

'Feminist' in the sociology of sport: An analysis using legitimation code theory and corpus linguistics

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ABSTRACT

The research explores the functional distribution of the term 'feminist' in the Sociology of Sport. To do this, new conceptual tools from Legitimation Code Theory's (LCT) dimension of Semantics are enacted. A 650, 000-word corpus from 100 published articles in peer reviewed, internationally ranked journals was compiled. Constructions with 'feminist' as both a noun and attributive adjective were identified. There were 2044 occurrences of 'feminist' with a distribution of 229 different constructions. 'Feminist' is a complex term, especially in its form as attributive adjective, and therefore, in LCT terms, represents relatively strong epistemic-semantic density (ESD+). Analyses of the term 'feminist' in the Sociology of Sport for axiological semantic density (ASD) are also conducted. Meanings tend to be either neutral or positive but not pejorative in connotation. The overall contribution of the paper is to make visible and unpack the complexity of the term 'feminist' explicitly and systematically to scaffold student learning. The dense packaging might hinder newcomers to the Sociology of Sport field from accessing these specific meanings or constructing them in their own writing.

1. Introduction

The Sociology of Sport warrants detailed research in the domain of gendered language as sport has been described as an 'entrenched bastion of patriarchy' (Whannel, 2002: 10). Feminist scholars have widely published research in this field (Birrell, 1984, 1988; 1989, 1990; Boutilier and San Giovanni, 1983; Dunning, 1986; Hall, 1981, 1984; 1985, 1988; 1996; Sheard and Dunning, 1973; Theberge, 1984, 1985; Willis, 1982). Sport values strength, aggression, and domination, which may be viewed as more akin to male characteristics (Anderson, 2008). Within the Sociology of Sport field, scholars explore how gender is learned through institutionalised sport practices (Bordo, 1989; Duncan, 1990, 1993; 1994; Hargreaves, 1986; Markula, 1995). Messner (1992) for example, points out how primary school children learn, often for the first time, that boys and girls should be separated for sport. Children thus learn about gender differences in this way through institutionalised sport socialisation (Lorber, 1994). Further, there is a substantial number of studies related to the sport media's differing quantities and qualities of coverage of men's and women's sport. For example, women's sport is often demeaned through monikers such as the "Women's World Cup" versus the "World Cup" (Kennedy and Zamuner, 2006). Moreover, women athletes are often sexually objectified on sports media sites (Fink et al., 2002). For example, *Sports Illustrated* publishes athletes participating in bikini competitions. Studies also explore how male sports commentators infantilise women by referring to them as *girls* in contrast to *men* (Galloway, 2012).

Another camp of researchers focusses on how sport might be empowering for women (DeWelde, 2003; Hall, 1996; Hills, 2006; Roth and Basow, 2004; Theberge, 2003; Whitson, 1994). Mixed gender sports could be a site where gender equality is developed as men witness women's skills and strength on the terrain. This might lead to a change in traditional notions of gendered embodiment (Hills, 2006; Shannon, 2013). Further, research indicates that physical strength through sports such as martial arts could be empowering: through fighting men, women might develop confidence and shift away from an omnipresent victim narrative looking to men for protection (DeWelde, 2003; Hall, 1996; Roth and Basow, 2004; Theberge, 2003; Whitson, 1994). There is also research exploring how females are producing competitive results today, achieving great successes in sports such as long-distance running (Wegner et al., 2015), and shortening the gap between the sexes.

This paper explores constructions related to feminist theory in research papers in the Sociology of Sport, with 'feminist' as a noun or an attributive adjective. These word class patterns were found to be the most frequent and diverse in the corpus compiled. At the beginning of the research, three hypotheses were formed based on general prior observations. The first was that the language related to 'feminist' would have academic applications as the sources were drawn from academic journal papers. A second hypothesis was that the term 'feminist' might co-occur most frequently with people seeking change (for example, 'an active feminist' or a 'feminist activist') rather than wording related to feminist subjects of study such as 'feminist research'. This is because it is centred on rights advocacy (Whannel, 2002). A third was that some of

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the language related to 'feminist' research or researchers might be hostile as much of the published research in the Sociology of Sport has been written by men. This is common in less academic contexts as demonstrated below (see [Romaine, 2000](#); and [Pearce, 2008](#) below).

To explore these hypotheses, a corpus of 650,000 words dating from 1985 through to 2018 was constructed. For definitional purposes, a corpus is a body of text that is representative of a particular variety of language ([McEnery and Wilson, 2001](#)). The corpus consisted of one hundred academic journal research articles. From these articles, constructions were identified with 'feminist' as a noun or an attributive adjective. These analyses revealed a significant number ($n = 2044$) of occurrences. New toolkits from semantic density, which is an element from Legitimation Code Theory's (LCT) Semantics dimension, were employed to enact the data. Primarily, this research explores the epistemic-semantic density (ESD) of the term 'feminist' in this Sociology of Sport semantic field. To a lesser extent, as resources have yet to be defined in the LCT community, language related to 'feminist' was explored for axiological-semantic density (ASD). The overall contribution of the paper is to make visible and unpack the complexity of the term 'feminist' explicitly and systematically as this dense packaging might hinder newcomers to the Sociology of Sport field from accessing these specific meanings or constructing them in their own writing.

