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Governing the fisher body – safety as body-politics and fisheries governance

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Abstract

Body Mass Index (BMI) is not only the prevailing tool used for defining and diagnosing obesity, but it is also a tool that intervenes into fisheries governance, and into fishers' lives and bodies. All fishers on board vessels over 100 gross tons (GT) must hold a seaman's licence; too high a BMI may lead to a "loss-of-licence" and the inability to undertake their occupation. From a governmentality perspective, this paper discusses the use of the seaman's licence and explores how BMI may be an instrument in fisheries governance. We examine how safety policies link to storylines around health and obesity to produce healthy and safe fishers, and how this in turn links to the overall objective of governmentality: to produce productive labourers (fishers). We explore the multiple materialities of the BMI by looking at Norwegian fisheries' safety policies from a Foucauldian perspective and question the wider implications of a safety policy focused on BMI and obesity.

Keywords: BMI, Fisheries, Fisheries management, Safety, Governmentality

Introduction

On Friday 3rd January 2014, Tom, a 52-year-old fisher, was sailing through the Lofoten Islands with his fishing boat "Bjørnsandgutt", when tragedy almost struck. On the way to deliver that day's catch, passing through a narrow strait, there was a sudden thud. "I slowed down, but there was a current. I was not sure what I hit, because it was pitch-black, but it was probably a marker on a rock". The situation got critical when the boat started to take-on water. While putting on his survival suit, Tom notified the closest Joint Rescue Coordination Centre, which summoned the search and rescue (SAR) vessel. Then, water started to pour in at the stern, causing a floating plastic tank to block the door of the wheelhouse. He was trapped. "There were a few seconds when I thought it was over. Then I saw a small window in the front and was able to knock out the glass and escape. How I got through that narrow window, I still don't know", he said. The boat slowly sank while he waited on top of the bow. This is where the SAR vessel found him, cold and exhausted. "Just before I had to let go, I saw the lights of the SAR vessel. I threw myself into the water and two-three minutes later I was picked up". Even though it was a scary incident, he wants to keep fishing; but emphasises how important safety is at sea. "One shall not ignore safety. I am happy to make it home", he said (as seen in Pedersen 2014) (Fig. 1).

This story illustrates several things. First, the personal risk for those involved in fishing. Statistically, fishing is the most dangerous occupation in Norway, with the majority of fatal accidents occurring in small-scale, coastal fisheries (Aasjord et al. 2012).

Fig. 1 "Bjørnsandgutt" at a depth of 15–20 m (with permission Redningsselskapet 2016)

Second, it shows that taking precautions is essential if fishers are to make it home at the end of the day. Third, due to his escape through a small window, the story links body size to safety at sea (which we will return to).

Due to the risks of accidents and the high rate of fatalities in fishing, authorities and local communities are increasingly focused on the safety of fishers (Rapp 2010, Antonsen and Andersen 2011; Stortinget 2002; Dagbladet 2002). As a result, in recent years, a range of governmental risk management measures – including regulation, control, training and information campaigns – have been implemented (Thorvaldsen 2015). One particular safety instrument is the seaman's licence, with a specific requirement for Body Mass Index (BMI[1]). This regulation applies to fishers over 18 years of age working on boats larger than 100 gross tons (GT)[2], or fishing offshore and being at sea for more than three days (NFD 2014).

BMI is used to measure physical condition and health, at both individual and population levels, and is a driver of national and international anti-obesity policies (Evans and Colls 2009; Helsedirektoratet 2010). In 2009 and 2010, 511 and 450 seamen lost their seaman's licences, respectively (Rapp 2010; Antonsen and Andersen 2011). The most common reasons for loss-of-licences were: diabetes, cardiovascular disease, high levels of cholesterol, high blood pressure and overweight (Exsto 2014).

Although this regulation does not apply to the smallest coastal vessels, it presently affects a large number of fishers, and has the potential to affect even more fishers. A 100 GT coastal vessel is currently around 20 m. Vessels over 20 m account for about 55% of full-time fishing employment in Norway, while vessels over 15 m account for about 70% (DoF 2017b). Similarly, a representative survey among fishers from 2015 showed that over 83% of crew worked on vessels over 20 m and 90% on vessels over 15 m (Sønvisen et al. 2017)[3]. However, coastal vessels are increasing in size. In 2008, regulations went from a maximum length restriction for coastal vessels of 28 m, to a maximum cargo hold restriction of 500 m^3; this increased the length of coastal vessels (Standal et al. 2016). In addition, due to technological advances, the volume of the coastal vessels has increased. For instance, the coastal vessel *Thor Arild,* built in 2015, is 14.97 m, which is shorter than a similar vessel built in the 1960s, but almost five times the size in volume (Fig. 2). Whether a vessel is above or below 100 GT is therefore a matter of design. Hence, it is likely that fishers who are currently working on smaller vessels will be subject to increased safety regulations in the future (Fig. 3).

Fig. 2 *Trålfisk* built in 1962, length 15.48 m, width 4.75 m and 21 GT (with permission Fenstad 2017)

In light of the story about Tom, requirements regarding body size may seem reasonable in relation to safety. However, given the fisheries political objectives in Norway to downsize and restructure the fishing fleet, we question the role of BMI. Is the body-politics that the BMI exercises only a policy directed towards the fishers' bodies or does it also contribute to making the fisheries more governable in general? Thus, we examine how BMI constitutes a regulatory mechanism whereby knowledge of the fisher population's BMI not only provides the power to reduce the risk of accidents and improve safety, but also serves other purposes in fisheries management. With the expansion of health, safety and environmental (HSE) regulations in the fishing fleet and with technological developments leading to ever-increasing vessel sizes, more fishers will be required to hold a seaman's licence and more will be subject to body-politics. Thus, we explore how risk management, in the form of BMI, can be a part of the general fisheries management puzzle.

