Occupational Medicine 2017;**67:**435–441
Advance Access publication 20 June 2017 doi:10.1093/occmed/kqx076

Preventing occupational injury among police officers: does motivation matter?

D. K. C. Chan[1,2,3], D. Webb[4], R. M. Ryan[5], T. C. W. Tang[1], S. X. Yang[2,6], N. Ntoumanis[2] and M. S. Hagger[2,7]

[1]School of Public Health, Li Ka Shing Faculty of Medicine, University of Hong Kong, Hong Kong, [2]School of Psychology and Speech Pathology, Faculty of Health Sciences, Curtin University, Perth WA6845, Australia, [3]School of Psychology, University of Nottingham, Nottingham NG7 2RD, UK, [4]Bussiness School, University of Western Australia, Crawley WA 6009, Australia, [5]Institute of Positive Psychology and Education, Australian Catholic University, Strathfield NSW 2135, Australia, [6]Bussiness School, Sichuan University, Chengdu, China, [7]Faculty of Sport and Health Sciences, University of Jyväskylä, Jyväskylä, Finland.

Correspondence to: D. K. C. Chan, School of Public Health, Li Ka Shing Faculty of Medicine, The University of Hong Kong, G/F, Patrick Manson Building, North Wing, 7 Sassoon Road, Pokfulam, Hong Kong; Fax: (+852) 2855 9528; e-mail: derwin.chan@hku.hk

Background	Injury prevention is an important issue for police officers, but the effectiveness of prevention initiatives is dependent on officers' motivation toward, and adherence to, recommended health and safety guidelines.
Aims	To understand effects of police officers' motivation to prevent occupational injury on beliefs about safety and adherence to injury prevention behaviours.
Methods	Full-time police officers completed a survey comprising validated psychometric scales to assess autonomous, controlled and amotivated forms of motivation (Treatment Self-Regulation Questionnaire), behavioural adherence (Self-reported Treatment Adherence Scale) and beliefs (Safety Attitude Questionnaire) with respect to injury prevention behaviours.
Results	There were 207 participants; response rate was 87%. Hierarchical multiple regression analyses demonstrated that autonomous motivation was positively related to behavioural adherence, commitment to safety and prioritizing injury prevention. Controlled motivation was a positive predictor of safety communication barriers. Amotivation was positively associated with fatalism regarding injury prevention, safety violation and worry.
Conclusions	These findings are consistent with the tenets of self-determination theory in that autonomous motivation was a positive predictor of adaptive safety beliefs and adherence to injury prevention behaviours.
Key words	Behavioural compliance; health behaviour; policing; safety; self-determined motivation; self-regulation.

Introduction

Occupational injury is a major global public health issue that could lead to disability, reduced quality of life and well-being or even fatality [1]. It is regarded as a particularly important health problem in the military as it contributes substantially to increased medical expenses and loss of workdays [2]. Considering these consequences, it is important that organizations engage in preventive initiatives to reduce the risk of occupational injury. The introduction of occupational safety resources and regulations notwithstanding, the effectiveness of injury prevention is likely to be highly dependent on individuals' self-regulatory effort, perseverance and awareness of environmental hazards [3–5]. Non-compliance with injury prevention behaviours may lead to heightened risk of injury, re-injury or impaired/extended recovery. Therefore, it is important to address the psychological factors that may contribute to an individual's participation in injury prevention behaviours which requires from them a great deal of self-discipline, effort and personal awareness [6]. Motivation is an important psychological factor that has been central to many social psychological models applied to explain participation in, and compliance with, volitional, self-initiated behaviours in the domain of occupational health [7–11].

