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Defensive pessimism-like thinking in practice: the (dys) functional strategy for coping with risk uncertainty in the offshore oilfield?

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ABSTRACT

UK Continental Shelf (UKCS) offshore oilfield drilling is recognised as a high-hazard occupation that occurs in one of the riskiest locations in the world. Dangerous machinery, combustible hydrocarbons, unpredictable weather conditions, rapidly shifting situational factors, rotating crews, and lengthy travel over rough seas by helicopter are just some salient risk-factors. At present, little scholarly research explores how regular offshore workers develop cognitive strategies to attempt to cope with ever-present risks. This research draws on an embedded ethnography of a remote offshore oilfield drilling platform in the UK North Sea. The risks of working offshore and the strategies workers developed and employed to deal with continual risk uncertainties were discussed in face-to-face interviews with thirty-five active drilling crew as they laboured on complex well-drilling operations. Notably, defensive pessimism (DP) like thinking was recurrently exhibited, with many workers recounting detailed narratives of mental role-play for 'worst case' offshore and helicopter travel scenarios. Often, thinking appeared interlinked with strengthening motifs for workers' preparation and planning skills regarding occupational risk possibilities. These strategies are presented, as is a discussion of the effects such strategies had upon oilmen. The benefits of growing scholarly conversation surrounding DP-like thinking in practice are highlighted. alongside the methodological application of DP theory for further study surrounding practical development of coping strategies in similar high-risk workspaces.

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Introduction

UKCS Offshore oil and gas drilling is one of the riskiest occupations in the world (Abimbola, Khan, and Khakzad 2014; Sneddon, Mearns, and Flin 2013). The oilfield workforce is mostly male, with only slightly under 4% of regular rotational oilfield crews identifying as female (OGUK (Oil and Gas UK) 2021). Data used for this study was collected offshore during two research trips, totalling a period of little over two weeks spent on a remote UKCS offshore oil and gas drilling installation. This platform is herein referred to as Point Delta[1]; located in the far UK North Sea of Scotland between Scottish and Norwegian waters.

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Many existing studies focus on safety in high-risk environments, particularly oil and gas workspaces and offshore platforms. Much established research upholds the benefits of macro-level; organisational-wide safety process and procedures. For example, Wybrow (1984) discussed process safety at the advent of North Sea oil, providing an overview of the industrial and human risks of offshore operations and suggested policy and practice initiatives for risk mitigation (see Wybrow 1984). A similar perspective is provided by Carson (1989) who explores the political and economic aspects of developing risk-solutions as a necessity, as opposed to focussing narrowly on a legal perspective and implications of hazards, which constrains the development of appropriate solutions. This view is extended by Cavanagh (1998) who centres this thinking specifically on North Sea oil and gas operations, developing an analysis of risk-mitigation policy and practice and the safety successes and failures of policy outcomes within UK North Sea and Norwegian waters.

Despite the importance of policy perspectives, over the last twenty years much interest and discussion has shifted to focus on the 'human' element of safety in oilfield operations: human factors and being psychologically attuned to detecting risk (see Chandrasegaran, Ghazilla, and Rich 2020; Cox and Cheyne 2000; Mearns et al. 2001). Notably, while policy and safety practice can prevent and provide solutions to hazards, all policy-based interventions require human engagement, active recognition of hazards and appropriate and timely policy adherence (Carson 1989). Conversely, efforts to understand 'human' responses to risk take account of individual reasoning, workplace culture, social conditioning and the collective and personal psychology of workplaces and individuals. The influence of this thinking is echoed in scholarship exploring reasoning behind risky behaviour. For example, the works of Horlick-Jones present a fascinating deconstruction of modes of practical reasoning with regards to making sense of, understanding and reacting to risk from a human perceptual standpoint (see Horlick-Jones, 2005; Horlick-Jones and Sime 2004). However, while much 'human factors' and industrial psychology research focusses on understanding risk avoidance in oil and gas operations, no present studies explore the role of Defensive Pessimism as a strategy for risk-avoidance and mitigation.

This research contends with a large body of qualitative data collected pertaining to oilmen's discussions of coping with the natural risks of travelling to the offshore Point Delta platform, and remaining on this installation to perform 'risky' labour. Throughout the course of collecting data exploring safety and risk, numerous discussions provided unique insights into the high-risk labour environment, and oilmen's mechanisms for dealing with oilfield risks. Relatedly, many conversations saw oilmen recognise the uniqueness of having a researcher – a social scientist – complete the extensive offshore oilfield training, and travel by helicopter to remain on the platform shadowing active drilling crews in the high-risk locale and worksite. This placed this researcher in a unique position, where they were frequently asked by oilmen to share and compare their experiences and perceptions of the risks of travelling to the oilfield – and being located on the offshore drilling floor as a 'participant-researcher' – with oilmen's longitudinally established risk perceptions. Oilmen were interested in how the researcher coped with perceived risks whilst located on Point Delta. This context provides a backdrop to contrast academic researcher experience as a 'newbie' to the oilfield with those risk perceptions of established oilmen. Importantly, many discussions and interviews with oilmen -that focussed on coping with the risk potentials of the remote offshore oilfield- contained hallmarks of defensive pessimism-like thinking, exercised as a strategic practice. This occurred frequently, and sense-making involved a range of creative and unique patterns of thought that connected to different strategies of coping; all anchored to mental visualisation and 'role-play' for worst case offshore oilfield risk scenarios.

