



Research Paper

Predictors of work engagement among Australian non-government drug and alcohol employees: Implications for policy and practice

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ABSTRACT

Background: The alcohol and other drugs (AOD) workforce faces multiple challenges including stigma, limited resources, ideological conflicts and complex demands. An engaged, supported and stable workforce is essential for optimal service provision, quality care, effective harm reduction implementation and cost efficiency. However little research has examined factors that impact worker engagement in the AOD sector. To inform policy and practice on cost efficient service provision and effective workforce development, this study examined a range of potential predictors of work engagement among Australian AOD non-government workers.

Methods: An online, cross-sectional survey of 294 non-government AOD workers measuring demographic, work-related psychosocial, and health and wellbeing variables was conducted in New South Wales, Australia. Multiple hierarchical linear regressions were conducted to identify significant predictors of worker engagement.

Results: Most AOD workers demonstrated high work engagement levels. Significant predictors of engagement included role clarity, leadership quality, growth opportunities, resilience and social support, and older age. These workers were likely to be more energised, enthusiastic and dedicated in their jobs.

Conclusions: This study is an important initial step in understanding work engagement among AOD workers. It offers valuable insights into ways to foster engagement, which in turn may ensure a more sustainable workforce that can deliver high quality care. Workers with high levels of engagement are more likely remain in their AOD roles over longer periods of time, acquire more skills and experience, and be better equipped to address complex demands. Workforce policies and programs specifically designed to enhance leadership skills and role clarity, while enhancing professional growth, resilience, and social supports, particularly for younger workers, are highlighted as essential strategies to promote engagement among AOD workers.

Introduction

The alcohol and other drugs (AOD) workforce is an important but generally overlooked element in the provision of quality care and efficient and effective service provision. AOD workforces tackle a wide array of issues beyond direct client care including prevention, harm reduction (Wilson, Donald, Shattock, Wilson & Fraser-Hurt, 2015), infectious disease management and associated prejudices (Brenner, Von Hippel & Kippax, 2007), mental health, homelessness and unemployment (Brackertz, Wilkinson & Davison, 2018; Flatau et al., 2013). The sector is also characterised by unique challenges including entrenched stigma; an increasing diversity of complex cases with multiple morbidities (Bjerge, Christensen & Oute, 2019); emergent drug issues such as NPSs (Campbell, Neill & Higgins, 2017), and conflicting

political agendas and hostile mainstream service environments (Treloar, Rance & Group, 2014). Insufficient treatment availability to meet demand and workforce issues such as high turnover poses a further salient challenge (Ritter, Chalmers & Gomez, 2019; Roche & Nicholas, 2016, 2017; Room, 2005). The latter is compounded by an international shortage and growing demand for health and human services workers, including AOD workers. Hence, recruitment and retention of skilled AOD workers is more vital than ever before, as is the need to redress the relationship between workforce characteristics and treatment outcomes (van de Ven, Ritter & Roche, 2019).

It is therefore crucial to strengthen workforce capacity and stability, and to support the health and wellbeing of the workforce (Roche & Nicholas, 2017; van de Ven et al., 2019). Research to-date on the AOD workforce has typically focused on deficits, problems and negative

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effects (e.g., Beitel et al., 2018; Ewer, Teesson, Sannibale, Roche & Mills, 2015; Knudsen, Ducharme & Roman, 2008; Oser, Biebel, Pullen & Harp, 2013); reflecting the challenging nature of working in the AOD field (Roche & Nicholas, 2017). However, working in the AOD field can also be intrinsically satisfying and meaningful, given the opportunities to help people and make a contribution to society (Gallon, Gabriel & Knudsen, 2003; Skinner & Roche, 2005). Previous studies have found high levels of job satisfaction among AOD workers (e.g., Best, Savic & Daley, 2016; Duraisingam, Pidd & Roche, 2009; Gallon et al., 2003) and a strong sense of empowerment and connectedness in giving back to the community, despite the challenges faced (Marshall, Perreault, Archambault & Milton, 2017). The positive experiences of AOD work warrant further exploration from the perspective of work engagement – which in other professions, including healthcare, has been shown to influence worker satisfaction, commitment, performance and retention (Bakker, 2011; Keyko, Cummings, Yonge & Wong, 2016; Whittington, Meskelis, Asare & Beldona, 2017).

Engagement has been defined as an amalgamation of positive and rewarding feelings of vigour, dedication and absorption at work (Schaufeli & Bakker, 2004). Vigour refers to high levels of energy and mental resilience, and the willingness to persist in the face of difficulties (Schaufeli & Bakker, 2004). Dedication entails a strong sense of involvement, enthusiasm, and pride in one's work, and absorption is characterised as being fully engrossed in one's work; where one loses track of time and has difficulty detaching oneself from work (Schaufeli, Salanova, González-Romá & Bakker, 2002). This well-researched conceptualisation of engagement forms a main part of the Job Demands-Resources (JD-R) model of worker wellbeing (Bakker & Demerouti, 2007), which posits that reducing job demands (e.g., heavy workloads, role conflict, poor environmental conditions) and increasing personal resources (e.g., social support, autonomy, resilience) would enhance work engagement and minimise burnout/stress (Bakker, 2011; Xanthopoulou, Bakker, Demerouti & Schaufeli, 2007). While many studies have investigated worker engagement across different industries, such as healthcare (Keyko et al., 2016; Lepistö et al., 2018), education (Burić & Macuka, 2018) and social work (Ravalier, 2018), none have specifically examined engagement levels of AOD workers.

Previous research on the AOD workforce has reported elevated stress and exhaustion levels that have been associated with demanding workloads and time pressures; conversely, having a supportive workplace and meaningful work appeared to counteract these demands and maintain job satisfaction (Best et al., 2016; Duraisingam et al., 2009; Roche, Duraisingam, Trifonoff & Tovell, 2013). However, the factors that impact engagement among AOD workers remain unknown. Identifying factors associated with AOD workers' engagement may improve worker retention, skill development and capacity and in turn the quality and range of care provided by AOD services.

This preliminary study therefore examined a number of potential predictors of worker engagement in the AOD field, including resilience, social support, leadership quality, role clarity, knowledge of performance, cohesion, growth, autonomy, communication and staffing. While some factors (i.e., social support, role clarity, leadership quality, autonomy and growth) have been associated with reduced stress and burnout, or increased satisfaction amongst the AOD workforce (Best et al., 2016; Broome, Knight, Edwards & Flynn, 2009; Duraisingam et al., 2009; Garner, Knight & Simpson, 2007; Oser et al., 2013), none have been examined in relation to work engagement in the AOD field.

