

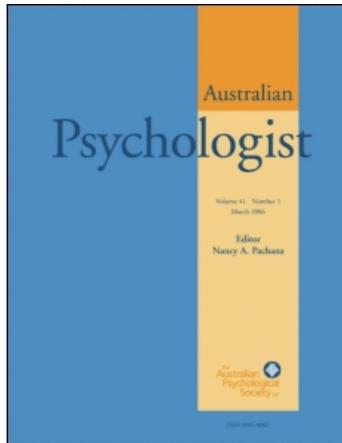
This article was downloaded by: [University of Wollongong]

On: 6 November 2010

Access details: Access Details: [subscription number 907698330]

Publisher Taylor & Francis

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Australian Psychologist

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713740458>

### On being mindful, emotionally aware, and more resilient: Longitudinal pilot study of police recruits

Virginia Williams<sup>a</sup>; Joseph Ciarrochi<sup>a</sup>; Frank Patrick Deane<sup>ab</sup>

<sup>a</sup> School of Psychology, <sup>b</sup> Illawarra Institute for Mental Health, University of Wollongong, Wollongong, New South Wales, Australia

Online publication date: 05 November 2010

**To cite this Article** Williams, Virginia , Ciarrochi, Joseph and Patrick Deane, Frank(2010) 'On being mindful, emotionally aware, and more resilient: Longitudinal pilot study of police recruits', Australian Psychologist, 45: 4, 274 – 282

**To link to this Article: DOI:** 10.1080/00050060903573197

**URL:** <http://dx.doi.org/10.1080/00050060903573197>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## On being mindful, emotionally aware, and more resilient: Longitudinal pilot study of police recruits

VIRGINIA WILLIAMS<sup>1</sup>, JOSEPH CIARROCHI<sup>1</sup>, & FRANK PATRICK DEANE<sup>1,2</sup>

<sup>1</sup>School of Psychology and <sup>2</sup>Illawarra Institute for Mental Health, University of Wollongong, Wollongong, New South Wales, Australia

### Abstract

Police officers are at particular risk of stress when compared to people in other occupational groups. A compounding factor is that police are prone to the use of avoidant coping strategies when attempting to deal with this stress. Evidence suggests that “anti-avoidance” strategies, of acceptance, mindfulness and emotional awareness, are more effective ways of coping, and are linked to both mental health and personal effectiveness. This study followed 60 trainee police officers from the recruit phase into the workplace to determine if these processes predicted more positive mental health and wellbeing in police recruits after 1 year of service. Mindfulness predicted depression at follow-up, while emotion identification skill predicted general mental health. These results suggest that police officers and police organisations may benefit from interventions aimed at developing and promoting mindfulness and emotion identification.

**Key words:** *Acceptance, emotion identification, mental health, mindfulness, police.*

Researchers have found policing to be among the most stressful of all occupations (Burke, 1993; Hart & Cotton, 2002; He, Zhao, & Archbold, 2002; Violanti, Marshall, & Howe, 1985). The range of stressors that are likely to be experienced by officers is almost limitless and can vary greatly even within one shift. For instance, an officer may find themselves involved in a violent confrontation with an offender, and then within the space of minutes may be called upon to calm and console the family of a road-trauma victim. Policing is unique in that officers are required to “take charge” in situations that are quite likely inconceivable to others in the community. In addition to these occupational stressors, police face many organisational stressors, which include pressure from the government and community to reduce crime, lack of supervisor support, internal investigations, organisational change, and reorganisation of departments (Brown & Campbell, 1994; Kohan & Mazmanian, 2003).

What determines how well an officer deals with these stressors? Recent theory suggests that people who chronically avoid their internal experiences and

who are less aware of them also tend to adjust more poorly to stress (Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Gross, 2002; John & Gross, 2004). Little of this research has focused on the police and in particular on the ability of police recruits to adjust to police life. The present study followed police recruits from the trainee phase into the workplace. We assessed the extent that several variables related to avoidant coping and low awareness predicted future wellbeing in police officers. Our Time 1 variables included measures of experiential avoidance (avoiding negative private experience), thought suppression (actively suppressing aversive thoughts), difficulty identifying emotions (low awareness of feelings), and mindfulness (curious awareness and acceptance of experience).

### *Experiential avoidance and thought suppression*

Avoidance behaviours can be thought of as any action engaged in by an individual in an attempt to escape from, suppress, change, forget about or in any other way, avoid, parts of their private experience

with which they are uncomfortable (Hayes et al., 2004). "Private experiences" include thoughts, emotions, memories, images, and bodily sensations (Hayes et al., 2004). These constitute a combination of psychological content and autonomic nervous system responses that take place within the individual. "Experiential avoidance" is a natural defensive tendency for many people in that it seems logical that one should try to avoid a stimulus that causes pain or discomfort (Ciarrochi, Robb, & Godsell, 2005). This kind of avoidance predicts negative outcomes for substance abuse and depression (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996) and can predispose individuals to higher levels of anxiety (Feldner, Zvolensky, Eifert, & Spira, 2003) and poorer well-being (Bond & Bunce, 2000). In a study involving >2,400 subjects, Hayes et al. (2004) found that higher levels of experiential avoidance were linked to higher levels of general psychopathology, depression, anxiety, phobias, trauma and a lower quality of life.