Researcher context

It is important to situate this research in context by first providing some information about the researcher. I am a white, Scottish male researcher who was 35 years old at the time of

travelling offshore. To travel offshore I engaged in extensive safety training (detailed in Methods). While never having travelled offshore before this research, some of my past research and employment has involved working within the Oil and Gas energy sector. Thus, I am familiar with much of the 'lingo' and cultural nuances of oilfield work and I felt that this operated as a 'door-opener' for me when engaging oilmen in frank and open discussions. Also, it is not possible to discount my gender in considering privilege and dividend – for example, as the oilfields are predominantly male-dominated and my research primarily focussed on interlinked themes of masculinity and risk, oilmen may have been more likely to speak with me due to my position as a man doing research on so-called and oft-stereotyped 'masculine' work.

The following sections first outline defensive pessimism theory and DP as a coping strategy in more detail, before discussing some of the limited scholarly works that approach the functional framing of DP as a positive cognitive strategy to deal with unavoidable or incalculable risk in a variety of locales. The methods for the collection of the data used in this study are then presented, followed by presentation and discussion of the key research findings. This includes a discussion for how oilmen employ DP-like thinking in practice, in ways representative of a functional coping strategy for the high-risk offshore oilfield environment. Suggestions for future application and study are then presented, using the ethnographic findings of this research as a springboard to highlight new areas of potential contribution and beneficial applications for DP theory, as applied to examine the coping mechanisms of persons working in similar underexplored high-risk industries and workspaces.

Defensive pessimism

Defensive pessimism is best defined by the work of Cantor (for a comprehensive overview see Norem and Cantor 1986a; Norem 2001). Cantor defines DP as a cognitive strategy that encapsulates the hypothesis that people are 'able to mobilize strategically the risk of failure in a particular situation by harnessing their anxiety as motivation' (Norem and Cantor 1986a, 1209). Such 'harnessing' can take different forms. However, individuals commonly set low expectations for outcomes of future situations that they perceive as likely stressful, damaging or holding the potential to cause distress. As opposed to these expectations becoming self-fulfilling prophecies, as is central in some other theories (for an overview of theories see Jones 1977; Wurm et al. 2013), or increasing base anxiety and possible performance deficit through processes of stagnant (or increased post-event) rumination and worry (for example, see Nielsen et al. 2018), DP engaged individuals instead mobilise their primary cognitive efforts towards developing prior solutions to any possible arising problems that anchor their perceptions of low-expectation outcomes for a future situation. Thus, individuals' otherwise negative thinking or 'anxieties' over negative eventualities and possibilities result in enhanced preparedness and functional 'plans for action' should a negative outcome *actually* present in the future situation (Norem 2001). DP is unique against other psychological strategies of control, for example: the illusion of control (see Alloy and Abramson 1979), and illusory glow optimism (see Norem and Cantor 1986b). Notable of DP is that its exercise requires direct, and prior knowledge of the social actor as – at least likely – to be located in a given, future situation, in order to cognitively anchor the individual to anxieties linked with possibly appearing in that future scenario. Unlike other psychological strategies, DP does not present as handicapping performance through a false sense of control. Conversely, DP prone individuals often demonstrate enhanced performance and control of situations through engagement in (at times) mentally costly – but often effective – prior mental planning and adjustments that underpin the creation of creative solutions and plans to cope with arising negative eventualities (Elliot and Church 2003; Showers and Ruben 1990).

Defensive pessimism theory as applied in relevant research

Presently, some research explores DP as a cognitive strategy employed by persons in self-identified 'risky' situations (Norem and Cantor 1986b). However, risk is contextualised in many studies as risk of self-perceived failure. Often, studies focus on applying DP to contexts of academic failure (del Mar Ferradas et al. 2017; Martin, Marsh, and Debus 2003). Few studies explore the prevalence and presentation of DP from an organisational psychology perspective focussing on large groups; specifically, how this cognitive strategy is employed by workers in already functionally (i.e. risk to injury or loss of life) high-risk occupations and workplace locales as a coping mechanism to deal with dangers.

Of the very limited research available, a notable, recent study by Wong and Jensen (2020) explores the role of DP in constructing early-crisis risk response, examining the communications approach of Singaporean government narratives in time of local risk climate arising from Covid-19. Scholars take a unique approach to applying DP, that differs from the individualistic 'failure risk' perspective typical of much discussed research. Wong & Jensen focus on identifying DP-type motifs in government narratives, suggesting that the positioning of government information communicated to the public focussed less on purposefully making people feel safer, and instead towards objectively positioning mental preparations for further future risks. As such, their study demonstrated DP as a functional policy strategy for anchoring future public expectations to tempered risk preparation – which may hold a greater functional response than the alternative strategy of immediate risk-mitigation and reassurance. Such strategy actively risks the potential for future disappointment and positive expectation failure due to the inherent high uncertainty potential of the unpredictable Covid-19 situation. Conversely, this 'tempered' framing may be functionally beneficial for developing prior-preparedness for a future difficult and unpredictable national climate.

