precursor to or a substitute for regular sexual intercourse. Instead, she found that it had a goal and purpose in itself. As supporting evidence, she cited the finding that during BDSM interactions or scenes, at least one participant was always clothed, and partners frequently engaged in scenes with each other without mutual sexual attraction or the intention of having sexual intercourse (Newmahr, 2010). Weinberg (2006) further supported the notion that the phenomenon of BDSM is more complex than it seems. Thus, it can be said that BDSM is a complex social phenomenon that cannot be simply and accurately summarised from a singular, psychoanalytical, or sexual viewpoint.

The prevalence indicators of BDSM-related behaviours and interests are not precisely known. Before the end of the 20th century, BDSM was only known as “sadoomasochism” and was primarily researched through individual case reports (Simula, 2019). Up until that time, it was considered an infrequent individual phenomenon and a psychopathology, rather than a widespread cultural practice (Weinberg, 1987), which led to little attention given to the possible prevalence rates. The first notable studies examining various aspects of BDSM were conducted in the late 20th century (Kaufman-Dressler, 1986; Weinberg, 1987). However, many of these studies do not have a full text or at times even the abstract available online and

the few studies that are available show methodological weaknesses such as a small and overly restricted sample size. For instance, a study by Breslow et al. (1985) reported that out of the 182 respondents, 23% of females and 7.7% of males responded positively when asked if they offered professional services as a dominant or a submissive. Looking at newer studies it becomes apparent that there are significant differences in prevalence figures, which have been previously found to be low but might, in reality, be higher than currently thought. This seems to be dependent on the methods, questions and terms used. A large-scale representative survey conducted in Australia at the turn of the century found that only 1.8% of 19,307 respondents had engaged in BDSM-related activities in the previous year (Richters et al., 2008). This figure was higher among bisexual (14.2%) and homosexual (4.4%) respondents. Conversely, a population-based survey carried out at the beginning of last year in Finland revealed that 38% of 8,137 respondents expressed an interest in BDSM and activities related to it (Paarnio et al., 2022). This percentage reached as high as 83% among non-homosexual respondents. A study conducted in Belgium found that 26% of 1,027 participants were interested in BDSM, and 7.6% identified as BDSM practitioners. However, when the term BDSM was omitted and more specific behaviours and attitudes were queried, 46.8% had participated in BDSM-related behaviour at least once in their lifetime, and 68.8% had fantasised about it (Holvoet et al., 2017). Similarly, a survey conducted on the Canadian population in the same year found that 23.8% of 1,040 participants were interested in masochism and 7.1% in sadism, but 19.2% had actual experience in masochism and 5.5% in sadism (Joyal & Carpentier, 2017). Therefore, it is evident that the prevalence indicators are uncertain due to the high variability, different BDSM activities, identities, and interests, however, they seem to be more common than historically thought.

There is currently no universally agreed-upon test within the scientific community to measure and chart the different subcategories of interest found in the BDSM subculture. As a result, researchers often compile their own questionnaires when studying this topic (Coppens et al., 2019; Holvoet et al., 2017; Paarnio et al., 2022). Such self-compiled questionnaires can be helpful tools in increasing the quality of research. They enable researchers to quickly and cost-efficiently gather a large sample size by distributing survey links on different online platforms. This, in turn, increases statistical power and improves the generalizability of the findings (Baguley, 2004; Shen et al., 2011). Additionally, questionnaires allow researchers to collect structured data that can be analysed with the help of statistical software, reducing analysis time compared to qualitative approaches. These tests also have several disadvantages. Often, they lack reliability or validity indicators (Holvoet et al., 2017; Wismeijer & van

Assen, 2013), making their trustworthiness, accuracy, and the conclusions drawn from them questionable. The significant variability in prevalence indicators described in the fourth paragraph suggests that researchers' definitions of interest in BDSM and the specific wording used when asking questions significantly impact respondents' answers. As a result, these self-compiled tests may underestimate the prevalence of BDSM-related activities and interests among respondents.

In contrast, a commonly used test exists within the BDSM community for measuring BDSM role identities. In 2014, an unnamed group created and released the test with the objective of assisting individuals in the community with identifying labels relevant to them (*BDSM Test: What Kind of Sexual Deviant Are You?*, 2023). This test holds significant importance and relevance within the community and is frequently used as a means of accurately describing and assigning role identities. This is evident by the fact that the results of this test are often displayed on various online BDSM forums, such as FetLife.com, as a way to provide a quick overview of an individual's specific interests in the domain. While this test is readily available and widely used, there is no reporting of its validity indicators or development process on the website, rendering it unsuitable for scientific use. This study aims to provide insight into whether this test could be fitting for assessing and charting BDSM role identities.

Based on the given information, the aim of this study is to test the statistical reliability and factor structure of the BDSM Role Identity Inventory.

Method

Sample

In total, 1296 participants responded to the survey, of which 462 (35.65%) had missing values and were thus excluded from further analysis, making the final sample size 834 (64.35%) respondents. The sample consisted of 440 (52.75%) females, 307 (36.81%) males, 63 (7.55%) non-binary people, 13 (1.55%) genderfluid people and one person who preferred not to say. Due to the small size of the non-binary, genderfluid and prefer not to say groups, they were combined into the group other for further analysis. The age of the sample ranged from 18 to 70 years, with the mean age being 32.13 years ($SD = 11.44$, $Mdn = 29$). The distribution of sexual orientation was as follows: 379 (45.44%) heterosexual, 339

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(40.6%) bisexual, 49 (5.9%) unsure/exploring, 32 (3.8%) homosexual, 30 (3.6%) asexual and five (0.6%) prefer not to say.