In trying to avoid private experiences, the individual is trying to avoid something that is part of them and, as such, experiential avoidance may (at least sometimes) be futile, a suggestion with some empirical support. For example, in a study looking at the effects of thought suppression, participants were instructed not to think about something nonsensical for a short period of time (Wegner & Zanakos, 1994). Even though the target was something they were highly unlikely to think of ordinarily (i.e., a white bear), after they were instructed not to think about this they experienced a pre-occupation with white bears (Wegner & Zanakos, 1994). It was argued that individuals become "primed" or hypersensitive toward the suppressed stimuli due to subconscious and conscious monitoring processes.

Individuals attempting to suppress a particular thought tend to experience an intensification of the very thing they are trying to avoid (Wegner, Erber, & Zanakos, 1993). This state of mental hypervigilance has been shown to translate into "harmful arousal" of autonomic nervous system functioning (Pennebaker, 1995). Richards and Gross (1999) found that the cardiovascular activity (i.e., heart rate) of subjects who attempted to suppress "inappropriate thoughts" increased significantly from baseline during the period of attempted suppression. Similarly, research suggests that mood control can be, at best, difficult and potentially harmful (Hayes et al., 1996). Participants who were primed for a particular mood state by having them evoke a sad memory, were then instructed not to think about the evoked memory. Those in the thought-suppression group experienced greater interference from emotionally salient words (e.g., "unhappy") when completing an incidental computer task in comparison to subjects who did not receive the instruction to suppress (Wegner et al.,

1993). Deliberate attempts to suppress a particular mood may actually lead to an increase in the emotion in a kind of self-amplifying loop (e.g., Feldner et al., 2003).

#### *Organisational climate and avoidance in police*

Research has implicated the climate or culture of police organisations as a factor that predisposes officers to use avoidant coping strategies. As summarised by Lennings (1997), "The police culture inhibits the expression of emotion" (p. 560). The organisational climate determines what behaviours are appropriate and therefore likely to be used by police when dealing with stressful or emotionally charged situations (Hart & Cotton, 2002). If being rational, non-emotional and in control is the behaviour modelled by senior officers, it is likely that these attitudes and behaviours will become the norm for junior police. Violanti (1993) found that maladaptive coping (especially avoidance) was socialised among a sample of recruits in training. It has also been found that police officers become more emotionally detached and hardened within the first 18 months of service (Robinson, Sigman, & Wilson, 1997). Police are therefore at risk of developing personality styles that are unsentimental, detached (Evans, Coman, Stanley, & Burrows, 1993), and cynical (Violanti et al., 1985). They may tend to deal with emotions by "blocking them out", even when it is not appropriate (e.g., non-crisis situations, personal relationships).

#### *Difficulty identifying feelings*

Blocking emotions and detachment may be protective during crises, but may not be so beneficial to officers in other situations (e.g., regular workplace interactions, personal relationships). Amaranto, Steinberg, Castellano, and Mitchell (2003) reported that the police subculture gives rise to a tendency toward emotional restraint and the suppression of emotions. This tendency to suppress and avoid emotions and emotional content tends to indicate that police are likely to have more difficulty identifying and using emotions to appropriately guide their behaviour.

The ability to process emotional information is hypothesised to influence an individual's ability to cope during a stressful period. For example, individuals who have difficulty identifying feelings are more likely to experience distress and poorer adjustment to the demands of the stressor (Salovey, Mayor, Goldman, Turvey, & Palfai, 2002). Those who are able to recognise and differentiate between emotional responses to stress are less distressed in comparison to others who are confused or at a loss

about their emotional reactions (Kerr, Johnson, Gans, & Kruminer, 2004). Difficulty identifying feelings is likely to predispose an individual to poorer mental health (Ciarrochi, Chan, Caputi, & Roberts, 2001). Those with clinically significant deficits in emotional functioning are said to have a condition called "alexithymia", which literally means "no words for moods" (Sifneos, 1973, p.255). Clinically, alexithymia is defined as "... an inability to identify and describe one's own feelings" (Bagby, Parker, & Taylor, 1994). Alexithymia has been associated with psychosomatic disorders (e.g., hypertension and gastrointestinal complaints), panic attacks and eating disorders (Taylor, 2000). Alexithymia is theorised to be a continuous variable, such that alexithymic behaviours can be seen in non-clinical populations, particularly in response to stressful life circumstances (Kerr et al., 2004).