Hence, this study sought to explore the extent to which job and personal resources are predictive of work engagement in the AOD sector. In line with the JD-R model, it was hypothesised that AOD workers with higher levels of resources would report higher levels of vigour, dedication and absorption in their work, offering practice and policy implications for efficient service provision and effective workforce development.

Method

The study was part of a larger project that examined the wellbeing and organisational climate of AOD workers employed in non-government organisations (NGOs) in New South Wales (NSW), Australia. The AOD NGO sector comprises a highly diverse range of non-profit agencies with different treatment models and philosophical orientations (Gethin, 2008). Examples of AOD NGOs include charity-operated residential rehabilitation centres, youth outreach centres, remote Aboriginal controlled organisations, or community development organisations. AOD NGO organisations employ a variety of different professions including counsellors, social workers, nurses, doctors, psychologists, health promotion workers, support workers, peer workers, educators and researchers.

The study involved a cross-sectional survey design. An online questionnaire was purpose-developed to gather information on socio-demographics, professional and job characteristics, and levels of health and wellbeing of respondents. A preliminary version of the survey was piloted and subsequently refined to improve the content, clarity and length. The final version of the questionnaire was hosted by the online survey platform SurveyMonkey® and took approximately 30 min to complete.

Data were collected between September–November 2017. AOD workers in NGO sector organisations in NSW were invited to participate in the survey via e-mail invitations sent through the state's peak body for NGO drug and alcohol services, the Network of Alcohol and other Drugs Agencies (NADA), and stakeholder communication networks. The survey was also promoted via AOD sector online forums (websites and social media), AOD training events, and respondents who were encouraged to distribute the survey to colleagues. In recognition of respondents' time and contribution, they were given the opportunity to go into a draw to win an iPad mini upon completion of their surveys. Ethics approval for the study was obtained from Flinders University Social and Behavioural Research Ethics Committee.

Measures

In order to maintain methodological rigour, well-established and validated measures were used. Details of the full instrument are available elsewhere (Roche et al., 2018).

Work engagement

The 17-item Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2004) was used to measure respondents' levels of engagement on a seven-point Likert frequency scale (0 – never to 6 – everyday) along three dimensions: vigour (6 items; e.g., *At my work, I feel bursting with energy*), dedication (5 items; e.g., *I am enthusiastic about my job*), and absorption (6 items; e.g., *Time flies when I am working*). Acceptable internal consistency reliability (0.68–0.91) and good construct validity have been reported (Schaufeli & Bakker, 2004). Cronbach's alphas for the subscales and total scale ranged from 0.70–0.90 for this study.

Job resources

Leadership quality was a subscale taken from the Copenhagen Psychosocial Questionnaire (COPSOQ) (Kristensen, Hannerz, Høgh & Borg, 2005) (8 items; e.g., *To what extent would you say that your immediate supervisor is good at allocating work?*). Responses were scored on a five-point Likert type scale (0 – to a very small extent, 25 – to a small extent, 50 – somewhat, 75 – to a large extent and 100 – to a very large extent). A mean scale score was calculated by adding the scores of each item and dividing it by the total number of items. Cronbach's alpha for this scale was 0.96.

Two items from the Michigan Organizational Assessment Questionnaire (MOAQ) (Cammann, Fichman, Jenkins & Klesh, 1983)

were used to measure role clarity, that is, respondents' certainty of their roles and responsibilities (*Most of the time, I know what I have to do in my job and In my job I know exactly what is expected of me*) on a five-point Likert response measure (1 – strongly disagree to 5 – strongly agree). A total score was calculated by summing both item response scores. Cronbach's alpha for this scale was 0.79.

An additional two items adapted from the MOAQ's Knowledge of Results scale were used to assess one's knowledge of their performance (*I seldom know whether I'm doing my job well or poorly* and *I usually don't know whether or not my work is satisfactory in this job*) (Cammann et al., 1983). Both items were reverse scored before being summed so that higher scores reflected better knowledge of performance. Cronbach's alpha for this scale was 0.82.

Other job resources were measured using the Texas Christian University Organizational Readiness to Change (ORC) scale (Lehman, Greener & Simpson, 2002). Resources included Cohesion (6 items; e.g., *Staff here all get along very well*), Growth (5 items; e.g., *This agency encourages and supports professional growth*), Communication (5 items; e.g., *Ideas or suggestions from staff get a fair hearing from management*), Autonomy (5 items; e.g., *Staff here are free to try out different ideas or techniques*), and Staffing (6 items; e.g., *Staff here have the skills they need to do their jobs*). Responses were scored on a five-point Likert-type agreement scale (1 – strongly disagree to 5 – strongly agree) and scores were obtained by summing responses to each set of items. An average mean score was calculated for each subscale and multiplied by 10 in order to rescale final scores to range from 10 to 50 (Lehman et al., 2002). The ORC indexes have been previously demonstrated to have good reliability and construct validity (Lehman et al., 2002). Cronbach's alpha for these scales ranged from 0.68 to 0.92.

Personal and social resources

Resilience was measured with the 6-item Brief Resilience Scale (BRS) (Smith et al., 2008), designed to assess the ability to cope with stress (e.g., *I tend to bounce back quickly after hard times*). Responses were scored on a five-point Likert-type scale (1 – strongly disagree to 5 – strongly agree). Three negatively-worded items were reverse scored before tabulating a mean scale score by adding item response scores and dividing the total by six. Cronbach's alpha for this scale was 0.87.

Nine items reflecting the personal resource of social support were selected from the English version of the Brief Job Stress Questionnaire (BJSQ) (Shimomitsu, Yokoyama, Ohno, Maruta & Tanigawa, 2000) designed to measure supervisor, coworkers and family/friends social support (e.g., *How freely can you talk with the following people?*). Responses were scored on a four-point Likert-type frequency scale (1 – extremely to 4 – not at all). All items were reverse scored before being summed, with higher scores denoting higher levels of social support. Cronbach's alpha for this scale was 0.99.

Statistical analyses

Data analysis was carried out using the SPSS statistical software package, version 25. A missing values analysis was undertaken where measures of interest had missing data ranging from 20% to 34%. Little MCAR's test indicated that the data was missing at random ($\chi^2 = 1096.53$, $p = .972$). Thus, listwise deletion was selected as the option for handling missing data.