A further – and fascinating – study by Fernandez-Abascal et al., (2018) employed DP theory as part of an exploration of different conceptualisations of optimism and pessimism, and the relationship of these perceptions to physical and mental health behaviours. Notably, scholars acknowledge the sparseness of studies employing defensive pessimism theory in areas other than those noted above: 'There are practically no studies on the relationship between defensive pessimism and health' (41). Their research design explored a sample divided into three groups according to scores on the Optimism-Pessimism Questionnaire (OPQ) (see Fernandez-Abascal et al., 2018). Groups were defined as: dispositional-realistic pessimism, defensive pessimism, and dispositional-realistic optimism. Questionnaire methods were used to collect data surrounding physical and mental health, health practices, and to infer propensity towards positive and negative health behaviours. Findings highlighted dispositional optimism (DO) as a predictor of physical health and a strong predictor of mental health. Notably, DO was found also to be a predictor of preventative health practices. Dispositional realistic optimism (DRO) had the greatest score for preventive health practices. Interestingly, and specific to the topic of risk-taking involving consuming substances, both defensive pessimism and DRO appeared to hold protective connotations over participant health behaviours.

Salient of existing research is a focus on investigatory questionnaire methods. This is an interesting factor, as DP-like thinking as a cognitive strategy is typically presented as a configuration of mental processes manifesting as defensive practices (del Mar Ferradas et al. 2017; Wong and Jensen 2020; Norem and Cantor 1986b). In studies of different research focus these strategies are demonstrated as extensive planning behaviours. However, Fernandez-Abascal et al. (and others) utilise self-report measures to score DP-like traits from a unified rating-scale reliant on the participants' definitions and recollections of propensity to enact behaviours deemed evidential of DP. Such numerical data is useful for inferring correlations, however it does little to elaborate upon the functional process of tangibly executing defensive pessimism as reactive to the context that provokes DP. Nor do these methods elucidate on the functional, behavioural

linkages between the documented process of DP-like thinking and how thought processes tangibly drive specific health behaviours, thoughts and actions. The authors acknowledge some of these limitations:

> "Our study was conducted with self-report measures, so it is likely that may have inflated the associations between optimism and physical and mental health. It is also possible that social desirability may have influenced responding to the questionnaires in order to be perceived favourably. Another limitation is the cross-sectional design of our study, so the assumption of causality should be considered with caution […]" (53).

Presently, almost no studies explore DP-like thinking from a qualitative perspective. A possible explanation for the lack of qualitative research exploring DP principles-in-practice within high-risk work locales – or studying DP itself from a qualitative, functional perspective – is a lack of ready access to data from such locations. Identifying DP-like thinking as a functional practice likely requires observation, interview and discussion with individuals in the immediate locale of risk, or interview of individuals immediately prior to their placement within this locale, for which they must also hold apriori knowledge. This renders study of DP-like thinking and practice in high-risk environments difficult, given that this combination of factors is problematic to construct adequate qualitative data collection methods for.

Methods

Data collection

Qualitative data was collected using an embedded ethnographic approach. Ethnographic data was collected during this researcher's PhD research. In late 2017 and early 2018 two trips were made – travelling to and from by helicopter – to the Point Delta drilling platform, situated in the UK North Sea waters. For context, Figure 1. (below) shows a partial image of part of the Point Delta platform.

Once offshore, all five drilling crews that rotated through the platform were shadowed, over a period of little more than two weeks, split into two research trips. Design was to ensure a varied workforce sample, and ensure members from all five drilling crews could be interviewed, shadowed and conversed with. Data collected primarily comprised of interviews and focus groups, representing lengthy and detailed discussions with oilmen. Semi-structured interviews with thirty-five oilmen were recorded and later transcribed. This data was complemented by numerous other notations and conversations that were recorded in a field journal. Further, four focus groups were conducted during the second oilfield research visit with a variety of different oilfield workers, in different offshore roles. Focus groups were also recorded and transcribed. Due to the twenty-four-hour nature of work on the platform, many discussions were long and occurred across several time-points. During interviews, conversations invariably and unavoidably focussed on the topics of dealing with the natural hazards present in the oilfield locale and how these mechanisms also shaped safety and risk understandings and behaviours. During initial analysis, this theme was highlighted as a salient point deserving of further analytical investigation.

Researcher positionality

Notable of this study's ethnography was the researcher's status as a 'participant-researcher'. To travel to the oilfield, the researcher undertook two weeks of training. This included learning how to operate emergency breathing equipment, multiple safety drills for escaping a submerged (and upside-down) helicopter, training on evacuation and life-raft operation (all occurring in a bespoke water training facility) and firefighting and life-boat training (occurring in a local

Figure 1. Partial photograph of the Point Delta platform.
Note: Photograph taken by this researcher whilst offshore. Care has been taken to crop-out and remove any potentially identifying information

harbour). This researcher also spent a year of research 'ground-work' developing an understanding of the fieldwork locale, during which they were based -and undertook regular visits to- at the head office of the parent organisation that owned the majority drilling stake in Point Delta. Thus, the researcher arrived offshore with the same certifications for travel as the drilling workers on the platform. Additionally, whilst offshore, voluntarily engagements in some small tasks were undertaken by the researcher to enhance understandings of life offshore. This allowed for the gaining of insights into the day-to-day risks and risk-exposure oilmen on the Point Delta platform face when they go to work. These experiences both benefitted the ethnographic perspective, and provided an anchor-point for conversations surrounding risk topics with oilmen. Importantly, oilmen frequently asked the researcher to compare their own perceptions of the risks of the oilfield with their own -voiced and explained- notions and understandings. Often the importance of the researcher's 'fresh' perspective on the oilfield was flagged by oilmen, who told the researcher that they were 'seeing it all with new […] eyes' and that this perspective should be used to sharpen the experiential perspective of the research. This perspective proved to be invaluable in raising many topics of discussion and threads of questioning with oilmen when it came to interviews occurring in the active worksite and the unstructured discussions that occurred between the researcher and oilmen, during oilfield labour and down time.