Method

This article uses a discourse analysis inspired by Hajer (1995). Lessa (2006:285) summarised Foucault's definition of discourses (Foucault 1972) as "systems of thoughts composed of ideas, attitudes, courses of action, beliefs and practices that systematically construct the subject and the worlds of which they speak". For our purpose, discourses are sets of statements, arguments and practices about body weight, BMI, health and safety. Discourses shared across networks of actors from different spheres, in which actors use the same repertoires to frame their arguments, are what Hajer calls "storylines". Like discourses, storylines are not restricted to examining the meaning of words or phrases, but also include the meaning that different actors attach to them. What is of interest is the embeddedness and reproduction of storylines among members of a particular group of actors (coalitions). Through shared storylines, coalitions define problems, position actors, distribute responsibility and offer solutions to a problem (Hajer 1995). A powerful storyline is one that is widely adopted and perceived as a correct translation of a phenomenon and/or institutionalised into specific institutional arrangement (Späth 2012; Næss 2002).

Information used to produce storylines comes from a number of sources. First, we used official documents such as regulations, green papers and guidelines from health and safety authorities and fisheries authorities (i.e. FAO NA, Helsedirektoratet 2010;

Fig. 3 *Thor Arild* built in 2015, length 14.97 m, width 6.6 m and 100 GT (with permission Skogsøy Båt 2016)

NOU 2006:16, Participation Act 2008; Rikstrygdeverket 2006; WHO 2014). Of particular importance is the regulation pertaining to medical examination for workers at sea (seaman's licence) (NFD 2014). Second, research literature on health, obesity and BMI was useful in linking the fisheries' safety discussions to body-politics storylines outside of the fisheries (i.e. Evans 2006, Evans and Evans and Colls 2009; Hacking 2006; Jensen and Laursen 2011. Third, a wide range of materials from formal and informal sources were used, such as fisheries newspapers, blogs and net discussion forums. There are two main Norwegian fisheries newspapers, *Fiskeribladet* and *Kyst og Fjord,* but national newspapers also occasionally write about fisheries issues; hence, *Aftenposten*, *VG* and *Dagbladet* were also used for gathering data. Discussions that surfaced in the wake of newspaper articles on the issue of marine or maritime health and safety led us to blogs and net discussion forums through direct links.

Finally, seven interviews were conducted with fishers in the deep-sea fleet (2) and the coastal fleet (4), as well as 1 representative for the Norwegian Fishermen's Association. The interviews were conducted in concurrence with fieldwork in another research project dealing with fisher's health and wellbeing (Thorvaldsen et al. 2016). See Table 1 for an overview of informants.

Table 1 Overview of informants used in in-depth interviews[a]

Informant	Region	Type fishery	Size of vessel
Coastal fisher 29 (crew)	Northern Norway	Coastal	under 15 m
Coastal vessel owner 28	Northern Norway	Coastal	under 15 m
Coastal vessel owner 30	Southern Norway	Coastal	over 15 m
Coastal vessel skipper	Northern Norway	Coastal	over 15 m
Ex. Crew longline	Western Norway	Deep-sea	over 15 m
Ex. Trawl skipper	Northern Norway	Deep-sea	over 15 m
Representative for NFA			

[a]Northern Norway includes counties of Finnmark, Troms and Nordland; Western Norway include counties of Møre and Romsdal and Sogn and Fjordane, and Southern Norway includes counties of Hordaland, Rogaland, Vest-Agder and Aust-Agder

Through the analysis of collected material, we identified storylines related to the BMI. In particular, we identified rhetoric, statements and arguments about weight, health and safety in fisheries; specifically those related to the BMI.

Although, the context of this paper is Norwegian, the results will also be applicable to other industrialized fisheries nations that use various instruments to manage the conduct of fishers, i.e. CCTV (see Kindt-Larsen et al. 2011).

The art of governing – governmentality

This article uses a Foucauldian Governmentality perspective. Governmentality is "the art of governance" (Lemke 2001:191) and deals with how to produce citizens that best fulfil governmental objectives (Mayhew 2004). Governmentality works at two levels simultaneously: the individual level and the population level. On the one hand, governmentality shapes the conduct of individuals in accordance with certain rationalities to produce desired effects (Rose 1999:52). On the other hand, governmentality is about controlling populations with the objective of producing productive populations (Foucault 1978 (1990)). In particular, governmentality shall construct citizens with an economic rationality (Mansfield 2004). Populations are thereby reduced to individuals subject to surveillance, punishment and training that shall contribute to the welfare state, by securing "the well-being of future economic citizens" (Evans and Colls 2009:1056). Thus, governmentality seeks to control bodies through (self-)discipline and populations through regulations (Dean 2010; Lemke 2002).