Descriptive statistics were performed (means, standard deviations), in addition to correlational analyses (Pearson's correlation) between variables. Multiple and hierarchical linear regression models were used to identify significant predictors, separate contributions of job and personal resources, and the total variance for work engagement and its distinct components. The sequence of entry for the variables was based on the JD-R theory and previous research on engagement. Covariates were entered into the first block, followed by organisational resources in the second block, and personal resources in the final block.

Results

Sample size and characteristics

A total of 294 useable surveys were obtained. Most respondents were female (66.4%) with a mean age of 43.4 (SD = 11.8). A third (34.4%) were aged 50 years or over, a quarter each were aged between 40–49 years (26.4%) and 30–39 years (23.6%), and 16% were under 30 years. The largest proportion of AOD sector employees were employed as generic AOD workers (33.9%); other common roles were case manager/case worker (23.7%), counsellor (18.6%), and manager/team leader (13.1%). Most respondents were employed on a permanent full-time basis (58.2%) in urban-based organisations (52.9%) and were involved in direct client services (75.9%). Almost half the sample (43.8%) had been working in the AOD sector for less than five years, and substantial proportions had one year (or less) experience in the AOD sector (16.4%), their current organisation (25.7%), or their current position (37.7%).

It is estimated that the NGO AOD workforce in the state of New South Wales comprises approximately 1000 workers (Network of Alcohol & other Drugs Agencies, 2014); therefore, the survey respondents represent the views of around one-third of the workforce. Presently, there is limited recent data available on the characteristics of the Australian AOD workforce, however, past national surveys suggest that workers are predominantly female (66%); aged approximately 45 or over; with an average duration of working in the AOD field for approximately 5 years (Duraisingam et al., 2009). Previous workforce surveys in NSW have reported similar demographics (Gethin, 2008; Network of Alcohol & other Drugs Agencies, 2014). Thus, although available comparison data is somewhat sparse and caution is warranted, the current findings appear approximately representative of national NGO AOD workforces overall.

Descriptive statistics and correlational analysis

Table 1 presents the means, standard deviations, and zero-order correlations between the covariates, predictors, and outcome variables. Mean scores for engagement (4.3), and its dimensions of vigour (4.3), dedication (4.8) and absorption (4.0), were on the higher end of the range of 0 to 6, indicating high levels of engagement (see Table 1). Over 70% ($n = 140$; 71.8%) of the sample recorded a total work engagement score of 4 or more.

Resource variables correlated positively with engagement and its subscales. Significant correlations ranged from 0.20 to 0.46 ($p < .01$), reflecting small to moderate associations. Age and gender were considered as covariates. Although age had significant positive correlations with engagement and subscales of engagement, with the exception of absorption, the associations were weak in strength ($r = 0.20$ to 0.24 ; $p < .01$). Gender was not significantly correlated with engagement or its subscales.

Prior to the regressions, preliminary analyses were undertaken to ensure no violation of the assumptions of normality, linearity, and homoscedasticity (Tabachnick & Fidell, 2007) and correlations amongst predictor variables included in the study were assessed for any potential threats of multicollinearity (see Table 1). The Communication variable had a strong correlation with autonomy and leadership quality, so was excluded from the regressions. All other correlations were weak to moderate in association. Further, the Staffing variable was also excluded from the regressions due to its low scale reliability.

Regression results

Hierarchical multiple regressions were performed to examine the separate and combined capacity of job and personal resources in predicting total work engagement scores, and scores on the vigour, dedication and absorption subscales.

Table 1
Means, standard deviations, range, reliability and zero-order correlations.

Variables	Means	SD	Range	N	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 Age	43.36	11.82	-	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 Gender	-	-	-	274	-	-0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 Leadership quality	62.49	26.65	0-100	217	.96	-0.03	.04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4 Role clarity	8.05	1.29	2-10	221	.79	.29**	.04	.22**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Knowledge of performance	7.12	1.74	2-10	220	.82	.25**	-0.06	.31**	.31**	-	-	-	-	-	-	-	-	-	-	-	-	-
6 Autonomy	33.20	8.18	10-50	217	.86	-0.04	.08	.62**	.19**	.25**	-	-	-	-	-	-	-	-	-	-	-	-
7 Cohesion	35.79	7.93	10-50	215	.92	.02	-0.01	.49**	.11	.25**	.46**	-	-	-	-	-	-	-	-	-	-	-
8 Communication	31.54	8.73	10-50	208	.88	.05	.03	.70**	.27**	.24**	.79**	.51**	-	-	-	-	-	-	-	-	-	-
9 Growth	38.20	6.86	10-50	222	.83	.14	-0.03	.54**	.23**	.31**	.47**	.44**	.44**	-	-	-	-	-	-	-	-	-
10 Staffing	31.91	5.89	10-50	217	.68	.12	-0.12	.44**	.26**	.25**	.51**	.44**	.52**	.39**	-	-	-	-	-	-	-	-
11 Social support	28.56	4.81	9-36	217	.99	-0.12	-0.09	.50**	.19**	.20**	.47**	.53**	.46**	.40**	.23**	-	-	-	-	-	-	-
12 Resilience	3.66	.64	1-6	226	.87	.14*	-0.00	.18**	.19**	.27**	.17*	.22**	.16*	.25**	.17*	.23**	-	-	-	-	-	-
13 Vigour	4.27	.83	0-6	202	.80	.23**	-0.02	.38**	.40**	.31**	.24**	.25**	.34**	.37**	.32**	.27**	.38**	-	-	-	-	-
14 Dedication	4.79	.85	0-6	202	.85	.24**	.03	.46**	.40**	.27**	.29**	.29**	.37**	.39**	.32**	.36**	.24**	.69**	-	-	-	-
15 Absorption	4.04	.77	0-6	201	.70	.07	.08	.29**	.20**	.12	.13	.09	.21**	.26**	.10	.22**	.01	.61**	.54**	-	-	-
16 Total engagement	4.34	.70	0-6	195	.90	.20**	.02	.44**	.39**	.29**	.26**	.26**	.36**	.40**	.29**	.33**	.25**	.90**	.86**	.85**	-	-

Note.
* $p < .05$.
** $p < .01$.

Table 2
Hierarchical regression model of work engagement.