According to self-determination theory (SDT), behaviour is determined by the reasons or motives individuals

© The Author 2017. Published by Oxford University Press on behalf of the Society of Occupational Medicine.
All rights reserved. For Permissions, please email: journals.permissions@oup.com

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

give for performing the behaviour [12]. The theory makes a distinction between two broad categories of motives, *autonomous* or self-determined and *controlled* or non-self-determined. According to SDT, autonomous motivation reflects engagement in behaviour for internal reasons that originate from the self (e.g. acting to prevent injury because 'I *want* to'). In contrast, controlled motivation describes engaging in a behaviour for external reasons (e.g. acting to prevent injury 'because I *have* to'); whereas amotivation refers to the lack of intention and motivation (e.g. I do not know why I prevent injury). The motives can be further classified into different types of *behavioural regulations*. Autonomous forms of regulation include intrinsic motivation (i.e. performing behaviours for its inherent enjoyment, pleasure and satisfaction), identified regulation (i.e. acting for personally important goals or values) and integrated regulation (i.e. acting because the behaviour is consistent with life goals or a genuine sense of self). In contrast, controlled forms of regulation include external regulation (i.e. acting out of external demands, pressure or contingencies) and introjected regulation (i.e. behaving to satisfy or protect one's ego or to prevent feelings of guilt or shame). In addition, SDT identifies a third category of regulation, amotivation, which reflects acting for no clear reason at all. Amotivated individuals are often characterized as 'just going through the motions' [12,13]. According to the theory, individuals acting out of autonomous motives tend to have a greater sense of personal agency, long-term persistence, skills and knowledge, behavioural adherence (maintenance) and positive experiences relative to those acting out of controlled motives [13,14]. SDT may, therefore, provide means to understand the initiation and maintenance of injury prevention behaviours [15].

Current evidence indicates that autonomous motivation is a positive predictor of long-term intentions toward, and actual engagement in health behaviour because it reflects self-endorsed reasons for acting [3,16,17]. In contrast, controlled motivation motivates behaviour only as long as the controlling contingencies (i.e. extrinsic rewards, significant others, social pressure) are present [12,18]. A recent meta-analysis [19] of studies adopting SDT in health behaviours found that autonomous motivation was the strongest positive predictor of behavioural consistency compared with controlled motivation and amotivation.

In the injury prevention domain, SDT has been adopted to identify the motivational antecedents of sports injury prevention behaviours [5]. Results indicated that individuals with greater autonomous motivation and low controlled motivation were more likely to report higher behaviour adherence, commitment and prioritization with respect to sport injury prevention, as well as lower injury prevention fatalism (i.e. the belief that injury is inevitable regardless of preventive effort), injury worry and communication barriers for safety [5]. Similarly, elite athletes' autonomous motivation toward sport injury prevention was found to be positively related to attitude, subjective norms, perceived behavioural control and intentions to engage in sport injury prevention behaviours. On the other hand, controlled motivation only predicted subjective norm and perceived behavioural control with a slightly smaller magnitude than those with autonomous motivation [20]. These studies suggest that autonomous motivation was a stronger positive predictor of injury preventive beliefs, intention and behavioural adherence among athletes compared to controlled motivation or amotivation [5,7,20].

In an occupational health context, research has demonstrated that autonomous motivation for injury prevention positively predicted police officers' intention and decision-making factors (e.g. attitude, subjective norm and perceived behavioural control) in regards to injury prevention [4]. However, the research focused on relative autonomous motivation alone and did not differentiate between the different forms of motivation from SDT. In addition, the study did not measure other motivation-related outcomes such salient injury and safety beliefs, and, most critically, behavioural adherence, which could have further improved understanding of the role of motivation of injury prevention among police officers. It is also important to note that, this study aside, there is very little research on the motivational factors that related to police officers' injury preventive behaviour and it is an area that is in need of further research [4].