According to Dean (2010), governmentality can be analysed in four (not mutually exclusive) dimensions: *forms of visibility*; *techne of government*; *episteme of government* and *forms of identification*. Forms of visibility are essential for the operation of a regime. These may take the form of graphs, tables and numbers (i.e. BMI) to visualise the "fields to be governed" and "who and what are to be governed" (Dean 2010:41,27). Rather than a pure panoptic field, in which one observes the many (Foucault 1977); the modern welfare society is an Oligopticon where many observers, with limited vision, observe the many (Latour 2005). Even if Oligoptica differs from the Panopticon, the result is in line with that which Foucault (1977) describes as panoptic control through discipline and dressage of the population. Thus, there is a variety of localisations and connections to the individual with the purpose of control, discipline and dressage, which are invented and/or controlled by the state in co-production with stakeholders; hence, these are visible, transparent and under democratic control. Moreover, the localisers and connectors are specific in what they do – measure BMI, and thus become part of the techne (the second dimension). The techne acts and intervenes based on particular rationalities and mechanisms (Spence and Rinaldi 2012); it is the "technologies of government" and the "ways of intervening in reality" (Legg 2005:148). In fisheries, this concerns securing healthy and safe fishers through the production of authority and rule; in this case, regulating BMI.

The third dimension, the episteme, is the discourse, expertise and forms of thought used in the practice of governing, especially the conduct of actors. In fisheries, there are certain assumptions related to the conduct of the fisher. The logic is often related to the tragedy of the commons, which has come to be "common sense" and the foundation of fisheries management in many fisheries nations (NOU 2006:16). In this

perspective, fisheries management is about economic rationality and action, and the decisions of individuals (Gordon 1954). However, episteme also includes questioning the "taken-for-granted assumptions of a regime" (Legg 2005:147), which includes the production of counter-discourses.

The fourth dimension of Dean's approach to government regards the forms of "individual and collective identity through which governing operates" (Dean 2010:43). Attributes and qualities of particular successful agents are promoted to the extent that other agents come to identify themselves through these characteristics (Dean 2010). This is particularly successful when these attributes and qualities are internalised by actors to form their identity, and make them judge and conceive themselves according to a specific classification (Vaz and Bruno 2003). In our case, this is successful when fishers start to reflect upon the link between health, safety and productivity as being important for their job and life, and society.

Foucault's dressage term, was also a useful perspective (Berente et al. 2006). Dressage is total control by a governing body over the actions of individuals, reflected in standardised rationality and ostensive compliance of individuals to the system. People's eating habits and body shapes are problematised in practices of self-government, in which it is good to be slim, to regulate eating, to be healthy and maximise longevity (Dean 2010). The ultimate objective is to form obedient bodies for profitable use (Jamieson 2012), who are able to work and pay taxes. Thus, unhealthy and unsafe practices like overeating or under-exercising are seen as costs to society (IHME 2016). Our findings points towards BMI as a disciplinary tool of the welfare society that partially contributes to shaping the fisher both physically and mentally for the benefit of the welfare state. This is what modernisation processes entail (Johnsen and Vik 2013).

Governmentality, managing bodies and risk

The discourse shaping the conduct of the individual body ties to an international discourse on obesity and its adverse effects. FAO refers to obesity as "The developing world's new burden" (FAO NA) and the WHO a "global epidemic" (2000). High BMI is assumed to increase the risk of cancer, heart disease, diabetes and even birth defects (Skarpaas 2014, Norsk helseinformatikk 2007, Hansen 2009).

Empirical studies link obesity and adverse work conditions (Schulte et al. 2007) and have shown a positive correlation between accidents or work-related injuries and BMI (Froom et al. 1996, Bhattacherjee et al. 2003, Brown and Thomas 2003, Stoohs et al. 1994). Among railway workers, Chau et al. (2004) found sick leave periods of eight days or more to occur more frequently among smokers and overweight workers and concluded that a lack of physical activity contributed to the risk of occupational injuries. Similarly, obesity is assumed to increase risk to both health and safety at sea. The Norwegian Maritime Authority (NMA), subordinate of the Ministry of Trade, Industry and Fisheries (NFD), is the administrative and supervisory body dealing with safety at sea and health on Norwegian vessels. According to the NMA, people working at sea are at increasing risk of loss-of-licence due to overweight and are more prone to diabetes and cardiovascular disease (NMA 2013). In particular, unhealthy and overweight fishers have a higher risk of sudden and serious illness, and as such are a potential threat to the safety of others (Børtnes 2002, NFD 2014). Consequently, according to the NMA, "overweight…fishers will be left onshore if they do not lose a given number of kilos within a set date" (Børtnes 2002).

Weight was previously purely a medical issue. However, as Norway has ratified a number of international agreements and adopted BMI measures, weight is increasingly tied to safety at sea. As a result, to manage health and safety, the BMI categorises bodies from underweight to obese[4], making the health and body of individuals visible and manageable (Fig. 4).

In a Cartesian perspective, an obese body is seen as "corrupt and flawed, requiring the liberatory intervention of rationality acting through science and technology" (Patterson and Elliott 2002:231). Hence, public health policy increasingly focuses on non-communicable diseases, in which the individual has the control of and responsibility for their own bodies and health. The solution to obesity is weight loss, through which bodies are monitored and administered with the aim of regulating and maintaining social order, and simultaneously producing health and productivity (Evans and Colls 2009). According to Evans (2006), the link between weight and health is through reference to risk; hence, an overweight person is also unsafe for both themselves and others.