Data analysis

Retrospective revisiting of existing data, collected first-hand, is a pertinent topic of discussion presently within the social sciences; particularly sociology. Interest is increasing during the ethnographically restrictive research climate of Covid-19. Some scholars suggest that while

research focus often prioritises the collection of new data for investigation, existing data-sets – likely containing important discoveries – are sometimes prematurely cast aside (Akerström et al., 2004; Corti 2007; Parry and Mauthner 2005). An especially salient -and growing- argument involves normalising the revisiting of data collected in hard-to-reach locales with hard-to-study populations, where prior justification of this can be established (i.e. initial notation of important emerging themes for later investigation) (see Akerström et al., 2004; Corti 2007; Wästerfors, Åkerström, and Jacobsson 2014).

Themes highlighting risk-coping strategies were flagged during initial data analysis and noted during initial coding of data. Original data collected was collated and analysed in NVivo. The original analysis utilised the popular six-level thematic coding technique introduced by Braun and Clarke (2006) Some additional (basic) arranging of thematic quotation data was approached prior to developing this publication to clarify topics under investigation (i.e. coded conversations, to examine for factors suggesting DP-like thinking). Additional coding was achieved using a shortened -inductive- coding method similar to first, initial analysis. Themes focussing on risk-coping were revisited and arranged within the qualitative data according to descriptors of DP-like thinking popularised in existing research. For example: 'rumination', 'risk symbolism' and 'recurrent patters of thinking/conversation surrounding risk eventuality rehearsal'. Priority was given to qualitative data gathered during offshore interviews, where participants self-identified coping mechanisms that carried hallmark descriptors of DP-like thinking as practices. These motifs were embedded within natural conversations and discussions of how workers made sense of the risks of offshore oilfield work. The voices of offshore workers themselves are prioritised and presented in this publication to create an authentic narrative of coping with the risks of the oilfield – as told by offshore oil workers themselves. These narratives -at times- provide descriptions for how DP-like thinking is enacted as a coping and readiness mechanism. Findings serve as a base of knowledge to develop further application and theorising vis-à-vis DP and DP-like thinking as a functional practice for coping with the unpredictable risks present in some dangerous workplaces, in this case: offshore oilfields.

Findings: preparedness, alertness and hazard situation awareness

While this research focusses on Defensive Pessimism, I must also acknowledge the safety training oilmen go through as a requirement of offshore work that lends to preparedness, alertness and situation awareness. On Point Delta, all offshore oilmen complete basic survival and safety training in order to operate offshore. However, the parent company of Point Delta (the organisation ultimately responsible for all drilling activity on the platform) had in place a rigid and formal set of safety strategies and training protocols which all staff are inducted into and must adhere to offshore. A formal Policy Analysis of all materials was undertaken and seven interviews with policy-makers were conducted as a component of initial (PhD) research – although, to discuss these policies and practices in detail would be problematic for this research, as this risks likelihood of de-anonymising the parent company, platform and possibly some participants. Generally, safety training focussed on providing workers with clear process, protocol and policy for all operations and activities on Point Delta. Perhaps the most interested observation was that policies focussed on both a 'hard' accountability for actions offshore and concurrently a 'softer' perspective on learning from error and acknowledging failings to improve operations. Additionally, most policy-makers interviewed highlighted that policies were just 'paper' and that the 'real' learning all occurred in the active worksite once staff were located on the platform.

These perspectives were validated in early discussions with workers offshore, where supervisors played an integral role in taking new workers 'under their wing' and 'showing them the ropes'. This was viewed as a mandatory -and key- informal introduction into understanding the safety working of Point Delta, with oilmen often pointing out areas of risk to new-starts (called

Greenhands/Greenhats offshore). Over time oilmen spoke of becoming attuned to risk on Point Delta, being able to spot (and often circumvent) error opportunities before/as they were arising, and gaining the confidence to 'stop the job': end a work process by verbally uttering this statement, at which point everyone downs tools and re-evaluates the safety of the situation. However, while preparedness, alertness and being aware of hazards played a key role in oilmen's maintenance of safety and avoidance of risk, defensive pessimism-like behaviours and patterns of thinking were often present that operated both independently of training but in a complementary manner to encouraging preparedness and safety practices. The following sections explore this in detail.

Exploring defensive pessimism-like thinking in practice, in the offshore oilfield

DP-like thinking, and how patterns of thought became exercised as functional practices offshore, were prevalent themes discussed by oilmen referencing the natural risks of the offshore oilfield. Notably, when oilmen spoke of their thought processes surrounding risk offshore, topics focussed on two distinct, yet interlinked themes: Firstly, *the risks of helicopter travel to the oilfield*, and secondly: *the risks of being situated upon the drilling platform*.