	R	R ²	R ² Change	B	SE	β
Step 1 (Constant)	.25	.06**		3.78	.21	
Age				.01	.00	0.25***
Gender				-0.04	.11	-0.03
Step 2 (Constant)	.60	.37***	.30***	1.73	.38	
Age				.01	.00	0.15*
Gender				-0.06	.09	-0.04
Leadership quality				.01	.00	0.30***
Role clarity				.15	.04	0.29***
Knowledge of performance				-0.01	.03	-0.03
Autonomy				-0.02	.01	-0.09
Cohesion				-0.01	.01	-0.04
Growth				.02	.01	0.20*
Step 3 (Constant)	.64	.41**	.04**	1.00	.43	
Age				.01	.00	.17*
Gender				-0.03	.09	-0.02
Leadership quality				.01	.00	0.30***
Role clarity				.14	.04	0.26***
Knowledge of performance				-0.02	.03	-0.06
Autonomy				-0.01	.01	-0.13
Cohesion				-0.01	.01	-0.07
Growth				.02	.01	.18*
Resilience				.15	.07	.14*
Social support				.03	.01	.20*

Note.

* $p \leq 0.05$.

** $p \leq 0.01$.

*** $p \leq 0.001$. Durbin Watson test = 1.94; Variance Inflation Factors (VIFs) ranged from 1.1 to 2.1 in Step 3.

The first regression identified predictors of the total work engagement score, with age and gender entered into the first step of the hierarchical multiple regression (Table 2). Age was a significant predictor and explained 6% of the variance. In the second step, job resources together explained 30% of the variance in work engagement, after controlling for covariates. Leadership quality, role clarity and growth made significant unique contributions to the model. In the final step, personal resources were added into the model, contributing a further 4% to the variance in engagement. The total variance explained by the model as a whole was 41% [$R^2 = 0.41$; $F(10,157) = 10.87$; $p < .001$]. In the final adjusted model, five resources, along with age, were significant predictors of engagement, with leadership quality ($\beta = 0.30$, $p < .001$) being the strongest predictor followed by role clarity ($\beta = 0.26$, $p < .001$), social support ($\beta = 0.20$, $p < .05$), growth ($\beta = 0.18$, $p < .05$) and resilience ($\beta = 0.14$, $p < .05$).

Hierarchical linear regressions were then performed on each component of work engagement separately (i.e., vigour, dedication and absorption). For vigour, age and gender explained 8% of the variance in the first step, with age being a significant predictor. Job resources explained 29% of the variance after controlling for the covariates. Role clarity and leadership quality significantly contributed to the model. The introduction of personal resources into the model in the final step explained a further 8% of the variance in vigour. In the final adjusted model, age, leadership quality, role clarity and resilience were statistically significant, with role clarity recording a higher beta value ($\beta = 0.29$, $p < .001$) than resilience ($\beta = 0.28$, $p < .001$) and leadership quality ($\beta = 0.23$, $p < .01$). The total variance explained by the predictor variables was 45% [$R^2 = 0.45$; $F(10,164) = 13.24$; $p < .001$] (see Table 3).

For dedication, age was a significant covariate, explaining 7% of the variance in the first step. In the second step, job resources explained an additional 27% of the variance in dedication, with leadership quality

Table 3
Hierarchical regression model of vigour.

	R	R ²	R ² Change	B	SE	β
Step 1	.29	.08***				
(Constant)				3.57	.24	
Age				.02	.01	.28***
Gender				−0.13	.13	−0.08
Step 2	.61	.37***	.29***			
(Constant)				.91	.44	
Age				.01	.01	0.15*
Gender				−0.14	.11	−0.08
Leadership quality				.01	.00	0.22*
Role clarity				.19	.04	.30***
Knowledge of performance				.02	.04	0.04
Autonomy				−0.01	.01	−0.06
Cohesion				.01	.01	0.09
Growth				.02	.01	0.18
Step 3	.67	.45***	.08***			
(Constant)				−0.08	.48	
Age				.01	.00	0.18*
Gender				−0.12	.10	−0.07
Leadership quality				.01	.00	0.23**
Role clarity				.18	.04	.29***
Knowledge of performance				−0.00	.03	−0.00
Autonomy				−0.01	.01	−0.09
Cohesion				−0.00	.01	−0.01
Growth				.02	.01	0.15
Resilience				.36	.08	0.28***
Social support				.02	.01	0.09

Note.
* $p \leq 0.05$.
** $p \leq 0.01$.
*** $p \leq 0.001$. Durbin Watson test = 2.02; Variance Inflation Factors (VIFs) ranged from 1.0 to 2.1 in Step 3.

Table 4
Hierarchical regression model of dedication.

	R	R ²	R ² Change	B	SE	β
Step 1	.27	.07**				
(Constant)				4.12	.24	
Age				0.02	.01	0.27***
Gender				−0.00	.12	−0.00
Step 2	.58	.34***	.27***			
(Constant)				1.89	.44	
Age				0.01	.01	0.17*
Gender				−0.02	.11	−0.01
Leadership quality				0.01	.00	0.28**
Role clarity				0.16	.04	0.27***
Knowledge of performance				−0.01	.04	−0.03
Autonomy				0.00	.01	−0.00
Cohesion				0.01	.01	0.10
Growth				0.01	.01	0.09
Step 3	.60	0.36	0.02			
(Constant)				1.33	.49	
Age				0.01	.01	0.19*
Gender				0.01	.11	0.01
Leadership quality				0.01	.00	0.27***
Role clarity				0.14	.04	.24***
Knowledge of performance				−0.02	.03	−0.04
Autonomy				−0.00	.01	−0.09
Cohesion				0.00	.01	0.03
Growth				.01	.01	0.08
Resilience				.11	.08	0.09
Social support				.03	.01	0.15

Note.
* $p \leq 0.05$.
** $p \leq 0.01$.
*** $p \leq 0.001$. Durbin Watson test = 2.01; Variance Inflation Factors (VIFs) ranged from 1.1 to 2.1 in Step 3.

Table 5
Hierarchical regression model of absorption.