#### *Acceptance and mindfulness as alternatives to avoidance*

One alternative to experiential avoidance is psychological acceptance. Acceptance can be described as an active taking in of thoughts, feelings, memories (i.e., private experiences) and an openness to private experiences as they occur, without trying to avoid, escape, or change them (Hayes, Strosahl, & Wilson, 1999). Acceptance "is a deliberate openness, mindfulness or psychological embracing of experience" and involves deliberate action to heighten contact, or remove barriers to private experiences (Hayes, 2001, p. 27). Acceptance has been linked to improved mental health, wellbeing and personal effectiveness in both clinical and workplace studies (see Ciarrochi & Godsell, 2005, for a review).

Mindfulness is a concept related to acceptance and refers to an active state of consciousness, which involves being open to and engaging with all aspects of one's moment-to-moment experience (Ciarrochi & Godsell, 2005). "Mindful awareness" involves paying attention to the present reality, in a non-judgmental manner (Kabat-Zinn, 1990). It is the antithesis of "mindlessness", which is characterised by compulsive or automatic behaviour that is disengaged with present consciousness (Brown & Ryan, 2003). Where mindfulness is an open, active mental state, mindlessness can be defensively motivated and may involve refusal to acknowledge a thought or ruminative posturing (Brown & Ryan, 2003). In this sense, mindfulness shares similarities with the concept of acceptance because it is represented by openness and welcoming of psychological content without prescriptive judgment of its nature (e.g., "that's a bad thought").

Ryan and Deci (2000) posited that mindfulness is associated with wellbeing enhancement because it may help individuals disengage from unhealthy,

automatic patterns of behaviour. For example, individuals diagnosed with major depressive disorder indicated that they experienced a significant decrease in the relapse of depressive episodes after having participated in an 8-week group intervention program based on mindfulness-based cognitive therapy (Segal, Teasdale, Williams, & Gemar, 2002; Teasdale, Segal, & Williams, 1995). One of the major skills that was taught in the program was attentional control, whereby participants observe their thoughts and feelings non-judgmentally and view them as mental events that come and go. In a separate study, Brown and Ryan (2003) recruited 41 cancer patients to participate in an 8-week mindfulness-based stress reduction program. It was found that individuals with higher levels of mindfulness were more likely to experience lower levels of stress and mood disturbance, which contributed significantly to their overall wellbeing.

Much of the prior research involving police has focused on trying to identify sources of stress and the ways officers try to cope with their distress (Evans et al., 1993). Brown and Campbell (1994) found that some groups of police within the organisation are more prone to stress and stress-related illness. Newly appointed police officers are likely to be one such group. Very little research, however, has examined this transition period and studies involving trainee police are also scant (Violanti, 1993).

The aim of the present study was therefore to investigate whether the processes of acceptance, mindfulness and emotion identification predict mental health and wellbeing of police recruits after their first year on the job. We should note that although we have implied that acceptance is the opposite of avoidance, the relationship is not so simple. One may not be avoiding thoughts actively, but also not accepting the thoughts. Different measures of acceptance and avoidance may correlate only modestly, suggesting that they predict unique variance. Our plan is therefore not to lump all measures together into a single dimension, but rather to examine the extent that each of the measures is a longitudinal predictor. Our general hypothesis is that trainee police who score high on avoidance-related indices will have poorer mental health and wellbeing in comparison to their colleagues, following their transition into the workplace.

## **Method**

### *Participants*

The sample was derived from employees of the New South Wales Police (NSW Police), who were trainees at initial testing (Time 1) and probationary constables at the time of the second data collection

(Time 2). Ethics clearance was obtained via the University of Wollongong Human Ethics Committee. The potential participant pool at Time 1 was all 592 personnel enrolled in the Bachelor of Policing offered at a major university, who completed the baseline questionnaire. A total of 60 participants (10%) from Time 1 ( $n=592$ ) completed the questionnaire on the second administration 10–12 months later. Forty-four (73%) were male and 16 (27%) were female. When asked to indicate their relationship status, 50% of respondents reported being married or in a relationship, 47% were single, 2% reported being divorced and the remaining 1% did not specify. There were no differences on any of the demographic or main variables for those who completed both time periods and those who did not.

### Measures

**Acceptance and Action Questionnaire.** The Acceptance and Action Questionnaire (AAQ) (Hayes et al., 2004) is a 19-item inventory that measures low willingness to be present to psychological content (including thoughts, emotions, images and memories) whether positive, negative or otherwise, while behaving in a manner that is consistent with the pursuit of valued goals. It features items such as, “When I feel depressed or anxious, I am unable to take care of my responsibilities” and reverse-scored items such as “I am able to take action on a problem even if I am uncertain of what the right thing to do is”. Items are rated on a 7-point scale, ranging from 1 (*never true*) to 7 (*always true*). Higher scores on the AAQ indicate a propensity toward an unwillingness to accept psychological experiences and commit to valued action (experiential avoidance). The AAQ has demonstrated substantial incremental and criterion related validity, correlating significantly and moderately–highly with measures of general psychopathology, anxiety, depression and trauma (Hayes et al., 2004). The AAQ demonstrated modest reliability in the present study (Cronbach  $\alpha = .64$ ).