Procedure

A link to the survey, alongside a short text explaining the nature of this study and all relevant information, was posted to different social media platforms. These include different BDSM and research-themed groups on Facebook.com; different BDSM, sex, psychology and research-themed subreddits on Reddit.com and different psychology, research and academia-themed groups on Fetlife.com. Survey which consisted of four parts. First, an informed consent form that included basic information about the study and who was allowed to participate (see Appendix A). Then, a section requesting demographic information such as gender, age and sexual orientation. This was followed by a 60-item personality inventory, which is part of a larger study but will not be analysed in the present study. Next, information explaining the concept of BDSM play was shown. This was done to ensure a consistent understanding of the concept, in order to comprehend the questions presented next fully. The last section contained the BDSM Role Identity Inventory. Upon finishing that, the survey was complete, with an average completion time of 18.27 minutes.

BDSM Role Identity Inventory

The BDSM Role Identity Inventory (BDSM-RII) is a list of 63 BDSM-related statements used to measure and assign role identities within the subculture. The name BDSM Role Identity Inventory will be used to reference this test in its modified version in the current study, as the test created by the anonymous group does not have a specific name. The statement list is based on a questionnaire that can be found on the website www.bdsmtest.org. The version available on this site can be completed in two different lengths and upon completion, produce a list of 25 different role identities. The scoring mechanism and factor structure of the questionnaire are unknown.

A shorter version of the previously mentioned questionnaire was used in this study. Some of the statements were modified to avoid prejudice against respondents who identify as asexual (see Appendix B for the complete BDSM Role Identity Inventory statement list). Participants were shown statements such as “I prefer making sexual/bdsm play related decisions for my partner, as this gives me more control,” and “I like my partner(s) to be completely in charge in the bedroom or during BDSM play, ordering me around.” Afterwards, they were required to indicate their degree of agreement with each statement in the

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BDSM-RII. This was done using a 5-point Likert scale that featured different levels of agreement (1 - strongly disagree, 2 - disagree, 3 - neutral, 4 - agree, and 5 - strongly agree).

Plan of statistical analysis

First, data appropriateness for exploratory factor analysis (EFA) was checked based on the following prerequisites: the measured variables have to be intercorrelated, but no extreme multicollinearity or singularity should be present, tested with correlation coefficients of at least ± 0.30 existing and Bartlett's test of sphericity value being less than 0.05; the sampling should be adequate, with at least 10 participants for every variable measured and the Kaiser-Meyer-Olkin's measure (KMO-test) value greater than or equal to 0.70 (Watkins, 2018; Williams et al., 2010). Then, the factor structure of the inventory was achieved by conducting an EFA, using the maximum likelihood factoring method and the oblimin method of oblique rotation.

The reference values taken into consideration when interpreting fit indices were the following: root mean square error of approximation (RMSEA) values lower than .08 indicate adequate fit, while values lower than .05 indicate excellent fit; standardized root mean squared residual (SRMR) values lower than .08 are considered acceptable but values less than .05 indicate a well-fitting model; Tucker-Lewis index (TLI) and comparative fit index (CFI) values above .90 indicate adequate fit and values above .95 indicate excellent fit; (Hu & Bentler, 1999; West et al., 2012). For the minimum acceptable per cent of variance explained, 60% was used (Hair et al., 2010). The models' reliability was enhanced by employing the split-half technique to calculate the internal consistency values of all factors expressed in Cronbach's alpha and eliminating all items that decreased it. Following this, the final scores of role identity were calculated. As the criterion for the level of statistical significance, $\alpha = 0.05$ was used. All data analyses were completed using JASP (Version 0.17.1; JASP Team, 2023).

Ethics

To ensure the ethics of this study, only adults who had read and agreed to the informed consent form and who thereby confirmed their desire to participate in the study were allowed to answer the survey. The informed consent form ensured that the participants were aware of their right to stop the study at any time, the approximate topic of the study, what exactly the study consists of, and their expected role in this study. In order to ensure confidentiality, answers were stored in an anonymous form and only non-personal data was requested, based

on which it is not possible to identify the exact identity of the respondent. During the study, no harmful questions or tasks were asked of the subject. At the end of the study, the participants were presented with a more detailed debriefing form, where, among other things, they were given the opportunity to leave their contact info in order to get notified of the study's results upon its completion. This information was recorded and stored separately from the survey answers. No payment was offered for participation in the study.

Results

When comparing the previously outlined prerequisite criteria to the sample, it was noted that all were filled: approximately 30% of the values in the Pearson's r correlation matrix exceeded ± 0.30 , with the highest being 0.89 and the lowest -0.67; Bartlett's test value was $p < .001$; there were approximately 13 respondents for every variable measured; and the KMO-test had a value of 0.948.

Establishing the optimal number of factors

In order to establish the optimal number of factors, several different extraction method results were examined. Based on the previously outlined theory, there should be at least 8 factors, the original test itself showed results according to 25 different factors, the Kaiser rule of eigenvalues being more than or equal to 1 resulted in 11 factors, and Cattell's approach to visually observe the scree plot suggested 9 to 15 factors. The fit indices of different factor solutions, including the ones used in previous studies, were also examined and can be seen in Table 1. It should be noted that these fit indices are based on the initial factor solutions, where the only thing changed is the number of factors and no items had yet been removed.

Table 1. Fit indices of different initial factor solutions.

Solution	RMSEA	SRMR	TLI	CFI
2-factor	.097	.078	.615	.640
3-factor	.087	.060	.687	.717
8-factor	.056	.030	.860	.896
10-factor	.048	.025	.896	.929
11-factor	.045	.024	.908	.940
12-factor	.042	.022	.920	.950

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13-factor	.039	.020	.933	.959
14-factor	.035	.019	.944	.968
15-factor	.033	.018	.951	.973
16-factor	.031	.017	.956	.977

Note. RMSEA = root mean square error of approximation, SRMR = standardized root mean squared residual, TLI = Tucker–Lewis index, CFI = comparative fit index.

