




# Development of a scale to measure moral disengagement for occupational gains to enhance our understanding of the use of Performance and Image Enhancing Drugs (PIEDs) in the workplace

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## ABSTRACT

Performance and Image Enhancing Drugs (PIEDs) are a cause of concern for those seeking to reduce health harms and associated transgressive behaviour. This form of behaviour is associated with moral disengagement and is collectively used to refer to acts that can have negative interpersonal consequences (Kavussanu, 2019). Moral disengagement (Bandura 1991) refers to cognitive mechanisms that separate our moral values from our actions, resulting in behaviour that conflicts with our moral values. This model has been used to theorise the use of PIEDs for occupational performance gains - for instance, in the police or in private security- with the development of the psychometric Moral Disengagement for Occupational Gains Scale. In this investigation, 84 participants (34 PIED and 50 Non-PIED users) from 10 occupations completed an online questionnaire, shared via social media. The questionnaire was based on an 8-factor model proposed by Bandura et al. (1996), with items adapted from validated scales investigating doping in sport. Twenty items measured the following factors: Moral Justification, Euphemistic Labelling, Advantageous Comparison, Diffusion of Responsibility, Distortion of Consequences and Displacement of Responsibility. Participants completed the questionnaire using a 7-point scale (1 = strongly disagree to 7 = strongly agree). The Moral Disengagement for Occupational Gains Scale (MDOGS) has demonstrated initial psychometric properties that support the use as a valid and reliable measure of moral disengagement for research into the use of PIEDs in an occupational context.

**Keywords:** Sport medicine, Moral behaviour, Workforce behaviour, Occupation.

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## INTRODUCTION

This study provides an original approach towards moral disengagement and the use of Performance and Image Enhancing Drugs (PIEDs) from an occupational perspective. The mechanism of moral disengagement has been a fertile base for research across many disciplines when analysing transgressive behaviour (Moore, 2015). The notion of transgressive behaviour has been a focus in the context of 'doping' in sport. This term is used to reflect the use of prohibited substances or methods to enhance performance (Nolte, Krüger and Fletcher, 2014). This directed a 'narrative of worry' over concerns (Ljungqvist, 2016) over doping substances (e.g., PIEDs) transitioning from sport into the public domain. Our study proposes an alternative narrative, in which sport is viewed as an occupation, and one of several where PIEDs are used for occupational gains. In the same way that an athlete is an employee in their sport uses PIEDs to improve performance above their normal ability (Ahmadi & Svedsäter, 2016), then some employees in public service roles (e.g., police, military, and private security) use PIEDs to similarly improve their occupational performance (O'Hagan & Walton, 2015).

The use of PIEDs outside of sport in occupations include private security (Monaghan, 2002), police (Turvey & Crowder, 2015) and military occupations (Bray et al, 2009; Goldman et al, 2019). These occupations commonly have extreme fitness and physical strength as desirable job characteristics (Fogel, 2012, Wicks, 2017). We believe that the narrative should be driven towards a focus on employment-related PIED use, as there is evidence that the workplace is a source of PIEDs (Santos and Coombe, 2017) and that work colleagues contribute to relationships that encourage their use (Rowe et al., 2016). If the narrative is changed to focus on the occupational use of PIEDs, then it can be used to understand moral disengagement that encourages transgressive behaviour in the workplace more broadly (e.g., workplace misconduct behaviours). In this study, we examine this using Bandura's (1991) Social Cognitive Theory of Moral Thought and Action theory.

There are various reasons proposed for why certain occupations are at a greater risk of using PIEDs. Firstly, these occupations could be seen to operate within the social ecology of hypermasculinity. This has been attributed to occupations such as the police and private security, in which a hypermasculine physique is desirable to enhance ability to intimidate (Higate, 2013). In these occupations there is emphasis on masculinity with femininity devalued (Southern, 2018). This is seen through the valuing of traits such as fearlessness, heroic demeanour, physical strength, emotional strength, assertiveness, and intelligence (Kurtz, 2008).