The risks of helicopter travel to the oilfield

Notably, conversations surrounding the first theme of helicopter travel frequently prioritised motifs for how oilmen could do little to functionally prevent the possibility of a helicopter 'ditching' (i.e. crashing into water). This was conceptualised primarily as a rare, 'chance' mechanical occurrence. Oilmen focussed instead on mentally processing the possibility of helicopter failure as a means to accept the lack of functional influence they were able to exert over mitigating any travel risk. Often, this process resembled oilmen 'trying not to think' of the possibilities surrounding the risks of helicopter travel, instead framing the helicopter journey as a necessary part – and a necessary, yet unpredictable risk – linked to oilfield work. When asked to discuss the risks of oilfield travel, workers commented that 'ultimately, no one is forcing you onto that chopper' alongside similar phrases: 'How are you going to get offshore, if you don't get in the chopper?'. While this seemed to indicate a natural acceptance for the possible risks of oilfield travel, and that – other than choosing not to travel offshore – oilmen were largely unable to influence these risks, some oilmen also discussed -in detail- their recurrent thinking regarding 'helicopter-ditching' scenarios. This process often involved detailed deconstructions of past events oilmen perceived as 'near-misses'. For example, one oilman discussed travel in a helicopter that was struck by lightning, and had to divert to a different platform. Other oilmen told stories of helicopters caught in high-winds; again, diverting to different platforms. Still others suggested that any oil worker who claimed that they did not regularly think about the risks of helicopter travel was not being truthful regarding their conceptualisation of the risks of travelling to work offshore. Such findings indicated oilmen's mental processing surrounding helicopter travel as a difficult, and fragmented sense-making.

The risks of being situated on the drilling platform

Conversely, in conversations focussing on the second theme of risks occurring once situated offshore, oilmen engaged in more direct and explicit processes of 'pessimistic risk-roleplay'. For many, discussions anchored risk possibilities to how such occurrences would affect oilmen's lives, wellbeing, and families. It was clear throughout numerous narratives from oilmen that workers held beliefs that, as this 'on platform' risk could be more tangibly influenced by their actions -and therefore more controlled- this justified an increased level of thinking and planning surrounding possible risk eventualities and coping.

A first notable motif regarding oilmen's risk conceptualisations was the theme of preparatory 'dread' that oilmen faced prior to travelling to the oilfields. This was discussed often, and was described as a nondescript feeling of anxiety, low-mood and stress that permeated oilmen's thinking several days before helicopter travel out to Point Delta. One of the best descriptions of this came from Jake[2] – an oilman who had worked offshore for eleven years:

> "Here…It's fucking Alcatraz man…it is a prison on water. It's so uniformed and…I don't even know where to begin. I start feeling the dread a couple of days before I come offshore. For me, it's the lack of freedom. […] it's just a prison, the lack of options […] Nothing happens here… It's just a prison"

Like Jake, others spoke of 'dread'. This feeling linked to three components inexorably anchored to life offshore. One: travelling offshore by helicopter. Two: the enclosed way of life and the distance from family and friends that defined life offshore. Three: local situation in the risky and 'inescapable' habitat of the oil platform. Oilmen discussed how the 'dread' began to build a-week-to-several-days before departure; suggesting the feeling ebbed into a more tolerable, yet more constant low-level 'unease' after successfully travelling to the platform, vacating the helicopter, and beginning labour. However, relief was not immediate; oilmen suggesting it took 'at least several days' to get your 'offshore head' on. Interestingly, this unease was voiced as a tolerable, and almost necessary feeling by most. When discussed, 'dread' was intertwined with narratives surrounding longing and looking forward to going home – mostly, to be back with family and back 'on the beach' (oilfield slang for back on dry land). However, this 'unease' appeared also linked with risk-perception. Many oilmen who discussed the feeling of being offshore used narrative anchors explicitly highlighting the dangerous realities of the oilfield. One oilmen: James, a worker in his fifties, who had worked offshore for thirty-five years explained:

> "It's…that feeling of unease is always there, it's just around the corner all of the time. But at the end of the day, that's for everybody here, you're on a platform, you're on a sitting time bomb…if everything lets loose here it doesn't matter what job you're doing, you're sitting on a pressure cooker. You've got gas lines, oil lines, and then we're drilling holes with fucking thousands of feet of pressure that's wanting to come back at you, but it's all managed and all risk-assessed. You've got to focus on that, get on with the job"

Notable of James' narrative is the anchoring of 'unease' to awareness of the natural risks of the oilfield, highlighting the negative eventualities of the platform representing 'a bomb', and locating this thinking against the functional reality of the platform extracting combustible hydrocarbons. James focusses on the risk-assessment component of oilfield work, positioning a need to get on with the job. This was reflective of other oilmen interviewed, who acknowledged the oilfield risks but rationalised these with the functional requirements of oilfield labour: 'this is [just] what we're out here to do'.

The theme of referring to the platform as a 'bomb' was also prevalent and interlinked with pessimistic thinking. Many oilmen used this wording when describing the structure of the platform; the role of the asset as located in remote waters as a dual oil and gas drilling platform, and when oilmen were asked to conceptualise the risks of being offshore. Contained within some narratives were the descriptors: 'we live and work on a bomb'/'it's a ticking time bomb here'/'the job is effectively to work on board a bomb'. Jeff was another oilman who used this term in one of our discussions of risk offshore. He had worked offshore for almost forty years, describing offshore oilfield work as 'all [he'd] ever known'. When we discussed the dangers of the work, he explained:

> "It's just so risky here. Well, we're staying on a bomb…it could blow up…there's always that. But then you could crash your car, get run down by a bus, so you just get on with it. It is risky, yes, of course it is. It's a harsh environment…the weather…what we're sitting on, where we sleep at nights, in amongst all the production equipment, all the combustibles. It is very risky…but…life is risky when you think about it. You just don't think about it, you put it out of your mind. It's my second home"

Like James, Jeff anchors the risks of oilfield work to the functional design and purpose of the platform, taking care to position his 'risk-focused' thinking as anchored to possibilities of explosion, and how and why this could occur. Most interesting is Jeff's assertion that oilmen cope with the risks of being offshore by '[putting] it out of your mind'. While this was also a prevalent theme – at times – put forward by oilmen, this appeared to contrast with the frequency by which many workers spoke of their rumination over the possible risk-eventualities, such as the motif of explosion, attached to working offshore.