Taking into consideration the recommended CFI/TLI cut-value of 0.95 in order to avoid under-factoring (Clark & Bowles, 2018), as well as the recommended minimal CFI value improvement of 0.01 between factor solutions in order to avoid over-factoring (Cheung & Rensvold, 2002), a 15-factor model provided the best initial fit. However, when examining the inventory items comprising each factor for every solution, the 15-factor model did not produce logical factors. As an example, Item 23 (“I enjoy being kept as a pet: in a cage, eating out of a bowl, being petted/caressed, etc”), which pertains to behaviours belonging to the pet role, was placed under the submissive role identity factor. Additionally, Item 52 (“The idea of being tortured sexually or while partaking in intimate BDSM play, is appealing”) which expresses an idea common to the masochist role identity, was also included in the submissive factor.

Other issues were identified, including the emergence of two factors both including items indicating the sadist role identity, effectively yielding two separate factors referring to the same role identity. Among one of the sadist factors, two items relating to masochistic or submissive behaviour were included, which conceptually represent role identities opposite of each other and thus displayed theoretical discrepancies. Those items were Item 2 (“I like receiving pain during sex/BDSM play and seeing the results of it (marks/bruises, makeup running by tears, etc.) afterwards,”) and Item 46 (“Being in fear of what my partner is going to do to me physically, is arousing.”) Instead, when taking both the underlying theory and fit indices into consideration, a 10-factor model was found to be the most suitable and was thus chosen.

Reliability and factor structure

To assess the fit of each item with its factor, their content and the common denominator of the factor was checked. The factor loadings were then evaluated, with all loadings above 0.4 considered. During this process, item 42 (“I enjoy watching other people

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being naked, having sex or engaging in intimate BDSM play”) was excluded from the factor structure as it did not conceptually fit into the fourth factor non-monogamy and rather described the behaviour of a voyeur role identity. Several other items (2, 3, 4, 7, 8, 11, 14, 15, 20, 23, 31, 32, 34, 35, 38, 40, 43, 45, 48, 58, 61) were dropped due to their loadings being below the aforementioned threshold. Additionally, items 19, 29, 46, 52, 53, 6, and 41 were removed in order to improve the internal consistency, as evidenced by improved Cronbach’s alpha values (see Table 2.)

Table 2. Cronbach’s alpha values before and after items dropped

Item dropped	α of scale	α if item dropped	Item-rest
Factor one: submissive			
19. I enjoy feeling like a prey hunted by a predator.	.950	.950	.699
29. I like being forced into submission, much more than submitting spontaneously	.950	.951	.683
46. Being in fear of what my partner is going to do to me physically, is arousing.	.951	.952	.734
52. The idea of being tortured sexually or while partaking in intimate BDSM play, is appealing.	.952	.953	.760
Factor three: slave			
53. I would be willing to leave everything I have behind, to live the BDSM life of my dreams.	.841	.860	.384
Factor seven: non-monogamist			
6. I enjoy it when people watch me being naked or having sex/partaking in bdsm play.	.840	.848	.488
Factor ten: age-play			
41. I like it when my partner takes on a nurturing and guiding, almost parental role in the relationship.	.760	.802	.492

Note. α = Cronbach’s alpha. Item-rest = item-rest correlation.

Lastly, all ten factors were named based on their respective content. The full factor model, including factor loadings and communalities, can be seen in Appendix C. The fit indices for the final model were as follows: RMSEA = .047, SRMR = .012, TLI = .960, and

CFI = .982. The 10-factor model ultimately accounted for 74.4% of the variance found in the data.

Factor one: submissive

The first factor consisted of five items with the factor loadings ranging from .60 to .94, indicating values and attitudes associated with submissive behaviour. The items expressed preferences for being dominated by a partner, such as “I like my partner(s) to be completely in charge in the bedroom or during BDSM play, ordering me around,” “I like to be dominated, especially during sex/BDSM play,” and “Being physically restricted during sex/BDSM play (with clothes, attributes, rope, chains, etc.) is arousing.” Cronbach’s alpha for this scale falls within the range of .949 - .957.

Factor two: degradee

The second factor, consisting of three items with factor loadings between .84 and .97 (see Appendix C), described attitudes aligned with masochistic behaviour, but with a specific focus on degradation. Examples of items in this factor include “I enjoy being verbally degraded or being called humiliating names during sex/BDSM play,” “I like to be sexually or otherwise degraded and humiliated by my partner(s) sometimes,” and “Being treated with little or no respect during sex/BDSM play arouses me.” Cronbach’s alpha for this scale was found to be in the range of .938 - .948.

Factor three: slave

The third factor comprised of five items that reflected the values and attitudes associated with the slave role identity. The items included in this factor expressed a desire to serve a partner. Examples include “I’d like to submit to my partner 24/7 and see serving them as my life purpose,” “I would like to serve in a formal setting with explicit slave training, prescribed physical positions and rituals, etc,” and “I would like to be nothing but a 24/7 sex (or otherwise) slave (i.e. not having any human interaction outside of sex and/or BDSM).” Factor loadings ranged from .45 to .83 (see Appendix C) and Cronbach’s alpha was within the range of .848 to .871.

Factor four: degrader

The fourth factor, comprising of three items with factor loadings ranging from .72 to .92 (see Appendix C), described values and attitudes that align with the sadist role identity,

with an emphasis on degradation rather than pain. Examples include “I enjoy verbally degrading my partner or calling them humiliating names during sex/BDSM play,” “I like to sexually or otherwise degrade and/or humiliate my partner(s) sometimes,” and “Treating my partner with little or no respect during sex/BDSM play arouses me.” Cronbach’s alpha was found to be in the range of .916 - .930.

Factor five: dominant

The fifth factor summed up the dominant role identity in four items, expressing a preference for being in charge. Factor loadings ranged from .42 to .89 (see Appendix C). Example items include “I like to dominate my partner(s), especially in the bedroom or during BDSM play,” “I like to be completely in charge in the bedroom or during BDSM play, and order my partner(s) around,” and “Physically restricting my partner during sex/BDSM play (with clothes, attributes, rope, chains, etc.) is arousing.” Cronbach’s alpha for this scale ranged from .933 to .944.