Secondly, readiness for conflict and threat to life motivate PIEDs-use in some occupations. This has been referred to as the 'functional argument'. Hoberman (2017) suggests this argument can apply to a variety of male action-dominated occupational roles. The functional user believes that their 'survival' depends on their physical ability, as they are liable to hostility and threats to their safety (Matthews, 2001). This preparation rationale is seen in other roles such as the military in which PIED use is not exclusive to deployment but also with training (Casey et al, 2014). Yet in all these occupations the social assumptions associated with PIEDs (Salasuo & Piispa, 2012) could undermine their professionalism regardless of the justification for using PIEDs.

The link between moral disengagement and workplace behaviours in different occupations highlights the need to develop a measure of moral disengagement that is indexed to the use of PIEDs in specific occupations. Within these occupations each employee has the right to choose and make potentially harmful decisions; that using these drugs does not make one 'vulnerable' (Harvey, 2018). Employees also rationalise

their PIED use (Petróczi, 2013) even if doing so can result in violating their employment contract. Instead of seeing PIEDs-using employees as vulnerable or deviant and apt for regular drug-testing (which might not be cost efficient), they can be identified and supported. If those more likely to morally disengage and take risks to meet the demands of their profession can be identified, they can be supported in a way that maintains their moral agency.

This research is guided by the Social Cognitive Theory of Moral Thought and Action (Bandura, 1991). This theory refers to how moral disengagement can reduce the inhibitive aspect of morality and affect how we regulate behaviour, resulting in transgressive behaviour (Boardley & Kavussanu, 2011).

Under the collective term of 'moral disengagement' Bandura (1991) outlines that there are eight mechanisms that can change how we behave. These are separated into four different aspects of harmful conduct. The first domain refers to reprehensible behaviour proposed by Bandura that includes moral justification (MJ), euphemistic labelling (EL) and advantageous comparison (AC). This mechanism for moral disengagement is associated with the unacceptable behaviour that is rationalised as socially acceptable (MJ), where language can be used to present reprehensible behaviour as respectable (EL) and where the behaviour is compared to other behaviours, so that they show the advantage or negligible consequences (AC). Secondly Bandura (1991) outlines the next domain as agents of responsibility. This contains two mechanisms, which are displacement (DoR)- and diffusion- of responsibility (DloR). This domain allows a chain of command (DoR) or group decisions (DloR) to be blamed for the behaviour.

Bandura (1991) outlines the third and fourth domains as the victim and the effect of the behaviour. The domain of detrimental effects includes two mechanisms: Distortion of Consequences (DoC) and Dehumanisation (DH). When a behaviour has an outcome that harms another, then the perpetrator denies or minimises the consequences (DoC). Another way to rationalise the behaviour is to remove the human qualities of the victim (DH). Finally, the victim domain consists of one mechanism referred to as Attribution of Blame. This mechanism allows the perpetrator to cast punitive conduct as a justified response to provocation.

The aim of this study was to develop a valid and reliable instrument for PIEDs in occupational environments that reflects the multidimensional nature of moral disengagement. This study examined the internal reliability and construct-, concurrent- and convergent- validity of the conceptualised scale and tested the pattern and structure coefficients of the final scale.

