‘No pain, no gain’: former elite female gymnasts’ engagements with pain and injury discourses

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This paper investigates former elite female gymnasts’ views and experiences of pain and injury. The purpose of the study was to examine how participants engaged with pain and injury discourses and interrogate the ways in which certain knowledge and practices had become dominant. A Foucaultian theoretical framework underpinned the study, making use of Foucault’s work on discourses, power and resistance. Data were generated through semi-structured interviews with seven former elite gymnasts. By analysing the participants’ talk through poststructural discourse analysis, three themes were identified. Firstly, participants’ persistence through pain and injury was due to the desire to compete. Secondly, participants differentiated between ‘good pain’ and ‘bad pain’. Thirdly, participants had a higher tolerance for pain than for injury. This research raises questions about the dominance of a ‘no pain, no gain’ discourse, and the ways in which gymnasts may develop an uncritical acceptance of particular ‘truths’ surrounding pain and injury.

Keywords: gymnastics, pain, injury, Foucault, discourses, power, resistance

Introduction and background

This paper reports the findings of a sociological study that investigated former elite female artistic gymnasts’ views and experiences of pain and injury. Women’s artistic gymnastics (WAG) has undergone a process of change since its establishment as an Olympic sport in 1952. According to Barker-Ruchti (2009, p. 47), gymnastics was once characterised by ‘graceful and ballet-type routines’, but since the 1950s, it has become increasingly acrobatic. The rivalries amongst the Eastern Bloc nations increased the innovative nature of gymnastics, ultimately leading to an increase in the difficulty of routines. This rise in difficulty led to an increase in the risk accepted by gymnasts and coaches, heightening the potential for injury (Benn and Benn 2004). Elite gymnasts start their careers as early as five years old (Pinheiro *et al.* 2014,

Zetaruk 2000) and because female gymnasts reach their gymnastics peak at a young age (Warriner and Lavallee 2008), they often train for 20-30 hours a week (Cogan 2006). Training loads of this magnitude, while performing skills of extraordinary difficulty, put the growing body under tremendous physical and psychological stress, which is a 'natural recipe for injury' (Sands 2000, p. 360).

Previous research suggests that there is a culture unique to sport that deeply embeds certain norms, fostering the acceptance of pain and injury (Pinheiro *et al.* 2014). The early focus of sociological research on pain and injury in sport primarily concerned sports with a more pronounced and obvious display of pain and injury: male-dominated team sports. This research was 'grounded in a gendered analysis that saw the routinization of pain and injury as a way for men to validate their masculine and athletic identities' (Theberge 2006, pp. 635-636). However, research indicates that female athletes adopt similar norms and patterns of behaviour as male athletes (Houlihan 2008) and are as willing as men to train and compete through pain and injury (Charlesworth and Young 2006, Pike 2004, Pike and Maguire 2003, Young and White 1995). It is widely accepted that athletes, regardless of gender, internalise pain and injury as 'normal' in sport (Howe 2001, Hughes and Coakley 1991, Nixon 1993, Pike and Maguire 2003, Roderick 2006, Schubring and Thiel 2016, Young *et al.* 1994). As such, research shows that being immersed in the elite sport culture of risk (Nixon 1993) encourages the normalisation of pain and injury (Charlesworth and Young 2006, McEwen and Young 2011).

Given the centrality of the body in pain and injury experiences, Michel Foucault's (1977) work on disciplinary power – which concerns power relations at the micro level of bodies (Gore 1995) – has been influential in a number of studies focusing on training experiences in elite WAG. Disciplinary power targets individuals

in order ‘to meticulously, exhaustively and continuously control the activities of bodies so as to constitute them as bearers of a highly particular relationship between utility and docility’ (Hoffman 2011, p. 28). As such, techniques of power are employed to shape and train bodies so that they become docile, well-disciplined, and therefore obedient, efficient and useful (Denison *et al.* 2015, Markula and Pringle 2006).

Drawing on Foucault’s work has allowed scholars to explain various practices in elite WAG in terms of power discrepancies, spatial distribution and surveillance. This small body of research has demonstrated that young elite female gymnasts become inscribed with and normalised by particular dominant standards (Barker-Ruchti 2008). According to Barker-Ruchti (2008), gymnasts come to accept prevailing norms, such as training through pain and injury, because they have been disciplined into believing that these norms are ‘truthful’ (p. 379). Barker-Ruchti and Tinning (2010) affirmed these findings when they investigated the training experiences of elite female gymnasts aged between 10 and 15 years old. These authors argued that the degree of discipline from coaches was key in preventing athletes from reflecting on and potentially resisting dominant norms. This, in turn, made them engage unquestioningly in destructive behaviours, such as disordered eating and persistence through pain and injury. Barker-Ruchti and Tinning (2010) further argued that the gymnasts came to embody ‘submissiveness and dependence’ (p. 245), turning them into docile bodies[1]. These authors noted that their participants appeared to have ‘minimal resources for resistance or self-determination’ (p. 233).

[1] ‘A body is docile that may be subjected, used, transformed and improved’ (Foucault 1977, p. 136).

In another study drawing on Foucault's work, Johns and Johns (2000) examined the power struggles that shaped discursive practices[2] amongst 17 elite athletes (average age: 20 years), including three female gymnasts, focusing specifically on the use of self-monitoring or 'technologies of the self' to discipline their own eating practices. The authors argued that a gymnast who is successful in managing her weight according to the norms of gymnastics 'applies a technology of the self through inscriptions of docility' (p. 226). The gymnasts in their study were constantly under surveillance, which caused them to internalise this gaze, and self-regulate themselves into being compliant athletes. Similar to Barker-Ruchti and Tinning (2010), Johns and Johns (2000) were unable to identify incidences where participants resisted the dominance and authority of coaches. This finding may be related to the gymnasts' age and the fact that they were still involved in competitive gymnastics training; therefore, they may not yet have been able to demonstrate resistance to these dominant discourses. We make this argument because, while 'the coach-athlete relationship is not an equal one' (Schubring *et al.* 2015, p. 309), previous studies have found that it evolves as gymnasts get older. In Barker-Ruchti *et al.'s* (2016) study, for instance, gymnasts described how their relationships with their coaches changed as they got older, and became more like partnerships. Kerr *et al.* (2015) and Stirling and Kerr (2009) concluded that power differentials between the coach and athlete may be diminished in older athletes, although examples provided by these authors did not include instances where athletes enacted their own agency in relation to training through pain and injury.