Factor six: sadist

This factor comprised of three items with factor loadings ranging from .71 to .81 (see Appendix C). The items described values consistent with the sadist role identity, this time emphasizing the derivation of pleasure from inflicting pain. Examples of items include “I like inflicting pain during sex/BDSM play and seeing the results of it (marks/bruises, makeup running by tears, etc.) afterwards,” “I love seeing the fear in my partner's eyes when they know I'm going to inflict pain on them,” and “The idea of torturing someone sexually or otherwise, is appealing.” Cronbach’s alpha was found to be in the range between .876 and .897.

Factor seven: non-monogamist

The seventh factor consisted of four factors, with factor loadings ranging from .59 to .89 (see Appendix C). The items described values associated with non-monogamous relationships. Examples include “If part of my sexual/BDSM play desires are not fulfilled with my partner, I would want to see other people to fill the gaps,” “Assuming I was single, I would like to join an existing couple's or polygroup's relationship for sexual and/or emotional purposes,” and “I would like to have sex/intimate BDSM play with multiple people at the same time.” Cronbach’s alpha for this scale was found to be in the range of .833 to .861.

Factor eight: pet-play

This factor was composed of three items, with factor loadings ranging from .42 to 1 (see Appendix C). The items described attitudes consistent with pet and pet owner role identities, where one partner takes on the role of a pet or an animal, and the other partner acts as the owner. Examples include “I enjoy it when my partner plays or acts like a pet animal (dog, cat, pony, etc.)” “I enjoy keeping my partner as a pet: providing them with a cage, feeding them out of a bowl, petting/caressing them, etc,” and “I enjoy playing or acting like a pet animal (dog, cat, pony, etc.)” The Cronbach’s alpha was in the range of .686 to .743.

Factor nine: switch

This factor consisted of two items, with factor loadings ranging from .88 to .89 (see Appendix C). The items described values consistent with the switch role identity, where an individual enjoys both dominant and submissive roles during intimate play. Examples include “I could not be always dominant or always submissive, I need both,” and “Sexually or while partaking in BDSM play, I could be submissive now and be sexually dominant another time (either to the same or to another partner).” Cronbach’s alpha for this scale was found to be in the range of .889 to .911.

Factor ten: Age-play

The final factor was made up of two items, with factor loadings ranging from .76 to .90 (see Appendix C). The items described values and attitudes associated with age-playing, where an individual enjoys acting a different age than they biologically are. Often this includes taking on a childlike behaviour. Examples include “I enjoy dressing or behaving like a child, or engaging in child-appropriate activities such as colouring in a colouring book or going to a playground,” and “I enjoy playing a different age than what I technically am.” Cronbach’s alpha was within the range of .779 to .822.

Final scores of role identity distribution

Finally, the BDSM-RII’s scores were calculated by using the Likert answers to each item. Scores of 4 and higher were taken as an indication of role identity belonging. Results showed that a majority of the sample identified with the submissive role identity (69.78%, n = 582), followed by the dominant role identity (51.68%, n = 431) and the switch role identity (43.41%, n = 362). Approximately 45% of participants (n = 376) scored high on the non-monogamous role identity scale. The degradee and degrader role identities applied,

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respectively, to 40.89% (n = 341) and 26.26% (n = 219) of participants, while the sadist role identity applied to 35.62% (n = 297) and the slave role identity to 13.79% (n = 115). The smallest groups were the age-play, with 11.75% (n = 98), and the pet-play role identity, with 8.63% (n = 72) of participants. Figure 1 provides an overview of the gender differences in the distribution of role identities. For a more detailed distribution of study participants' characteristics between role identities, see Appendix D.

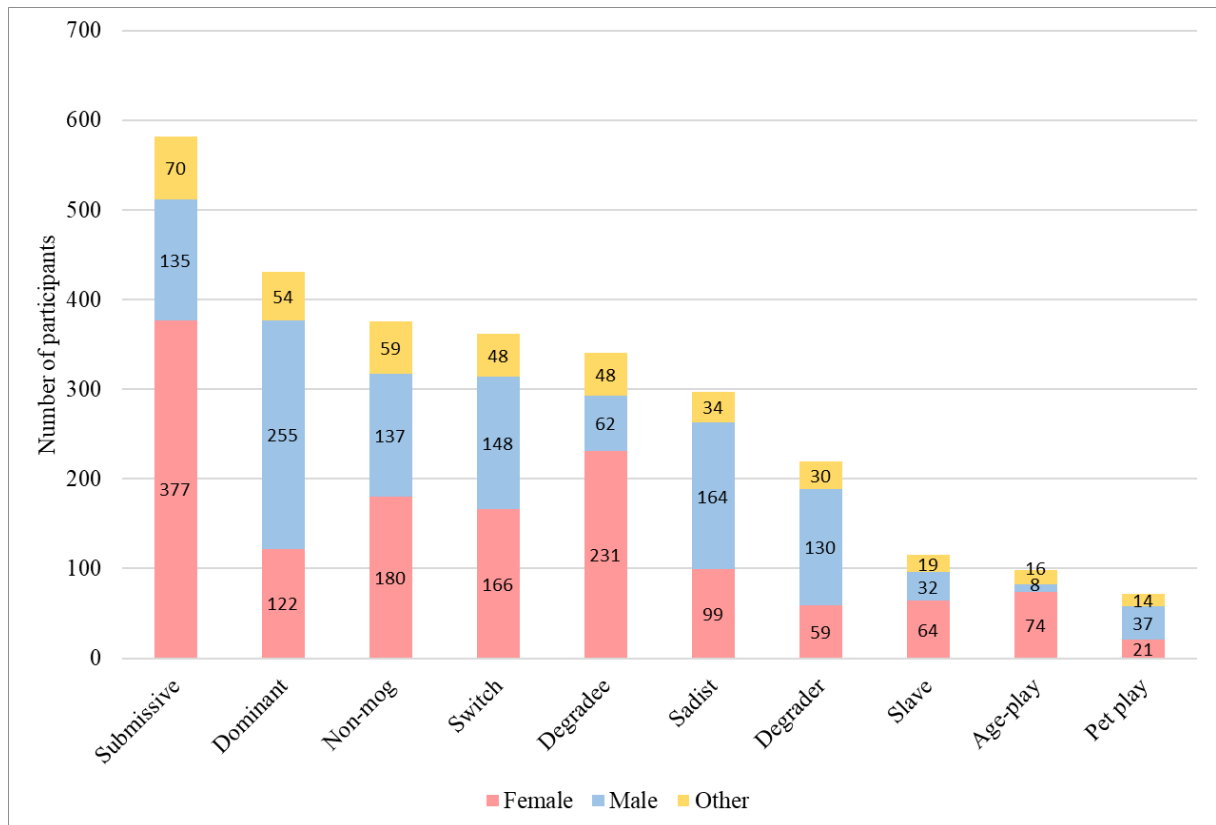


Figure 1. Gender differences in role identity distribution among participants. Non-mog = non-monogamist.