Occupational health in the fishing occupation

Despite fishing being a big industry, research on fishers' health and working conditions was scarce prior to the 1970s. In the 1970s, the Norwegian Research Institute of Fisheries Technology examined accidents causing disability or death, and the relatively high frequency of death related to heart disease and lung cancer among fishers. Other studies found that fishers had a number of health-related issues, like muscle and skeletal ailments, as well as stomach, psychological and skin ailments. These health problems were related to the working conditions and lifestyles of fishers. However, despite harsh working conditions, fishers' sick leave rates were lower than the average of the male working population. This may have been due to health-promoting factors such as connection with nature, fresh air and physical work, and, in particular, the close relation between work and a meaningful outcome of work efforts (Fugelli 1977, Grinde 1987).

More recent studies point to a high tolerance of risk and under-communication of danger in fisheries (Broch 2006, Bye and Lamvik 2007, Binkley 1995), as well as a high level of job satisfaction amongst fishers (Johnsen and Vik 2008, Thorvaldsen et al. 2016, Lund 2016). Moreover, recent research on health, environment and safety (HSE) in the Norwegian fisheries has focused mainly on accidents, and not as much on the

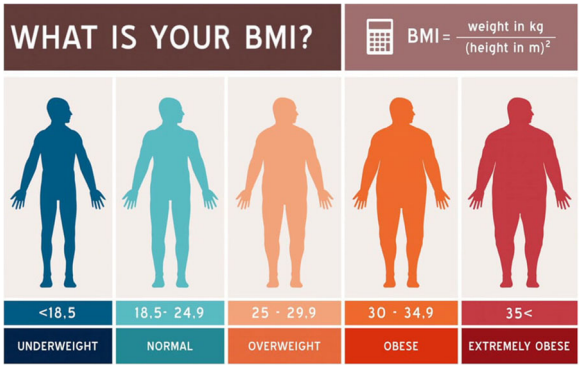

Fig. 4 Illustration of body size and BMI categories (Vimeo.com 2016)

health of fishers (Aasjord et al. 2012, Thorvaldsen and Sønvisen 2014, Jensen and Laursen 2011). Examining injuries and deaths in the Norwegian fishing fleet, Aasjord et al. (2012) found that the majority of injuries in the period 2000 to 2011 were in the trawl fleet, while the majority of lethal accidents were in the smallest coastal fleet (Fig. 5) (see also McGuinness et al. 2013).

Internationally, a number of studies have examined fisher health in relation to both their occupational conditions and their lifestyles (Jensen et al. 2012, Frantzeskou et al. 2012). One study found fishers to have higher mortality rates from cardiovascular disease, cancer and accidents (Morales-Suárez-Varela et al. 1997). A Danish study found that fishers had a 1.3 time higher risk of hospitalisation due to cardiovascular disease, compared to other occupational groups (Kaerlev et al. 2007). Another Danish study from 1993 showed that fishers had a significantly higher BMI than men in other occupational groups (Jensen 1996). This was followed by a study in 2005 which showed that the share of fishers with a BMI above 30 had increased from 15% in 1993 to 32% in 2005 (Jensen and Laursen 2011).

Fisheries body-politics in practice

Defining the unhealthy and unsafe fishers

It is difficult to quantify the frequency of overweight among fishers. However, the Centre for Maritime Medicine (CMM) assumes that the weight of fishers has increased, as in the general population[5], thereby negatively affecting health (Rapp 2010). Moreover, fishers are often seen as unmanageable and with a "culture in which safety is not prioritised" (Ex. crew longline 2012), and thus in need of management. To secure health of seafarers, *the regulations on medical examination of employees on Norwegian ships and mobile installations* (the seaman's licence) was introduced. This regulation shall ensure that employees are medically fit for service on board and do not suffer from medical conditions that may be aggravated by service at sea or endangers the health and safety of others on board (NFD 2014). Hence, the regulations concerns both health and safety.

Table 2, from the regulation, shows the classifications of fishers as fit or unfit, temporarily or permanently, in relation to body weight. The regulations require that a BMI over 35 leads to mandatory medical testing of operability, which should also be considered when the BMI passes 30 (NFD 2014). Although the regulations seem to leave some

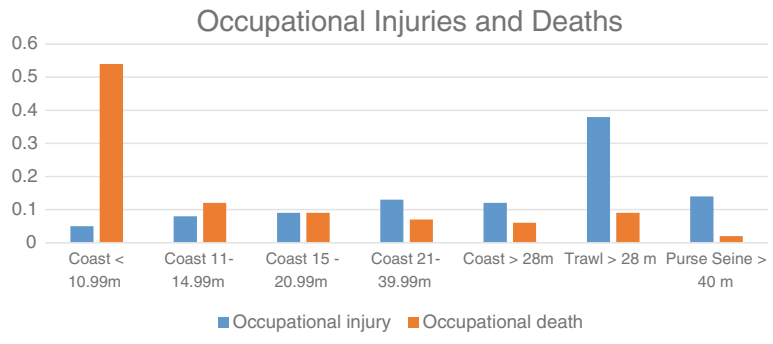

Fig. 5 Occupational injuries and death in the Norwegian fishing fleet from 2000 to 2011 (modified from Aasjord et al. 2012:28)

Table 2 E00-90 Classification of fishers based on endocrine, nutritional and metabolic diseases (modified from NFD 2014)

E65-68	Medical condition	Incompatible with reliable, safe and efficient performance of tasks in routine and emergency situations	Fit for service with restrictions in health certificate	Fit for service without restrictions
	Obesity and abnormal body weight - high or low. Risk for one-self, decreased mobility and reduced work capacity. Increased likelihood of diabetes, cardiovascular disease and arthritis	T: If safety-critical tasks cannot be handled, physical ability or working capacity is poor.	R, L: Time restrictions, restrictions to coastal waters or restricted duties if the employee is unable to perform certain tasks, but is able to perform routine and emergency procedures that pertain to safety duties.	C: Physical disability and working capacity are average or better, weight is stable or on the way down and there is no comorbidity.
		P: If safety-critical tasks cannot be handled, physical ability or working capacity is poor. Attempts to improve the situation have been unsuccessful. Note: BMI is a useful indicator of when additional investigations inclusive physical testing must be performed. BMI should not be the sole basis for decisions on incapacitation. At BMI over 35, it is mandatory to perform testing, but should be considered already when BMI passes 30.		