	R	R ²	R ² Change	B	SE	β
Step 1	.13	.02				
(Constant)				3.71	.23	
Age				0.01	.01	0.12
Gender				0.10	.12	0.06
Step 2	.38	.14***	.13***			
(Constant)				2.76	.46	
Age				0.00	.01	0.05
Gender				0.09	.11	0.06
Leadership quality				0.01	.00	0.26*
Role clarity				0.09	.05	0.17*
Knowledge of performance				−0.02	.04	−0.05
Autonomy				−0.01	.01	−0.14
Cohesion				−0.01	.01	−0.09
Growth				0.02	.01	0.20*
Step 3	.43	0.18*	0.04*			
(Constant)				2.43	.52	
Age				0.01	.01	0.10
Gender				0.14	.11	0.09
Leadership quality				0.01	.00	0.22*
Role clarity				0.07	.05	0.13
Knowledge of performance				−0.02	.04	−0.05
Autonomy				−0.02	.01	−0.18
Cohesion				−0.02	.01	−0.16
Growth				0.02	.01	0.20*
Resilience				−0.10	.09	−0.09
Social support				0.04	.02	0.24*

Note.
* $p \leq 0.05$.
** $p \leq 0.01$.
*** $p \leq 0.001$. Durbin Watson test = 1.80; Variance Inflation Factors (VIFs) ranged from 1.0 to 2.1 in Step 3.

and role clarity being significant predictors. In the final step, personal resources did not make a significant contribution to the variance in dedication. Leadership quality ($\beta = 0.27, p < .01$), role clarity ($\beta = 0.24, p < .001$) and age ($\beta = 0.19, p < .05$) were significant predictors in the final step. The total variance explained by the predictors together was 36% [$R^2 = 0.38; F(10,163) = 9.08; p < .001$] (see Table 4).

The final model looked at predictors of the engagement subscale ‘absorption’. In this model, the covariates did not make a significant contribution in the first step. Job resources explained 13% of the variance in the second step, with leadership quality, growth and role clarity being significant predictors. The addition of personal resources contributed a further 4% to the variance in the third step. The total variance in the final model was 18% [$R^2 = 0.18; F(10,161) = 3.55; p < .05$]. Social support ($\beta = 0.24, p < .05$), leadership quality ($\beta = 0.22, p < .05$), and growth ($\beta = 0.20, p < .05$) were significant predictors (see Table 5).

Discussion

Workforce engagement has been shown to positively influence retention, work performance and quality of care (Bakker, 2011; Keyko et al., 2016; Loerbroks, Glaser, Vu-Eickmann & Angerer, 2017), all of which impact the sustainability and effectiveness of AOD workforces (Duraisingam et al., 2009; Roche & Nicholas, 2017). While numerous studies have investigated stress and burnout in the AOD workforce (e.g., Beitel et al., 2018; Duraisingam et al., 2009; Ewer et al., 2015; Kolla & Strike, 2019; Oser et al., 2013) and work engagement among health professions (e.g., Keyko et al., 2016; Lepistö et al., 2018; Rivera, Fitzpatrick & Boyle, 2011), no published studies to date have examined work engagement and its predictors in the AOD sector specifically. This is one of the first known studies to examine

work engagement among an AOD workforce.

This preliminary study aimed to identify important factors that could predict levels of work engagement. It was envisaged that job and/or personal resources would make a significant contribution to work engagement levels, with higher levels of resources leading to higher levels of engagement. The majority of workers in this study exhibited high engagement levels, suggesting that most were dedicated and motivated in their jobs. Total work engagement levels for our sample of AOD workers were similar to engagement scores of healthcare workers in Canadian and American nurses (Giallonardo, Wong & Iwasiw, 2010; Sullivan Havens, Warshawsky & Vasey, 2013), suggesting that, although rarely researched, workers in AOD and the health sectors more generally are engaged in their work despite the challenges they face (c.f. Roche & Nicholas, 2017).

In our study, the main contributors to engagement in general were increased age, good leadership quality, greater role clarity, strong social support, opportunity for professional growth, and high resilience. Leadership quality was a significant predictor across all components of engagement in this study, highlighting the importance of good leadership in keeping workers motivated and engaged in their jobs (Ben-Zur & Michael, 2007; Giallonardo et al., 2010; Schaufeli, 2017). This echoes findings from other studies that have reported good leadership to be associated with motivated, committed, empowered and satisfied workers (Broome et al., 2009; Graf, Cignacco, Zimmermann & Zúñiga, 2016; Greasley et al., 2008; Greco, Laschinger & Wong, 2006). However, cultivation of leadership capabilities is often overlooked when AOD workforce development strategies are devised and prioritised. A key finding of this study is the need to place greater emphasis on fostering, supporting and mentoring those with leadership roles to ensure that they grow to become supportive, effective and inspiring leaders (Bakker, 2017; Graf et al., 2016; Greco et al., 2006; Roche & Nicholas, 2017).

Role clarity was also a significant predictor for overall engagement, consistent with previous studies (Gibbons, 2006). For instance, studies of Scottish nurses working with drug users highlighted the importance of role clarity (Cameron et al., 2006). When workers, and others, know what is expected of them in their job roles, they are more likely to exhibit the requisite confidence and perseverance to handle challenges and function at an optimal level (Suan & Nasurdin, 2012). The importance of delineating clear roles and responsibilities for AOD workers to foster and maintain their engagement cannot be overstated. The provision of clear and detailed job descriptions, regular feedback and supervision would be beneficial in ensuring that AOD workers manage expectations and demands (Foote, Seipel, Johnson & Duffy, 2005; Roche & Nicholas, 2017; Roche, Todd & O'Conner, 2007).

Older age was also a significant predictor of engagement. It may be that older AOD workers, with their greater years of work and life experience, have developed sufficient resources to cope with demands and/or are more committed to their work, compared to their younger counterparts (Nicholas, Duraisingam, Roche, Hodge & Braye, 2017). It is also possible that only those that "survive and thrive" in this sector remain, while others leave within the first few years. Previous studies have found mixed results in regard to age, suggesting that it may depend on the nature of the occupation or setting (Keyko et al., 2016; Rivera et al., 2011; Walker & Campbell, 2013). As there is known to be a significant degree of stress, burnout and high turnover intention, especially amongst younger workers, it is important to address the needs of younger, less experienced workers, who are new to the AOD sector (Duraisingam et al., 2009; Knudsen et al., 2008; Roche, Kostadinov & Fischer, 2017). Strategies to enhance young workers' coping skills and foster supportive working environments may be effective in maintaining engagement and retention in the sector. In addition, pro-actively recruiting mature age workers, with their richer life experience, may be an additional cost-effective strategy.