Discussion

The aim of this study was to test the statistical reliability and factor structure of the BDSM-RII, which is a modified version of a questionnaire already widely used in the BDSM community. This was done in order to confirm its broader use for measuring BDSM role identities in the scientific community, as there currently is no single, widely used, scientific measuring tool. Results showed that a 10-factor model structure was detected which was moderately compatible with the underlying theory and had satisfactory fit indices. Despite

that, there were also crucial inconsistencies and inadequate statistical values observed throughout. This indicates that in its current form, the BDSM-RII, while better capturing the diversity of BDSM role identities than the previous 2-3 factor test used, is nonetheless not suitable for scientific use.

Statistically, a 15-factor model was determined to be the most suitable fit. However, a closer examination of the factors revealed significant discrepancies. In multiple instances, items referencing role identities with distinct differences were found to be grouped together under the same factor. Similarly, in the final factor model, several factors contained items with seemingly different intuitive foundations. For example, there were multiple items under the submissive and dominant factors that could be better fitting as their own factors. This could be explained by a broader common denominator connecting various role identities, such as personality traits. This notion is consistent with previous literature which has found a connection between certain personality traits and an inclination towards more submissive or dominant roles (Brown et al., 2019; Hébert & Weaver, 2014; Wismeijer & van Assen, 2013).

It is often the case that BDSM identity roles exist in corresponding pairs, as is evident by the pairs included in the acronym itself like dominant/submissive and sadist/masochist. This is further exemplified by the emergence of certain corresponding roles in this study as well as previous findings, where BDSM practitioners regard the power dynamic and exchange between partners with varying roles as the central idea (Carlström, 2018; Newmahr, 2010). The emergence of roles such as slave and sadist was observed, but not their corresponding counterpart roles, such as master/mistress and masochist. Several items in the inventory could be interpreted as referring to the master/mistress and masochist roles, but these items did not have significant enough factor loadings to be considered as separate factors in the final model. This points to an internal discrepancy and can be seen as an indicator that the current 10-factor model might not be the best fitting.

Furthermore, items describing gaining pleasure from inflicting pain were correctly grouped under the more specific sadist factor. However, items referring to the enjoyment of receiving pain and that indicate the opposing masochist role did not score high enough to form a separate factor. This finding is interesting considering previous research, that shows significantly higher masochist and submissive role scores in women compared to men (Joyal & Carpentier, 2017; Martinez, 2017). This study has a higher sample of women than it does men, which leads to the contradictory expectation of the masochist role to emerge instead of the sadist role. Several factors could be attributed to this. Firstly, the existence of the degradee role factor, which ranks second highest among the female sample may overlap with the

masochist, submissive and degradee role identities in women, or that women who identify with the masochist role value degradation aspects of it higher, resulting in the emergence of the degradee factor alone. Additionally, there might exist another distinct role identity that combines the aforementioned roles, but which could not emerge due to the restriction of factor numbers or a low number of people identifying with the given identities.

Additionally, in the final 10-factor model, certain factors appeared to include items that encompassed the contents of a particular kink, rather than separately referring to both sides of a specific power dynamic as is the case with other factors found. An example would be the pet-play factor, which contained items relating to both the pet and the pet owner role identities, and the age-play factor, which again contained items more generally describing the content of the kink itself rather than a dynamic. This type of grouping might be attributed to these role identities being less common, resulting in a smaller sample size for both factors. It is possible that a larger sample size and a model with a higher number of factors could result in the separation of these conceptual factors into power dynamic based ones.

All of these results are consistent with previous findings, that BDSM interests are indeed more diverse than two or three role identities and that it would serve useful to include several other role identities in future research (Hébert & Weaver,2014; Paarnio et al.,2022; Wismeijer & van Assen, 2013).

Limitations and directions for future research

One potential limitation of this study could be the use of the shorter version of the BDSM questionnaire found at www.bdsmtest.org as a basis for the BDSM-RII. This decision resulted in low factor loadings, leading to the exclusion of a significant number of items, and consequently, the extraction of no more than 10 factors. Increasing the number of items by using the longer version could have led to higher factor loadings and the emergence of additional factors, therefore leading to a more appropriately fitting model. The current grouping of items with highly nuanced differences under the same factor indicates the possibility of undiscovered factors. Although models with higher factor numbers were initially considered and passed most of the goodness fit checks, they lacked theoretical coherence and were deemed unusable. It is possible that incorporating more factors could enhance the BDSM-RII's validity as a research tool, surpassing the findings of this study.

Taking these limitations into account, suggestions for future research can be proposed. When developing new questionnaires or inventories for measuring BDSM role identities, establishing more than 10 factors should be worked towards. Additionally, both sides of less

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common role identities should be considered as their own unique factors. It would also be beneficial to consider gender-based differences in the perception of BDSM roles. This could establish a new standard of measurement for BDSM role identities in future studies and aid in the development of this field of research. However, to further validate the utility of the current inventory, a confirmatory factor analysis could be conducted on a new sample. It may also be worthwhile to investigate the factor structure of the longer version of the original BDSM test, as it could yield more favourable results.