Another notable example of rumination for oilfield risk came from Alan: an instrument technician who had worked offshore for ten years. Like others, Alan spoke first of the enclosed nature of the platform:

> "Well…I've never been in prison but…it is like that here, you've nowhere to escape to. […] Comparisons to a jail are accurate… […] you *are* stuck here… [Alan emphasises *are* to indicate the finality of this last statement]"

However later, when discussing *coping with being offshore*, his language shifted, focussing on how him being offshore could impact his family at home. Notably, his narrative encompasses the motif of 'helplessness', also highlighted by other oilmen:

> "I hate it sometimes, not being able to escape, being away from home…the helplessness if the wee one [his child] or the wife hurt themselves. That helplessness is awful. […] it's always like: this is my last trip, I just can't do this anymore. Then you forget about all the pain when you're at home and you come back out and do it all over again…"

Interesting of Alan's narrative is that his perspective shifts to his family at home and the possible risks they face, as opposed to the eventuality that Alan could be harmed whilst working offshore. This was a common trait in discussions, with oilmen often conceptualising the oilfield as a double-negative: being located offshore in a dangerous and risky workplace, yet also helpless to aid should any negative occurrences happen 'back home' on dry land.

In different conversations, with other oilmen, offshore workers were asked how the duality of these positions impacted coping with life offshore. Many workers cited an increased attention to safety in the modern-day oilfield, highlighting this a necessary (yet highly complex and multifaceted) focus -also most significantly interlinked with notions of masculinity- that allowed them to 'come back home to [their] family in one piece', 'get home safe to [their] families' and '[make] sure we all get home safe' (for an in-depth discussion of these links see Adams 2019, 2022). This thinking was interlinked with the themes of constant, low-level dread that most perceived whilst located offshore. Prevalent co-occurrence suggests low-level dread may operate as an anchor for mental rehearsal of negative risk possibilities; the themes of dread and risk so tightly intertwined in oilmen's narratives.

Linkages between 'worse-case' risk roleplay and prior preparedness for possible risk eventualities

On Point Delta, a central motif was that of dread: the 'collective unease' oilmen felt whilst on the platform. This was anchored to recurring mental themes of the platform as high-risk, inescapable, and oilmen's 'helpless' distance from those they cared about onshore. Often, when asked directly, oilmen spoke of a need to 'put those thoughts of risk out of your mind' and 'just get on with the job', suggesting the best way to do this was to commit to the rigid schedule of work shifts, structured mealtimes, and sleep that most followed offshore. However, during detailed discussions about risk, oilmen provided lengthy narratives suggesting in-depth thinking and rehearsal for the risk possibilities of working offshore. Most notably for this research, oilmen's discussions surrounding the risks of being offshore often concluded with examples suggesting the best course of actions in the event of danger, or examples for how best practice

for risk eventualities were rehearsed. This was evident in observational practice of labour, as well as in discussions. Several examples of this were pertinent offshore. This included oilmen talking the researcher through the risks of what could go wrong on the drilling-floor. Many times, oilmen discussed past examples and incidents of severe injury from various other platforms and pointed out the equipment and locations related to how these occurred. Workers also took care to explain what had changed since these incidents and what possible risks still existed – and now, in the modern safety-focussed oilfield – how any known risks were avoided, but also what could still go wrong. During a transfer of drilling-fluids in rough seas from a visiting vessel, oilmen spent time explaining each eventuality for what risks could occur and what actions should be taken. Another – more frightening – example was especially notable during one of the research trips offshore: whilst located within the drilling package of the platform and conducting an interview, the fire alarm sounded. At this time, the researcher noted feelings of panic, having previously engaged in many lengthy discussions surrounding the possibility of fire – one of the most feared and most catastrophic of dangerous possibilities in this area of the platform. However, those in the immediate vicinity appeared calm – although on high-alert and immediately reactive to the situation. During this time, this researcher left their digital -fieldwork- recorder running to document the experience. Oilmen very rapidly mobilised to move to the fire-proof accommodation block on the nearby production platform.

As the researcher had been instructed in pre-offshore oilfield training, they approached the connecting bridge (visible to the right in Figure 1) to cross the platforms. However, several drilling crew shouted over; waving -indicating- to follow oilmen down to the lower connecting bridge (visible to the lower-left of Figure 1), which offered an enclosed structure and linked more directly to the accommodation block.

As oilmen and the researcher waited in the accommodation block for a fire-team to investigate, this researcher asked oilmen about the frequency of such alarms: not so frequent, were the replies. Oilmen were also asked how such eventualities were prepared for – in addition to the weekly platform alarm drills. In the interviews and conversations that followed, oilmen readily spoke of 'always' being ready for an alarm to sound, and the importance of knowing what to do when such an event occurred. Others conceptualised motifs suggesting 'not letting your guard down' and maintaining readiness for action at all times of the day and night whilst offshore. Such conversations supported the interlinking of preparedness with the earlier ruminations over safety and risk actions, connecting with motifs of preparatory 'dread' and suggesting that offshore oilmen spent much time mentally role-playing danger scenarios and constructing suitable mental responses.

