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Compensation System**

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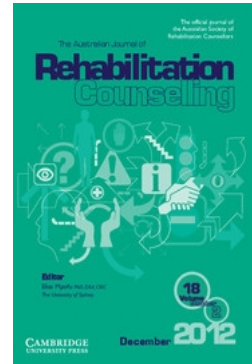
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Personality Traits, Psychological Health, and the Workers' Compensation System

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This study explored the influence of personality traits on injured workers' interaction with workers' compensation systems. Data were collected from 89 participant claimants (males, 41; females 48, mean age = 45 years, $SD = 10.67$ years) at various levels of involvement with the workers' compensation system: previous claimants ($n = 39$), current claimants ($n = 28$), and nonclaimant workers ($n = 22$). Significant differences in personality traits were found between these groups of compensation claimants. Current compensation claimants displayed greater emotional instability and introversion compared with those less acutely involved in the compensation system. Current claimants also experienced clinically significant levels of symptoms of depression, anxiety, somatic complaints, and reported reduced social functioning, relative to previous and nonclaimants, respectively. Overall, subtle differences were found to exist in personality and psychological health between groups of workers at different levels of involvement with the workers' compensation system.

Keywords: personality, personality disorder, injured workers, workers' compensation

Psychosocial factors independent of the compensable injury play a greater role in the development of protracted return-to-work and the progression to work disability than formerly thought (Pransky, Gatchel, Linton, & Loisel, 2005). Exactly which factors are most influential, and the manner by which they interact, is the focus of much ongoing research (Fadyl & McPherson, 2008; Gallagher & Myers, 1996; Schultz et al., 2004). Surprisingly, consideration of the contribution of personality in this area has only recently begun to attract empirical attention (Gatchel, 2000; Wall, Ogloff, & Morrissey, 2006, 2007). This study aims to contribute to this important area by comparing the five-factor personality trait profiles and indicators of psychological illness for workers at different stages of involvement with the workers' compensation system. It is envisaged that differences in personality traits and symptom profiles may provide useful information regarding the contribution of

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personality to the recovery from workplace injury. The findings of the study could also raise awareness of the potential interaction between the personality of injured workers and the compensation environment as a valuable factor in the psychological management of those with compensable injuries.

Characteristics of Workers' Compensation Claimants

Workers' compensation claimants reflect a distinctive population where, in addition to elevated rates of depression and anxiety disorders, personality disorders prevail in concentrated levels of up to four times that expected in the community (Gatchel, Polatin, & Kinney, 1995). These rates of pathology are not fully explained by pre-existing worker vulnerabilities or by the severity of the workplace injury (Dersh, Gatchel, Mayer, Polatin, & Temple, 2006; Dersh, Gatchel, Polatin, & Mayer, 2002; Gatchel et al., 1995; Sadigh, 1998). In fact, research indicates that workplace injuries are generally less severe than nonworkplace injuries (Mason & Turpin, 2002) and that an increasing number of apparently minimally injured workers become work disabled (Nicholas, 2002). Those with compensable injuries are more likely to commence litigation, develop symptoms consistent with posttraumatic stress disorder, and experience greater psychosocial morbidity due to work disability than people with more severe nonwork related injuries (Mason & Turpin, 2002).

Compensable Injury

The clinical picture of compensable injury is one that is difficult to conceptualise from a purely biomedical perspective. In recognition, research attention was initially directed toward individual worker factors and interest in identifying pre-existing psychiatric (Lustman, Velozo, Eubanks, Montag, & Cole, 1991), physical and psychosocial vulnerabilities (Waddell, Burton, & Main, 2003) for work disability. Accumulating evidence from these investigations has enhanced understanding of the complexity of compensable injury and provided the impetus for promoting a biopsychosocial approach to injury management (Feuerstein, 2005; Sullivan, Feuerstein, Gatchel, Linton, & Pransky, 2005). However, the explosion in work injury and disability research over the past two and a half decades has not translated to diminished costs of work disability in industrialised countries, nor has the large body of evidence on work disability prevention filtered through to clinical workplace and insurance practices (Pransky et al., 2005).

A greater percentage of injured workers who participate in the compensation system achieve poorer outcomes than those with comparable injuries who choose not to lodge a compensation claim (The Royal Australasian College of Physicians, 2001). In response, attention has shifted toward the exploration of specific interactions between worker factors and environmental factors at all stages of the return-to-work process (Sullivan et al., 2005). In paying attention to the broader aspects of compensable injury, including the compensation environment, the importance of gaining a fuller understanding of the role of personality becomes paramount. Personality traits represent common denominators in these environmental equations, and as such warrant increased research attention beyond that traditionally afforded to injured workers.