In conclusion, this study aimed to evaluate the scientific use of BDSM-RII as a tool for measuring BDSM role identities. The findings showed an adequate 10-factor model with several considerable theoretical limitations, suggesting the need for more factors or a larger/more diverse sample to better represent the diversity of BDSM role identities. Despite these limitations, the present study offers an important contribution to the ever-growing field of BDSM-themed scientific studies.

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Appendix A
Informed consent form

This survey is a part of a study conducted by a bachelor's degree level psychology student at Tartu University. The purpose of this survey is to study how personality traits are distributed between different BDSM orientations and to see if certain personality traits can predict certain BDSM interests and vice versa.

Participation in this study is completely voluntary and you will be able to withdraw your consent at any point. For this, simply stop filling in the survey.

You will be asked a series of questions which are presented in blocks. The questions will include basic descriptives, a 60-item personality questionnaire, and a 63-item BDSM interests and orientations mapping questionnaire.

Completing this survey will take about 45 minutes. You will be able to take a break if needed. For this, close this test and reopen it at a later time. All answers will be saved and the test will continue where it was left off.

- I have read the information above, agree to voluntarily participate in this survey and confirm that I am at least 18 years of age.

For further questions or concerns, please send an email to the following address:

liisa.johanna.parnamagi@ut.ee

Appendix B

BDSM Role Identity Inventory statements

1. I like to be dominated, especially during sex/BDSM play.
2. I like receiving pain during sex/BDSM play and seeing the results of it (marks/bruises, makeup running by tears, etc.) afterwards.
3. I prefer making sexual/BDSM play related decisions for my partner, as this gives me more control.
4. I like forcing my partner into submission, much more than them submitting spontaneously.
5. I would like to have sex/intimate bdsm play with multiple people at the same time.
6. I enjoy it when people watch me being naked or having sex/partaking in bdsm play.
7. I don't like making sexual/bdsm play related decisions, I prefer my partner to make them for me.
8. I am willing to try anything once, even if I don't think I will like it.
9. Physically restricting my partner during sex/BDSM play (with clothes, attributes, rope, chains, etc.) is arousing.
10. I like to be totally helpless and at my partner's disposal, physically unable to resist what they do.
11. I have a thing for large age differences in sexual/intimate encounters or relationships.
12. I enjoy playing or acting like a pet animal (dog, cat, pony, etc.)
13. Being treated with little or no respect during sex/BDSM play arouses me.
14. There is no reason why sex or intimate BDSM play would have to happen in private spaces, isolated from the outside world.
15. I find the romantic aspect in a relationship much more important than the sexual or kinky aspects.
16. I would like to serve in a formal setting with explicit slave training, prescribed physical positions and rituals, etc.
17. Assuming I was single, I would like to join an existing couple's or polygroup's relationship for sexual and/or emotional purposes.
18. Being physically restricted during sex/BDSM play (with clothes, attributes, rope, chains, etc.) is arousing.
19. I enjoy feeling like a prey hunted by a predator.
20. I don't have any sort of specific fetish or non-standard (sexual or otherwise) turn-on.

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21. Being part of a group of slaves that serves one Master/Mistress, sounds like a life that would really suit me.
22. I would like to be completely tied up during sex/BDSM play.
23. I enjoy being kept as a pet: in a cage, eating out of a bowl, being petted/caressed, etc.
24. I love seeing the fear in my partner's eyes when they know I'm going to inflict pain on them.
25. I like to be sexually or otherwise degraded and humiliated by my partner(s) sometimes.
26. I enjoy playing a different age than what I technically am.
27. I would like to be nothing but a 24/7 sex (or otherwise) slave (i.e. not having any human interaction outside of sex and/or BDSM).
28. Treating my partner with little or no respect during sex/BDSM play arouses me.
29. I like being forced into submission, much more than submitting spontaneously.
30. I would like it when my partner is completely tied up during sex/BDSM play.
31. I have plenty of sexual (or otherwise) fantasies that I would like to try out, more than most of my kinky peers.
32. I find it adorable when my partner acts or dresses childlike, or when they engage in childlike activities such as coloring in a colouring book or playing on a playground.
33. Sexually or while partaking in BDSM play, I could be submissive now and be sexually dominant another time (either to the same or to another partner).
34. Living with a group of slaves owned by me and serving me, would be my ultimate life goal.
35. It's no big deal when things I try turn out bad for me. It's part of the risk and it's a necessary part of discovering what works and what doesn't.
36. I enjoy keeping my partner as a pet: providing them with a cage, feeding them out of a bowl, petting/caressing them, etc.
37. If I could not fulfil all of my partner's sexual/BDSM play desires, I would encourage them to see other people to fill the gaps.
38. I often behave in animalistic ways during sex/BDSM play (growling, howling, etc.).
39. If part of my sexual/BDSM play desires are not fulfilled with my partner, I would want to see other people to fill the gaps.
40. I enjoy feeling like a predator hunting its prey.
41. I like it when my partner takes on a nurturing and guiding, almost parental role in the relationship.

42. I enjoy watching other people being naked, having sex or engaging in intimate BDSM play.
43. I'd like my partner(s) to submit to me 24/7 and I'm willing to take the responsibility that comes with it.
44. I like my partner(s) to be completely in charge in the bedroom or during BDSM play, ordering me around.
45. If I could make some money from selling porn clips of myself, I definitely would.
46. Being in fear of what my partner is going to do to me physically, is arousing.
47. I feel the need to serve my partner and treat them with the highest respect, addressing them as a superior.
48. Talking back to one's dominant in a teasingly disobeying way, should be part of the sub's fun.
49. I enjoy verbally degrading my partner or calling them humiliating names during sex/BDSM play.
50. I enjoy it when my partner plays or acts like a pet animal (dog, cat, pony, etc.)
51. I like to be completely in charge in the bedroom or during BDSM play and order my partner(s) around.
52. The idea of being tortured sexually or while partaking in intimate BDSM play, is appealing.
53. I would be willing to leave everything I have behind, to live the BDSM life of my dreams.
54. I like inflicting pain during sex/BDSM play and seeing the results of it (marks/bruises, makeup running by tears, etc.) afterwards.
55. I could not be always dominant or always submissive, I need both.
56. I like to dominate my partner(s), especially in the bedroom or during BDSM play.
57. I like to sexually or otherwise degrade and/or humiliate my partner(s) sometimes.
58. I will naturally take on a nurturing and guiding, almost parental role in a relationship.
59. The idea of torturing someone sexually or otherwise, is appealing.
60. I'd like to submit to my partner 24/7 and see serving them as my life purpose.
61. I want my partner to serve me and address me as a superior.
62. I enjoy dressing or behaving like a child, or engaging in child-appropriate activities such as colouring in a colouring book or going to a playground.
63. I enjoy being verbally degraded or being called humiliating names during sex/BDSM play.