2. Literature review

There are two main purposes to this section. The first is to overview relevant corpus linguistics research on gendered language. This initial stage provides context as to why this study was conceptualised, and why it is a timely one. No research on the term 'feminist' in academic literature has been conducted to date, yet feminist theory is a long-standing body of research. The second part of the literature review explains LCT and specifically concepts related to the dimension Semantics employed for wording and word grouping analyses. LCT is essential for the conceptualisation of this study. Semantic density explores complexity of meaning and can be used to complement a corpus linguistics approach to data collection. Corpus linguistics research is defined here as an approach that 'is empirical, analysing the actual patterns of use in natural text' ([Biber et al., 2012](#)). In this case, 'natural text' refers to research articles from academic journals in the Sociology of Sport.

2.1. Exploring Attributive Adjectives in Gendered Language

Studies of corpora exploring gender have commonly focused on both asymmetry and sexism. For example, [Kjellmer \(1986\)](#) found that the masculine pronoun 'he', was more frequent than 'she' in the Brown corpus. [Kjellmer \(1986\)](#) concluded that this might mean that women are cited less than men. Corpus research exploring gendered language through the functional distribution of attributive adjectives has also been conducted ([Diekman and Eagly, 2000](#); [Golombok, 1994](#); [Pearce, 2008](#); [Romaine, 2000](#)). [Pearce \(2008\)](#) investigated the BNC for the collocational behaviour of 'man'/'woman' in subject and object positions as well as attributive adjectives associated with these nouns. [Pearce \(2008\)](#) found several interesting distinctions in behaviour, concluding that stereotypical representations of men and women are common. These stereotypes label men as representing 'competitiveness, adventurousness, independence, rationality and aggression' and women as 'co-operative, gentle, dependent, emotional, sympathetic and physically weak' ([Pearce, 2008](#): 19). These stereotypical notions of females as physically weak are also cited in corpus linguistics research by [Romaine \(2000\)](#) who presents sexist language explored through attributive and predicative adjectives and their meanings. She demonstrates how gendered pairings such as 'master' and 'mistress', 'god' and 'goddess' as well as 'bachelor' and 'spinster' collocate with adjectives with different connotations. Examples of adjectives modifying 'spinster' tend to be pejorative related to neuroticism and asexuality: 'gossipy', 'nervy', 'ineffective', 'jealous', and 'eccentric'. [Romaine \(2000\)](#) also concludes

that in the case of nouns such as 'man/woman' and boy/girl, the female tends to have negative meanings more frequently.

2.2. Legitimation code theory

Legitimation Code Theory (LCT) is a social realist approach to educational research. LCT can be enacted to explore how society is made up of relatively autonomous fields of practice within which social relations exist ([Maton, 2014](#)). The fields are shaped by underlying organising principles, or legitimation codes. LCT also posits that actors in these fields cooperate or compete for status ([Kirk, 2018](#): 73). Therefore, as [Maton \(2014: 18\)](#) writes:

'To analyse legitimation codes is ... to explore what is possible for whom, when, where and how, and who is able to define these possibilities, when, where and how'.

LCT is a multi-dimensional toolkit ([Maton, 2014](#): 17) comprising five dimensions: Semantics, Specialisation, Autonomy, Temporality, and Density. Each dimension functions as a 'conceptual toolkit and analytic methodology for substantive research' ([Maton, 2014](#): 3). This paper employs semantic density, which is one of the elements from the dimension Semantics.

2.2.1. Semantic density

Semantic density (SD) can be enacted to analyse intellectual practices as semantic structures. Two variants of semantic density relevant to this paper are epistemic-semantic density (ESD) and axiological-semantic density (ASD).