The Role of Personality in Workplace Injury

Personality has been defined as stability in thought and behaviour across situations, as well as the behavioural differences among people reacting to the same situation

(American Psychiatric Association, 2000). A personality disorder is diagnosed when 'personality traits are inflexible and maladaptive and cause significant functional impairment or subjective distress' (American Psychiatric Association, 2000, p. 630). Historically, interest in an injured worker's personality in the compensation arena has been limited to identifying personality pathology at latter stages in the return-to-work process. This examination has generally been undertaken in an attempt to explain lack of progress, unsatisfactory outcome, or in the circumstances where a claim progresses to litigation. In such instances personality pathology becomes relevant in determining the amount and nature of compensation offered to the injured worker (Freckelton, 2002).

From this perspective, personality pathology is often considered to be a pre-existing vulnerability for workplace disability. Unfortunately, this focus on personality pathology at the expense of normal personality may have contributed to workers' compensation systems being ill-equipped to manage rehabilitation and return-to-work, beyond punitive and costly procedures involving cessation of benefit, funding of long-term disability, or litigation.

The concept of personality disorder should grow out of an understanding of normal personality, thereby providing a framework for organising the complex information typifying most presentations, and for understanding how personality may change in response to environmental demands (Livesley, 2003). Adopting a dimensional approach to personality enables consideration of the influence of the full range of personality traits, rather than focusing solely on pathology with respect to person/environment interactions.

Personality and Work Environment Interaction

Costa and McCrae (1992) proposed a Five Factor Model (FFM) of personality traits comprised of the five global factors of: Neuroticism (N), Extraversion (E), Openness (O), Agreeableness (A) and Conscientiousness (C). Each factor represents a dimension of individual differences that can be further divided into specific personality facets, allowing for greater trait discrimination. Individuals can therefore be evaluated to determine the degree to which they possess each trait at either the broad five-factor level or a more detailed facet level.

At the factor level, the traits 'extraversion', 'neuroticism' and 'conscientiousness' have each been implicated in influencing occupational and personal health (Ettner & Grzywacz, 2001). High extraversion has been found to predict preference for occupations involving social interaction and job satisfaction (Lounsbury, Moffitt, Gibson, Drost, & Stevens, 2007), while training proficiency (Barrick & Mount, 1991) and career success (Cellar, Miller, Doverspike, & Klawnsky, 1996) have been associated with the combination of high extraversion and high openness. Subclinical pathological trait elevations have been identified in the working population, however, they are overrepresented in the personality profiles of long-term compensation claimants (Cotton, 2002). Dimensional models of personality, and in particular the FFM, have bridged the gap between the study of normal range and disordered personality. In mapping the FFM onto personality disorder criteria, despite some variability across disorders, individuals with diagnosable personality disorders often display high N, low E, and low A (Costa & McCrae, 1992). The FFM offers the opportunity to explore the important impacts normal and subclinical personality dysfunction have on the rehabilitation of work-injured individuals (Wall et al., 2006).

The notion that various aspects of personality may become amplified through interaction with environmental factors is not new (Clark, 2007). More than a decade ago, Caspi and Moffitt (1993) proposed that 'individual difference in personality should be studied during periods of environmental change because these periods provide an opportunity to discern the general mechanisms that govern the functions and processes of personality' (p. 247). These authors suggested that personality differences become accentuated in environments that are characterised by unpredictability and require the individual to behave in a particular way in the face of little or ambiguous information. When considering the concentration of pathology in compensation claimants from this perspective, the question arises as to whether personality differences and the more pathological presentations reflected in personality disorder diagnoses may occur in response to the transition from the work environment to a compensation environment for injured workers.

Workplace research also highlights the subsequent impact on worker health and wellbeing that occurs when the person/environment fit is disturbed. For example, in a study of 211 Australian department store managers it was found that those with a high level of conscientiousness (usually a desirable trait in staff) were vulnerable to reduced job satisfaction in response to role confusion (Grant & Langan-Fox, 2007). This finding was attributed to the managers' difficulties in maintaining their usual rigorousness and self-imposed high performance standards in such an environment. The same study found that individuals high in neuroticism (N) tended to report greater levels of workplace stress than their more emotionally stable peers. Interestingly, it was also noted that the workplace behaviours of these less emotionally stable managers contributed to increased levels of overall stress in the work environment.