Codes: T: Current incapacity; P: Permanent incapacity, R: Able to carry out some, but not all, work tasks; L: Increased need for monotoring of medical condition or medication; C: Physcial functional requirements

room for interpretation, some seaman doctors strictly interpret the regulations; as one said: "I have my guidelines from the Norwegian Maritime Authority. If you have a body mass index (BMI) over 35, then it is an absolute loss of licence" (FiskeribladetFiskaren 2010a). Through these regulations, society counts, categorises and intervenes in fisher's lives. Moreover, the BMI is a cheap, easy and non-invasive method for measuring body fat and health condition (Hacking 2006) and fits well into the affinity to ask for numbers in policy and governmental practices. "To count a problem is to define it and make it amendable to government. To govern a problem requires that it be counted" (Rose 1991:686). Hence, the materiality of the BMI contributes to defining and categorising fishers and the BMI becomes a strategic technology of power that directly affects fishers' bodies.

Theorizing the Healthy and Safe Fisher

Apart from being a convenient instrument, the choice of BMI is also a result of storylines, discourses and assumptions tied to obese subjects and the causes of obesity. BMI links to an episteme, an Cartesian understanding of obesity, in which bodies are machines and obesity is simply due to "…an imbalance between energy input and outputs" (Evans 2006:261). There is a linear understanding of the relationship between body weight, health and productivity.

There is also a storyline linking obesity and safety, in which the obese seaman is synonymous with an unsafe seaman. It is argued that in emergencies, obese workers may have difficulties evacuating through narrow manholes or helicopter windows, and putting a survival suit on an obese body is cumbersome, if at all possible. Moreover, injured persons, perhaps unconscious, are heavy to handle and an overweight person even more so. As one seafarer said: " I thought it was pure hell to carry the 'chubby' boys during the exercises; and I was a firefighter" (Leviarius 2006).

In the navy, the Inspector General does not accept overweigh crew and has declared, "Zero fat tolerance". According to the Inspector General, it is about safety. "One cannot be overweight in the Navy. If something happens and others shall help you, they must be able to lift you…" (Blindheim 2006). Similarly, as a contributor to a blog run by the Norwegian Armed Forces (Milforum) said:

> *Perhaps I put myself on the line, but I am completely positive to the suggestion of rejecting obese to the [Navy's] vessels… It has previously been mentioned that a muscle man of 120 kg and an obese of 120 kg is the same thing…this is wrong! Yes, in an emergency where personnel has to evacuate from a vessel it's similar, but it is a well-known fact that obesity = bad shape (and I mean obesity, not chubby). I have sailed with officers that were big and in such bad shape that in a potential emergency would have great difficulties saving themselves. What if these boys were to carry other people, when every minute counts? (Pjokken* 2008*).*

Based on these assumptions, it is easy to imagine a more dramatic result of the situation described in the beginning of this paper, if Tom were a bigger person.

Shaping the safe fisher's conduct

Assuming that obesity is due to an imbalance between energy in and energy out, the Directorate of Health has spelled out the necessary interventions: increased activity and healthier diet. Specifically, persons with a BMI over 35 should be offered medical evaluation and possible treatment in the primary healthcare service. This should also be considered for people with BMI over 30, if they have increased waist measure and weight-related ailments. Further, to reduce weight-related morbidity, the recommendations are: physical activity for at least 30 min a day, reduced energy consumption through regular meals and "five-a-day" of fruit and vegetables, as well as sweets or snacks only once a week (Helsedirektoratet 2010).

This discourse about the importance of physical activity and diet has also reached the fisheries and coastal communities. In 2006, the small municipality of Berg lost three fishers at sea. According to the mayor, these fishers "… were not able to hold on to the boat, or a swim to shore when their boat capsized. They froze to death"; he linked these tragic events to poor physical condition. Subsequently, Berg municipality implemented a local fitness project aimed at fishers. This initiative was hailed by the NMA as it said:

> *It is great that the local communities get involved. Maybe they also have to engage the women that are at home awaiting their men. The men are often the main income suppliers in the families, and they are at risk if they do not change their lifestyles (Antonsen and Andersen* 2011*).*

Another intervention, directly focused on fishers' bodies, is the cooperation between a rehabilitation clinic and Norwegian Labour and Welfare Administration (NAV). This cooperation aims to help fishers with difficulties retaining or obtaining employment due to body weight back to work. This includes a four-week stay at the clinic with exercise and dietary guidance, with up to eleven months follow-up at work or at home (FiskeribladetFiskaren 2010b). Success stories around the scheme is told of people who either experience a loss-of-licence or are close to a loss-of-licence, who are able to lose weight and continue working (Fiskebåt NA). The result is a body-politics that directly intervenes in the bodies of fishers, ultimately controlling the conduct of fishers and shaping fishers bodies.