The present study aimed to fill this gap in the literature by examining effects of the different forms of motivation from SDT on injury preventive outcomes in police officers. We expect this study to extend understanding of the types of motivation linked to health and safety beliefs, adherence and behaviours of police officers in an occupational setting. In terms of specific hypotheses, based on the tenets of SDT and previous studies, we predicted that (H1) autonomous motivation would be positively related to adherence to injury prevention behaviours and the adaptive safety beliefs (i.e. *commitment* to safety and *priority* of injury prevention). In addition, we also expected (H2) a negative link between autonomous motivation and maladaptive safety beliefs (i.e. *fatalism* about injury prevention, safety *violation*, safety communication barriers) and number of injuries. We also hypothesized that the effect of controlled motivation on these outcome variables would be opposite to those expressed in H1 and H2, that is (H3) negative effects on injury prevention behaviours and safety beliefs and (H4) positive effects on maladaptive safety beliefs and number of injuries.

Methods

With approval from the local police authority, we approached full-time police officers from three local police stations in the city of Zigong, the third largest city

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

in the Sichuan province of China. Employing a convenience sampling approach, we made contact with police officers who responded to the advertisement of our study. Participants signed consent forms to indicate that they understood the study purposes, their rights as participants, and that they agreed to take part in the study voluntarily by completing the survey about motivational and behavioural variables. The survey was presented in Chinese, the first-spoken language of the participants. The study was approved by the Human Research Ethics Committee at the University of Nottingham.

Study variables were measured using adapted versions of previously validated psychometric measures. Participants also reported their demographic details and their injury experience within the past 6 months. Appendix A (available as Supplementary data at *Occupational Medicine* Online) presents details of the study including questionnaire items, dimensions and scale anchors. Cronbach's alphas and composite reliability statistics for the scales are presented in Table 1.

Participants' SDT motivational types, with respect to the prevention of occupational injury, were assessed using the Treatment Self-Regulation Questionnaire (TSRQ) [14]. The TSRQ is a 15-item scale comprising three dimensions in the health domain: autonomous motivation (six items), controlled motivation (six items) and amotivation (three items). The TSRQ has been validated in various health contexts such as physical activity, medication, dieting, smoking cessation and sport injury prevention [4,5,14,21]. The present study used the translated Chinese injury prevention version of the TSRQ developed in previous studies [4,5].

Table 1. Factor correlations and descriptive statistics

Correlations											
	1	2	3	4	5	6	7	8	9	10	11
Independent variables											
1. Autonomous motivation	1										
2. Controlled motivation	0.40**	1									
3. Amotivation	0.06	0.67**	1								
Dependent variables											
4. Behavioural adherence	0.35**	0.51**	0.46**	1							
5. Commitment	0.37**	0.28**	0.14	0.57**	1						
6. Priority	0.41**	0.06	−0.11	0.20**	0.33**	1					
7. Fatalism	0.04	0.28**	0.46**	0.27**	0.06	−0.02	1				
8. Violation	−0.02	0.27**	0.44**	0.27**	0.05	−0.04	0.46**	1			
9. Communication barrier	−0.12	0.29**	0.40**	0.20**	−0.05	−0.03	0.39**	0.52**	1		
10. Worry	0.14	0.45**	0.48**	0.33**	0.20**	0.20**	0.40**	0.57**	0.48**	1	
11. Number of injuries	0.02	0.10	0.20**	0.10	0.06	0.02	0.10	0.19**	0.15*	0.24**	1
Control variables											
1. Age	−0.01	−0.07	0.01	−0.05	0.15*	0.10	0.06	−0.08	−0.07	−0.03	−0.19**
2. Gender	−0.06	−0.05	−0.10	−0.12	−0.01	0.11	−0.14	0.02	−0.06	−0.05	−0.15
3. Years of work	−0.05	−0.05	−0.02	−0.09	0.11	0.04	0.04	−0.10	−0.07	−0.07	−0.20**
4. Hours of work	0.14	0.06	0.10	0.12	0.03	−0.07	0.12	0.13	0.04	0.12	0.27**
5. Intense work	−0.13	0.03	0.13	0.10	−0.12	−0.19**	0.04	0.14*	0.16*	0.03	0.32**
6. Heavy work	−0.12	0.10	0.16*	0.12	−0.08	−0.06	0.09	0.09	0.16*	0.16*	0.24**
7. Dangerous work	−0.06	0.20*	0.12	0.16*	−0.02	0.02	0.03	0.16*	0.16*	0.12	0.20**
8. Enduring work	0.08	0.21**	0.22**	0.20**	0.10	−0.04	0.05	0.13	0.04	0.12	0.24**
9. History of injury	0.00	0.15	0.18*	0.02	−0.04	−0.13	0.12	0.21**	0.13	0.20**	0.32**
Mean	4.70	3.44	3.00	3.75	4.40	5.47	3.20	3.46	3.18	3.60	0.58
SD	1.23	1.28	1.43	1.29	1.47	1.55	1.28	1.49	1.73	1.42	1.32
α	0.82	0.77	0.73	0.82	0.73	0.66	0.77	0.79	0.72	0.82	N/A
Composite reliability	0.87	0.84	0.85	0.87	0.85	0.85	0.85	0.85	0.82	0.87	N/A