The Workers' Compensation System and Personality

The workers' compensation system aims to assist workers to recover payment and health-care from the employer for the consequences of workplace injury and illness. While workers are generally aware of the existence of such schemes, many lack specific knowledge of the rights and responsibilities associated with becoming a claimant. The systems are often viewed with suspicion by workers; injured workers who lodge claims have traditionally been stigmatised (Strunin & Boden, 2004). The workers' compensation environment is paradoxical in that there is an implicit demand of the worker to consistently prove the validity of their injury and associated functional impairment to maintain financial compensation. This is conveyed through the process of determining liability, the ongoing requirements for injured workers to attend medico-legal assessments, and the monthly reports submitted by rehabilitation providers. Simultaneously, the injured worker is explicitly required to comply with a rehabilitation and return-to-work program, where failure to demonstrate consistent improvement in recovering functional capacity may jeopardise receipt of benefits. It is not surprising that individuals report participation in workers' compensation systems as stressful, disempowering and shame inducing (Strunin & Boden, 2004; Svensson, Karlsson, Alexanderson, & Nordqvist, 2003).

The workers' compensation system appears to possess all of the criteria identified by Caspi and Moffitt (1993) required to amplify dysfunctional personality traits. Such amplifications, according to the authors, occur when individuals attempt to regain control over environmental situations through efforts to assimilate these new events into an existing cognitive and behavioural framework. Applying this perspective to the compensation context may mean that how well an injured worker adapts to the challenges of

injury and commits to the return-to-work process, could potentially be determined by the interaction between his or her personality traits and the compensation environment. Preliminary investigations reveal trends that add some weight to this view.

The Current Study

The current study builds on the findings reviewed above and draws heavily from growing empirical bases in personality, work injury, and disability research. As mentioned above, personality researchers are considering the FFM's potential as an integrating framework for assessing psychopathology. At the same time, researchers in the area of injury management and work disability have identified the need for an integrating framework to improve the outcomes and health and wellness of injured workers. Increasing recognition of the importance of psychosocial factors in managing workplace injury and in facilitating effective and timely return-to-work has prompted a theoretical shift from a biomedical to a biopsychosocial approach to compensable injury (Sullivan et al., 2005). The momentum evident in both the personality and injury management fields is moving towards a convergence of personality traits and environmental factors as a means of understanding complex biopsychosocial phenomena.

The current study compares normal personality traits and indicators of psychological illness of workers at various levels of involvement with the workers' compensation environment. It is hypothesised that those individuals with greater involvement with the compensation system will have significantly different personality trait profiles and increased symptoms of psychological illness than those with reduced involvement or no interaction with the compensation system. Specifically, it is anticipated that current claimants, who are challenged with adjusting to their injury and adapting to the compensation system, will display trait amplification, particularly in regard to neuroticism, and that this group will display the highest indicators of psychological illness. Past claimants no longer have the direct challenge of adapting to the compensation system and therefore are expected to have less personality trait amplification than current claimants, but they may have some residual symptoms of psychological ill health related to their injury. Nonclaimants are anticipated to demonstrate the most emotionally stable personality profile of the three groups. It is also expected that they will report the fewest indicators of psychological ill-health, given their lack of exposure to stressors inherent in the compensation environment.

The specific research questions that this study investigates were:

- Do individuals currently engaged in workers' compensation demonstrate significantly higher Neuroticism and Introversion than those with previous or no engagement with the system?
- To what extent do individuals currently engaged in workers' compensation experience significantly increased symptoms psychological illness compared with those with previous or no engagement with the system?

Method

Participants and Setting

Participants were 89 (41 = male and 48 = female; mean age = 45 years, age range = 22–67 years) work-injured individuals who responded to an invitation to take part in the study. Individuals were classified as either working full time or part time (64%, $n = 58$), unfit for work yet actively engaged in the rehabilitation systems (17%, $n =$

15), or work disabled or unemployed (18%, $n = 16$). Participants were grouped according to compensation status: 39 participants with a previous claim (PC), 28 participants with a current claim (CC), and 22 employed noninjured participants who had not pursued a compensation claim (NC). Those in the PC group were significantly older ($M = 52$ yrs, $SD = 8.1$) than the CC group ($M = 45$ yrs, $SD = 8.3$) and the NC group ($M = 34$ yrs, $SD = 7.4$), $F(2, 88) = 32.6, p < .05$. However, the groups were similar on all other demographics as presented in Table 1.