## **MATERIAL AND METHODS**

### ***Participants***

The participants from this study were recruited through social media platforms Facebook and Reddit. On Facebook the focus was Sport and Exercise social media groups while the focus on Reddit was community groups that were set up to discuss PIED use. The approach for the distinct social media allowed for the appropriate population to take part in the study. The total number of respondents was 148 but once the data were screened with non-completion responses removed this resulted in 84 participants. This sample consisted of both PIED users ( $n = 34$ ) and non-PIED users ( $n = 50$ ). The sample consisted of 33 females (39.3%) and 47 males (56.0%) with 3 individuals not disclosing their sex (3.6%). The age characteristics provided a wide range of participants with 26-30 years and 31-35 years consisting of 38% of the sample followed by 36-40 and 41-50 years representing 28.6%. The sample consisted of 10 identified occupations with education representing the largest reported occupation of the sample ( $n = 23$ , 27.4%). As well as the

occupations identified within the sample the option for 'other' as a choice means that there were more than 10 occupations but that this option was deemed as non-identifiable ( $n = 39, 46.4\%$ ) since participants did not disclose their occupation title.

### **Measures**

Items were adapted from existing scales investigating moral disengagement and doping in sport: Mechanisms of Moral Disengagement (Bandura et al, 1996), the Moral Disengagement in Sport Scale (Boardley and Kavussanu, 2007) and the Moral Disengagement in Doping Scale (Kavussanu et al, 2016). This resulted in a total of 58 preliminary items. These were shared with an experienced sport and exercise psychologist to select the most appropriate items for the final questionnaire. This selection was based on the relevance and wording of each item proposed checking for any duplication. Lastly, the items selected were based on how each item was representative of the moral disengagement mechanisms. The outcome was a 20-items questionnaire that incorporated six of the eight factors from the Bandura et al. (1996) model. Although there are eight mechanisms of moral disengagement proposed by Bandura (1991) research associated with doping has shown that attribution to blame and dehumanisation do not emerge from qualitative studies, demonstrating less importance compared to the remaining six mechanisms (Kavussanu et al, 2016). These mechanisms are moral justification (four items), euphemistic labelling (four items), advantageous comparison (four items), displacement of responsibility (two items), diffusion of responsibility (three items) and distortion of consequences (three items). The questionnaire adopted a 7-point Likert scale and was based on the study by Jackson & Sparr (2005). The choice of this numbered Likert scale is due to its higher internal consistency (Preston & Colman, 2000). The negative pole is to the left and the positive to the right, with available responses ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

### **Procedures**

This study used the Internet-mediated research approach, complying with the British Psychological Society's (2017) ethical requirements for remote acquisition of data from humans. Ethical approval was provided by the University of Sunderland Research Ethics Group. Participants were required to be 18+ years and have at least six months' job experience. Qualtrics (Provo, UT) software was used to allow the format of the instrument to be shared electronically as an aid to recruitment. When the instrument was finalised in Qualtrics, the link to the instrument was shared via Facebook and Reddit to encourage recruitment. This link was open for prospective participants for six weeks. Data collected via the instrument were then downloaded as a SPSS file and transferred to the IBM Statistical Package for Social Sciences (version 26.0 for Windows, SPSS Inc., Chicago IL) for statistical analysis.

### **Data analysis**

Prior to item analysis, content analysis was conducted. This involved the use of previously published instruments and the expert opinion of a sport and exercise psychology professional to refine the items originally proposed (from 58 to 20). Psychometric properties of item reliability and measurement of error were determined using Cronbach's alpha score and Item total statistics for each scale. Cronbach's alpha scores were determined using the recommended maximum alpha value of 0.90 (Tavakol & Dennick, 2011), with reliability of item inclusion following Field's (2012) guidance of  $< .3$  for corrected Item-Total Correlation scores.

Upon confirmation of item inclusion, Principal Component Analysis (PCA) was used to test the fit of a series of models of the inventory. All statistical assumptions were tested. For acceptance or rejection of the model, fit indices were used: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy for the overall data set and Bartlett's test of sphericity. The latter was tested using the significance level ( $< .05$ ) to confirm if there was an identity matrix. Factor extraction was used to identify the appropriate number of Eigenvalues to be used in

the PCA process along with two processes associated with Scree analysis. The first method was the Guttman (1954) rule in which all factors of Eigenvalues greater than 1.0 are retained (Warne and Larsen, 2014). The next was Cattell (1966) Scree plot approach. This consisted of producing a heuristic graph representation consisting of the Eigenvalues (y-axis) and components (x-axis) and inspecting the Scree plot for the last significant drop in the line plot (Ledesma et al, 2015).