**White Bear Suppression Inventory.** The White Bear Suppression Inventory (WBSI) (Wegner & Zanakos, 1994) is a seven-item scale that measures the tendency to suppress unwanted thoughts (i.e., avoidance). Whereas the AAQ measures general avoidance, the WBSI focuses on one facet of avoidance, namely thought suppression. The instrument consists of statements such as, “I often do things to distract myself from thoughts” (Cronbach  $\alpha = 0.90$ ). Respondents rate their level of agreement with each statement using a 5-point scale ranging from *strongly disagree* (1) to *strongly agree* (5). Higher overall scores indicate a higher tendency toward thought suppression. The WBSI was used as a

reverse measure of acceptance in that it targets the opponent process of avoidance.

**Toronto Alexithymia Scale.** The Toronto Alexithymia Scale (TAS-20) (Bagby, Parker et al., 1994; Bagby, Taylor, & Parker, 1994) is a 20-item instrument designed to measure the extent to which individuals have difficulty identifying and describing their feelings. The scale has three subscales: Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings, and Externally Oriented Thinking. The DIF subscale was used to measure the construct of Emotion Identification Skill (EIS). As mentioned previously, an individual who possesses emotional identification skills is able to recognise and differentiate between emotional responses to stress and is more likely to be less distressed in comparison to others who are confused about their emotional reactions. A low score on the DIF subscale indicates that an individual is high in EIS. A statement typical of this scale is, “I am often confused about what emotion I am feeling” (Cronbach  $\alpha = .85$ ).

**Mindful Attention Awareness Scale.** The Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003) is a 15-item instrument that “assesses individual differences in the frequency of mindful states over time” (Brown & Ryan, 2003). The measure consists of items such as “It seems I am ‘running on automatic’ without much awareness of what I am doing” (Cronbach  $\alpha = .72$ ). Participants respond on a 6-point scale regarding their level of agreement to each statement (1 = *almost always*, 6 = *almost never*). Although a relatively new measure, the MAAS has demonstrated good retest reliability (Pearson  $r = 0.81$ ,  $p < .001$ ), as well as adequate convergent and discriminant validity when compared to other measures of mindfulness. Higher scores on the MAAS indicate a greater tendency toward mindful awareness, which has been associated with greater wellbeing (Brown & Ryan, 2003).

**General Health Questionnaire-12.** The General Health Questionnaire-12 (GHQ-12) (Goldberg, 1978) contains 12 items that measure general mental health (Cronbach  $\alpha = .70$ ). An example item is, “Have you recently . . . felt constantly under strain?” Responses are made on a Likert scale ranging from 0 (*not at all*) to 3 (*much more than usual*). Higher scores are indicative of greater mental ill-health.

**Depression Anxiety and Stress Scale.** The Depression Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1995) consists of three 14-item subscales designed to measure depression (“I couldn’t seem to experience any positive feeling at all”, Cronbach

$\alpha = .95$ ); anxiety (“I was worried about situations in which I might panic and make a fool of myself”, Cronbach  $\alpha = .89$ ); and stress (“I found it hard to relax”, Cronbach  $\alpha = .92$ ). Participants rated the extent to which each statement applied to them over the past 2 weeks using a 4-point rating scale ranging from “did not apply to me at all” (0) to “applied to me much or most of the time” (3).

### Procedure

At the initial data collection point (Time 1), participants were enlisted from four consecutive graduating recruit classes. Participants were in their final week of recruit training.

For the Time 2 administration, an electronic copy of the self-report survey utilised in the first administration was forwarded to participants via email. This survey included all measures administered to participants at Time 1. Each participant was contacted by email 10–12 months after graduating from the recruit training program. A follow-up email was sent to each Time 1 participant approximately 1 month after the electronic survey was disseminated

Table I. Mental health outcome measures: Time 1 vs. Time 2 ( $N = 60$ )

Measure	Time 1		Time 2		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Outcome					
General mental health problems	0.58	0.24	0.70	0.30	−2.47*
Depression	0.037	0.08	0.11	0.21	−2.57*
Anxiety	0.04	0.08	0.07	0.15	−1.63
Stress	0.28	0.36	0.28	0.35	−0.08
Process					
Difficulty identifying feelings	1.67	0.68	1.63	0.63	0.46
Mindfulness	4.71	0.65	4.70	0.72	0.03
Avoidance	3.21	0.44	3.11	0.44	1.65
Thought suppression	2.36	0.74	2.39	0.96	−0.23

Note. \* $p < .05$ .