Measures

Participants completed the *NEO-Five Factor Inventory (NEO-FFI)* (Costa & McCrae, 1985), *General Health Questionnaire (GHQ)* (Goldberg & Williams, 1988), and the *Paulhus Deception Scale (PDS)* (Paulhus, 1998). These instruments and their specific functions in this study are described in turn.

- *The NEO-FFI* (Costa & McCrae, 1985) is a 60-item personality trait questionnaire requiring respondents to endorse the degree to which each statement best represents their opinion on a 5-point Likert-type scale ranging from ‘strongly agree’ to ‘strongly disagree’. The scales of the NEO-FFI measure the five personality traits of N, E, O, A and C that refer to the five-factor model. As results of the NEO-FFI approximate normal bell-shaped distributions, few individuals should obtain extremely high or extremely low scores on any of the personality traits (Costa & McCrae, 1992). Reliability for the scales range from 0.85 to 0.93

TABLE 1
Demographics for Previous, Current, and Nonclaimant Groups

	Previous claimant $n = 39$		Current claimant $n = 28$		Nonclaimant $n = 22$	
	n	%	n	%	n	%
Gender						
Male	18	46.2	12	42.9	11	50.0
Female	21	53.8	16	57.1	11	50.0
Education						
High school	17	43.4	8	28.6	5	22.7
Trade/higher ed.	10	25.7	13	46.4	7	31.8
University	4	10.3	2	7.1	7	31.8
Postgraduate	8	20.6	5	17.9	3	13.7
Employment						
Working	20	51.3	16	57.2	22	100
Not working	19	48.7	12	42.8	0	0
Occupation						
Para/professional	16	41.0	16	57.1	19	86.4
Trade/manual	9	23.1	5	17.9	0	0
Sales/service/admin	10	25.7	5	17.9	3	13.6
Not working	4	10.2	2	7.1	0	0
Income						
Less than \$50,000	27	71.7	19	67.9	14	63.6
More than \$50,001	11	28.3	9	32.1	8	36.4

(Costa & McCrae, 1992). In the current study the Cronbach's alpha coefficients ranged from 0.71 to 0.91.

- *The General Health Questionnaire 28* (GHQ 28; Goldberg & Williams, 1988) is a 28-item screening test focusing on the psychological components of ill-health. In this study, the GHQ-28 was chosen for its four factor structure providing a current state measure of symptoms of psychological illness. A Likert approach to scoring assigns a rating of 0, 1, 2, or 3 to participants' responses, therefore, higher scores reflect greater symptomatic distress. Validity studies report appropriate stability in the factor structure over time (Goldberg & Hillier, 1979).
- *The Paulhus Deception Scale* (PDS; Paulhus, 1998) is a self-report instrument that measures the constructs of Self-Deceptive Enhancement (SDE) and Impression Management (IM), which are summed to provide an overall measure of socially desirable responding. Individuals are asked to endorse their level of agreement with each item on a 7-point Likert scale. As the PDS emphasises exaggerated claims of positive attributes, higher scores reflect more socially desirable responding. In the current study the Cronbach's alpha coefficients were 0.81 and 0.71 for the SDE and IM scales, respectively.

Procedure

Recruitment was conducted via four Northern Territory rehabilitation providers, two General Practitioners, two physiotherapy practices, and two clinical psychology practices in the Northern Territory specialising in work injury management. Participants were also recruited via radio and print media advertising. Injured workers interested in participating were invited to attend an interview and were informed of the nature of the study, confidentiality and data management processes. Signed informed consent was obtained for those who agreed to take part in the study. Participants were subsequently interviewed individually and completed the questionnaires.

Data Analysis

Data were analysed using SPSS version 14 statistical software (SPSS, 2005). Analysis of variance procedures were used to explore the relationships of personality and indicators of psychological health. Given the exploratory nature of the study and the relatively small number of participants in each of the three groups, only tentative findings would result from these analyses. A Bonferroni corrected alpha level of .01 was used for all statistical tests.