A higher level of resilience was also associated with engagement. This finding supports previous studies (Carson, King & Papatraianou,

2011; Collins, 2007; McCann et al., 2013) that have found resilience to be a strong protective and motivational resource for workers who face challenging and stressful environments. Workforce development policies and programs that focus on building resilience may help keep workers motivated, and better equipped to cope with the demands of the job (Nicholas et al., 2017). Resilience-building strategies could be embedded within workplace policies to include encouraging self-care and recreational activities, ensuring a healthy work-life balance, and promoting personal and professional mentoring and guidance (Barnett & Cooper, 2009; Collins, 2007; Hart, Brannan & De Chesnay, 2014; McCann et al., 2013).

Other significant predictors of overall engagement were professional growth and social support from peers, supervisors, and family and friends. This finding affirms results from previous studies that have found that support serves as protective factors in minimising stress and exhaustion as well as maximising job satisfaction and commitment (Best et al., 2016; Oser et al., 2013). Fostering positive and supportive work environments and increasing opportunities for professional development may be central to retaining AOD workers (Gallon et al., 2003). Provision of regular, quality clinical supervision is an effective strategy to improve professional efficacy and skill development, while also reducing turnover intention and increasing job satisfaction (Knudsen, Roman & Abraham, 2013; Roche et al., 2007).

Services, funders and policy makers often recognize the need for training for workers in various AOD roles (Campbell et al., 2017; Matheson, Thiruvothiyur, Robertson & Bond, 2016; Mayet, Manning, Williams, Loaring & Strang, 2011; Wilson et al., 2015) but are less likely to be aware of the need for other important mechanisms to achieve engagement. For instance, when examining ways to increase pharmacists' engagement in providing services for people with drug problems, Matheson et al. (2016) stressed the need for training as key.

The present study is not without limitations. First, given the cross-sectional design and convenience sampling, it is unknown whether significant associations would remain apparent over time, nor can there be any causal attributions. Self-report measures may also lead to socially desirable responding; however, the anonymous and online format of the survey would have mitigated some of these biases. Further, as the survey was conducted in a single jurisdiction, generalisability may be limited. Future studies should be conducted on a broader AOD population (including public and private sector AOD organisations) and larger sample size to validate these preliminary findings. The resources and needs of AOD workers within the field might also be dependent on their role or profession, hence, it may be necessary to examine different professions separately across such a diverse sector. In addition, future research should investigate other resources that could play a role in improving AOD workers' engagement levels. Qualitative research, such as in-depth interviews and/or focus groups could provide an increased and detailed understanding of the factors that influence AOD workers' engagement and help inform the development of an AOD-specific assessment tools, reducing the reliance on generic measures not designed to address the unique aspects of AOD work. It would also be of value to further explore the relationships between the different resources to identify potential mediating or moderating effects, and how that may influence worker engagement.

Conclusions

The provision of quality care in the AOD sector is largely dependent on the workforce. A skilled, experienced and engaged workforce is essential. Increasing our knowledge and understanding of factors that can enhance workforce engagement and retention can directly impact the quality and efficacy of the AOD sector. The findings from this initial study can inform workplace policies and workforce development strategies and impact the quality of AOD treatment, providing an invaluable first step in assessing AOD workers' engagement and identifying the factors that influence it. This is particularly important where

demands and challenges are an inherent and inevitable part of the job. Organisational- and individual-directed policies, strategies and interventions that include a clear delineation of job roles, development of effective leadership, provision of consistent and continuous support, opportunities for professional development, growth and increasing resilience, especially for younger, less experienced workers, are pivotal in fostering engagement. In turn, this will help to ensure a thriving, stable, and fulfilled AOD workforce that are able to deliver the highest quality of care.

Declaration of Competing Interest

None.