The literature indicates that coaches play an integral role in the normalisation practices discussed above, often adopting an authoritarian relationship (Barker-Ruchti

[2] Discursive practice is the process by which knowledge is formed and produced (Hook 2001).

et al. 2016, Kerr *et al.* 2015), which may sometimes be perceived as abusive. WAG is characterised as a sport for 'very young girls assumed to be coached by strong authoritarian figures' (Kerr 2014, p. 86). In sport, the end often justifies the means (Heikkala 1993) and 'ultimately, all that is acknowledged in sport is the winning performances, not the methods involved in achieving them' (Gervis and Dunn 2004, pp. 216-217). Pinheiro *et al.* (2014) argue that success masks the distress of abuse and makes it difficult for young athletes to challenge or resist their coaches. Indeed, given the length of time athletes spend with their coaches, the relationship between them may be as significant for athletes as the parent-child relationship, causing young athletes to place a significant amount of trust in their coaches (Gervis and Dunn 2004). Smits *et al.* (2016), in a qualitative study with elite women gymnasts (aged 14-30 years) and their parents, found that both the athletes and their parents had high levels of trust in the coaches, believing they would help the gymnasts achieve their goals. This trust meant that the participants did not critically reflect on particular practices and discourses, but instead 'learned to enact a "good" attitude', which 'contributed to a culture…where injuries and pain were normalized' (Smits *et al.* 2016, p. 15).

The previous research indicates the pervasiveness of a 'no pain, no gain' discourse, characterised by the normalisation of pain and injury in elite sport, and the tendency for athletes to accept and internalise pain and injury, despite the associated risks. Following McEwen and Young (2011, p. 154), who examined the normalisation of pain and injury in dance, we argue that in order to gain an understanding of both risky practices and the culture that shapes them, it is vital to investigate 'the world of [WAG] – the people who populate and govern it and the norms and experiences that shape it'. Thus, our research investigates the factors influencing the internalisation of

pain and injury in women's gymnastics. We aim to gain a greater understanding of the workings of pain and injury discourses in WAG, to problematise related practices and to highlight potential effects of pressures gymnasts may be placed under from a young age. Previous research has failed to identify instances in which these discourses and practices have been, or can be, resisted. Therefore, we also aim to explore instances where gymnasts could engage in resistance. By focusing on former gymnasts' experiences, we aim to build on and expand the body of sociological research on pain and injury in elite WAG.

Theoretical framework

Following Bridel (2010, p. 63), we argue that Foucaultian explanations could 'reveal the unwritten norms that promote the acceptance of pain and injury' in elite WAG. Pringle and Markula (2005) note that previous research has drawn on Foucault's work in order to theorise the ways in which women's bodies are constituted in sports contexts. Following on, we propose that Foucault's concepts of discourse and power can help further an understanding of pain and injury in elite WAG by allowing us to interrogate the taken-for-granted assumption that pain and injury are necessary for sporting success. Discourses are defined as sets of truths that are (re)produced through power relations and social practices operating in institutions (Foucault 1973), such as, in this case, elite sport contexts. Discourses cannot be reduced to just language (Foucault 1974), as they are '*practices* that shape perceptions of reality' (Markula and Pringle 2006, p. 31, emphasis in original). As Macdonald *et al.* (2002, p. 143) note, discourses are 'systems of beliefs and values that produce particular social practices and social relations'; they produce particular ways of thinking and thus of doing (Jacobs *et al.* 2016).

Discourses operate through techniques of power (Foucault 1977, Gore 1995) within particular contexts – in this case, elite gymnastics settings – such that particular knowledges and practices come to be regarded as 'regimes of truth' (Foucault 1977). As such, competing discourses work to become established as 'normal', 'natural' and common sense (Jacobs *et al.* 2016), leading to the privileging of particular knowledges, practices and therefore subjectivities[3]. Foucault's (1977) concept of disciplinary power is useful in examining this process. From a Foucaultian perspective, power operates through capillary-like networks (Hall 2001) and is exercised, rather than possessed (Foucault 1977). Shifting the analysis of power from the macro to the micro level (Gore 1995), disciplinary power is concerned with 'local relations of force…[which] consist of whatever in one's social interactions that pushes, urges or compels one to do something' (Lynch 2011, p. 19). As such, power relations permeate all social interactions and thus individual behaviours (Lynch 2011). For example, the coach-athlete power relation involves the coach guiding the athlete's practices and performance (Markula and Pringle 2006) by employing techniques of power in various ways. Shogan (1999, p. 10) describes how the elite sport context involves athletes being 'controlled and shaped…to conform to a standard of high performance'.

Following Foucault, we are concerned with examining the ways in which power is exercised in the elite WAG context and with what consequences (Markula and Pringle 2006). To do this, we draw on Gore's (1995) framework of the major techniques of power, which she developed based on her reading of Foucault's work on the 'micro-functioning of power relations' (p. 166). The eight techniques of power in Gore's (1995) framework are:

[3] Weedon (1997, p. 32) defines subjectivity as 'the conscious and unconscious thoughts and emotions of the individual, her sense of herself and her ways of understanding her relation to the world'.