Internalizing the safe fisher

Storylines around obesity are deeply rooted in a number of international discourses, affecting our picture of the obese subject, but also affecting the picture the obese subject has of him-/herself as an individual and member of society. The ultimate success of a discourse is when it is institutionalised through standards and its characteristics internalised by individuals, whom start to act in accordance with it.

Fishing is in general a physically hard occupation. Fishers work hard, which for some entails heavy lifting, monotonous movements and usually little cardiovascular fitness (NFA 2014). After long days at sea, few fishers have the surplus energy to exercise (Coastal vessel owner 30 2014). However, there is an increasing acknowledgment that physical activity, outside the fishing vessels, is essential for a lifelong career as a fisher (Coastal fisher 29 2014). One young fisher recognised this, as he exercised regularly. He was concerned with his physique, particularly his wrists and shoulders, so he wore wrist braces and focused on the correct work position (Coastal vessel owner 28 2014). There is also an increased recognition that a healthy diet is necessary for the optimal performance of fishers. "The demands on the crew have increased and fishing vessel companies increasingly focus on [healthy diets], as they become aware of the importance of diet" (Kystmagasinet 2008). Hence, as it increasingly becomes rational to be healthy and safe, fishers themselves are identifying with the healthy and safe fisher and increasingly conducting themselves accordingly.

Counter-discourses about the health and safety of fishers

The power of the BMI, however, is not necessarily continuously repressive. There is a "strategic reversibility of power relations" in which governance is challenged (Foucault 1982:221). Actors tend to resist being standardised and controlled, and challenge the classificatory power of the BMI as a measure of health and a standard against which the individual and the population is measured. The "regimes of truth" are questioned (Evans and Colls 2009) and counter-discourses produced.

First, it has been questioned whether the BMI measures what it claims to measure. Although the BMI is recognised as "a rough guide" (WHO 2014), BMI tends to be used to directly diagnose overweight and does not take into account that BMI measures "body *mass* not *fatness*" (Evans and Colls 2009:1057).

Second, the causality between high BMI, poor health and certain diseases has been questioned – obesity may be a symptom rather than a cause (Evans 2006). One study showed that some types of cancer are less prevalent among overweight people, while

another study showed longer life expectancy among the overweight (Evans and Colls 2009). A study of 12,550 stroke patients' weight and health showed that those who lost weight after a stroke had a lower rate of survival than those who gained weight (Foss 2006). In relation to safety-at-sea, according to Hansen (2009), there is no evidence that a person with a high BMI will have problems evacuating.

Likewise, storylines coalitions questions the taken for granted link between high BMI, health and safety. As contributors in a Navy blog stated:

> *I think he [the Inspector General in the Navy] seems to approach this the wrong way. When I was in the army, I saw skinny boys or boys with normal weight that were not able to run 3,000 m in fifteen minutes, I also saw heavy and partly overweight who were able to (Olav82* 2006*).*

> *The most ridiculous argument is that he [Inspector General] wants to limit heavy lifting in emergency situations. Will he reject everyone over a certain weight? …It is OK that he focuses on health, but then he has to use physical tests and not weight. Everyone that has been in the Army knows that it is not possible to judge cardiovascular condition from weight. If he could show an increased rate of heart disease among crewmembers, I would support him. But he cannot (KjartanA* 2006*).*

Similarly, fisheries statistics challenge the assumption of a positive correlation between body mass and sick leave. If the trend in Norway is similar to that of Denmark – that fishers have higher BMI than other occupational groups, and if obesity is associated with higher risk of sick leave and disability (Schmier et al. 2006), we should expect a higher rate of sick leave amongst fishers. This is not the case. In 2013, fishers had 5.2% sick leave (Øren et al. in progress), compared to 5.5% inthe general population (SSB 2014).

Third, according to a number of scholars, the cut-off points of the BMI that categorise people as overweight are seen as arbitrary as it is not sensitive to ethnicity, age or gender and changing societal ideals (Consultation 2004, Deurenberg et al. 2002, Evans 2006, Ross 2005 in Evans and Colls 2009). For instance, a study of the relationship between BMI and body fat percentage, Deurenberg et al. (2002), found that Asian populations in the study had higher body fat percentage at a lower BMI compared to Caucasians. Thus, it was concluded that "universal BMI cut-off points are not appropriate" (:141).

Fourth, the BMI has also been criticised for offering a simplified and universally applied truth about overweight, in which these simplistic "truths" produce moralities about fatness. Through the separation of body and mind, according to Evans (2006:261), obesity is seen as a disorder defined as an imbalance between energy inputs and outputs, and diagnosed using BMI. Thus, BMI becomes a "black box" in which the complexities of scientific knowledge are hidden and the discourse of obesity is attached to "common sense", which rejects a healthy overweight subject (Evans and Colls 2009:1059). The result is the construction of powerful "truths" linked to health and safety policy.

Finally, a low BMI is not always a desirable state. Sabinsky et al. (2007:529) described how a high BMI or an overweight body is perceived as an advantage in some social groups. Or as a 60-year old fisher said "A skipper must have clout", referring to his 106 k (Rapp 2010) (Fig. 6).