Epistemic-semantic density (ESD) explores epistemological condensation, 'where the condensing of meanings (from other concepts or empirical referents) emphasises epistemic relations' ([Maton, 2014](#): 153). According to [Maton and Doran \(2017\)](#), a key metric governing stronger or weaker semantic epistemological condensation is the degree of 'relationality'; in other words, what kind of epistemic relations a term may have with other terms in a given field. These relations can produce degrees of complexity. Relationality can also lead to increases in 'resonance' ([Maton and Doran, 2017](#): 57): as more terms are added, a process of resonating outwards to more potential meanings occurs. This process can be viewed as strengthening of epistemic-semantic density ([Maton and Doran, 2017](#)) and the creation of epistemological constellations ([Maton and Doran, 2017](#)). For example, [Maton and Doran \(2017: 59\)](#) explains how the term 'gold' in its more common denotation is 'a bright yellow, shiny and malleable metal used in coinage, jewellery, dentistry and electronics' whereas, in Chemistry, its meanings are more complex as they relate to an 'atomic number, atomic weight, electron configuration and much more' ([Maton and Doran, 2017](#)). Gold in Chemistry is relatively stronger in semantic density and learning about meanings such as these related to metals might be important to develop status in this discipline. Thus, having knowledge about gold's relationality might represent a legitimation code in Chemistry. Epistemic semantic density can be enacted to unpack and make explicit meanings of technical terms in academic disciplines. Making visible these complex meanings could empower novice writers to use the terms more readily and effectively.

Another element of semantic density is axiological-semantic density (ASD), which explores 'axiological condensation of affective, aesthetic, ethical, political, or moral stances' ([Maton, 2014](#): 153). Tools to enact meanings related to ASD have not been as developed as ESD at the current time (2020). However, it is useful to also explore discourses characterised by evaluative meanings or 'axiological charging' ([Martin et al., 2010](#)) in order to further unpack the complexity of meanings of a term. For example, drawing on [Martin and White's \(2005\)](#) work on Appraisal from Systemic Functional Linguistics, [Doran \(2020: 151–176\)](#) explores value and attitude in academic texts. He demonstrates that an adjective such as 'crucial' clearly provides positive attitude. However, the term 'conservative' can evoke both a negative and positive attitude dependant on the context of its use. Similarly, as [Doran \(2020\)](#) points out, in theoretical linguistics, giving salience to terms such as

'constructivist' or 'behaviourist' positions the user in the field in a certain way and presupposes certain values towards educational practices. This positioning is characterised by a set of value-laden terms and what is produced from the combination of terms is language that clusters into 'tighter or looser alignments' (Doran, 2020: 152), also known as 'axiological constellations' (Maton, 2014). This research also explores ASD related to 'feminist' albeit to it a lesser extent than the ESD analyses.

As Maton and Doran (2017: 50) suggest, ESD and ASD can be enacted for analysis in a range of contexts: 'from an 'education system to a single word, and across all disciplines'. They (2017: 50) go on to state that:

'a key task is to establish its empirical realizations within a particular object of study and to make this explicit, often in the form of a 'translation device' that systematically relates the concept to data'.

Tools have been developed for showing how ESD is enacted in a particular object of study, and thus to answer sociological questions about the nature of knowledge-building (Maton and Doran, 2017: 52) in certain social fields. Meyer (2019), for example, explores Martin's (2013) notion of 'power words' for pedagogical purposes to draw attention to ESD in technical wordings in the discipline of Theology in South African tertiary education. Similarly, Georgiou (2020) explores the ESD of clauses to conceptualise complexity and to enable her to categorise assessment products. This enabled her to consider how best to communicate complex ideas to a non-expert audience. As noted, ASD has not yet been expanded on in the same way with analytical tools as with ESD. However, Martin et al (2010) enact both ESD and ASD to analyse the teaching of modern history in Australian secondary schools. They demonstrate how epistemological constellations of the past are characterised by nominalising event episodes (e.g. 'first wave of boat people') and by naming these events with proper nouns (e.g. 'the French Revolution'). Further, Martin et al. (2010) present how axiological charging occurs in Australian secondary school modern history education. Students are encouraged to reflect on these past events by developing a gaze or ideological historical perspective using 'isms' such as capitalism, communism, Marxism, socialism, imperialism, colonialism, and nationalism. The authors find that 'freedom, pride and strength are positive attributes associated with Vietnamese nationalists; slavery, poverty, discrimination, inferiority, money mongering ('chase for the dollar') and anger are negative attributes associated with the French colonialists' (Martin et al., 2010: 442). These differing perspectives of events provide what they term a 'cosmology of values' (Martin et al., 2010) or 'axiological cosmology' of meaning (Martin et al., 2010; Maton, 2013). Using LCT in the same way as Martin et al. (2010), the research in this study seeks to uncover epistemic and axiological meanings related to 'feminist' in the sociology of sport. However, contrast to Martin et al.'s (2010) findings, this study employs wording and word grouping tools from Maton and Doran's (2017) research, for enacting ESD in English discourse.

2.2.2. Wording and word grouping tools

Strengths of epistemic-semantic density (ESD) can be explored at the level of words using the wording tool and word-grouping tool. Maton and Doran (2017: 8) state that these tools refer to the behaviour of content words (e.g., nouns, verbs, adjectives and adverbs), not grammatical words (e.g., prepositions, determiners, or conjunctions). Epistemic semantic density is more closely related to content words because condensation is more emphasised in these word classes.