A Direct Oblimin oblique rotation with Kaiser Normalization was used to produce the pattern and structure coefficients. This rotation is based on the correlation between the extracted factors and provides a pattern-, structural- and component correlation matrix (Hadi et al, 2016). Factor scores screened for minimum factor loadings and possible cross-loading based. This was based on Worthington and Whittaker's (2006) recommendations of minimum factor loading (.32) and cross loadings (less than .15 from the item's highest factor loading). The loading of these factors was used to assess the construct and discriminatory validity of this instrument. IBM SPSS (version 26.0 for Windows, SPSS Inc., Chicago IL) was used for all statistical analysis outlined above.

## RESULTS

### *Descriptive statistics*

Table 1. Descriptive statistics for each scale in sample.

Moral disengagement mechanism	Item	M (SD)
Moral justification	It is all right to use drugs when the environment that you work in is hostile	2.04 (1.54)
	Using PIEDs is all right because it helps you cope with work	2.45 (1.68)
	When you feel threatened at work it is ok to use drugs that can help achieve a positive outcome	2.26 (1.72)
Euphemistic labelling	Using PIEDs to help with job performance is not cheating but an 'aid' to help achieve a means	3.38 (2.11)
	Using PIEDs is a way to 'maximize potential'	4.40 (2.19)
	Using PIEDs is just a 'little helper'	2.98 (1.98)
Advantageous comparison	There are worse drugs to use than PIEDs that are more addictive	5.27 (1.90)
	Compared to the illegal things people do in everyday life, using PIEDs is not very serious	4.00 (2.02)
	PIED use will not hinder fellow employees, they just enhance that person	3.46 (1.96)
Displacement of responsibility	They are not as harmful as other substances, such as tobacco and alcohol	3.89 (1.96)
	If a manager does not discourage PIED use, then those using these drugs should not be disciplined	2.76 (2.00)
	People cannot be blamed for using PIEDs at work if they feel pressure to do it	2.20 (1.56)
Diffusion of responsibility	It is unfair to blame the person using PIEDs if they feel that they have been pressurised by other to do so	2.54 (1.69)
	If a manager encourages breaking rules at work, then using drugs to achieve these outcomes is not an individual's responsibility	2.19 (1.60)
	Users cannot be blamed for using PIEDs if everyone at work is doing it	2.24 (1.67)
Distortion of consequences	The negative side effects are exaggerated by the employer	3.30 (2.02)
	Using PIEDs does not really harm anyone	3.46 (2.20)
	The risks associated with using PIEDs are exaggerated	3.68 (2.15)



Table 1 outlines the mean scores and accompanying standard deviation for the occupational PIED inventory. These have been separated into the moral disengagement mechanisms for each associated item. For each item, the mean score has been provided with the standard deviation in parenthesis.

### **Item analysis of moral disengagement (occupational) scale**

Cronbach's alpha score was computed to determine item reliability and measurement of error. Initial case processing for Cronbach's alpha was  $\alpha = .950$  based on 20 items. As the inventory is based on six moral disengagement constructs, the alpha level was calculated for each construct individually (Tavakol & Dennick, 2011). The resulting alpha scores are present in Table 2.

Table 2. Item analysis summary.

Moral disengagement mechanism	$\alpha$	Index of measurement error	N of items
1. Moral disengagement (items 01-04)	.832	0.32	4
2. Advantageous comparison (items 09-12)	.893	0.21	4
3. Diffusion of responsibility (items 15-17)	.802	0.32	3
4. Euphemistic labelling (items 05-08)	.779	0.41	4
5. Displacement of responsibility (items 13-14)	.596	0.36	2
6. Distortion of consequences (items 18-20)	.891	0.21	3

Note. The sample size ( $n = 84$ ) and Cronbach alpha is denoted by the  $\alpha$  symbol. Index of measurement error was calculated by squaring the correlation and subtracting from 1.00.