- Surveillance – ‘supervising, closely observing, watching, threatening to watch or expecting to be watched’ (p. 169)
- Normalisation – ‘invoking, requiring, setting or conforming to a standard – defining the normal’ (p. 171)
- Exclusion – ‘the reverse side of normalisation – the defining of the pathological’ (p. 173)
- Classification – ‘differentiating groups or individuals from one another, classifying them, classifying oneself’ (p. 174)
- Distribution – ‘arranging, isolating, separating, ranking’ (p. 176)
- Individualisation – ‘giving individual character to oneself or another’ (p. 178)
- Totalisation – ‘the specification of collectivities, giving collective character’ (p. 179)
- Regulation – ‘controlling by rule, subject to restrictions, invoking a rule, including sanction, reward, punishment’ (p. 180).

Disciplinary power operates to define normality and produce athletes who are ‘obedient and responsible’ (Denison *et al.* 2015, p. 8). Gore’s (1995) framework outlines the techniques of power that are central to this process. In this study, our intention was to investigate the ‘regimes of truth’ surrounding pain and injury in elite WAG, according to former competitors. Drawing on Gore’s (1995) framework in order to identify the relations of power at work allowed us to investigate what influenced the participants to take up – or resist – dominant discourses (Wright *et al.* 2006).

The notion of resistance is vital to Foucault’s conceptualisation of power. He never suggested that disciplinary power was the only, or even the most important, form of power (Markula and Pringle 2006) and emphasised that ‘where there is power

there will always be resistance' (Denison *et al.* 2015, p. 5). In his later work, Foucault was interested in the 'individual's role in changing dominant discourses' (Markula 2003, p. 88) through what he labelled the technologies of the self. Previous research that has drawn on the technologies of the self shows that athletes are not merely 'disciplinary dupes', but can think critically about their experiences in sport in a way that may 'produce resilient and challenging, rather than just docile, sporting bodies' (Pringle and Markula 2005, p. 479). According to Foucault (2000, p. 225), technologies of the self 'permit individuals to effect, by their own means, a certain number of operations' on themselves, in order to pursue happiness and ethical lives. These actions enable individuals to consciously transform themselves by countering dominant discourses (Jones and Aitchison 2007). Thorpe (2008) explains that critical self-awareness – the ability to question the limitations of one's freedom (Markula 2004) – is central to this process, particularly the way in which people learn to problematise discourses. This involves constantly questioning what is 'natural' or inevitable about one's identity, and therefore constructing an identity of one's own (Markula 2004).

At the young age at which athletes start their training, they may be more likely to accept the discourses with which they are presented because of a 'hierarchical generational order' (Gawlicz 2009, p. 193) in which adults constitute themselves as dominant 'by virtue of their age, social position, and knowledge or experience' (p. 211). However, as athletes mature, and become more knowledgeable and experienced, they may problematise current practices and question dominant discourses, resisting them, and the practices they produce. To add to the existing body of knowledge, we were concerned with investigating both the operation of techniques of power and

incidences where the participants may have engaged in critical self-awareness, questioning and resistance.

Methodology

The study was approved by the ethics committee of The Faculty of Life Sciences, University of Chester. The primary research question was: 'What discourses have been influential in former elite female gymnasts' experiences with pain and injury?' In order to investigate this question, the following sub-questions were addressed: 'How did the former gymnasts engage with discourses of pain and injury?' and 'Through what discursive practices and disciplinary techniques did the discourses of pain and injury become dominant?' Following Wright (2004) and McEvilly *et al.* (2015), we employed a poststructural type of discourse analysis concerned with identifying patterns in language use. Data were generated through semi-structured interviews, which were carried out by the lead author between December 2013 and March 2014. The intention of the analysis was to identify prevailing discourses of pain and injury, and to problematise the operation and 'work' of these discourses.

Since this research adopts a poststructural stance, it is important to acknowledge the lead researcher's previous experience of elite WAG, so that we (and the reader) can interrogate how her biases and subjectivity will have influenced the data generation and analysis (McEvilly 2015). The lead author was involved in elite WAG between the ages of six and 11. At the age of 11, she suffered an injury[4], which forced her to take a break of over two years from gymnastics to undergo surgery and recovery. After realising the possible risks associated with elite gymnastics, she (with her parents) decided not to carry on with this level of training. The effects of the

[4] In 2001, the lead author suffered an injury to her left arm whilst on the uneven bars, including several fractures and a dislocated shoulder.

discourses of pain and injury are ones she experienced and witnessed in her own gymnastics training, which influenced her choice to research pain and injury. Had she not been involved with elite gymnastics, her approach to researching this issue may have been different, and she may have had different assumptions about and interpretations of the interview data.

Since the research concerns a very specific sample group, participants were selected using a purposive method, guided by a criterion sampling strategy. As such, participants were recruited based on the specific purposes associated with answering the research questions and their ability to meet predetermined criteria (Patton 1990). The sample comprised retired elite-level female artistic gymnasts from the United Kingdom. The gymnasts were defined as 'elite' if they had competed nationally at the British Gymnastics Championships, or internationally for Great Britain. Retired, rather than current, gymnasts were chosen in the hope that the time away from competitive gymnastics may have given them the opportunity to reflect on their pain and injury experiences. We envisaged that, by having had time away from competitive gymnastics, and no longer being so embedded in the elite sport context, former gymnasts may have been able to give more 'detached', and possibly critical, accounts of their pain and injury experiences, particularly if their retirement had been prompted by sudden or prolonged pain and injury. With the retirement age for female gymnasts being during the stages of early or late adolescence (Kerr and Dacyshyn 2000), we wanted to target gymnasts who had recently retired at this young age, so they could accurately recall their experiences with pain and injury, while still having had time to reflect. As such, the participants ranged in age from 18 to 26 years old.