2.2.2.1. *Wording tool.* Using the wording tool, content words can be separated into *technical*s and *everydays* (Maton and Doran, 2017). *Technical*s are more likely to appear in academic field specific text, which is 'a specialized domain of social practice' (Maton and Doran, 2017: 57) rather than everyday informal contexts (Maton and Doran, 2017). *Everydays* tend to have 'usage in commonplace practices and

contexts' (Maton and Doran, 2017: 59) and are less dense (ESD-). The wording tool provided by Maton and Doran (2017) also differentiates between *technical*s as *conglomerate* and *compact* forms. *Technical conglomerates* are constructed through affixation of word stems that can be used to produce different meanings, having a direct influence on epistemic-semantic density (ESD). Maton and Doran (2017) demonstrate this with LIPOPOLYSACCHARIDE, a *conglomerate* referred to in a top-ranked journal for cardiovascular disease, *Circulation*. This conglomerate is formed with multiple transferable parts, through affixation (e.g., 'lipo' and 'poly'). They suggest that *technical conglomerates* are presented in capital letters and superscript. *Technical compacts* are also content words but their changes in form through inflection (e.g., plurality or tense) does not have a strong influence on epistemic-semantic density (ESD).


Technical conglomerates and *technical compacts* can also be divided into *properties* and *elements*. *Elements* are realised as an entity in the form of a noun; *properties* as nouns describing a process or are realised as adverbs and attributive adjectives, which add qualities to an entity. Maton and Doran (2017) clarify that *properties* always have relatively stronger epistemic-semantic density (ESD) than *elements*. That is why *elements* are positioned below *properties* in the ESD translation device (see Table 1). Maton and Doran (2017) exemplify the difference between *properties* and *elements* by contrasting 'grammar' and 'grammaticalisation'. The latter in linguistics refers to the same concept but also the processes involved when constructing a grammar. In the same way, an attributive adjective such as 'grammatical' added to a noun such as 'process' would have a similar complex meaning as 'grammaticalisation'.

Maton and Doran (2017) present the wording tool in table form (see Table 1 below). *Everydays* are not presented in this adapted version as they are not relevant to this study. The construction of words is divided into *Types (technical*s); *Subtypes (conglomerate or compact)* and *Sub-subtypes (property or element)*. The wording tool is also presented in relation to the epistemic strengths of words (ESD+/-). As already noted, *technical conglomerates* enact greater semantic density than *compacts*, as do *properties* over *elements*. Applying this technical wording, the research in this study seeks to uncover epistemic and axiological meanings related to *technical compact* property and element **feminist** in the Sociology of Sport.

2.2.2.2. *Word grouping tool.* In addition to the wording tool, Maton and Doran (2017) provide a word-grouping tool to explore the complexity of combinations of words. The word-grouping tool 'shows how other words can boost a word's strength of ESD within a category by adding more meanings' (Maton and Doran, 2017: 66). Three categories of word-grouping that strengthen ESD to different degrees are: *embedded*, *categorized* and *located*. The *embedded* type is relatively stronger in ESD, followed by *categorized*, and then *located* along a continuum of degrees. When using the word-grouping tool, the convention making the distinctions more clearly visible, is to use square brackets and numbers 1, 2, and 3. *Embedded* modifications are produced by adding a relative clause or participle clause, for example, [**feminists [interested in sport]**]³. In this case, there is a process (interested) being described as developing from an object (sport). *Categorized* modifications add meanings by specifying a specific subtype of the word, such as [**feminist theory**]². It also suggests other subtypes (e.g. [**Marxist theory**]²). *Located* modifications help to further differentiate a word by adding information to it related to time and space e.g. [**feminists [in the 1900s]**]¹.

The wording and primarily the word grouping tools are enacted in this study to make visible the complexity of the term 'feminist' explicitly and systematically as there is a dense packaging of this term in the Sociology of Sport field. This dense packaging might hinder newcomers to the discipline from accessing these specific meanings or constructing them in their own writing.

Table 1
Wording tool for epistemic-semantic density (adapted Maton and Doran, 2017: 58).

ESD	Type	Subtype	Sub-subtype	Example
+  -	Technical	conglomerate	property	POSTSTRUCTURALISM
			element	POSTSTRUCTURAL
		compact	property	gendered
			element	gender

3. Method

One hundred academic research articles from journals in the Sociology of Sport were selected. The journals can be found listed in the Scimago Institutions Rankings <https://www.scimagojr.com/>. Two are official publications of the associations of the Sociology of Sport in Europe and the United States. The journals are: *Communication and Sport*; *The European Journal for Sport and Society (EJSS)*; *The European Physical Education Review*; *International Journal of Sport Communication*; *The International Journal of Sport and Society*; *The International Review for the Sociology of Sport (IRSS)*; *Journal of Leisure Research*; *The Journal of Sport and Social Issues (JSSI)*; *Leisure Studies Managing Sport and Leisure*; *Quest*; *The Sociology of Sport Journal*; *Sport in Society*; and *Women in Sport and Physical Activity Journal*. The journals are abstracted and indexed in databases such as SCOPUS, and the Social Sciences Citation Index. According to their *Journal Citation Reports*, the impact factors for these journals range from 0.5 to 1.77. Thirteen journals were selected to give a wide range in the field and thus more breadth to the study.