Data were collected from 207 full-time police officers in February–April 2010 in China. Gender = male (0) or female (1); years of work = number of years for being a police officer; hours of work = number of working hours in a typical week; history of injury = prior experience of sever injury that required medical attention. N/A = not available.
**$P < 0.01$ at two-tailed, *$P < 0.05$ at two-tailed.

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

Participant's behavioural adherence to occupation injury prevention was measured using the Self-reported Treatment Adherence Scale [8]. The initial version of the scale was developed for assessing adherence to home-based rehabilitation exercises following sport injury [8], but was later adapted to measure athletes' adherence to sport injury prevention [5], occupational injury rehabilitation [4], the avoidance of doping [22] and learning [23]. In the present study, we adapted the existing Chinese version for sport injury prevention for use in an occupational injury prevention context by substituting key target constructs (i.e. sport and coaches) for context-relevant targets (i.e. work and supervisors).

Participants' safety beliefs were measured using the Manager Safety Attitude Questionnaire [24]. This questionnaire has multiple dimensions: commitment (three items), priority (two items), fatalism (five items), violation (five items), communication barrier (two items) and worry (four items). The scale has been shown to be a useful tool in measuring safety beliefs and has good reliability and validity statistics [5,24]. In the present study, we used the translated Chinese version from a previous study on sport safety to an injury prevention context for police officers by substituting the key terms (e.g. sport) for context specific terms (e.g. work).

Study hypotheses were tested using hierarchical linear multiple regression. Regression models were conducted independently for each dependent variable. In each analysis, demographic variables (age, gender, years of work, hours of work), occupational hazards (intense work, heavy work, dangerous work, enduring work) and history of injury (i.e. severe injury that required medical attention) were included as predictors in Step 1. The three forms of motivation from SDT (autonomous motivation, controlled motivation and amotivation) were included as predictors in Step 2. A list of independent variables, control variables and dependent variables in the study with their factor correlations and descriptive statistics is presented in Table 1.

Results

We made contact with 239 police officers who responded to the advertisement of our study. Of these, 207 (83% male, *M* age = 37.24 years, SD = 9.93) agreed to participate in the study (response rate = 87%). Participants reported an average of 14.56 years (SD = 16.12) years in the police service and reported working ~50 h per week (SD = 16.12). Occupational duties involved a number of potential work-related stressors or hazardous situations, such as highly intense or vigorous activities (intense work; 38%), lifting heavy objects (heavy work; 28%), dangerous duties (dangerous work; 24%) and endurance physical activity (enduring work; 24%). The majority of participants (66%) reported having suffered from some form of occupational injury including head injuries, swelling or contusions, cuts, tears or ligament ruptures, joint sprain or dislocation, skeletal fractures and even gunshot wounds.