Fig. 6 Ex-skipper Gunnar Hansen lost his seaman's licence due to high BMI (with permission Rapp 2010)

The production of fisheries governmentality

As described above, with BMI acting as a localiser and connector, we see the dimensions of governmentality; forms of *visibility*; *techne of government*; *episteme of government* and *forms of identification*. These dimensions, particularly the latter, are also visible in modern fisheries management. Historically, Norwegian fishers were independent and autonomous in their work, and thus unmanageable – they operated in open access fisheries in the periphery of the modern welfare state (Johnsen and Vik 2013, Bavington 2009). Moreover, as Gordon (1954) and Hardin (1968) argued, the combination of open access and individualistic rationality produces uncertainty that leads to overfishing, to which the only mitigation is either private property or state intervention (Hardin 1968). This framework was applied after the collapse of the North-East Atlantic (NEA) cod in 1989, introducing limited entry and quota regulations in the Norwegian coastal cod fisheries.

After the collapse, fisheries biologists, with their methods and models, acting as localisers and connectors, made fish stocks visible and found fisheries resources to be increasingly overexploited. It was therefore necessary to "transform fish, fishing people and fishing technologies" into manageable objects (Johnsen et al. 2009:9). Fisheries management increasingly became management of the fisher (Hilborn 2007).

Technical instruments, such as rights and quotas, shall contribute to the achievement of fisheries political objective through the production of authority and rule. Another instrument is the regulation of fishing areas, which is monitored and controlled panoptically through modern tracking technology (Johnsen this issue). However, prior to the deployment of these instruments, fishers have to be made visible and countable through observations by a large number of very specific actors at a number of sites, e.g. statistics, maps, charts, graphs, tables and automatic tracking systems (AIS). Fishers thus become visible bit-by-bit, especially as these sites are often publicly accessible.

The epistemic foundation lies in the assumptions used in the practice of governing. As Gordon (1954) reasoned, fisheries management is about economic actions and the decisions of individuals. Modern fisheries management, tied to the modernisation project of the modern state, produces a fisher that is an individual harvester needed to be controlled (Johnsen et al. 2009). Subsequently, through various monitoring, control and surveillance systems, the fisheries have been put under the "disciplinary gaze" (Johnsen and Eliasen 2011). Moreover, via the increased use of market mechanisms, such as transferability of quotas, Norwegian fishers have become self-governing and economic rational subjects with a field of action increasingly defined within a marked-based

system of the welfare state (Johnsen 2014, Johnsen and Vik 2013) – which is essential for body-politics.

Discussion: disciplining the fisher body – managing risk and governing fisheries

In the western health discourse, the obese fisher is constructed as unhealthy; in the safety discourse, the obese fisher as unsafe; and in the economic discourse, the obese fisher as less productive and irrational – thus, always in need of correction. Table 3 below summarises the body-politics and governance of fishers, and shows how the modern welfare state seeks dressage of individual bodies to control its population through BMI.

Self-discipline and regulation are active ingredients in successful body-politics. At the individual level, governmentality shapes the conduct of individuals (diet and exercise), the success of which lies in the internalisation of a safe fisher's conduct. At the population level, governmentality secures a productive fisher population through the seaman's licence and BMI requirements, and ultimately the internalisation of the economic rational fisher.

In a governmentality perspective, the BMI is a practical instrument for the surveillance of bodies and at-risk populations. By minimising risk of death and injuries through regulations, governments are able to control the fisher population and secure a more productive fisher and fishing fleet. The BMI becomes a hurdle needed to pass to become or remain a fisher. Hence, the BMI becomes a part of a new configuration of controls applied to the fisher in which "contemporary bio-politics is risk politics" (Rose 2001:2).

Johnsen (2004) showed how modern technology redefined the fisher, as knowledge and learning was increasingly woven into technology. In this perspective, BMI actively participates in what Foucault calls body-politics and redefines the fisher by defining the optimal physical parameters of a fisher. However, BMI not only redefines the physique of the fisher, it also affects the mentality of the fisher, as it constructs a fisher for whom it is rational to be healthy and safe and for whom it is rational to optimise economic performance. The argument is that control of the individual is good for the person,

Table 3 Governance and dressage of fishers' bodies and populations

Level	Form of visibility	Episteme	Techne	Intervention	Forms of identity
Individual	High BMI	High BMI leads to increased risk of sick leave	Seaman's licence and requirement to maximum BMI	Management of individual health through (i.e. exercise and diet)	Healthy fisher
		High BMI leads to increased risk of accidents		Management of individual safety (i.e. exercise and diet)	Safe fisher
Population	High BMI	High BMI leads to higher levels of sick leave and lower productivity	Seaman's licence and requirement to maximum BMI	Management of productivity by securing a heathy and safe population.	Economic rational fisher
		High BMI leads to higher risk of accidents and lower productivity			

through improved health and safety, while simultaneously being good for the nation through improved productivity and lowered social costs. "What is good for the fishermen, is good for the nation" (Hersoug and Rånes 1997).

We could argue that, given the physical and mental strains of the occupation and the relatively low level of sick leave among fishers, such rationalities are already present and the mechanisms of governmentality have succeeded. This is partially true. For vessel owners, working for themselves or crew remuneration based on catch shares, absenteeism has direct economic consequences. Despite being entitled to sick leave pay from day one, the difference between sick leave pay and income from harvest may be significant. Presenteeism is therefore an economic rational conduct of fishers, but is also a social variable related to team spirit, loyalty and expectations of working hard; particularly on board larger vessels (Coastal vessel skipper 2014). Thus, other mechanisms are also at play.