Table II. Interrelations between process and outcome measures at Time 1 ( $N = 60$ )

	2.	3.	4.	5.	6.	7.	8.
1. Difficulty identifying feelings	−.56**	0.35**	0.49**	.21	−.09	.18	.22
2. Mindfulness	1.00	−.38**	−.53**	−.40**	−.34**	−.22	−.43**
3. Avoidance		1.00	.23	.36**	.11	−.09	0.03
4. Thought suppression			1.00	.55**	.15	.19	.23
5. Mental health problems				1.00	.16	−.08	.15
6. Depression					1.00	.02	.42**
7. Anxiety						1.00	.36**
8. Stress							1.00

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

to capture participants who did not receive the first email (e.g., were on annual leave) in an attempt to promote higher response rates.

### Results

Of the 60 respondents only two had a small amount of missing data (<10%), and scaled mean scores were used in these cases. As can be seen in Table I, mean scores for the four measures of mental health (i.e., GHQ and each of the three DASS subscales) were calculated and compared by way of a paired-sample *t*-test to determine whether the within-subjects scores differed significantly from Time 1 to Time 2. There was a significant difference in means on both the GHQ and the depression subscale of the DASS, indicating that depression and general mental health worsened from Time 1 to Time 2. There were no other significant differences.

Table I also provides the mean scores, standard deviations and differences between means for the process measures from Time 1 to Time 2. As can be seen, there were no significant differences in mean scores of any of the key variables.

Table II presents the correlations between Time 1 variables. There were correlations in the expected direction between the process variables and each of the four measures of mental health (i.e., GHQ and DASS subscales). In each case, the correlations between mindfulness (MAAS) and the measure of mental health were negative, indicating that a lower mindfulness score was related to higher mental ill health. Difficulty identifying feelings, low acceptance, and thought suppression were all associated with poorer mental health.

Table III provides the correlations between all variables at Time 2. Significant correlations were found between each of the process measures and at least one measure of mental health at Time 2. Specifically, a significant correlation was found between difficulty identifying feelings and general mental health (GHQ-12), such that lower scores on this measure were linked to poorer mental health at

Time 2. Significant relationships were found to exist between mindfulness and all four measures of mental health at Time 2, the strongest (negative) correlation being between mindfulness and depression. Table III shows interrelations between measures of acceptance and the outcome variables of depression, stress (for WBSI only) and general mental health. Acceptance was not significantly correlated with anxiety at Time 2.

Table IV presents the link between Time 1 and Time 2 variables. Generally, all the process measures had moderate test-retest correlations. In contrast, the only significant test-retest correlation for the mental health variables involved anxiety. Thus, the process variables were moderately stable across the very different contexts (participants at the training academy [Time 1] vs. participants working as a police officer [Time 2]), whereas the mental health variables were not.

Concerning the link between the process variables and the outcome variables, difficulty identifying feelings at Time 1 was found to correlate moderately with both general mental health (GHQ-12) and depression (DASS-D). Mindfulness scores at Time 1 were found to be related to depression at Time 2, such that lower mindfulness was correlated with higher depression scores. Additionally, acceptance

(WBSI) was found to be moderately correlated with depression at Time 2.

#### Regression analyses

Regression analyses were conducted to further explore each of the significant relationships as described in Table IV. Time 1 baseline measures of wellbeing were controlled when predicting Time 2 variables. This analysis examines whether, on average, people high in avoidance (or related variable) tend to show greater decreases in wellbeing relative to those low in avoidance with the same baseline levels of wellbeing (Wainer, 1991).

As can be seen in Table V, mindfulness predicts depression scores at Time 2, when baseline (Time 1) measures of depression were controlled for. Similarly, thought suppression predicted depression at Time 2, controlling for baseline depression scores. Finally, difficulty identifying feelings predicted depression and general mental health at Time 2. No other effects were significant.

A stepwise multiple regression analysis was conducted to determine which of the three variables that predicted depression (i.e., mindfulness, acceptance or emotion identification skills) had the strongest influence and was the most unique predictor.