Details of the regression analyses are presented in Table 2. Across the different dependent variables, the control variables entered in Step 1 and motivational factors entered in Step 2, explained between 22 and 41% of the variance, which was statistically significant in all models. As expected, autonomous motivation significantly and positively predicted behavioural adherence, commitment and priority. Autonomous and controlled motivation was found to be negative and positive statistically significant predictors of communication barriers. Amotivation was a statistically significant, positive predictor of fatalism, violation, worry and, unexpectedly, behavioural adherence.

Table 2. Results of hierarchical multiple linear regression models predicting injury prevention outcomes in Sichuan police officers (*N* = 207)

Variables	Behavioural adherence		Commitment		Priority		Fatalism		Violation		Communication barrier		Worry		Number of injuries	
	β	95% CI of B	β	95% CI of B	β	95% CI of B	β	95% CI of B	β	95% CI of B	β	95% CI of B	β	95% CI of B	β	95% CI of B
Autonomous motivation	0.31**	0.14 to 0.52	0.42**	0.23 to 0.62	0.52**	0.41 to 0.90	0.01	−0.19 to 0.22	0.04	−0.19 to 0.27	−0.23*	−0.61 to 0.03	0.05	−0.16 to 0.27	−0.04	−0.25 to 0.17
Controlled motivation	0.08	−0.17 to 0.32	−0.07	−0.32 to 0.19	−0.19	−0.54 to 0.10	−0.07	−0.34 to 0.20	−0.21	−0.53 to 0.07	0.32*	0.03 to 0.79	0.15	−0.12 to 0.45	−0.23	−0.50 to 0.05
Amotivation	0.36**	0.13 to 0.56	0.21	−0.04 to 0.42	0.10	−0.16 to 0.39	0.47**	0.19 to 0.66	0.61**	0.38 to 0.91	0.15	−0.15 to 0.51	0.35**	0.11 to 0.61	0.12	−0.13 to 0.35
F	5.87**		4.15**		3.92**		2.88**		4.14**		2.33*		4.27**		2.45**	
R^2	0.41		0.33		0.32		0.26		0.33		0.22		0.34		0.23	

The table displays the parameter estimates of the independent variables in Step 2. Estimates for the control variables in Step 1 were omitted for clarity. All Step 2 variables did not reach significance except when dependent variable was number of injuries. Full results can be obtained from the first author. CI, confidence interval. *$P < 0.05$, **$P < 0.01$.

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

Total number of injuries was not related to any forms of motivation in the regression model.

Discussion

The findings of this study supported its key hypotheses regarding the adaptive effects of autonomous motivation (H1, H2) and maladaptive effects of controlled motivation and amotivation (H3, H4) on police officers' injury prevention outcomes. Autonomous motivation was positively related to all adaptive behavioural outcomes (behavioural adherence, commitment, priority), and controlled motivation or amotivation were positively related to maladaptive outcomes (fatalism, violation and communication barriers). These results are generally consistent with SDT [15] and previous studies that have examined the role of motivation on injury prevention intentions, behaviours and beliefs [4,5,7,20].

The results suggest that police officers who reported autonomous motivation for injury prevention were more likely to adhere and commit to injury prevention behaviours at work. In contrast, those who endorsed controlled motivation for injury prevention were more likely to have difficulties communicating and discussing occupational injury prevention. Despite preventive efforts, police officers who were amotivated with respect to injury prevention were more likely to believe that injury is inevitable, and that it was sometimes necessary to ignore safety regulations. The pattern results are consistent with a previous study of police officers in that autonomous motivation with respect to injury prevention was related to adaptive decision-making factors and the intentions to prevent injuries [4]. Our findings are also similar to other studies that have examined and compared effects of autonomous, controlled and amotivated forms of motivation on health-related outcomes in other contexts [3,16,25].