A list of potential participants was developed, based on the aforementioned criteria and information on the British Gymnastics website. Subsequently, an

acquaintance, and former elite gymnast, provided email addresses for three participants, while also making herself available for interview. An additional participant's details were obtained from one of these initial participants, meaning that snowball sampling (Bryman 2012) was utilised. The remaining participants were contacted using email addresses obtained through social networking websites. This provided a total of seven participants, who each participated in an individual interview. Previous qualitative studies with elite female gymnasts (Kerr and Dacyshyn 2000; Warriner and Lavallee 2008) had similar sample sizes. Table 1 summarises the participants' backgrounds:

[Table 1 near here]

Interviews were conducted face-to-face, over the telephone or via Skype, using an interview guide comprised of open-ended questions. The participants were asked to discuss what they understood by 'pain' and by 'injury', and to share their views on pain and injury in elite gymnastics generally. They were also asked to discuss any injuries they had obtained through gymnastics, the ways in which such injuries had affected their training, and how other people treated them while they were injured (e.g. coaches, fellow gymnasts, people outside gymnastics). They were asked similar questions about pain.

The interviews were transcribed and analysed using a poststructural type of discourse analysis. Discourse analysis is a 'broad theoretical framework' (Potter and Wetherell 1987, p. 175) for investigating the workings of discourses. Given its widespread and multidisciplinary application, there is no single, 'correct' way in which it is carried out. We drew on the guidelines of Carabine (2001), which

involved, firstly, reading and re-reading the data to identify themes, categories and evidence of inter-relationships between discourses. Categories were identified, and then condensed and grouped together into three broad themes. For example, hiding injuries, self-regulating rehabilitation programmes, and coaches' rejection of injury were grouped together under the theme of 'the logic of competing'.

We also searched for discursive strategies and techniques (e.g. ways the participants justified their claims), and looked for resistances and counter-discourses, in order to identify the effects of the discourses (Carabine, 2001). Texts were interrogated to investigate unspoken and unstated assumptions, by disrupting the common-sensical and taken-for-granted (Cheek 2004, MacLure 2003). More specifically, and following the approach of McEvilly *et al.* (2015), we probed around the following analytical questions: what 'truths' and meanings about pain and injury do the participants construct and privilege? How are these truths and meanings established and defended? What discursive practices and techniques of power are evident?

As discussed earlier, we make use of Foucault's techniques of power (Foucault 1977, 1998, Gore 1995) in order to delve into the layers of discourse. We utilised Gore's (1995) framework to investigate how techniques of power were exercised in the process of disciplinary control within the WAG setting, and to detail how they influenced the construction and normalisation of discourses of pain and injury. We searched the data for examples of all eight techniques of power in Gore's (1995) framework. Surveillance, normalisation and regulation were particularly relevant and useful with regard to the findings reported in this paper. We also searched for examples of participants engaging in critical self-awareness, questioning and resistance. According to Macdonald *et al.* (2002), it is through discourse that

meanings, subjects and subjectivities are formed; our analysis thus enabled us to gain an understanding of the meanings attributed to the gymnasts' experiences with pain and injury, and the ways in which these meanings were normalised, taken up and resisted. The three themes constructed during data analysis are discussed below.

Findings and discussion

The three themes that were evident upon analysing the data all surround the acceptance of pain and injury, or what we call the 'no pain, no gain' discourse. The themes are:

1) The logic of competing
2) Differentiating between 'good pain' and 'bad pain'
3) Increased tolerance for pain, decreased tolerance for injury.

We now examine the participants' commentary in order to interrogate the discursive practices and disciplinary techniques through which particular knowledge and practices associated with pain and injury came to be normalised (and resisted) within the elite WAG context.

1) The logic of competing

Within the sporting context, the practices involved in producing athletes are often considered a necessary means for success. For example, the desire to win often structures the choices and decisions made by athletes regarding issues such as pain and injury. Heikkala (1993) married the Foucaultian concepts of discipline and technologies of the self with the rationale of competing, which was termed 'the logic

of competing'. According to Heikkala (1993), discipline is justified in sport because the goal, which is often victory, demands it. This drive to compete, or competitive discourse (Walters *et al.* 2015), was evident in all seven participants' talk, and was epitomised by Anna when asked about why she trained when injured:

> Just because in gymnastics it's always competition season. I just wanted to, sort of, be the best at the time; I didn't really care if I would injure myself. I just wanted to be the best I could.

Ellie similarly stated:

> …sometimes you've got a big event coming up, for example the Commonwealth Games […] If I had an injury a few weeks before, obviously I'd trained for years and years for this event – I don't want to not be able to do it. So, you know, if I thought I could put up with it, I'd do it.

Six participants admitted to training through pain, or pain and injury, with all six stating that competitions were the reason for this.

This drive to compete caused some participants to engage in surveillance (Gore 1995), which was manifested in hiding injuries, or avoiding injuries being seen. Similar to the dancers in McEwen and Young's (2011) study, who described hiding, denying and ignoring pain, Sarah, Anna, Lauren, Ellie and Louise all stated that they had hidden injuries from their coaches. Furthermore, Sarah responded, 'I think every gymnast has, to be honest', indicating that she understood hiding injuries to be a 'normal' practice for gymnasts. When probed about the reasons behind hiding their

injuries, the participants' responses surrounded the reluctance to deviate from their training schedules due to concern for the consequences of doing so. For example, Louise explained:

> I'd hidden injuries a few times and just kept training on it because it was easier than dealing with having to take time out. […] Erm, sometimes you've got, like, a long-term goal; like in 2012, obviously it was the Olympic trial year and there was a lot of different internationals so I tried to hide my back [injury], instead of being withdrawn from competitions, which can obviously affect selection for events. (Louise)

This is consistent with the findings of Liston *et al.* (2006), as the rugby players in their study limited the frequency with which they were able to play if they were not willing to play with an injury. It is little wonder, therefore, that athletes train through injury, because they are afraid they will 'fall behind' (Lauren) in training and consequently miss out on key events. As Ellie explained:

> …if you get behind on training, then you wouldn't be the standard you needed to be for that event. So sometimes you would hide it, even though you were in pain. (Ellie)