Appendix C
Factor structure and loadings

Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	h2
Factor one: submissive											
22. I would like to be completely tied up during sex/BDSM play.	.94	-.01	.03	.00	.14	-.08	.06	.00	-.05	.01	.85
18. Being physically restricted during sex/BDSM play (with clothes, attributes, rope, chains, etc.) is arousing.	.86	.04	-.02	-.03	-.02	.01	.00	-.03	.11	.03	.87
10. I like to be totally helpless and at my partner's disposal, physically unable to resist what they do.	.83	.08	.05	-.06	-.08	.06	-.03	-.01	.06	-.02	.89
44. I like my partner(s) to be completely in charge in the bedroom or during BDSM play, ordering me around.	.66	.10	.12	.04	-.15	-.04	-.03	-.03	0.00	.04	.78
1. I like to be dominated, especially during sex/BDSM play.	.60	.12	.05	.03	-.16	-.08	-.01	-.08	.12	.04	.75
Factor two: degradee											
63. I enjoy being verbally degraded or being called humiliating names during sex/BDSM play.	-.01	.97	-.04	.05	.02	-.05	.00	.00	.00	.01	.90
25. I like to be sexually or otherwise degraded and humiliated by my partner(s) sometimes.	.04	.92	-.01	.00	-.01	.02	.00	.00	-.02	-.01	.89
13. Being treated with little or no respect during sex/BDSM play arouses me.	.01	.84	.07	-.03	-.01	.04	.00	-.03	-.01	-.01	.77
Factor three: slave											

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Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	h2
60. I'd like to submit to my partner 24/7 and see serving them as my life purpose.	.08	-.04	.83	.02	-.03	-.01	-.06	-.01	-.08	.03	.74
27. I would like to be nothing but a 24/7 sex (or otherwise) slave (i.e. not having any human interaction outside of sex and/or BDSM).	-.06	.04	.78	.00	-.01	.02	-.05	-.04	.00	.00	.58
16. I would like to serve in a formal setting with explicit slave training, prescribed physical positions and rituals, etc.	.17	.06	.62	-.07	.03	.00	.06	.02	.00	-.01	.59
21. Being part of a group of slaves that serves one Master/Mistress, sounds like a life that would really suit me.	-.04	.07	.60	.00	.01	-.09	.27	.05	.11	-.01	.54
47. I feel the need to serve my partner and treat them with the highest respect, addressing them as a superior.	.25	.12	.45	-.02	-.14	.01	-.04	.01	.03	.07	.61
Factor four: degrader											
49. I enjoy verbally degrading my partner or calling them humiliating names during sex/BDSM play.	.02	.00	.01	.92	.01	-.02	.01	.04	-.02	.02	.85
57. I like to sexually or otherwise degrade and/or humiliate my partner(s) sometimes.	-.04	.04	-.01	.86	.01	.03	.02	.03	.06	-.01	.86
28. Treating my partner with little or no respect during sex/BDSM play arouses me.	.04	-.01	.01	.72	.03	.17	-.01	.00	-.01	.00	.72
Factor five: dominant											
30. I would like it when my partner is completely tied up during sex/BDSM play.	.04	-.04	.02	.03	.89	.03	.01	.01	.02	-.02	.89

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Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	h2
9. Physically restricting my partner during sex/BDSM play (with clothes, attributes, rope, chains, etc.) is arousing.	.01	.02	-.07	.04	.78	.07	-.01	.04	.04	.01	.80
56. I like to dominate my partner(s), especially in the bedroom or during BDSM play.	-.30	.00	.02	.10	.43	.20	.00	.02	.22	-.05	.84
51. I like to be completely in charge in the bedroom or during BDSM play, and order my partner(s) around.	-.18	-.07	.03	.21	.42	.17	.00	.07	.06	-.05	.78
Factor six: sadist											
54. I like inflicting pain during sex/BDSM play and seeing the results of it (marks/bruises, makeup running by tears, etc.) afterwards.	-.05	.00	-.01	-.01	.02	.81	.04	.03	.05	.00	.77
24. I love seeing the fear in my partner's eyes when they know I'm going to inflict pain on them.	.00	-.04	-.01	.13	-.01	.75	.05	.00	-.06	.00	.72
59. The idea of torturing someone sexually or otherwise, is appealing.	.03	.01	.00	.05	.12	.71	.00	.02	.04	-.01	.71
Factor seven: non-monogamist											
39. If part of my sexual/BDSM play desires are not fulfilled with my partner, I would want to see other people to fill the gaps.	.00	-.02	-.06	.01	-.01	.05	.89	-.02	-.02	.01	.80
37. If I could not fulfil all of my partner's sexual/BDSM play desires, I would encourage them to see other people to fill the gaps.	.07	-.03	-.02	-.02	-.02	.00	.87	.01	-.03	-.02	.74
5. I would like to have sex/intimate bdsm play with multiple people at the same time.	-.04	.11	.06	.05	-.01	.06	.61	.03	.01	.02	.45
17. Assuming I was single, I would like to join an existing couple's or polygroup's relationship for sexual and/or emotional purposes.	-.08	.04	.17	.03	.07	-.06	.59	.00	.14	.06	.46