To select the articles for the corpus, **feminist** was inputted into the search engines of the online versions of these journals. These engines were accessed through the researcher’s institutional library website. However, as only abstracts were used, these could be accessed without a subscription. An article was selected if **feminist** appeared as noun or attributive adjective as part of the abstract, as one of the keywords or in the title. This search criteria tended to mean that the subject-matter was crucial to the publication and detailed feminist theory in depth as a theoretical framework or as an extensive literature review for the article. Then, using this sampling frame, at least five papers from each of the thirteen journals were selected randomly until 100 articles had been downloaded. Additionally, so as to diachronically map the use of **feminist**, papers were selected from the earliest dates of journal publication through to the most contemporary observed. Thus, publications ranged from 1985 to 2018. For example, a paper by Nancy Theberge entitled *Toward a Feminist Alternative to Sport as a Male Preserve* from *Quest* was selected. This paper was one of the earliest retrieved, published in 1985 (*Quest*, 37, 2: 193–202). At the other end of the timeline, a paper selected in *Leisure Studies*, is from Bäckström, Å. & Nairn, K. entitled *Skateboarding beyond the limits of gender? Strategic interventions in Sweden*, published in 2018 (*Quest*, 37, 4: 424–439). This sampling was also conducted to strive to give a wide range of the field over time, and thus more breadth to study the term **feminist**. A representative range of publication dates across these cut-offs adds to the trustworthiness of the data.

To construct the corpus, the articles were uploaded into the computer-assisted qualitative data analysis software NVivo (version 12), for which the researcher’s institute had procured licenses. Then, a word frequency count of **feminist** was conducted. Following this, occurrences with **feminist** as *technical compact-element* (e.g., **third wave feminists**)

and as *technical compact-property* (e.g., **feminist theory**) were identified and grouped together. Nodes were produced across the 100 texts using NVivo 12 and two separate electronic classification files were constructed based on these usages as *element* and *property*. These two files were then analysed and coded to examine further the wordings and word groupings. The number of different constructions in the corpus was noted. Once these had been identified across the 100 texts, a thematic analysis was conducted to group them semantically in their two files.

Drawing on Braun and Clarke’s (2006) work, a thematic analysis was conducted. The coding started with immersion to decode the meanings of the constructions and initial ideas for classification were noted. These ideas were then tested and reviewed to clarify that these were satisfactorily grouped and were distinct across the data set. The groupings then became generalised categories. For example, through analysing lists of usage with *technical compact-property feminist* as [categorized]² across the 100 articles, it was observed that there were 162 different constructions in this form. These were then isolated and analysed for shared meanings. Through these observations, it was concluded that there were general meanings relating these terms together. The process was straightforward for the categories *people* and *change*. However, decisions were made to join *studying* and *practising feminism* as a combined group rather than keeping these separate because some terms could hold both meanings: an example is [feminist critique]²(n = 38), which in its contexts was used as something to be learned (*studying*) as well as something to perform (*practising*). Moreover, wording related to *mind and acts of communication* were initially combined as one category but after an independent analyst performed coding, it was decided that *acts of communication* could be added to the category *studying or practising feminism* as the meanings were similar in nature. For example, [feminist debate] (n = 8), the most common term in the *acts of communication* category from this corpus, was found to be similar in meaning to [feminist thought]²(n = 30); and [feminist work]²(n = 31) as a part of *practising feminism*. Agreement was found over concerns about coding after discussions with the analyst. This form of triangulation added confirmability (Guba and Lincoln, 1982) to the process and thus helped to ensure the trustworthiness (Guba and Lincoln, 1982) of the study. A summary of the different constructions observed and thematically analysed in the data is provided below in Table 2 below.

4. Findings

Feminist, as noun or attributive adjective, had 2044 occurrences, or 0.21% of the coverage in the 650,000-word corpus. Firstly, these were realised as noun **feminist** (*technical compact-element*) with 43 different constructions as [categorized]² forms. Secondly, and more significantly, these were realised by **feminist** as attributive adjective (*technical compact-property*) with 162 constructions in the [categorized]² form. There were also [located]¹ and [embedded]³ word groupings (see

Table 2
Word grouping types and themes emerging from coding.