Table III. Interrelations between process and outcome measures at Time 2 ( $N=60$ )

	2.	3.	4.	5.	6.	7.	8.
1. Difficulty identifying feelings	-.62**	.63**	.62**	.42**	.59**	.23	.42**
2. Mindfulness	1.00	-.58**	-.58*	-.34**	-.50**	-.27*	-.52**
3. Avoidance		1.00	.62**	.44**	.48**	.13	.17
4. Thought suppression			1.00	.32*	.44**	.00	.30*
5. Mental health problems				1.00	.41**	.03	.17
6. Depression					1.00	.42*	.51**
7. Anxiety						1.00	.22
8. Stress							1.00

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

Table IV. Process and mental health outcome measures from Time 1 to Time 2 ( $N=60$ )

Time 1	Time 2							
	1.	2.	3.	4.	5.	6.	7.	8.
1. Difficulty identifying feelings	.56**	-.55**	.46**	.48**	.35**	.33*	.09	.17
2. Mindfulness	-.42**	.71**	-.40**	-.53**	-.21	-.34*	-.15	-.24
3. Avoidance	.35**	-.24	.36**	.18	.24	.15	-.03	-.03
4. Thought suppression	.30*	-.54**	.37**	.52**	.14	.33*	.11	.20
5. Mental health problems	.23	-.46**	.17	.19	.14	.26	.06	.24
6. Depression	-.13	-.04	-.13	.17	-.02	-.02	-.09	.09
7. Anxiety	.14	-.26*	.18	.14	.18	.31*	.39**	.29*
8. Stress	-.03	-.22	-.07	.30*	.00	-.04	.11	.15

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

Table V. Process variables predicting depression and mental health at Time 2<sup>a</sup> (N = 60)

Variable	B	SE	$\beta$	R <sup>2</sup>
Depression (T2)				
Mindfulness (T1)	-.13	0.04	-.39**	.14**
Thought suppression (T1)	.10	0.04	.34*	.11*
Difficulty identifying feelings (T1)	.11	0.04	.33*	.11*
General Mental health problems (T2)				
Mindfulness (T1)	-.09	.07	.20	.03
Thought suppression (T1)	.04	.07	.09	.01
Difficulty Identifying Feelings (T1)	.15	.06	.34*	.11*

Notes. <sup>a</sup>After controlling for Time 1 (T1) levels of depression and mental health.

\* $p < .05$ , \*\* $p < .01$ .

Baseline depression was entered in Step 1. Then, the three process variables were submitted to a stepwise entry procedure, with  $p$  to enter the model set at .05 and  $p$  to be removed set at .10. Mindfulness was the only variable that uniquely predicted depression at Time 2, when controlling for baseline (Time 1) depression. Mindfulness was found to account for approximately 14% of variance in depression scores at Time 2.

## Discussion

Policing is an emotionally challenging occupation, as is evidenced by our finding that police recruits experienced increases in depression and mental health problems as they entered the police workforce. But not all officers responded badly to entering the workforce. After controlling for baseline levels of wellbeing, officers who tended to be mindful, could identify their feelings, and did not suppress their thoughts tended to experience smaller increases in depression. In addition, difficulty identifying feelings predicted decreases in mental health. When the variables in a regression analysis were all entered to see which was the best predictor, it was found that mindfulness predicted depression over and above the other variables.

Research has shown that the enhancement of an individual's mindfulness can lead to increased wellbeing on a variety of measures (Kabat-Zinn, 1990). In the present research, mindfulness was found to be the best predictor of depression in recently appointed police. Those recruits who tended to be less open to present experiences at entry experienced higher levels of depressive symptomatology following their transition into the workplace.

This study demonstrated partial support for the premise that acceptance plays a role in mental health and wellbeing (i.e., Hypothesis 1). Higher scores on the measure of thought suppression were predictive

of higher self-reported depression. The predictive value of thought suppression, however, was not unique after controlling for mindfulness. Thus, it may be that avoidance is subsumed by the mindfulness construct. This may suggest that by increasing mindfulness there will be a decrease in experiential avoidance.

An unanticipated finding of this study was that avoidance (as measured by the AAQ) was not found to predict mental health of police recruits after entering the workplace. Other workplace research suggests that the AAQ does predict future mental health (Bond & Bunce, 2003). One explanation relates to the characteristics of the AAQ in the current research context. This scale includes items such as, "When I feel depressed or anxious, I am unable to take care of my responsibilities" and other items that link emotions with behavioural outcomes. The use of the word "unable" in the sample item above may have a connotation of "weakness" in the policing context. Police officers tend to perceive themselves as strong, in control and non-emotional (Evans et al., 1993). As such, the AAQ may have poor face-validity in a population that is particularly resistant to the notion that they cannot take care of responsibilities. Consistent with this view, the internal reliability of the AAQ in the present study was somewhat low (.64). The AAQ is a relatively new measure and future research should be focused on determining its relevance in a variety of non-clinical populations.

There was a significant increase in depression and mental health problems from Time 1 to Time 2, but there was no increase in stress and anxiety. While there was no a priori suggestion that any one aspect of mental health was more likely to be affected, it might be expected that stress and anxiety would increase as trainee police come to terms with the role and responsibilities of their new profession. It may be that individuals who choose to join the police do so because they believe that they will enjoy, or are well suited to, the "inherent stressfulness" of the job (Hart & Cotton, 2002). Just as people who choose to skydive enjoy an experience that many others may find terrifying, perhaps individuals who choose to become police officers are self-selecting on the basis that they will be suited to what others would find a "stressful" and "anxiety provoking" career.