Results

Personality Differences Across the Groups

Differences in personality traits among the three groups were explored by comparing the mean scores for each of the five personality factors measured by the NEO-FFI using one-way between-groups analysis of variance (see Table 2). Overall, as can be seen in Figure 1, the mean scores on each of the five factors fall within the average range, revealing an absence of extreme scores across all groups. As anticipated, the current claimant group displayed statistically significantly higher levels of trait neuroticism than the nonclaimant group, $F(2, 88) = 5.5, p < .01$. Although this trend was also evident in comparison with the previous claimant group, the differences were not statistically significant.

TABLE 2
NEO-FFI Personality Profile for Previous, Current, and Non Claimants

	Previous WC n = 39		Current WC n = 28		Non WC n = 22	
	Mean	SD	Mean	SD	Mean	SD
Neuroticism	52	13.4	55*	10.0	44*	12.0
Extraversion	49+	10.0	47*	11.0	56+*	11.2
Openness	54	11.2	51	9.1	52	10.4
Agreeableness	46	13.0	49	8.7	52	12.8
Conscientiousness	51	12.2	49	8.2	48	11.2

Note: * mean difference between groups is significant $p < .01$
+ mean difference between groups is significant $p < .01$

Similarly, in relation to extraversion, the current claimant group reported the lowest level of trait extraversion of the three groups. This difference was statistically significant between the current claimant and the nonclaimant groups, $F(2, 88) = 5.1, p < .01$. The differences between the three groups for the personality traits of openness, agreeableness, and conscientiousness displayed the anticipated trends, with the previous claimant group displaying the lowest level of trait agreeableness and highest level of conscientiousness, although these differences were not statistically significant.

Differences in Psychological Health Across the Groups

The subscales of the GHQ-28 measure somatic symptoms, anxiety and insomnia, social dysfunction, and depression, with higher scores indicative of increased symp-

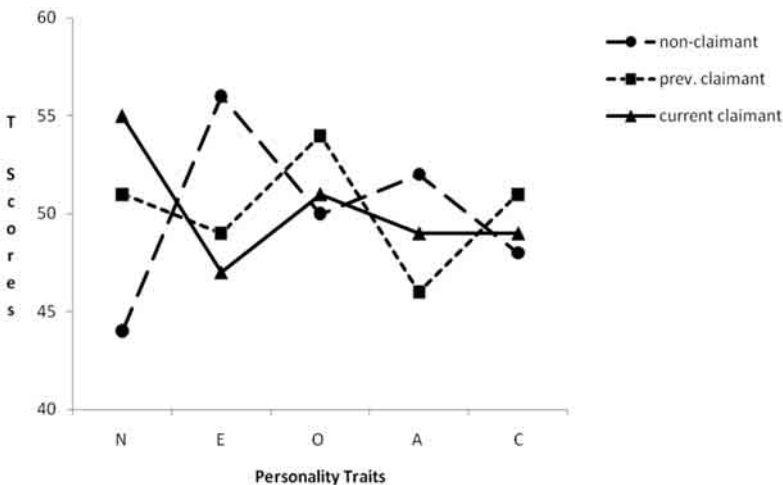


FIGURE 1
Five Factor Personality Profiles of previous, current and nonclaimant groups.

TABLE 3

GHQ-28 Symptoms of Psychological illness for Previous, Current and Nonclaimant Groups

	Previous WC n = 39		Current WC n = 28		Non WC n = 22	
	Mean	SD	Mean	SD	Mean	SD
Somatic symptoms	6	3.5	8*	5.2	3*	2.0
Anxiety and insomnia	7**	5.0	10**	5.7	2**	1.6
Social dysfunction	8	4.0	9*	5.0	6*	2.7
Depression	3	4.1	4.5*	5.6	1*	2.5
Total GHQ28	23**	12.8	32**	15.4	11**	3.9

Note: *mean difference between groups is significant $p < .01$
 * **mean difference between groups is significant $CC > PC > NC, p < .01$

toms of psychological illness. The mean scores and standard deviations for each group are presented in Table 3, showing the mean total GHQ score for the current claimant group was greater than the clinical indicator score of 29.