Word grouping types	Themes	Examples from the corpus
<i>Technical compact-element feminist</i>	Feminist movement groups Ethnicity Age and physicality	[third-wave feminists] ² [black feminists] ² [young, heterosexual, able-bodied feminists] ² [feminist theory] ²
<i>Technical compact-property feminist</i>	Studying or practising feminism People Change Mind	[feminist researchers] ² [feminist activism] ² [feminist view] ²
<i>Feminist with modification as [located]¹ and [embedded]³</i>	No specific themes observed	[feminist [critique of [sport]]²] ¹ [feminists [interested in issues [concerning both sport and physical [activity]]³]³] ²

Table 3), but as these did not produce identifiable common patterns in usage, they are not discussed qualitatively. However, their listing appears in the appendix. In all, 229 different constructions were recorded using the wording and word grouping tools from Maton and Doran (2017) demonstrating that the term **feminist** has substantial variability creating a complex constellation of meanings. An overview of the number and variety of occurrences is provided in Table 3 below:

4.1. *Technical compact-element ‘feminist’ in [categorized]² word grouping*

Examples of this *Subtype* were predominantly in plural form as they refer to groups of **feminists**. The most common examples of this word grouping are related to feminist movement groups such as **third-wave feminists** (n = 65); **second-wave feminists** (n = 55); **radical feminists** (n = 30) and **liberal feminists** (n = 20). Other less common word groupings in this category are related to demographics such as ethnicity e.g., **black feminists** (n = 8); **western feminists** (n = 4); age and physicality e.g., **young, heterosexual, able-bodied feminists** (n = 1); and sexuality e.g., **lesbian feminists** (n = 4). The meanings in this category are thus referring to substance (Laso and John, 2013; Tratz and Hovey, 2010; Warren, 1978). This is also one of the most frequent forms of compound in other corpus studies (Tratz and Hovey, 2010; Warren, 1978). Taking from nine different annotated data sets, Tratz and Hovey (2010) found that 2.42% of their noun corpus was made up of substance category with noun 1 as one of the primary physical substances/materials/ingredients that noun 2 is made/composed out of/e.g., **plastic bag**. The variability of this construction demonstrates how diverse **feminist** has become over the decades with this complex constellation of meanings as noun 2.

Table 3
Frequency and distribution of word grouping types.

Word grouping types	No of occurrences	Different constructions	Examples from the corpus
<i>Technical compact-element</i>	275	43 (18.1%)	[third-wave feminists] ²
<i>Technical compact-property</i>	1748	162 (71.4%)	[feminist theory] ²
<i>Word grouping tool [located]¹ and [embedded]³</i>	35	24 (10.5%)	[feminist [critique of [sport]]²] ¹ [feminists [interested in issues [concerning both sport and physical [activity]]³]³] ²

4.2. *Technical compact-property feminist in [categorized]² word grouping*

This word grouping type is by far the most diverse form with 162 different constructions. These were organised into the following themes based on frequency: ‘studying or practising feminism’; ‘people’; ‘change’; and ‘mind’ as presented below in Table 4:

4.2.1. *Word grouping related to ‘studying or practising feminist subjects’*

The first and most common occurrence of *compact-property* in the [categorized]² group is wording related to ‘studying or practising feminist subjects’ with 101 different constructions in the corpus. Thus, in contrast to the pre-research hypothesis, the term **feminist** did not most frequently relate to people in the field (e.g., **feminist activist** or **feminist researcher**). In this category, the wording tends to be formed as attributive adjective **feminist** plus a non-count abstract noun. **Feminist theory** is by far the most common construction (n = 103) from the corpus. Following that at distance are **feminist approach** (n = 40), **feminist research** (n = 33); **feminist work** (n = 31); **feminist scholarship** (n = 30); **feminist thought** (n = 30); and **feminist cultural studies** (n = 25). In the same way that Doran (2020: 151–176) drew on Martin and White’s (2005) work on Appraisal from Systemic Functional Linguistics, the words attached to **feminist** in this group might be explored with APPRECIATION, and specifically *social valuation*, an element of this category (Martin and White, 2005). *Social valuation* can be used to assess an entity’s social significance. The wording in this group help **feminist** to be viewed positively as a socially-significant intellectual and socio-political movement. Therefore, this grouping can be seen to be relatively strong in axiological-semantic density (ASD+).