The positive effect of amotivation on self-reported behavioural adherence was contrary to our hypothesis and the predictions of SDT [13–15] or with previous findings in the context of physical activity, weight management, smoking cessation and other health behaviours [14,19]. A possible explanation for this unexpected effect was that amotivated police officers tend to participate in injury prevention behaviours out of normative or habitual factors, but have given little thought to the rationale or reasons for doing so. Given that police officers' amotivation was also unrelated to commitment and priority and was positively related to the number of injuries and worries about injuries, it may indicate that such adherence tends to be more passive and related to automatic or habitual compliance with protocol rather than through pro-active motivation engage in the behaviours willingly. The effects of habitual, non-conscious effects on behaviour have been shown in other studies demonstrating that health-related actions may be more than a function of explicit motivational tendencies [26]. Future studies may use a person-centred approach [27] to test the combined or synergistic effects of these three types of motivation outcomes in health contexts [8,28]. Such an approach will examine whether the potential adaptive role of autonomous motivation would be nullified or exacerbated by controlled motivation and amotivation [28]. Overall, the current findings illustrate that occupational injury is a complex issue which could plausibly be caused and maintained by numerous external factors (e.g. environmental hazards, safety resources and organizational policies) [29].

Despite the unique observations and perspectives offered by the present study, a few limitations exist. The cross-sectional design with correlational analyses limited the level of evidence of the study in terms of the inference of causal effects. Retrospective assessment of injury and the use of self-reported measures could be subject to problems with recall, social desirability and consistency tendency [30]. These limitations should be addressed in future studies by including both objective measures and longitudinal and experimental designs that could better empirically test and capture causal relations. Numerous interventions using SDT as the framework have been conducted to promote autonomous motivation for better behavioural patterns and well-being. On the other hand, the current study only examined the study variables at the individual-level and not at the organizational-(or higher) level, so the effect of the hierarchical structure of the police stations and department could not be ascertained. Future interventions or longitudinal studies should also adopt a multilevel approach to examine the effects of motivation of injury prevention at higher levels (e.g. team, department, police stations and region), and also in different countries to investigate the generalizability of study findings.

These limitations aside, results of the present study reveal that the different forms of motivation discussed in SDT play an important role in explaining police officers adherence to and beliefs regarding injury prevention. This is particularly important given that motivation is an important target in behaviour change interventions, and interventions designed to affect a change in these constructs are likely to have efficacy in changing behaviour. Future research should seek to manipulate the motivational factors related to injury prevention outcomes and conduct a longitudinal follow-up of occupational injury outcomes using objective measures.

In conclusion, police officers who report better behavioural adherence, commitment and beliefs with respect to injury prevention and safety are more likely to be driven by autonomous motivation rather than controlled motivation or amotivation. From a police policy perspective, the study findings suggest that it would be valuable for police agencies to consider ways to support autonomous

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

motivation toward injury prevention in police officers, which would facilitate greater internalization of injury preventive practices.

Key points

- Self-determination theory is a useful framework in understanding motivational antecedents of police officers' occupational injury prevention behaviours.
- Police officers endorsing autonomous motivation tended to report better adherence to, commitment to, and prioritization of injury prevention behaviours at work.
- These findings pave the way for future injury prevention interventions in police officers targeting autonomous motivation.

Funding

This research was supported by an International Research Scholarship from the University of Nottingham and Seed Funding for Basic Research from the University of Hong Kong.

Conflicts of interest

None declared.