Organisational factors facilitating DP-like thinking in the offshore oilfield

Important for the above perspectives is to explore how organisational factors supported and encouraged DP-like mental risk-roleplay for some oilmen offshore -and- how past and present organisational structures may interlink this 'readiness' with the prevalent descriptor of oilmen's 'dread'. There were several organisational factors that supported, and at times seemed to actively encourage DP-like thinking for oilmen. This included an institutional focus on the possible risks of various tasks. This was best encapsulated by a mandatory 'begin-shift' daily brief that discussed and highlighted any risk possibilities from the previous day and how these problems had been solved, and -sometimes- what could have gone wrong. In addition, daily operations and possible risks that could arise were discussed at the beginning of each day or night-shift offshore. Several supporting factors were also linked to organisational policy language, structure and content highlighting risk eventualities offshore, and -importantly- the ways in which incidents and accidents were investigated. This last point was significant, and was prevalent also in researcher discussions in the oilfield. Saliently, some oilmen felt that, at times, they were encouraged -or had historically been encouraged- to ruminate, 'rethink' and re-live negative occurrences; this translating to a heightened focus on risk. The best examples of this came

from oilmen actively involved in drilling operations. One oilman [role and occupation on the platform anonymised] said of the formal incident analysis process following an offshore accident:

> "I was put through hell… put through hell. I never slept for like a week and a half…I went home [from offshore] and I had to stand up and meet all these [investigators]. We [just] held our hands up and said, look we've got X amount of experience, […] and if we can make a mistake like that, a fuck up…then anybody can. I mean, [the client] loved it… the head guy was actually really impressed and said "I can't believe that these guys have their hands up". But I mean for us…really, we really were put through the coals like… I mean really […] I think if it ever happened again, I would just walk [resign]. I just couldn't be done with the hassle…the enquiries…. I think now it really is put more upon the individual, you know?, "we've trained you" sort of thing. They'll look to put the blame on the individual as it's cheaper than to say blame a bit of equipment.
>
> My incident was genuine…yes…I hurt myself and I was back at work in [a short time]. I mean it was still getting brought up [more than] two years after the event you know? I was still getting asked to speak about it: "do you remember your accident?" … I'm like "oh yeah…". I was being asked to stand up and blah blah blah. I was thinking…is this ever going to get dropped. For me the whole thing was over in under [several] minutes and I was back at work. I never thought it would follow me years, and years later, that's been awful, the accountability"[3]

Most important of the above narrative is the suggestion that once an incident occurs offshore, focus – as organisationally-sanctioned ownership and accountability – can be maintained for a longitudinal timeframe; propagated by encouraging the individuals involved to 're-live' and 're-tell' the incident in different contexts to different crews and investigatory bodies. While this may have the functional goal of 'learning from error', such practice may reinforce anxieties surrounding incident avoidance and rumination over the social and mental negatives of being involved in an oilfield incident. While these factors may be functional in encouraging increased thinking surrounding risk – it may have a mental cost, as suggested in the above discussion. Despite this example referring to a historic incident, the language above suggests that -at times- contemporary oilmen actively fear being involved in incidents and accidents offshore, due to organisationally attached motifs of individual accountability. Fear may occur not simply because of the individual and collective workplace factors highlighted earlier, such as impact upon family, health and wellbeing, but also because of the social impacts on the platform and anxieties surrounding possible incident investigation practices. Evident in the above example is the degree of anxiety felt for having to 're-live' and 're-tell' risk-experiences. Such organisational practices -while their effects are perhaps unintendedly or unintentionally upheld- may serve to encourage the pessimistic mental risk-roleplay that oilmen discuss and regularly engage with, ultimately serving as a (dys)functional safety strategy for the offshore workplace.

Discussion

Much industrial-focussed research explores the benefits of formal policy as a tool to mitigate hazards is already high risk environments (Cavanagh 1998; Carson 1989). Likewise, new advanced in understandings vis-à-vis the importance of Human Factors and Industrial Psychology have seen scholarship explore the importance of psychological preparedness, risk reasoning and conceptualisation, organisational safety culture, and human performance as dimensions influencing risk and risk-reaction and mitigation (see Abaei et al. 2019; Cox and Cheyne 2000; Horlick-Jones, 2005; Mearns et al. 2001). However, within these literatures little is made of defensive pessimism theory as a framework for understanding risk mitigation and risk recognition. Existing literatures explore defensive pessimism as a cognitive strategy most commonly employed in academic contexts (del Mar Ferradas et al. 2017; Martin, Marsh, and Debus 2003; Nielsen et al. 2018). Few studies explore DP and DP-like thinking and how this functionally occurs for workers within inherently dangerous industrial sectors, nor how DP can influence risk perception or tangibly augment other safety strategies.