General academic nouns such as ‘theory’, ‘analysis’, ‘approach’, ‘perspective’, and ‘research’ are part of the most frequent words of the Academic Word List (AWL), developed by Averill Coxhead containing 570 high frequency semantic fields in a range of academic contexts (see for example, her paper published in 2000). Thus, this Sociology of Sport context shares characteristics with other academic fields. However, the abstract noun **critique** is significant in this study’s corpus but does not appear in the Academic Word List. This is likely due to the axiological nature of *compact-property feminist*, which represents a lens of analysis as well as a pool of knowledge developed through scholarly work. **Critique** could be said to have relatively strong ASD as it tends to relate to a perspective strongly opposing an object of analysis. There are also a number of unique field-specific terms in the 650,000-word corpus such as **feminist bodybuilding** (n = 2); and **feminist coaching methodology** (n = 2). Several instances of [feminist]² category only occur once in the corpus and are also field-specific: **feminist aerobic pedagogy** (n = 1); and **feminist critiques of dieting** (n = 1). In sum, with both common and unique characteristics, this word grouping affirms what LCT states about the ‘relative autonomy’ of certain intellectual fields. Thus, making visible and unpacking the possibility of using these terms might be useful to newcomers in the field.

4.2.2. *Word grouping related to ‘people’*

The second grouping of *compact-property feminist*² category is

Table 4
Word grouping of technical compact-property feminist.

Word grouping type	Themes	Different constructions	Examples from the corpus
<i>Technical compact-property feminist (162 types in total)</i>	Studying or practising feminism People Change Mind	101 (62.5%) 27 (16.6%) 22 (13.5%) 12 (7.4%)	[feminist theory] ² [feminist researchers] ² [feminist activism] ² [feminist view] ²

wording related to people. It was predicted that this group would be most diverse. However, it can be observed that this sub-group includes only 27 different constructions in the corpus compiled. The most common was **feminist researchers** (n = 25) followed by **feminist writers** (n = 12). It might be intuitive to expect **feminist theorists** to be as common as **feminist theory**, which produced 103 occurrences in the category *studying or practising feminist subjects*. However, **feminist theorists** occurred only 8 times. Other pairings also occurred e.g., **feminist research/feminist researchers**, **feminist theory/feminist theorists** as well as **feminist scholarship/feminist scholars**. However, as with the theory-theorist pairing, the first in each pair was much more common than the second. Therefore, the body of knowledge, rather than the knowers or those who produce the knowledge themselves, was given more prominence and thus more visibility in this corpus. This is also common in the multi-disciplinary academic language of the AWL (Coxhead, 2000) as well as a large corpus such as the British Academic Written English (BAWE), a British Academic corpus of academic works written at universities in the UK comprising 6,506,995 words. **Theory** in the BAWE appears 6158 times whereas **theorist** appears only 18 times. Moreover, **feminist writing** was not found in this Sociology of Sport corpus. This might be unintuitive given the fact that **feminist writers** was present (n = 12). Similarly, **writing** does not appear in either the AWL or BAWE corpora. It can also be observed that there are field-specific terms in the corpus such as **feminist sport sociologists** (n = 6); and **feminist sports studies scholars** (n = 1). This also appears to demonstrate that the *compact-property* **feminist** is used to produce new subject-specific constructions in this field, and that these latter constructions might be unique to the Sociology of Sport. A search in the BAWE corpus provided no occurrences of these terms. In conclusion, this corpus again demonstrates the 'relative autonomy' of certain intellectual fields, and how making visible and unpacking the possibility of using these terms might be useful to newcomers in the field. As in the other word grouping related to 'studying or practising feminist subjects', the words in this group can be seen to convey positive *social valuation* (Martin and White, 2005) as **feminist** is a term related to a socially-significant intellectual and socio-political movement. Therefore, this grouping can also be seen to be relatively strong in axiological-semantic density (ASD+).

4.2.3. Word grouping related to 'change'

The third word grouping is [feminist]² category with 22 different constructions entitled *wording relating to change*. The most common is **feminist activism** (n = 14) followed by **feminist movement** (n = 11); **feminist intervention** (n = 10); **feminist goal** (n = 7); and **feminist alternative** (n = 7). There are also some realisations with conglomerates in this sub-group: **feminist REAPPRAISAL** (n = 1); **feminist RECONCEPTUALIZATION** (n = 2); and **feminist RECONSTRUCTION** (n = 2). A set of other diverse constructions in this category is also present in the corpus: **feminist action** (n = 4); **feminist aims** (n = 2); **feminist change** (n = 2); **feminist empowerment** (n = 1); **feminist end** (n = 4); **feminist engagement** (n = 5); **feminist forerunners** (n = 1); **feminist gains** (n = 3); **feminist liberation** (n = 1); **feminist participatory action** (n = 4); **feminist revisions** (n = 2); and **feminist transformation** (n = 2). The terms in this word grouping are abstract nouns related to future change such as 'goal', and 'aim' as well as finished results such as 'gain' and 'transformation'. Thus, this word grouping is temporally related to achievement; one before the result, the other after it. In both sets of meanings, the terms have positive connotation. It might be argued that this word grouping has relatively stronger axiological-semantic density (ASD+) compared to the other word groups identified. Not only does there tend to be social significance given to **feminist** but there is also a higher degree of commitment in the connotation of words such as **transformation** in this word group. In this case, drawing on Appraisal theory (Martin and White, 2005), this word grouping might be linked to a higher degree of attitudinal positioning as meaning is more related to its value as an ideological movement. In particular, we might state that

Affect is present in a higher degree as **feminist** is charged with a positive emotion.