Such fear motivated Lauren to conceal injuries from her coach. When asked whether she had ever done this, she responded:

> All the time! […] You're scared to tell the coach that you're injured because they get angry. *[laughs]* (Lauren)

Her laugh indicates a nervous disposition where she may be trying to convince herself (and the interviewer) that the fear of her coach was not as bad as it appeared. This suggests that Lauren's coach engaged in disciplinary regulation (Gore 1995), creating the fear of punishment. Foucault (1977) argued that punishment arouses fear, thus regulating people to conform to strict directives. Thus, fear of punishment reinforces normalisation (Barker-Ruchti 2008) and regulation. Katie described this experience, revealing that, as a young gymnast, she behaved as her coach told her to because:

> …I was just terrified of [the coach]. God, she was so scary, honestly. Like, you would just get yelled at. It sounds like I'm painting a really bad picture of gymnastics. She just, yeah, terrified me. (Katie)

When the gymnasts were injured, another form of surveillance was employed, this time by the coaches. Each participant spoke about being subjected to surveillance as a form of regulation and self-regulation. When injured, they were required to come into the gymnasium so their coaches could ensure they were still contributing to training by doing 'rehab exercises' (Sarah) or 'conditioning' (Grace). By being present in the gymnasium, the gymnasts were in their coaches' view, although none revealed any inclination that they were aware of being watched.

External control and discipline is only half of the story (Heikkala 1993). Foucault's (1990) technologies of the self assert that individuals are not 'merely passive recipients' (MacLure 2003, p. 19) of discourses, but can actively take them

up. Success in sport requires self-discipline and self-regulation. Referring to Foucault's work on docility and utility, Hanold (2010, p. 165) describes how the more athletes engage in prescribed, 'correct' practices, the more 'useful' their bodies are, which 'instills the *desire* to perform correct movements'. As such, the aforementioned examples of surveillance and regulation had powerful effects on the self-regulation of participants' injuries (Webb *et al.* 2004). Similar to the results of Webb *et al.* (2004) and Johns and Johns (2000), participants internalised their coaches' gaze, which caused them to structure their behaviour in accordance with the discourses presented to them. For instance, Sarah engaged in self-surveillance and self-regulation/self-monitoring (Johns and Johns 2000) to ensure she did not 'halt progress' with her injuries by 'not doing anything that I shouldn't be doing' when not in the gymnasium. According to Webb and Macdonald (2007, p. 281), surveillance functions as a technique of power because it 'perpetuates, creates or prescribes' behaviour according to dominant discourses. In this case, behaviour was influenced by the competitive discourse so that participants were in the optimum condition to compete, further enhancing training efficiency (Barker-Ruchti and Tinning 2010). However, even though participants were required to attend training sessions, they were often physically isolated from mainstream training, suggesting that distribution and classification (Gore 1995) were utilised. The coaches' capacity to make such 'distributional decisions' emphasises the coach-athlete power relation (Gore 1995, p.176), because separating and classifying gymnasts in this way reinforced particular notions of 'normality', and thus 'abnormality'.

The techniques of normalisation and exclusion often occur together (Webb and Macdonald 2007), with exclusion being the reverse side of normalisation (Gore 1995). In this study, exclusion served to normalise certain practices and 'truths'

regarding the acceptance of pain and injury. Several participants revealed that their coaches often did not accept that they were in pain or injured. For instance, Louise commented:

> Erm, with my back I was aware that something was wrong but the coaches didn't believe that anything was wrong so they didn't listen to me, so I kind of just had to keep training. (Louise)

Although Louise exercised a certain degree of resistance as a result of the technology of the self of self-awareness (Foucault 1991), by listening to her body when in pain, her coach dismissed this resistance. This is consistent with the findings of Barker-Ruchti and Tinning (2010, p. 242), who found that coaches employed a militaristic style of coaching in order to 'dominate the gymnasts, ignore their needs, especially when they did not perform according to expectations'. For Louise, her coach's refusal to acknowledge her injury caused the stress fracture in her back to worsen, until she was forced to take a two-year break from gymnastics. Even after this period of recovery, Louise went back to gymnastics before she had fully recovered because she was told to by her coach; Louise stated, 'it was their decision'. These findings also align with those of Malcom (2006), whose participants' complaints about injury were ignored by the coach. Furthermore, Louise was discouraged from displaying that she was in pain when told by her coach to 'stop making a face' and to 'just deal with it'. Coaches in Schubring *et al.'s* (2015) study similarly emphasised the necessity of elite young athletes not reacting, or paying attention, to pain. Furthermore, Louise described how her parents engaged in normalisation as they became 'desensitised' to her pain. Alongside her parents' apathy towards her pain, Louise's coach's clear

indication that her reaction to pain was unacceptable or abnormal encouraged her to accept and normalise pain, which was exemplified when she commented, 'it was just something that I saw was expected of me, just to be able to deal with the pain'. This shows how Louise learned and accepted that enduring pain, despite the associated risks, was considered a necessary criterion for being defined as a 'real' gymnast (Hughes and Coakley 1991).

Totalisation, or 'giving collective character' (Gore 1995, p. 179), was evident amongst all of the participants' talk, with use of the word 'they' to refer to people outside of gymnastics. The participants convinced themselves that their acceptance of pain classified them as special and superior to 'normal people'. The young elite female athletes in Schubring and Thiel's (2016, p. 701) study similarly portrayed themselves 'not without pride…as different from girls outside of sport' because of their willingness to endure pain. Furthermore, Lauren, Katie, Ellie and Grace engaged in individualisation – specifying individual character (Gore 1995) – when they boasted about having a 'high pain threshold'. This attitude glorified the tolerance of pain, making it easier for them to normalise it.