Cronbach alpha scores for moral disengagement, euphemistic labelling, advantageous comparison, diffusion of reliability and distortion of consequences demonstrated excellent internal reliability with  $\alpha$  scores that do not surpass the recommended maximum alpha value of 0.90 (Tavakol & Dennick, 2011). Displacement of responsibility had an  $\alpha$  score ( $\alpha = .596$ ) that warranted further investigation as to whether there was a need to remove this construct from the final scale. Four of these subscales (Advantageous Comparison, Displacement of Responsibility, Diffusion of Responsibility and Distortion of Consequences) had acceptable correlations. Deleting any items for these subscales would have no significant impact on the corresponding alpha scores to warrant item removal. Scale analysis for Moral Justification and Euphemistic Labelling resulted in item adjustment, which improved Cronbach's alpha scores. The removal of the Moral justification item '*Using PIEDs would help to provide for one's family*' increased the Cronbach's alpha score from .832 to .869. The removal of the Euphemistic labelling item '*Describing it as using 'roids', 'gear' and 'juice' makes it sound acceptable*' increased the Cronbach's alpha score from .779 to .835.

### **Principal Component Analysis results**

A Scree plot analysis was completed, confirming that there were two Eigenvalues. The total variance achieved from the two factors equals 68.37%. The first Eigenvalue is equal to 9.774 and explained 54.29% of the variance in the original data. The second Eigenvalue is equal to 2.535 and explained 14.08% of the variance in this data set. Although there is potentially a third Eigenvalue, this equates to only .975 and explains only 5.41% of the variance; in this instance the acceptance of two Eigenvalues confirms the original notion of the Guttman (1954) rule (Larsen and Warne, 2010) and reinforces the Scree plot assessment associated with the Cattell (1966) Scree plot approach. However, as the Guttman (1954) rule of Eigenvalues needing to be  $> 1.0$  is an arbitrary value (Larsen and Warne, 2010), the PCA was repeated as three Eigenvalues instead of two, to see if there was any difference in the landing against the factors. The result was that there was no significant loading to the third factor, so the data forthcoming refers to the 2-factor analysis.

A Direct Oblimin oblique rotation was applied to produce the pattern and structure coefficients. The resulting communalities were confirmed to all be above .3 (Table 3). This confirms that each item shared some common variance with other items. The result was that factorial analysis was appropriate for the 18 items.

Due to the loading of the items, the pattern matrix results confirmed construct validity. Also, discriminatory validity was achieved as the relationship between items and the rest of the factors was low. This meant that items loaded highly to either factor 1 or 2 rather than highly on both factors.

Table 3. Pattern and structure matrix for vocational inventory.