References

1. Lim SS, Vos T, Flaxman AD. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010 (vol. 380, pp. 2224, 2012). *Lancet* 2013;**381:**1276.
2. Smith GS, Dannenberg AL, Amoroso PJ. Hospitalization due to injuries in the military. Evaluation of current data and recommendations on their use for injury prevention. *Am J Prev Med* 2000;**18:**41–53.
3. Chan DK, Yang SX, Mullan B *et al.* Preventing the spread of H1N1 influenza infection during a pandemic: autonomy-supportive advice versus controlling instruction. *J Behav Med* 2015;**38:**416–426.
4. Chan DKC, Hagger MS. Autonomous forms of motivation underpinning injury prevention and rehabilitation among police officers: an application of the trans-contextual model. *Motiv Emotion* 2012;**36:**349–364.
5. Chan DK, Hagger MS. Transcontextual development of motivation in sport injury prevention among elite athletes. *J Sport Exerc Psychol* 2012;**34:**661–682.
6. Gielen AC, Sleet D. Application of behavior-change theories and methods to injury prevention. *Epidemiol Rev* 2003;**25:**65–76.
7. Chan DK, Hagger MS. Theoretical integration and the psychology of sport injury prevention. *Sports Med* 2012;**42:**725–732.
8. Chan DK, Lonsdale C, Ho PY, Yung PS, Chan KM. Patient motivation and adherence to postsurgery rehabilitation exercise recommendations: the influence of physiotherapists' autonomy-supportive behaviors. *Arch Phys Med Rehabil* 2009;**90:**1977–1982.
9. Ryan RM, Patrick H, Deci EL, Williams GC. Facilitating health behaviour change and its maintenance: interventions based on self-determination theory. *Eur Health Psychol* 2008;**10:**2–5.
10. Conner M, Norman P. *Predicting Health Behaviour: Research and Practice With Social Cognition Models*. Buckingham, UK: Open University Press, 2005.
11. Orbell S. Motivational models and volitional processes in the promotion of health behaviors. In: Park DC, Liu LL, eds. *Medical Adherence and Aging*. Washington, DC: American Psychological Association, 2007; 169–200.
12. Deci EL, Ryan RM. The 'what' and 'why' of goal pursuits: human needs and the self-determination of behavior. *Psychol Inq* 2000;**11:**227–268.
13. Deci EL, Ryan RM. Facilitating optimal motivation and psychological well-being across life's domains. *Can Psychol* 2008;**49:**14–23.
14. Levesque CS, Williams GC, Elliot D, Pickering MA, Bodenhamer B, Finley PJ. Validating the theoretical structure of the Treatment Self-Regulation Questionnaire (TSRQ) across three different health behaviors. *Health Educ Res* 2007;**22:**691–702.
15. Deci EL, Ryan RM. *Intrinsic Motivation and Self-determination in Human Behavior*. New York: Plenum, 1985.
16. Chan DK, Fung YK, Xing S, Hagger MS. Myopia prevention, near work, and visual acuity of college students: integrating the theory of planned behavior and self-determination theory. *J Behav Med* 2014;**37:**369–380.
17. Standage M, Gillison FB, Ntoumanis N, Treasure DC. Predicting students' physical activity and health-related well-being: a prospective cross-domain investigation of motivation across school physical education and exercise settings. *J Sport Exerc Psychol* 2012;**34:**37–60.
18. Ryan RM, Deci EL. The darker and brighter sides of human existence: basic psychological needs as a unifying concept. *Psychol Inq* 2000;**11:**319–338.
19. Ng JY, Ntoumanis N, Thøgersen-Ntoumani C *et al.* Self-determination theory applied to health contexts: a meta-analysis. *Perspect Psychol Sci* 2012;**7:**325–340.
20. Chan DK, Hagger MS. Self-determined forms of motivation predict sport injury prevention and rehabilitation intentions. *J Sci Med Sport* 2012;**15:**398–406.
21. Williams GC, McGregor HA, Sharp D *et al.* Testing a self-determination theory intervention for motivating tobacco cessation: supporting autonomy and competence in a clinical trial. *Health Psychol* 2006;**25:**91–101.
22. Chan DK, Lentillon-Kaestner V, Dimmock JA *et al.* Self-control, self-regulation, and doping in sport: a test of the strength-energy model. *J Sport Exerc Psychol* 2015;**37:**199–206.
23. Chan DKC, Yang SX, Hamamura T *et al.* In-lecture learning motivation predicts students' motivation, intention, and behaviour for after-lecture learning: examining the trans-contextual model across universities from UK, China, and Pakistan. *Motiv Emotion* 2015;**39:**908–925.
24. Rundmo T, Hale AR. Managers' attitudes towards safety and accident prevention. *Saf Sci* 2003;**41:**557–574.