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References

- Bakker, A. B. (2017). Strategic and proactive approaches to work engagement. *Organizational Dynamics*, 46, 67–75. <https://doi.org/10.1016/j.orgdyn.2017.04.002>.
- Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20(4), 265–269.
- Bakker, A. B., & Demerouti, E. (2007). The job-demands resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
- Barnett, J. E., & Cooper, N. (2009). Creating a culture of self-care. *Clinical Psychology: Science and Practice*, 16(1), 16–20.
- Beitel, M., Oberleitner, L., Muthulingam, D., Oberleitner, D., Madden, L. M., Marcus, R., et al. (2018). Experiences of burnout among drug counselors in a large opioid treatment program: A qualitative investigation. *Substance Abuse*, 39(2), 211–217. <https://doi.org/10.1080/08897077.2018.1449051>.
- Ben-Zur, H., & Michael, K. (2007). Burnout, social support, and coping at work among social workers, psychologists, and nurses: The role of challenge/control appraisals. *Social Work in Health Care*, 45(4), 63–82. https://doi.org/10.1300/J010v45n04_04.
- Best, D., Savic, M., & Daley, P. (2016). The well-being of alcohol and other drug counselors in Australia: Strengths, risks, and implications. *Alcoholism Treatment Quarterly*, 34(2), 223–232.
- Bjerge, B., Christensen, L., & Oute, J. (2019). Complex cases—complex representations of problems. *International Journal of Drug Policy*. <https://doi.org/10.1016/j.drugpo.2019.09.011>.
- Brackertz, N., Wilkinson, A., & Davison, J. (2018). *Housing, homelessness and mental health: Towards systems change*. Australian Housing and Urban Research Institute.
- Brener, L., Von Hippel, W., & Kippax, S. (2007). Prejudice among health care workers toward injecting drug users with hepatitis C: Does greater contact lead to less prejudice. *International Journal of Drug Policy*, 18(5), 381–387.
- Broome, K., Knight, D., Edwards, J., & Flynn, P. (2009). Leadership, burnout, and job satisfaction in outpatient drug-free treatment programs. *Journal of Substance Abuse Treatment*, 37(2), 160–170. <https://doi.org/10.1016/j.jsat.2008.12.002>.
- Burić, I., & Macuka, I. (2018). Self-efficacy, emotions and work engagement among teachers: A two wave cross-lagged analysis. *Journal of Happiness Studies*, 19, 1917–1933. <https://doi.org/10.1007/s10902-017-9903-9>.
- Cameron, I. M., Matheson, C. I., Bond, C. M., van Teijlingen, E. R., Wardell, F. A., Cronkshaw, G., et al. (2006). A national survey of nurses working in the management of illicit drug misuse in Scotland. *International Journal of Drug Policy*, 5(17), 442–446.
- Cammann, C., Fichman, M., Jenkins, G. D., & Klesh, J. (1983). Michigan organizational assessment questionnaire. In S. E. Seashore, E. E. Lawler, P. H. Mirvis, & C. Cammann (Eds.), *Assessing organizational change: A guide to methods, measures, and practices* (pp. 71–138). New York, NY: Wiley-Interscience.
- Campbell, A., Neill, N. O., & Higgins, K. (2017). Health and social care workers' perceptions of NPS use in Northern Ireland. *International Journal of Drug Policy*, 40, 93–101.
- Carson, E., King, S., & Papatraianou, L. H. (2011). Resilience among social workers: The role of informal learning in the workplace. *Practice: Social Work in Action*, 23(5), 267–278.
- Collins, S. (2007). Social workers, resilience, positive emotions and optimism. *Practice: Social Work in Action*, 19(4), 255–269.
- Duraisingam, V., Pidd, K., & Roche, A. (2009). The impact of work stress and job satisfaction on turnover intentions: A study of Australian specialist alcohol and other drug workers. *Drugs: Education, Prevention and Policy*, 16(3), 217–231.
- Ewer, P., Teesson, M., Sannibale, C., Roche, A., & Mills, K. (2015). The prevalence and correlates of secondary traumatic stress among alcohol and other drug workers in Australia. *Drug and Alcohol Review*, 34(3), 252–258.
- Flatau, P., Conroy, E., Thielking, M., Clear, A., Hall, S., Bauskis, A., et al. (2013). *How integrated are homelessness, mental health and drug and alcohol services in Australia?*. Foote, D. A., Seipel, S. J., Johnson, N. B., & Duffy, M. K. (2005). Employee commitment and organizational policies. *Management Decision*, 43, 203–219.
- Gallon, S., Gabriel, R., & Knudsen, J. (2003). The toughest job you'll ever love: A Pacific northwest treatment workforce survey. *Journal of Substance Abuse Treatment*, 24(3), 183–196.
- Garner, B., Knight, K., & Simpson, D. (2007). Burnout among corrections-based drug treatment staff: Impact of individual and organizational factors. *International Journal of Offender Therapy and Comparative Criminology*, 51(5), 510–522.
- Gethin, A. (2008). *NSW alcohol and other drug non government sector: Workforce profile and issues*. Sydney: Argyle Research and Training Pty Limited.
- Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: Predictor of new graduate nurses' work engagement and job satisfaction. *Journal of Nursing Management*, 18(8), 993–1003. <https://doi.org/10.1111/j.1365-2834.2010.01126.x>.
- Gibbons, J. (2006). *Employee engagement: A review of current research and its implications*. New York, NY: The Conference Board.
- Graf, E., Cignacco, E., Zimmermann, K., & Zúñiga, F. (2016). Affective organizational commitment in Swiss nursing homes: A cross-sectional study. *The Gerontologist*, 56(6), 1124–1137.
- Greasley, K., Bryman, A., Dainty, A., Price, A., Naismith, N., & Soetanto, R. (2008). Understanding empowerment from an employee perspective. *Team Performance Management*, 14(1), 39–55.
- Greco, P., Laschinger, H. K. S., & Wong, C. (2006). Leader empowering behaviours, staff nurse empowerment and work engagement/burnout. *Nursing Leadership*, 19(4), 41–56.
- Hart, P., Brannan, J., & De Chesnay, M. (2014). Resilience in nurses: An integrative review. *Journal of Nursing Management*, 22(6), 720–734.
- Keyko, K., Cummings, G. G., Yonge, O., & Wong, C. A. (2016). Work engagement in professional nursing practice: A systematic review. *International Journal of Nursing Studies*, 61, 142–164. <https://doi.org/10.1016/j.ijnurstu.2016.06.003>.
- Knudsen, H., Ducharme, L., & Roman, P. (2008). Clinical supervision, emotional exhaustion, and turnover intention: A study of substance abuse treatment counselors in the clinical trials network of the national institute on drug abuse. *Journal of Substance Abuse Treatment*, 35(4), 387–395.
- Knudsen, H., Roman, P., & Abraham, A. (2013). Quality of clinical supervision and counselor emotional exhaustion: The potential mediating roles of organizational and occupational commitment. *Journal of Substance Abuse Treatment*, 44(5), 528–533.
- Kolla, G., & Strike, C. (2019). 'It's too much, I'm getting really tired of it': Overdose response and structural vulnerabilities among harm reduction workers in community settings. *International Journal of Drug Policy*, 74, 127–135. doi.org/10.1016/j.drugpo.2019.09.012.
- Kristensen, T. S., Hannerz, H., Høgh, A., & Borg, V. (2005). The Copenhagen psychosocial questionnaire – A tool for the assessment and improvement of the psychosocial work environment. *Scandinavian Journal of Work Environment & Health*, 31(6), 438–449.
- Lehman, W., Greener, J. M., & Simpson, D. D. (2002). Assessing organizational readiness for change. *Journal of Substance Abuse Treatment*, 22(4), 197–209. [https://doi.org/10.1016/S0740-5472\(02\)00233-7](https://doi.org/10.1016/S0740-5472(02)00233-7).
- Lepistö, S., Alanen, S., Aalto, P., Järvinen, P., Leino, K., Mattila, E., et al. (2018). Healthcare professionals' work engagement in Finnish university hospitals. *Scandinavian Journal of Caring Sciences*, 32, 979–986. <https://doi.org/10.1111/scs.12538>.
- Loerbroks, A., Glaser, J., Vu-Eickmann, P., & Angerer, P. (2017). Physician burnout, work engagement and the quality of patient care. *Occupational Medicine*, 67(5), 356–362. <https://doi.org/10.1093/occmed/kqx051>.
- Marshall, C., Perreault, M., Archambault, L., & Milton, D. (2017). Experiences of peer-trainers in a take-home naloxone program: Results from a qualitative study. *International Journal of Drug Policy*, 41, 19–28. <https://doi.org/10.1016/j.drugpo.2016.11.015>.
- Matheson, C., Thiruvethiyur, M., Robertson, H., & Bond, C. (2016). Community pharmacy services for people with drug problems over two decades in Scotland: Implications for future development. *International Journal of Drug Policy*, 27, 105–112.
- Mayet, S., Manning, V., Williams, A., Loaring, J., & Strang, J. (2011). Impact of training for healthcare professionals on how to manage an opioid overdose with naloxone: Effective, but dissemination is challenging. *International Journal of Drug Policy*, 22(1), 9–15.
- McCann, C. M., Beddoe, E., McCormick, K., Huggard, P., Kedge, S., Adamson, C., et al. (2013). Resilience in the health professions: A review of recent literature. *International Journal of Wellbeing*, 3(1), 60–81. <https://doi.org/10.5502/ijw.v3i1.4>.
- Network of Alcohol and Other Drugs Agencies. (2014). *Responding to alcohol and drug related harms in NSW: Mapping the NSW non government alcohol and other drugs sector*. NSW, Australia: NADA.
- Nicholas, R., Duraisingam, V., Roche, A., Hodge, S., & Braye, K. (2017). *Enhancing alcohol and other drug workers' wellbeing: A literature review*. Adelaide, South Australia: National Centre for Education and Training on Addiction (NCETA), Flinders University.
- Oser, C., Biebel, E., Pullen, E., & Harp, K. (2013). Causes, consequences, and prevention of burnout among substance abuse treatment counselors: A rural versus urban comparison. *Journal of Psychoactive Drugs*, 45(1), 17–27.
- Ravalier, J. M. (2018). The influence of work engagement in social workers in England. *Occupational Medicine*, 68(6), 399–404. <https://doi.org/10.1093/occmed/kqy087>.
- Ritter, A., Chalmers, J., & Gomez, M. (2019). Measuring unmet demand for alcohol and other drug treatment: The application of an Australian population-based planning model. *Journal of Studies on Alcohol and Drugs, Supplement(s18)*, 42–50.
- Rivera, R. R., Fitzpatrick, J. J., & Boyle, S. M. (2011). Closing the RN engagement gap: Which drivers of engagement matter? *Journal of Nursing Administration*, 41(6), 265–272. <https://doi.org/10.1097/NNA.0b013e31821c476c>.
- Roche, A., Duraisingam, V., Trifonoff, A., & Tovell, A. (2013). The health and well-being of indigenous drug and alcohol workers: Results from a national Australian survey. *Journal of Substance Abuse Treatment*, 44(1), 17–26.