Items	Pattern coefficients		Structure coefficients		Communalities
	Component		Component		
	1	2	1	2	
It is all right to use drugs when the environment that you work in is hostile	<b>.952</b>	-.239	<b>.927</b>	.383	.674
Using PIEDs is all right because it helps you cope with work	<b>.949</b>	-.049	<b>.877</b>	.318	.624
When you feel threatened at work it is ok to use drugs that can help achieve a positive outcome	<b>.923</b>	-.102	<b>.855</b>	.486	.580
Using PIEDs to help with job performance is not cheating but an 'aid' to help achieve a means	<b>.799</b>	.122	<b>.846</b>	.493	.730
Using PIEDs is a way to 'maximize potential'	<b>.784</b>	.136	<b>.843</b>	.194	.756
Using PIEDs is just a 'little helper'	<b>.780</b>	.060	<b>.840</b>	.493	.597
There are worse drugs to use than PIEDs that are more addictive	<b>.777</b>	.140	<b>.807</b>	.415	.556
Compared to the illegal things people do in everyday life, using PIEDs is not very serious	<b>.772</b>	-.063	<b>.777</b>	.492	.861
PIED use won't hinder fellow employees, they just enhance that person	<b>.698</b>	.175	<b>.744</b>	.288	.722
They are not as harmful as other substances, such as tobacco and alcohol	<b>.592</b>	.295	<b>.733</b>	.644	.654
If a manager does not discourage PIED use, then those using these drugs should not be disciplined	<b>.555</b>	.391	<b>.727</b>	.565	.659
People cannot be blamed for using PIEDs at work if they feel pressure to do it	-.162	<b>.957</b>	.274	<b>.883</b>	.801
It is unfair to blame the person using PIEDs if they feel that they have been pressurised by other to do so	-.170	<b>.858</b>	.466	<b>.817</b>	.633
If a manager encourages breaking rules at work, then using drugs to achieve these outcomes is not an individual's responsibility	.112	<b>.764</b>	.460	<b>.815</b>	.634
Users cannot be blamed for using PIEDs if everyone at work is doing it	.119	<b>.763</b>	.476	<b>.785</b>	.679
The negative side effects are exaggerated by the employer	.150	<b>.716</b>	.221	<b>.781</b>	.628
Using PIEDs does not really harm anyone	.266	<b>.632</b>	.554	<b>.753</b>	.743
The risks associated with using PIEDs are exaggerated	.295	<b>.580</b>	.560	<b>.715</b>	.777

Note. Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Bold items indicate major factor loadings.

Factor scores (Table 4) were screened for minimum factor loadings (.32) and possible cross-loading (< .15), based on the suggestions of Worthington and Whittaker (2006). Four items were removed resulting in a decrease from 18-items to 14-items due to cross loadings above the .15 threshold. The four items removed were 'They are not as harmful as other substances, such as tobacco and alcohol', 'If a manager does not discourage PIED use, then those using these drugs should not be disciplined', 'Using PIEDs does not really harm anyone' and 'The risks associated with using PIEDs are exaggerated'.

Table 4. Factor labelling.

Factor 1: Social normalisation of PIED use	Factor loading	Mechanism
It is all right to use drugs when the environment that you work in is hostile	.952	Moral justification
Using PIEDs is all right because it helps you cope with work	.949	
When you feel threatened at work it is ok to use drugs that can help achieve a positive outcome	.923	
Using PIEDs to help with job performance is not cheating but an 'aid' to help achieve a means	.799	Euphemistic labelling
Using PIEDs is a way to 'maximize potential'	.784	
Using PIEDs is just a 'little helper'	.780	
There are worse drugs to use than PIEDs that are more addictive	.777	Advantageous comparison
Compared to the illegal things people do in everyday life, using PIEDs is not very serious	.772	
PIED use won't hinder fellow employees, they just enhance that person	.698	
<b>Factor 2: Responsibility and consequences</b>		
People cannot be blamed for using PIEDs at work if they feel pressure to do it	.957	Displacement of responsibility
It is unfair to blame the person using PIEDs if they feel that they have been pressurised by other to do so	.858	Diffusion of responsibility
If a manager encourages breaking rules at work, then using drugs to achieve these outcomes is not an individual's responsibility	.764	
Users cannot be blamed for using PIEDs if everyone at work is doing it	.763	
The negative side effects are exaggerated by the employer	.716	Distortion of consequences

We termed Factor 1 'social normalisation of PIED use', based on the developing social norms and occupational use of these substances. This factor consists of the items that represent moral disengagement (items 1-3), euphemistic labelling (items 6-8), and advantageous comparison mechanisms (items 9-11). For Factor 1 the factor loading ranged from .952 to .698. We termed Factor 2 'Responsibility and Consequences', as this cluster represents the mechanism of displacement of responsibility, diffusion of responsibility and distortion of consequences. This cluster is represented by items 14-20. Within factor 2 the factor loading range was .957 to .716. Within this factor there was more emphasis on diffusion of responsibility when compared to displacement or distortion of consequences. However, the item 'People cannot be blamed for using PIEDs at work if they feel pressure to do it' is associated with the original mechanism of displacement of responsibility and this achieved the highest factor loading of .957 for factor 2.