2) Differentiating between 'good pain' and 'bad pain'

Supporting previous literature (Collinson 2005, Hanold 2010, Howe 2004), all seven participants recognised the multiplicity of pain and differentiated between various types of pain that they experienced whilst training. As Louise asserted, 'Well, obviously there are lots of different types of pain in gymnastics'. Her matter-of-fact understanding of pain typifies the participants' responses, suggesting engagement with normalisation. When questioned further on 'different types' of pain, most participants separated it into two categories: 'good pain' and 'bad pain'. For example:

You get to learn the difference between, obviously, stretching pain and your injury pain. […] Obviously to push your body enough, you're going to be in pain, but most of it – like the conditioning pain that we do – it hurts, and it hurts your muscles, but you know that it's a good pain and a couple of days later you will benefit from it and in the long run it will help you a lot. But you get to know the pains that are, like, normal and everyday training pains compared to, like, pains that are injury pains, and there is only so much that you can push your body through. (Sarah)

Conditioning [pain] was kind of a daily thing. […] And injuries obviously, kind of experienced that a lot but it's something I think, you kind of get used to pain in gym. […] I think I learnt the difference quite early on. Obviously I knew that your muscles were going to be sore after conditioning; I learnt that when I was about eight. But boney pain, I kind of learnt about ten – when I first really really badly hurt my back and I knew something was wrong. (Louise)

Yes, good pain, you feel it in conditioning. You think, this is making me stronger, but it is not fun. Erm, yeah, you can feel when something is not right because you train the skills over and over, and if something feels different, you're kind of like, that shouldn't have happened. So you are able to tell the difference. (Grace)

This is consistent with the findings of Nemeth *et al.* (2005) regarding their participants' ability to determine whether pain was serious enough to 'merit reaction' (p. 621). Furthermore, our participants were confident that they could accurately decipher whether certain types of pain would lead to injury or to improvement in 'conditioning'. Louise could locate different types of pain: 'by the end I was pretty, like, accurate with telling the difference between a muscle pain and maybe a ligament or a bony pain'. The participants considered muscular pain, as a result of conditioning the body, to be 'positive and useful' (Barker-Ruchti and Tinning 2010, p. 243). They associated pain in and around their joints and bones as 'bad pain', which could lead to injury.

'Good pain' experienced during and after conditioning was considered not only acceptable, but necessary to improve performance. Similar to the ultrarunners in Hanold's (2010) study and the dancers in McEwen and Young's (2011) research, the gymnasts talked about 'good pain' as, in Katie's words, 'inevitable'. For instance, Ellie commented, 'If you want to go far in your career then you've got to put up with the pain'. She went on to explain:

> Pain can be a niggle; it's not going to get any worse, you've just got to work through it. You know, sometimes I could just have muscle pain from doing too much conditioning or exercise, but sometimes that could be a good thing because you have to push through it for your body to get stronger. […] I mean, you can always tell if the day before you might have had a really good session, and you've woken up and you're hurting, but you're hurting for good reasons; you know you've worked well. Your body is obviously getting stronger or it's improving. (Ellie)

The gymnasts used pain as a benchmark of success, a measure of how triumphant a training session had been. Their coaches, who assured them that feeling this type of pain was 'normal', reinforced this. Sarah explained that her coach would say, 'we've pushed you quite hard, your muscles are going to ache, you're going to be in a bit of pain'. This example depicts how Sarah's coach normalised this type of pain. These findings align with those of Malcom (2006), who found that coaches used strategies such as telling athletes that pain they experienced was not a concern. This encouraged Sarah to engage further in normalising practices. According to Taylor (2009, p. 47), normalisation encourages subjects to 'become highly efficient at performing a narrowly defined range of practices'. As such, repeated persistence through pain became an embedded behaviour which was no longer perceived as unusual, but as 'normal' and indeed 'necessary'.

These examples of the participants being told by their coaches that 'pain is normal' illustrate the power relations inherent within the gymnasium. The gymnasts, like those in Barker-Ruchti and Tinning's (2010) study, viewed their coaches as figures of authority. According to Foucault (1982, p. 792), power relations operate through a 'system of differentiations which permits one to act upon the actions of others'. The coach-athlete power hierarchy is more pronounced with young athletes (Schubring *et al.* 2015), because of 'traditions of status' and 'differences in know-how and competence' (Foucault 1982, p. 792). Indeed, Louise said that her coaches 'thought they knew best', which is why she followed their instructions and re-joined training before her back injury had fully healed. This depiction of the coach as dominant was further emphasised when Katie was asked how often she trained through injury: 'More so when you are younger because you tend to do as you're

told'. This highlights Foucault's contention that power, knowledge and discourse are connected (Hall 2001, p. 75) and, in particular, how the coach's knowledge was 'put to work through discursive practices' in order to exercise power over the participants.

When questioned about when and how they learnt to differentiate between 'good pain' and 'bad pain', Sarah, Louise and Katie said it happened early in their careers. Sarah attributed this to being told by her coach that training was 'going to hurt, but it's necessary – like, it will help you improve'. She noted that being provided with reasons why pain was necessary was important when she was younger. Louise said the notion that 'some sort of pain and injury is normal' was 'trained into' her when she was younger and repeatedly told by her coach that, 'sometimes there will be times where you just have to deal with it and train with it, even if it hurts'.

While the gymnasts were subjected to the normalising discourse of accepting pain and injury as necessary to improve their performance, unlike the athletes in the studies by Barker-Ruchti and Tinning (2010) and Johns and Johns (2000), some were able to resist this 'regime of truth'. Anna, for instance, said that towards the end of her career, she knew when she needed to rest, and by the time she was 18-19 years old, she was able to make decisions regarding whether she should continue training. Katie similarly stated, 'when you're older, you would be like, no, I'm not doing it; I'd just refuse'. This finding reinforces the argument that the gymnast-coach relationship changes as athletes get older (Barker-Ruchti *et al.* 2016, Kerr *et al.* 2015, Stirling and Kerr 2009). For instance, Anna's and Katie's comments are consistent with the findings of Kerr *et al.* (2015), whose participants described a shift from an authoritarian relationship to more of a partnership with their coaches. Kerr *et al.* (2015, p. 17) suggest that such a change provides gymnasts with a 'greater level of empowerment'. Foucault (1998) recognised that power relations can shift over time.