- Roche, A., Kostadinov, V., & Fischer, J. (2017). Stress and addiction. In C. L. Cooper, & J. C. Quick (Eds.). *The handbook of stress and health: A guide to research and practice* (pp. 252–279). West Sussex, UK: John Wiley & Sons. <https://doi.org/10.1002/9781118993811.ch15>.
- Roche, A., Kostadinov, V., Hodge, S., Duraisingam, V., McEntee, A., Pidd, K., et al. (2018). *Characteristics and wellbeing of the nsw non-government aod workforce*. Adelaide, South Australia: National Centre for Education and Training on Addiction, Flinders University.
- Roche, A., & Nicholas, R. (2016). Mental health and addictions workforce development: Past, present, future. In M. Smith, & A. Jury (Eds.). *Workforce development theory and practice in the mental health sector*. Hershey, PA: IGI Global.
- Roche, A., & Nicholas, R. (2017). Workforce development: An important paradigm shift for the alcohol and other drugs sector. *Drugs: Education, Prevention and Policy*, 24(6), 443–454. <https://doi.org/10.1080/09687637.2016.1262823>.
- Roche, A. M., Todd, C. L., & O'Conner, J. (2007). Clinical supervision in the alcohol and other drugs field: An imperative or an option? *Drug and Alcohol Review*, 26(3), 241–249.
- Room, R. (2005). Stigma, social inequality and alcohol and drug use. *Drug and Alcohol Review*, 24(2), 143–155.
- Schaufeli, W. B., & Bakker, A. B. (2004). *UWES: Utrecht work engagement scale*. Utrecht University, the Netherlands. Preliminary Manual (Version 1.1) Retrieved 15th September 2017 from https://www.wilmarschaufeli.nl/publications/Schaufeli/Test%20Manuals/Test_manual_UWES_English.pdf.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71–92.
- Schaufeli, W. B. (2017). The job demands-resources model; a 'how to' guide to increase work engagement and prevent burnout. *Organizational Dynamics*, 46, 120–132. <https://doi.org/10.1016/j.orgdyn.2017.04.008>.
- Shimomitsu, T., Yokoyama, K., Ohno, H., Maruta, T., & Tanigawa, T. (2000). Manual of the brief job stress questionnaire. *Reports on the study of job stress and its effects on health in the workplace: The research grant for the prevention of work-related diseases from the Japan Ministry of Labour* (pp. 17–135). Tokyo: The Ministry of Labor.
- Skinner, N., & Roche, A. (2005). *Stress and burnout: A prevention handbook for the alcohol and other drugs workforce*. Adelaide, Australia: National Centre for Education and Training on Addiction, Flinders University.
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15, 194–200. <https://doi.org/10.1007/s10869-010-9194-1>.
- Suan, C. L., & Nasurdin, A. M. (2012). Role clarity, supervisory support, peer support and work engagement of customer-contact employees in hotels: A future research agenda. *International Business Management*, 6(6), 692–698.
- Sullivan Havens, D., Warshawsky, N. E., & Vasey, J. (2013). RN work engagement in generational cohorts: The view from rural us hospitals. *Journal of Nursing Management*, 21, 927–940. <https://doi.org/10.1111/jonm.12171>.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston, MA: Allyn & Bacon/Pearson Education.
- Treloar, C., Rance, J., & Group, E. S. (2014). How to build trustworthy hepatitis C services in an opioid treatment clinic? a qualitative study of clients and health workers in a co-located setting. *International Journal of Drug Policy*, 25(5), 865–870.
- van de Ven, K., Ritter, A., & Roche, A. (2019). Alcohol and other drug (AOD) staffing and their workplace: Examining the relationship between clinician and organisational workforce characteristics and treatment outcomes in the AOD field. *Drugs: Education, Prevention and Policy*. <https://doi.org/10.1080/09687637.2019.1622649>.
- Walker, A., & Campbell, K. (2013). Work readiness of graduate nurses and the impact on job satisfaction, work engagement, and intention to remain. *Nurse Education Today*, 33, 1490–1495. <https://doi.org/10.1016/j.nedt.2013.05.008>.
- Whittington, J. L., Meskelis, S., Asare, E. K., & Beldona, S. (2017). *Enhancing employee engagement: An evidence-based approach*. New York, NY: Palgrave Macmillan.
- Wilson, D. P., Donald, B., Shattock, A. J., Wilson, D., & Fraser-Hurt, N. (2015). The cost-effectiveness of harm reduction. *International Journal of Drug Policy*, 26, S5–S11.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, 14(2), 121–141.