## DISCUSSION

Moral disengagement has been used to study transgressive behaviour in various disciplines, including Sport (Kavussanu & Ring, 2017), Business (Moore et al, 2012), Military psychology (Stephens, 2014), Law (Osofsky et al, 2005) and Criminology (Fagan et al, 2011). We expanded these disciplines and generated data on occupational use of PIEDs. The occupations in this study contrast with the occupations listed by Fogel (2012) of Police, Military, Fireman, Door supervisor and Personal security. However, the occupation in this study that reflects highest use of PIEDs from the participants recruited through Facebook and Reddit groups was education. This seems to contrast markedly with previous research on PIEDs use. While previous research has concluded that police and other public service employees are far more likely to use PIEDS, this research concluded that 46% of users in this study were from other occupations meaning we should expand our knowledge of occupations that use PIEDs.

As well as providing evidence of occupational PIED use, we confirmed that there were six distinct mechanisms associated with moral disengagement in the context of occupational PIED use. The instrument conceptualized in this research, the Moral Disengagement for Occupational Gains Scale (MDOGS) demonstrated appropriate item validity as well as pattern and structure coefficients of the final instrument model. Construct validity of this instrument was demonstrated by the concurrent and convergent validity of the scale and the discriminatory validity of both sub-scales. These sub-scales were based on the two factors that were formed in the pattern and structure matrix for the inventory, 'Social Normalisation of PIED Use' and 'Responsibility and Consequences'. These two factors incorporated all six mechanisms confirmed in other inventory conceptualisation studies (e.g., Boardley and Kavussanu, 2007). The first factor was a combination of moral justification, euphemistic labelling, and advantageous comparison. The second factor was a combination of displacement- and diffusion- of responsibility and distortion of consequences. As the relationship between the items and the rest of the factors was low, they were associated with only one of the two factors, confirming that the inventory achieved discriminatory validity.

A limitation of this study was attributed to occupational coverage. Due to the complexity of providing all occupations as options in the questionnaire shared with participants there was an option to disclose their occupation as 'Other' and not divulge the title. Due to this then these occupations were classified as unidentifiable occupations. Due to this, occupational performance cannot be identified uncritically as the motive for PIEDs use in unidentified occupations within this study. This is because users associated with unidentifiable occupation could be involved in other activities (e.g., gym or body building activities) that motivate use rather than their employment being the motivating reason for PIED use. However, this study has highlighted that the range of occupations that use PIEDs is wider than first suggested and warrants wider investigation.

## CONCLUSION

This study was able to produce a 14-item, 2-factor model outperforming the alternative 3-factor model. This instrument developed in this study incorporates six of the eight proposed mechanisms of moral disengagement proposed by Bandura (1991). The resulting outcome was an instrument entitled The Moral Disengagement for Occupational Gains Scale (MDOGS) consisting of the following subscales: Moral justification (3 items), Euphemistic labelling (3 items), Advantageous comparison (3 items), Displacement of responsibility (1 item), Diffusion of responsibility (3 items) and Distortion of consequences (1 item). The implication of this study is that this context specific instrument, the MDOG instrument has the potential to develop our understanding of which occupations are susceptible to PIED use for job performance. Also, this

instrument is proposed to be used to forge employee-supportive ways to influence health promotion work associated with workplace drug use in occupations where PIED use is associated with job performance motivations.

## AUTHOR CONTRIBUTIONS

Data for this study was collected by the first author while all co-authors contributed to the development of this manuscript from the inception to the publication stage.

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## DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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