Notable of this research is that oilmen's discussions frequently positioned a high level of rumination and mental 'role-play' for different worst-case oilfield platform symbolism, occurrences and risks not identified or discussed in existing studies, but drawn out using the psychological DP lens. Such practices exhibit thinking matching descriptors of defensive pessimism. Often, narratives suggested mental rehearsal operated as a functional anchor to maintaining a high-level of awareness and attention towards the potential risks of the oilfield. Such notions of 'getting your offshore head on' and experiencing 'the dread' underpins that ruminations some oilmen demonstrate surrounding the possibility of accident and injury on the platform, and not being able to return home safely, may operate as a focal point for enhanced vigilance and high levels of attention to tasks. This could possibly prevent against accidents and unplanned negative occurrences. Some evidence suggesting this was witnessed in the careful planning of operations, considerations for risk and risk-eventualities in planning tasks, and response to the threat of danger when conversing with oilmen. Further, some scholarly discussions suggest 'unease' and risk-vigilant thinking and roleplay is perpetrated – in part – by formal *and informal* institutional structures (Antonsen 2009; Goble, Bier, and Renn 2018). Notable for this oilfield research, the -possible and perceived- formal organisational encouragement for oilmen to 're-live' and 're-examine' accidents and incidents may serve as a motivator towards reinforcing such DP-like thinking; this rehearsal conceptualised as representing a fundamental *formal* component of 'learning from error' in the oilfield. Concurrently, oilmen may fear the process of being involved in an accident and incident offshore. As with existing studies on DP-like thinking, benefits and costs are evident. Several narratives from this research discuss the possible negative mental effects of oilfield work and the inherent feelings associated with this. This includes the suggested mental impacts of 're-living' and 're-telling' offshore incidents – as told by oilmen. At times, motifs of stress, anxiety, and helplessness were noted in oilmen's wider narratives that intertwine with the topics of coping with, evaluating, thinking about and planning for local risks. Such themes tentatively suggest that DP-like thinking in the oilfield may be associated with increased focus on risk-probability and eventualities, but also may -possibly- link with reduced wellbeing and some sustained levels of stress and anxiety. At present, while such thinking appeared prevalent in the sample of oilmen interviewed, it is unclear the specific, longitudinal balance between benefits and cost when employing this thinking strategy.

Relating oilmen's experiences – as told through interviews – to my own reflexive analysis of this researcher's time in the oilfield; during offshore travel and time on Point Delta this researcher did perceive a heightened level of consideration and awareness for the risks of the helicopter travel and the possible oilfield risks whilst located on the platform. The combination of inescapability and heightened risk-awareness was particularly noticeable to the researcher around the half-way point of each two research trips. This suggests – from anecdotal, personal experience – that situation within this environment did carry a mental cost, that scaled against tolerance with the frequency of time spent offshore. Relief experienced upon arriving back safely from the platform following the first research trip, and (somewhat) notable low-levels of preparatory anxiety when approaching a second research trip (noted down in the research field journal at the time as the researcher experiencing a low-level feeling of the 'offshore dread' oilmen often spoke of) provides some anecdotal-only and reflexive support for this theorising.

Conclusion

DP is rarely discussed in industrial safety literatures alongside other cognitive, psychological, policy, risk conceptualisation and human factors strategies as a psychological workplace variable capable of influencing and mitigating risk via enhanced awareness of preparedness and hazard eventualities.

DP-like thinking was evident in the narratives of oilmen interviewed at work in the offshore oilfields. In presentation, this largely represented as a high degree of mental rehearsal – as indicated in discussions – for the dangerous nature of the offshore platform; oilmen most notably comparing the offshore worksite to a 'bomb' and recurrently anchoring being located on the platform to feelings of 'dread' and being helpless and isolated. As with existing studies, such thinking appeared to enhance motivations towards increased – or highly focussed – perception for the possible risks in the immediate locale; operating as an anchor to raise awareness and focus surrounding possible future dangers and risky situations. This process may be (tentatively) suggestive of an increased potential for oilmen's high-levels of danger-rumination to link with avoiding or planning for risks offshore, given the implications of other DP-focussed studies suggesting relationships between knowledge, planning, rehearsal and enhanced positive outcomes of future situations. However, it should be noted that no existing studies apply DP to the topic of safety and risk in industrial contexts and further study must be conducted before any concrete assertions can be made. At times, it appeared oilmen's rumination processes were encouraged via multiple pathways offshore, including an organisational focus on learning from error, prioritising accountability; the 're-living' and 're-telling' of past mistakes – which actively increased rumination processes for workers. Costs of such rumination may also be high, with oilmen recounting stress, anxiety and similar negative feelings surrounding their heightened levels of risk-awareness and the high-levels of organisational encouragement to be mindful and vigilant of past and present environmental dangers. While much existing research vis-à-vis DP is limited to academic and 'safer' contexts, this publication primarily serves to widen conversation about the functional – organisational – presentation of DP and how this can form a legitimate -yet complex and at present, poorly understood- strategy for coping with risk uncertainty in dangerous workplaces. Further structured ethnographic research is required to learn more about defensive pessimism-like thinking in high-risk workplaces, how this is represented as a practice, and to determine the benefits and costs of such thinking for both organisations and the workers at the sharp end of risky labour. Such investigations should serve to wider conversation surrounding defensive pessimism, and integrate this psychological variable into future human factors and industrial psychology research focussing on understanding risk in already high-risk work locales.

Notes

1. This is a pseudonym used to refer to the platform visited.
2. This name is a pseudonym, as are all participant names in this publication. All data was strictly anonymised, for reasons of confidentiality.
3. It should be reiterated that this particular narrative refers to a historic incident occurring a number of years prior to the dates of the author's research visits to the platform.

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Disclosure statement

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

Ethics statement

Full ethical approval for PhD research; to study men, masculinities, safety and risk onshore and offshore was granted from the University of Aberdeen. All onshore and offshore participants were provided an information sheet about the research, and all signed consent forms. All interview/focus group participants consented to the recording and encrypted storage of conversation materials. All digital data was immediately anonymised at point of collection.

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