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

25. Hagger MS, Chatzisarantis NL. Integrating the theory of planned behaviour and self-determination theory in health behaviour: a meta-analysis. *Br J Health Psychol* 2009;**14:**275–302.
26. Hagger MS, Chan DK, Protogerou C, Chatzisarantis NL. Using meta-analytic path analysis to test theoretical predictions in health behavior: an illustration based on meta-analyses of the theory of planned behavior. *Prev Med* 2016;**89:**154–161.
27. Ekehammar B, Akrami N. The relation between personality and prejudice: a variable- and a person-centred approach. *Eur J Personality* 2003;**17:**449–464.
28. Chan DK, Donovan RJ, Lentillon-Kaestner V *et al*. Young athletes' awareness and monitoring of anti-doping in daily life: does motivation matter? *Scand J Med Sci Sports* 2015;**25:**e655–e663.
29. Lynch JMF, Plant RW, Ryan RM. Psychological needs and threat to safety: implications for staff and patients in a psychiatric hospital for youth. *Prof Psychol: Res Pract* 2005;**36:**415–425.
30. Chan DK, Ivarsson A, Stenling A, Yang SX, Chatzisarantis NL, Hagger MS. Response-order effects in survey methods: a randomized controlled crossover study in the context of sport injury prevention. *J Sport Exerc Psychol* 2015;**37:**666–673.

Downloaded from https://academic.oup.com/occmed/article/67/6/435/3872302 by guest on 06 July 2021

doi:10.1093/occmed/kqx074

Golden Jubilee Travel Fellowship 2016

While undertaking higher specialist training in occupational medicine in the UK, I developed a particular interest in the management of psychological ill-health in the workplace, probably as a result of this constituting three quarters of my workload. I attended a talk on the management of 'sick doctors' in the UK by the Practitioner Health Programme (PHP) and was intrigued by the support and resources available for 'struggling' medical colleagues and the role occupational medicine played. It, however, made me think what fellow medical colleagues had for 'support' around the world; in particular, in Nigeria where I studied and trained as a doctor at Obafemi Awolowo University Teaching Hospitals, Ile-Ife over 25 years ago.

I was really pleased to be awarded the Society of Occupational Medicine Golden Jubilee Travelling Fellowship. My aim was to look at how 'sick doctors' in Nigeria are identified and managed at various stages of their career with a particular emphasis on psychological ill-health. I also took the opportunity to undertake a snapshot prevalence of anxiety and depression using the Hospital Anxiety and Depression Scale (HADS) in training doctors.

I travelled to Nigeria in January 2017 and following a number of introductory meetings with key senior medical academic leads, a number of key themes emerged around poor mental health awareness and the need for early identification and support for medical students and registrars. I subsequently undertook two teaching sessions to scope mental health awareness, the first attended by 18 medical registrars and the second by 64 final year medical students.

The themes that came out of the sessions reflected issues around poor awareness of mental health and associated barriers. The support that was perceived at strategic level did not seem to be reflected among the attendees but it was encouraging to know that there was a perceived need for further work to be done using a more proactive approach. The UK PHP model was well received and it was felt that it was something that could work but the logistics would be a challenge because of the mental health 'stigma' that still exists.

Estimates of the prevalence of mental health problems vary from country to country but in the UK 23% of adults have at least one diagnosed mental health problem at any one point in time. The prevalence in Nigeria has been recorded as being between 45 and 47% in primary care for depression, and as high as 50% for anxiety. Although mine was a very small sample size, the reported prevalence from the attendees was 22% for anxiety and 13% for depression which are both similar to the life time risk from previous research studies. These key findings provided some insights into the lives of the training doctor and were fed back to the medical leadership for both the medical school and the teaching hospital with recommendations. The dean for the medical school has since acknowledged the findings and the recommendations are being fed back to the faculty board and the appropriate actions taken.

Folashade Adenekan

e-mail: Sade.Adenekan@healthmanltd.com