The absence of significant findings in relation to avoidance (as measured by the AAQ) and anxiety and stress may also in part be due to the small sample size, which was highly self-selected. That is, only 10% of the original sample completed the Time 2 measures, potentially creating unknown sample bias and limiting generalisability. A goal for future research could be to replicate this study, using an alternate method of data collection at Time 2 to

reduce the dropout rate (e.g., region-based pen and paper administrations and/or incentives). The ethical need, however, to emphasise that participation is voluntary is particularly important in an organisational context in which there is a highly hierarchical system.

The present results suggest that difficulty identifying feelings and mindfulness are key variables in predicting the wellbeing and mental health of police in their first year of service. Recruits who are better able to identify their feelings and are more able to be present to moment-to-moment experience are more likely to make a transition into the workplace that is characterised by lower levels of depressive symptoms and better mental health. We should note that avoidance of feelings and experience are not expected to be unhelpful to people in all contexts. There are likely to be occasions in which avoidance or suppression of emotions may serve useful purposes in the short term (e.g., allowing for focused behavioural responses in crisis situations). Rather, we expect the greatest problems to arise when police rigidly attempt to avoid all unpleasant feelings and experience.

These findings have important implications in the selection of recruits, and in their pre-workplace training. Policing organisations may consider taking baseline measures of each applicant's mindfulness and difficulty identifying feelings. Although it is not argued that individuals should be screened out in this process, there is evidence to suggest that both emotion identification skills (e.g., Salovey et al., 2002) and mindfulness (e.g., Ciarrochi & Blackledge, 2006) can be taught. Policing organisations may find it useful to include interventions (e.g., workshops) that target these processes in the recruit training program as a resilience strategy.

Broad implementation of an intervention that promotes mindfulness and emotional awareness might address the specific aspects of the police culture that predispose officers to avoidant coping strategies. Violanti (1993) found that maladaptive coping strategies were modelled by senior police to their more junior counterparts. More effective coping strategies could be similarly modelled throughout the organisation, if they were introduced and then implemented by senior police.

## References

- Amaranto, E., Steinberg, J., Castellano, C., & Mitchell, R. (2003). Police stress interventions. *Brief Treatment and Crisis Intervention, 3*, 47–53.
- Bagby, R. M., Parker, J. D. A., & Taylor, G. J. (1994). The twenty-item Toronto Alexithymia Scale: I Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38*, 23–32.
- Bagby, R. M., Taylor, G. J., & Parker, J. D. A. (1994). The twenty-item Toronto Alexithymia Scale: II Convergent, discriminant and concurrent validity. *Journal of Psychosomatic Research, 38*, 33–40.
- Bond, F. W., & Bunce, D. (2000). Mediators of change in emotion-focused and problem-focused worksite stress management interventions. *Journal of Occupational Health Psychology, 5*, 156–163.
- Bond, F. W., & Bunce, D. (2003). The role of acceptance and job control in mental health, job satisfaction, and work performance. *Journal of Applied Psychology, 88*, 1057–1067.
- Brown, J. M., & Campbell, E. A. (1994). *Stress and policing: Sources and strategies*. Chichester: John Wiley & Sons.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822–848.
- Burke, R. J. (1993). Work-family stress, conflict, coping and burnout in police officers. *Psychological Reports, 65*, 3–12.
- Campbell-Sills, L., Barlow, D. H., Brown, T. A., & Hofmann, S. G. (2006). Effects of suppression and acceptance on emotional responses of individuals with anxiety and mood disorders. *Behaviour Research and Therapy, 44*, 1251–1263.
- Ciarrochi, J., & Blackledge, J. T. (2006). Mindfulness-based emotional intelligence training: A new approach to reducing human suffering and promoting effectiveness. In J. Ciarrochi, J. P. Forgas, & J. D. Mayer (Eds.), *Emotional intelligence in everyday life* (2nd ed., pp. 206–228). New York: Psychology Press.
- Ciarrochi, J., Chan, A., Caputi, P., & Roberts, R. (2001). Measuring emotional intelligence. In J. Ciarrochi, & J. P. Forgas (Eds.), *Emotional intelligence in everyday life: A scientific inquiry* (pp. 25–45). Philadelphia: Psychology Press.
- Ciarrochi, J., & Godsell, C. (2005). Mindfulness-based emotional intelligence: A theory and review of the literature. In R. Schulze, & R. D. Roberts (Eds.), *Emotional intelligence: An international handbook* (pp. 69–90). Gottingen: Hogrefe & Huber Publishers.
- Ciarrochi, J., Robb, H., & Godsell, C. (2005). Letting a little non-verbal air into the room: Insights from acceptance and commitment therapy Part I: Philosophical and theoretical underpinnings. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 23*, 79–106.
- Evans, B. J., Coman, G. J., Stanley, R. O., & Burrows, G. D. (1993). Police officers' coping strategies: An Australian police survey. *Stress Medicine, 9*, 237–246.
- Feldner, M. T., Zvolensky, M. J., Eifert, G. H., & Spira, A. P. (2003). Emotional avoidance: An experimental test of individual differences and response suppression using biological challenge. *Behaviour Research and Therapy, 41*, 403–411.
- Goldberg, D. P. (1978). *Manual of the General Health Questionnaire*. Windsor: National Foundation for Educational Research.
- Gross, J. J. (2002). Emotion regulation: Affective, cognitive, and social consequences. *Psychophysiology, 39*, 281–291.
- Hart, P. M., & Cotton, P. (2002). Conventional wisdom is often misleading: Police stress within an organisational health framework. In M. F. Dollard, A. H. Winefield, & H. R. Winefield (Eds.), *Occupational stress in the service professions* (pp. 103–139). London: Taylor and Francis.
- Hayes, S. C. (2001). Acceptance and commitment therapy, relational frame theory, and the third wave of behavior therapy. *Behavior Therapy, 35*, 639–665.
- Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Hayes, S. C., Strosahl, K., Wilson, K. G., Pistorello, J., Toarmino, D., Polusny, M. A., et al. (2004). Measuring experiential avoidance: A preliminary test of a working model. *Psychological Record, 54*, 553–578.

- Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*, 1152–1168.
- He, N., Zhao, J., & Archbold, C. A. (2002). Gender and police stress: The convergent and divergent impact of work environment, work-family conflict, and stress coping mechanisms of female and male police officers. *Policing, 25*, 687–708.
- John, O. P., & Gross, J. J. (2004). Healthy and unhealthy emotion regulation: Personality processes, individual differences, and life span development. *Journal of Personality, 72*, 1301–1333.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York: Delacorte.
- Kerr, S., Johnson, V. K., Gans, S. E., & Krumrine, J. (2004). Predicting adjustment during the transition to college: Alexithymia, perceived stress and psychological symptoms. *Journal of College Student Development, 45*, 593–607.
- Kohan, A., & Mazmanian, D. (2003). Police work, burnout, and pro-organizational behavior. *Criminal Justice and Behavior, 30*, 559–583.
- Lennings, C. J. (1997). Police and occupationally related violence: A review. *Policing: International Journal of Police Strategies and Management, 20*, 555–566.
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the Depression Anxiety Stress Scales (DASS)*. Sydney: University of New South Wales.
- Pennebaker, J. W. (1995). Emotion, disclosure and health: An overview. In J. Pennebaker (Ed.), *Emotion, disclosure and health* (pp. 3–10). Washington, DC: American Psychological Association.
- Richards, J., & Gross, J. J. (1999). Composure at any cost? The cognitive consequences of emotion suppression. *Personality and Social Psychology Bulletin, 25*, 1033–1044.
- Robinson, H., Sigman, M., & Wilson, J. (1997). Duty-related stressors and PTSD symptoms in suburban police officers. *Psychological Reports, 81*, 835–845.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68–78.
- Salovey, P., Mayor, J. D., Goldman, S. L., Turvey, C., & Palfai, T. P. (2002). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 125–154). Washington, DC: American Psychological Association.
- Segal, Z. V., Teasdale, J. D., Williams, J. M. G., & Gemar, M. C. (2002). The Mindfulness-Based Cognitive Therapy adherence scale: Inter-rater reliability, adherence to protocol and treatment distinctiveness. *Clinical Psychology and Psychotherapy, 9*, 131–138.
- Sifneos, P. E. (1973). The prevalence of “alexithymic” symptoms in psychosomatic patients. *Psychotherapy and Psychosomatics, 22*, 255–262.
- Taylor, G. T. (2000). Recent developments in alexithymia theory and research. *Canadian Journal of Psychiatry, 45*, 134–142.
- Teasdale, J. D., Segal, Z. V., & Williams, J. M. G. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behavior Research Therapy, 33*, 25–39.
- Violanti, J. M. (1993). What does high stress policing teach recruits? An analysis of coping. *Journal of Criminal Justice, 21*, 411–417.
- Violanti, J. M., Marshall, J. R., & Howe, B. H. (1985). Stress, coping and alcohol use: The police connection. *Journal of Police Science and Administration, 13*, 106–110.
- Wainer, H. (1991). Adjusting for differential base rates: Lord’s paradox again. *Psychological Bulletin, 109*, 147–151.
- Wegner, D. M., Erber, R., & Zanakos, S. (1993). Ironic processes in the mental control of mood and mood-related thought. *Journal of Personality and Social Psychology, 65*, 1093–1104.
- Wegner, D. M., & Zanakos, S. (1994). Chronic thought suppression. *Journal of Personality, 62*, 615–640.