4.2.4. Word grouping related to 'mind'

The final grouping is *wording related to the mind*. A group with 12 different constructions is *wording related to the mind* or constructions expressing mental states. These are frequently non-count abstract nouns and several of these are clearly linked to mental processes such as *to be conscious*; and *to understand*. The most common are **feminist view** (n = 10); **feminist standpoint** (n = 5); **feminist consciousness** (n = 5); and **feminist understanding** (n = 5). These constructions are also related to ideological positioning: to have a *feminist consciousness* is to have a certain awareness; so too is to *have a view and standpoint*. In her seminal paper in *The Sociological Quarterly* entitled 'The Feminist Consciousness', Pearl Green (1979: 359) describes developing the 'feminist consciousness' as an 'alteration in the perception and interpretation of everyday life', and the development of a 'vocabularly of motives'. In other words, there is a developing understanding of the reasons for becoming a feminist based on everyday discrimination. Semantically, the nouns in this grouping tend to represent a learned mental state. Thus, it could be concluded that socially-significant value is given to **feminist** as a positive state of awareness as well as a positive perspective. Therefore, this grouping can also be seen to be relatively strong in axiological-semantic density (ASD+). Nonetheless, the wording might be considered relatively weaker in degrees of ASD in comparison with the grouping *related to change* because the terms tend to construe less affective meaning. For example, **feminist transformation** appears to be more positively charged with emotion (ASD+) than **feminist understanding**. Items in this group can also be found in plural form e.g., **feminist assumptions** (n = 4), but this is rare as they are most commonly non-count abstract nouns.

5. Discussion & conclusion

This paper analyses language used in research papers related to Feminist Theory in the Sociology of Sport by exploring constructions with 'feminist' as both a *technical compact-property* and *technical compact-element*. The research demonstrates how effectively the wording and word grouping tools (Maton and Doran, 2017) can function for exploring complexity, specifically epistemic semantic density, in field-specific discourse. A few studies have been identified that enact educational data using the wording and word grouping tools to answer sociological questions about the nature of epistemic semantic density in knowledge-building (Georgiou, 2020; Martin et al., 2010; Meyer, 2019). However, to this author's knowledge, no other studies have conducted research that demonstrates the complementarity between the tools from Maton and Doran's (2017) work on epistemic semantic density (ESD) with a corpus linguistics approach, as has been done here. The analyst can also explore axiological condensation of meaning (ASD) (Maton and Doran, 2017) in field-specific disciplines at the same time to further present the complexity of a word.

At the beginning of the research, three hypotheses were formed. The first was that language related to **feminist** was likely to have academic applications as the sources were drawn from academic journal papers. The second was that the term **feminist** might co-occur most frequently with people as participants in the field seeking change (e.g., **an active feminist** or a 'feminist activist'), rather than wording related to feminist subjects of study, such as **feminist research**. A third was that some of the language related to **feminist** research or researchers might be hostile. These pejorative meanings were reported in texts stored in the British National Corpus (see Romaine, 2000; and Pearce, 2008). As presumed, because the sources were drawn from academic journal papers, language in this field does have academic applications. However, the two other hypotheses were found to test false. First, the term **feminist** did not most frequently relate to people as participants in the field but to wording related to *studying or practising feminist subjects* for

example, **feminist theory**, with 103 occurrences in the corpus. In contrast **feminist theorists** only occurred 8 times. This result was also common with other pairings of this nature. Thus, the academic subject, rather than those performing the activity, or agents, was more strongly represented. Second, language related to **feminist** did not in any way relate to hostility in the Sociology of Sport corpus. There was relatively strong ASD (ASD+) but no negative meanings were found in the research corpus, only neutral or positive connotation. The research therefore helps to demonstrate that what might seem to be common and safe assumptions do not reflect the reality of language use.

It is suggested that the Sociology of Sport is a field that merits research of the type presented in this paper as there has been substantial feminist scholarship in the last four decades on sport as a social phenomenon. Consequently, as demonstrated, **feminist** produces complex epistemic constellations and is therefore relatively strong in epistemic-semantic density (ESD). To a lesser extent, the axiological-semantic density (ASD) of the term has also been explored, and some interesting nuances and degrees of axiological condensation uncovered. It is hoped that presenting the density of packaging in this way could help newcomers in this discipline. Specifically, providing access to these constructions to students might improve their potential for achievement in the Sociology of Sport.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

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