The above examples illustrate how Anna and Katie could resist some of the power imposed by the coaches towards the end of their careers. However, this power shift was neither *to* nor *from* a position of absolute power or absolute powerlessness.

Chapman (1997, p. 208) argued that technologies of the self empower individuals to engage in 'practices of taking care of the self', which requires athletes to problematise the codes that govern their actions (Markula and Pringle 2006). As such, athletes must think critically about the practices involved in being an athlete: only then can they engage in 'practices of freedom' (Markula and Pringle 2006, p. 153). Louise stated that she learnt to differentiate between 'good pain' and 'bad pain' after her first serious injury. This suggests that she had to experience different types of pain unmediated, including the serious pain that led to injury, before she could fully understand and 'avoid crossing the "fine line" to injury' (Nemeth 1998, p. 5). Similarly, a participant in Schubring and Thiel's (2016) study (Sina, an elite female handball player), did not question notions of 'toughness' and playing through pain until forced to take a long break from training because of injury. Sina's injury and subsequent interactions with a physiotherapist led her to realise the potentially serious repercussions of these previously unquestioned practices. In Louise's case, resistance to the discourses of pain and injury, and therefore the decision to refrain from, and eventually cease, training through injury was made because of concern for safety, and therefore engagement in 'ethical self-care' (Markula 2003, p. 98). The following examples illustrate the participants' growing concerns for their own safety:

> But at the end of the day, the worst the coach can do is shout at you. And you have to think about your own safety at the end of the day. (Sarah)

> I wouldn't do anything where I think, god I'm going to break my neck. I'd just refuse to do it because I don't like to put myself in situations where I cause myself pain. (Katie)

These excerpts show how the participants, as they got older, began to problematise training through pain and injury.

3) Increased tolerance for pain, decreased tolerance for injury

The third theme indicated that participants had a high tolerance for pain, but a lower tolerance for injury. This theme appeared to result from the previous theme concerning the normalisation of 'good pain' as a necessary measure of performance in training sessions. Furthermore, it can be linked to the 'logic of competing'. A decreased tolerance for injury can be associated with the justification that 'bad pain' may lead to, or cause, injury and therefore disrupt training schedules and plans for competition success. This highlights the interconnected and overlapping nature of the 'regimes of truth' surrounding pain and injury in elite WAG.

The differing attitudes towards pain and injury were evident when the participants were asked how often they trained through injury, and how often they trained through pain. Despite discrepancies amongst their reported willingness to train through injury, there was a notable difference in the tolerance for injury compared to the tolerance for pain. When asked about training through injury, the women's comments included:

> Erm, training through injury…there were quite a few times where the injury wasn't fully healed but we started training again anyway. With most injuries

you spent a short amount of time with that injury, training with it until it was fully diagnosed or fully healed. (Louise)

With all of them *[laughs]*…with all of them I trained when injured. If it got, like, horrifically bad then I would stop. But I still did, like, a few exercises, training skills that didn't hurt. (Anna)

Hmm, not very often. Erm, especially once I had the operation and it was quite obvious I had this problem. (Katie)

There was less variation in the women's comments about training when in pain. Responses included:

I think about 90% of the time. […] Like, there wasn't a day that I didn't wake up in pain. (Sarah)

It was probably most days. I trained six days a week so I'd say five out of the six days I'd be in pain, with some sort of pain. (Louise)

Erm, being older probably most days. (Anna)

This finding aligns with the results of Charlesworth and Young's (2006) study of female athletes, as most of their participants similarly stated that they regularly trained through pain. The gymnasts' talk about 'good pain' indicated that they viewed pain as a boundary that needed to be crossed (Aalten 2005). For example, regarding conditioning, Sarah said, 'obviously if you push your body enough you're going to be in pain' and 'you push yourself as much as you can push yourself' because people often say, 'no pain, no gain'. This explicit reference to the 'no pain, no gain' discourse illustrates Sarah's investment in the 'regime of truth' that pain is necessary in order to improve performance.

Towards the end of their interviews, the participants engaged in the technology of the self of self-reflection (Foucault 1992) when asked if they had ever considered the long-term effects of training through pain and injury. Sarah, Louise, Katie and Anna stated that they did not consider the long-term implications until they obtained serious injuries towards the end of their careers. In all four cases, serious injury or an accumulation of injuries ended their careers. Sarah did not consider the effects of training through pain and injury until her back fracture was diagnosed and she was 'shocked' into realising that the injury could affect the rest of her life. She explained:

> I never really thought of it. At the time, gymnastics was my main priority and I'd do anything to do it. I don't really think it crossed my mind that it could affect you in the future, but when it got to my back injury and obviously being in pain – like, before I stopped, I was in pain just from everyday things. I thought, 'I don't want my life to be like this'. And when other people are

> saying it to you, like, you only have one back and you can't change it, it just kind of shocked me a little bit […] It was kind of a shock to the system hearing about other people who have, like, left the sport and still had their back pain. (Sarah)

Similarly, Louise said that the seriousness of her back injury 'became a bit more real' when she was told by a doctor that she needed surgery. Furthermore, Louise engaged in critical self-awareness when recalling how her 'stubborn' behaviour of training through pain and injury would affect her for the rest of her life. The fact that she criticised herself (engaging in individualisation) by using the word 'stubborn' suggests that she regrets training with the injury. These findings are similar to those of McEwen and Young (2011, p. 159), who found that the dancers in their study often did not realise the repercussions of hiding or ignoring pain 'until the consequences [became] too severe to ignore'. Similarly, Liston *et al.* (2006, p. 397) found that the health risks of playing through pain and injury were 'brought into sharper relief' only after the rugby players in their study talked to GPs, physiotherapists and coaches. This is an alarming prospect, considering the potential for life-threatening injuries when participating in gymnastics.