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Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	h2
Factor eight: pet-play											
50. I enjoy it when my partner plays or acts like a pet animal (dog, cat, pony, etc.)	.01	-.01	-.05	.01	-.01	.01	-.01	1	.01	.00	1
36. I enjoy keeping my partner as a pet: providing them with a cage, feeding them out of a bowl, petting/caressing them, etc.	-.08	-.03	.06	.12	.07	.00	.04	.72	-.04	-.03	.74
12. I enjoy playing or acting like a pet animal (dog, cat, pony, etc.)	.08	.16	.23	-.23	-.03	.10	.00	.42	.02	.20	.420
Factor nine: switch											
55. I could not be always dominant or always submissive, I need both.	.01	-.05	-.01	.03	-.01	.01	-.01	.01	.89	-.01	.81
33. Sexually or while partaking in BDSM play, I could be submissive now and be sexually dominant another time (either to the same or to another partner).	.06	.02	-.02	-.01	.05	.00	.00	-.01	.88	.01	.84
Factor ten: age-play											
62. I enjoy dressing or behaving like a child, or engaging in child-appropriate activities such as colouring in a colouring book or going to a playground.	.04	-.02	-.02	-.01	.01	.03	.01	-.02	-.03	.90	.80
26. I enjoy playing a different age than what I technically am.	-.09	.01	.01	.05	.00	-.05	.00	.02	.04	.76	.57

Note. Factoring method: Maximum Likelihood. Rotation method: Oblique Oblimin. Sample size n = 834. F1 = submissive, F2 = degradee, F3 = slave, F4 = degrader, F5 = dominant, F6 = sadist, F7 = non-monogamist, F8 = pet-play, F9 = switch, F10 = age-play, h2 = communalities.

Appendix D

Distribution of sample characteristics across role identities

	Total, n (%)	Sub	Degradee	Slave	Degrader	Dom	Sadist	Non-mog	Pet-play	Switch	Age-play
Total, n (%)	834 (100%)	582 (69.8%)	341 (40.9%)	115 (13.8%)	219 (26.3%)	431 (51.7%)	297 (35.6%)	376 (45.1%)	72 (8.6%)	362 (43.4%)	98 (11.8%)
Gender, n (%)											
Female	440 (52.8%)	377(85.7%)	231 (52.5%)	64 (14.6%)	59 (13.4%)	122 (27.7%)	99 (22.5%)	180 (40.9%)	21 (4.8%)	166 (37.7%)	74 (16.8%)
Gender fluid	13 (1.6%)	11(84.6%)	7 (53.8%)	5 (38.5%)	4 (30.8%)	8 (61.5%)	6 (46.2%)	11 (84.6%)	1 (7.7%)	5 (38.5%)	3 (23.1%)
Male	307 (36.8%)	135(36.5%)	62 (16.8%)	32 (8.6%)	130 (35.1%)	255 (69%)	164 (44.3%)	137 (37%)	37 (10%)	148 (40%)	8 (2.2%)
Non-binary	63 (7.6%)	51(81%)	38 (60.3%)	14 (22.2%)	20 (31.7%)	38 (60.3%)	23 (36.5%)	40 (63.5%)	11 (17.5%)	37 (58.7%)	13 (20.6%)
Other	11 (1.3)	8(72.7%)	3 (27.3%)	0	6 (54.5%)	8 (72.7%)	5 (45.5%)	8 (72.7%)	2 (18.2%)	6 (54.5%)	0
Sexual orientation, n (%)											
Asexual	30 (3.6%)	21(70%)	12 (40%)	7 (23.4%)	8 (26.7%)	15 (50%)	10(33.4%)	14 (46.7%)	10 (33.3%)	13 (43.3%)	6 (20%)
Bisexual	339 (40.6%)	281(82.9%)	180 (53.1%)	62 (18.3%)	77 (22.7%)	155 (45.7%)	115(33.9%)	203 (59.9%)	30 (8.8%)	169 (49.9%)	55 (16.2%)
Heterosexual	379 (45.4%)	215(56.7%)	113 (29.8%)	30 (7.9%)	116 (30.6%)	226 (59.6%)	147(38.8%)	123 (32.5%)	29 (7.7%)	149 (39.3%)	24 (6.3%)
Homosexual	32 (3.8%)	23(71.9%)	16 (50%)	7 (21.9%)	7 (21.9%)	15 (46.9%)	10(31.3%)	12 (37.5%)	1 (3.1%)	11 (34.4%)	5 (15.6%)
Other	54 (6.4%)	42(77.8%)	20 (37%)	9 (16.7%)	11 (20.4%)	20 (37%)	15(27.8%)	24 (44.4%)	2 (3.7%)	20 (37%)	8 (14.8%)
Age, n (%)											
18-30	454 (54.4%)	342 (75.3%)	206 (45.4%)	66 (14.5%)	123 (27.1%)	230 (50.7%)	153(33.7%)	177 (39%)	48 (10.6%)	215 (47.4%)	53 (11.7%)
31-45	267 (32%)	184(68.9%)	108 (40.5%)	36 (13.5%)	66 (24.7%)	127 (47.6%)	88(33%)	133 (49.8%)	15 (5.6%)	103 (38.6%)	36 (13.5%)
45+	113 (13.5%)	56(49.6%)	27 (23.9%)	13 (11.5%)	30 (26.6%)	74 (65.5%)	56(49.6%)	66 (58.4%)	9 (8%)	44 (38.9%)	9 (8%)

Note. Sub = submissive, Dom = dominant, Non-mog = non-monogamist. Cell values represent the number of respondents. Each respondent may belong to multiple role identities concurrently

Käesolevaga kinnitan, et olen korrekselt viidanud kõigile oma töös kasutatud teiste autorite poolt loodud kirjalikele töödele, lausetele, mõtetele, ideedele või andmetele. Olen nõus oma töö avaldamisega Tartu Ülikooli digitaalarhiivis DSpace.

Liisa Johanna Pärnamägi