Moreover, although the seaman's licence is mainly obligatory for vessels over 100 GT, a number of elements may lead to more fishers being subject to the seaman's licence. As the majority of fatal accidents occurs on smaller coastal vessels, it is a paradox that these vessels are exempt from the regulation (ref Fig. **5** above). In recent years, however, there has been increased focus on the safety of fishers on smaller coastal vessels through inspections, regulations and documentation of compliance with safety regulations through safety management systems (Thorvaldsen 2015). In 2014, the NMA introduced a new safety regulation for vessels under 15, with stricter requirements regarding construction and equipment (NMA 2014).

Larger vessels and vessels fishing farther offshore will also increase demands on safety. Present fisheries policies; including restructuring policies, decommission regimes and liberalization of length restriction; have led to fewer and larger fishing vessel (Standal et al. 2016). In 2008 there was 6,785 fishing vessels, which had declined to 5,939 by 2014. For vessels under 28 m this entailed a decline of 13%, whereas for vessels over 28 m there was an increase of 12% (DoF 2017a). In addition, climate change leading to migration of fish stocks may force coastal vessels farther out to sea[6]. In the end, increase in size combined with changed patterns of operations, could mean that more fishers will be subject to body-politics.

Additionally, BMI tends to increase with age. Thus, given "the greying of the fleet" (Sønvisen 2013), an aging fisher population may be at danger of a loss-of-licence. Consequently, if the seaman's licence and its BMI requirements were to apply to smaller and more vessels, and if these requirements were to be strictly applied, fishers can be forced to quit their job and sell their fishing vessels[7] – with consequences for the individual and the family. Furthermore, as fisheries regulations allows quota mergers and decommissioning and when fishers quit vessels tend to be sold out of the community (Røst kommune 2016, Olsen 2014, Helgelands blad 2012), the seaman's licence and the BMI may also have consequences for local fleets and communities.

Conclusion

To return to our question: given the political objectives to downsize and restructure the Norwegian fishing fleet, what role does BMI play? Restructuring of the fleet leads to fewer and larger fishing units subject to stricter requirements regarding health and safety, and more fishers being subject to the seaman's licence. Although the seaman's

licence and BMI requirements shall improve the health and safety of fishers, it also leads to a loss-of-licence for some. This brings us back to the story of Bjørnsandgutt and Tom. Even though regulations pertaining to the seaman's licence and BMI requirements do not presently apply to fishers like Tom, they may in the future. We shall not speculate whether or not Tom would be able to obtain his seaman's licence, but some fishers in this fleet segment would have challenges receiving their licence.

Then, the question becomes does BMI play a more subtle role than just regulating health and safety? Yes, we argue, as the BMI produces governmentality. The BMI regulation is part of a steadily more comprehensive governmentalisation process in the fishing fleet and it is not likely to stop. As the story of Tom illustrates, fishers on vessels under 15 m are exposed to certain risks. In a situation that requires further restriction to fishing access, safety may be used as an argument to implement a regulation such as BMI – primarily, of course, as a health and safety regulation, but with direct implications regarding who is and who is not allowed to fish.

Moreover, by contributing to control of individuals, the seaman's licence and BMI contribute to control society. It works as a localiser and connector for observation and governing, similar to how indicators of fish biomass, environmental or economic indicators monitor, control and surveillance fishers' performance. BMI acts directly at the individual level and it is the individual fisher who will be sanctioned if the self-control becomes too weak. It becomes an element in the cybernetic fisheries governance toolbox for the production of rational and sustainable fisheries, which depends upon productive subjects. Hence, an obese fisher losing his seaman's licence has failed to become such a subject in terms of his own health and safety, but also in relation to the fisheries, the coastal population and society.

The question is if this dressage goes too far, the BMI rule may turn able fishers into disabled fishers, as the fishers cannot exercise their occupation. Instead of producing healthy, safe and productive welfare state citizens, which is the intention of BMI regulation, the regulation may also turn fishers who have few other work opportunities into unproductive individuals dependent upon welfare. In that case, the BMI regulation does not contribute to fulfil the fisheries political objectives of contributing to employment and settlement in fishing communities. Perhaps it is time to reconnect localisers and connectors again, not to produce panoptic control, but to widen the scope and see humans and society as something other than numbers and quantitative indicators.

Endnotes

[1]BMI is a person's weight (kg) divided by the square of their height (m).

[2]Gross ton (GT) is the nonlinear measure of a vessels overall internal volume (www.wikipedia.org).

[3]There are about 4,600 active vessels (with registered catch) and 9,500 registered fishers; hence, a large number of fishers are also vessel owners. Still, only 1,750 of these vessels are year-round operating vessels; consequently, owners of small coastal vessels also work as crew. Registration in the Official Fisher Registry (Fiskarmanntallet) is mandatory for boat owners, but not for crew (DoF 2017b).

[4]The WHO defines a BMI above 25 as overweight and above 30 as obese (WHO 2014).

[5]The average weight of young males entering the military services in the year 2000 was 72.8 kg in 2012 this number had increased by 1.1 kg (SSB 2013).

[6]A recent study found that, due to climate change, fish communities in the Barents Sea are expanding northwards (Fossheim et al. 2015).

[7]A fishing vessel owner in Norway has to have income from fishing with his/her specified vessel. The vessel cannot be rented out, but can be operated by others, as long as the owner has the main income from fishing. However, according to the Directorate of Fisheries' profitability surveys, fishing vessels under 15 m normally have small profit margins and the owner *has* to work on his or her vessel. Thus, if the owner cannot work on board, he or she is forced to sell.

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