Conclusion

Our study aimed to contribute to the body of sociological research concerned with pain and injury in elite sport, by exploring former elite female gymnasts' engagements with pain and injury discourses. In analysing the participants' talk, three themes were evident. The themes related to the gymnasts' desire to compete, the recognition of the multiplicity of pain, and discrepancies between a tolerance for pain and a tolerance for

injury. These themes did not operate in isolation, but often overlapped and interlinked. Although these 'regimes of truth' were entrenched in the discursive practices of elite gymnastics, there were opportunities for the gymnasts to resist and enact agency, despite what had been found in previous studies (Barker-Ruchti and Tinning 2010, Johns and Johns 2000). Perhaps because they were older, some of our participants engaged in ethical self-care and critical self-awareness, which allowed them to problematise dangerous practices that could possibly lead to injury, thus hindering their chances of competing. Resistance, however, was only exercised within the limits of the gymnastics context, suggesting that in some cases, there was only a slight shift in the power relation (Foucault 1998).

The data illustrates the multiple and complex ways in which the 'no pain, no gain' discourse became dominant and was taken up by the participants. Technologies of power, as outlined by Gore (1995), and technologies of the self served as fundamental elements of this analysis. While all eight techniques of power outlined in Gore's (1995) framework were evident throughout the data, and influenced the normalisation of pain and injury, the most prevalent were surveillance, normalisation and regulation. The participants' coaches appeared to be firmly positioned within all three themes, using their power to encourage and normalise training through pain and injury. As explained by Pinheiro *et al.* (2014), coaches whose future and reputation depend on the performances of their athletes may be willing to enforce extreme measures in order to achieve success. However, Foucault contended that power is not solely repressive, but can be positive and productive (Markula and Pringle 2006). Although the coaches may be perceived to be controlling the participants' behaviours, they were exercising power in order to develop the gymnasts' capabilities. Furthermore, as Barker-Ruchti (2008, p. 379) argues, both 'coaches and gymnasts

accept and adopt prevailing training standards and shape their actions and behaviors accordingly'. Our research has similarly shown that pain and injury discourses become internalised by a combination of disciplinary techniques enforced by coaches and the gymnastics context, and self-regulating technologies enforced by gymnasts themselves.

This study has contributed to the literature on competitive discourses in sport by suggesting that coaches prescribed training through pain and injury to the participants as a necessary means of achieving success. This influenced the gymnasts to normalise training through pain and injury, which implies that pain and injury are not simply unintended consequences of gymnastics, but purposeful obligations of the pursuit for excellence. Despite the entrenchment of the 'no pain, no gain' discourse, it is not 'natural' or fixed. We hope this research will draw attention to the potentially harmful consequences of the uncritical acceptance of this discourse, and therefore the importance of critiquing it. For instance, this analysis has demonstrated the implications of training through pain and injury, which, in Sarah's case, led to her incurring a back fracture, which will affect her for the rest of her life. Nevertheless, the research has also highlighted that there were opportunities for resistance, particularly as gymnasts get older. We suggest that future research should explore the coach-gymnast power relation, from both gymnasts' and coaches' perspectives, in order to further interrogate why and how particular knowledges and practices become dominant and taken-for-granted, and when and why they may be resisted. For example, how do coaches engage with the 'no pain, no gain' discourse? In what ways does the coach-gymnast relationship change as athletes get older, and how does this affect the operation of techniques of power in the elite gymnastics context? In what ways does gender affect the coach-gymnast relationship, and the normalisation of pain

and injury in gymnastics? How do coaches respond to gymnasts demonstrating resistance? Furthermore, while our study has focused primarily on the gymnast-coach relationship, we recognise that athletes and coaches are not the only key 'players' in the WAG world. Future research could examine the roles of parents, peers and medical staff in the normalisation of (and resistance to) pain and injury. It is important too to consider the operation of power beyond the micro level, and to examine the structures and ideologies at the macro level of governance (Kerr and Barker-Ruchti 2015, Markula and Pringle 2006).

Finally, we argue that researchers, policy-makers, coaches and gymnasts must ask themselves: is success worth the price of safety? In order to ensure the safety of young gymnasts, the 'truth' of what it takes to be successful must be further problematised. While it is beyond the scope of this study to provide the impetus to change practices relating to pain and injury in WAG, it raises questions about the ways in which gymnasts may develop an uncritical acceptance of training through pain and injury, particularly in the early stages of their careers when they may be less able to engage in resistance. Furthermore, by identifying instances where participants were able to demonstrate agency, we hope to have provided the opportunity to further investigate how gymnasts may more readily resist dominant discourses and practices in order to engage in self-care and prevent injury. If this research has any use, it will be as a modest contribution to efforts towards injury prevention in gymnastics. Above all, we hope to have shown that 'truths' surrounding pain and injury are all too easily constructed, applied, and guarded.

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Table 1. Participant details.

Participant	Age	Level	Retirement Age	Reason(s) for Retirement
Sarah	20	International Elite	19	▪ Injury (specific) ▪ Injury (accumulation) ▪ Fulfilled goals ▪ Loss of enjoyment
Lauren	23	International Elite	20	▪ Injury (specific) ▪ Injury (accumulation) ▪ Other – started a new sport
Louise	18	National Elite	17	▪ Injury (specific)
Anna	20	International Elite	19	▪ Injury (specific) ▪ Lost interest
Grace	20	International Elite	19	▪ Injury (accumulation) ▪ Other – university commitments
Katie	19	National Elite	15	▪ Injury (specific) ▪ Injury (accumulation) ▪ Lost interest
Ellie	26	International Elite	20	▪ Injury (accumulation) ▪ Fulfilled goals ▪ Other – not selected for major competition