It was anticipated that the current claimant group would report greater symptoms of psychological illness given the currency of their distress, with those in the nonclaimant group expected to report the least degree of psychological distress. As seen in the psychological illness symptom profile presented in Figure 2, the current claimant group displayed the highest indicators of psychological illness with elevations evident across all GHQ subscales, with the nonclaimant group displaying the fewest symptoms of psychological ill-health, while the previous claimant group score fell between that of other two groups. These differences were explored using one-way between-groups analysis of variance with alpha level of .01. As predicted, the current claimant group's high levels of psychological illness differed significantly

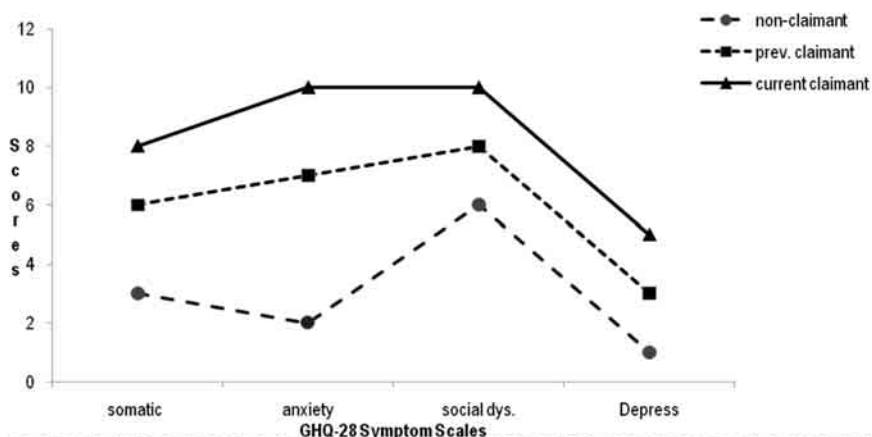


FIGURE 2

GHQ-28 Symptoms of Psychological Illness for previous, current, and nonclaimant groups.

from both the nonclaimant and previous claimant groups for Somatic Symptoms, $F(2, 76) = 9.85, p < .001$, and Anxiety and Insomnia, $F(2, 76) = 9.85, p < .001$. Significant differences also existed between the current claimant group and the nonclaimant group on Depression, $F(2, 76) = 5.01, p < .001$ and Social Dysfunction, $F(2, 76) = 3.76, p < .001$.

Discussion

The current study found evidence of differences in personality traits and symptoms of psychological illness between current compensation claimants, previous compensation claimants, and noncompensation claimants. The findings indicate that workers with current compensation claims involved in the workers' compensation systems experience clinical level symptoms of psychological illness that are significantly more severe than those reported by nonclaimants. Overall, the mean trait scores on the personality profile for each group of participants fell in the average range suggesting an absence of pathology that would indicate personality disorder. However, the personality traits of current compensation claimants displayed the anticipated significant elevations on neuroticism and introversion compared to those with previous, or no interaction with the compensation system.

Current compensation claimants also demonstrated greater symptoms of psychological illness, as evidenced by elevated levels of depression, anxiety, somatic complaints, and reduced social functioning, relative to previous claimants and nonclaimants, respectively. The severity of psychological illness reported by current claimants is noteworthy as it penetrates the clinical range on the GHQ-28. Interestingly, most participants in this study were being compensated for physical injuries, and 57% of the current claimant group had returned to work, therefore it is unlikely that their psychological health status would have been assessed and monitored as part of a standard return-to-work program. It is possible, that this level of psychopathology may go untreated. Consistent with earlier research indicating that injured workers who remained at or returned to work following work injury experienced elevated but subclinical levels of psychological distress or illness (Wall et al., 2007), this finding suggests increased susceptibility to presenteeism or secondary work disability in this group.

The nonclaimant group consisted of currently employed noninjured workers. As expected, the mean personality profile of this group reflected emotional stability, as indicated by below average levels of trait neuroticism, slightly higher than average extraversion, and an average range of openness, agreeableness and conscientiousness. Relative to the other two groups, nonclaimants were more agreeable and less conscientious. Although not statistically significant, these trends are noteworthy given that high conscientiousness has been implicated in workaholic behaviour, rigidity, and difficulty in operating in environments characterised by role conflict (Grant & Langan-Fox, 2007). Agreeableness, when not extreme, has been identified in the health psychology field with resiliency and adaptive coping, especially in association with emotional stability and extraversion.

Previous compensation claimants displayed a personality trait profile that differed from that of both the current and nonclaimants. Interestingly, while levels of neuroticism and extraversion fell between those reported by the other two groups, the personality profile of previous claimants reflected greater openness, conscien-

tiousness, and disagreeableness than either current or nonclaimants. In addition, previous claimants reported experiencing symptoms of psychological illness at levels consistently below that of current claimants, but above those reported by nonclaimants. These differences were statistically significant and suggest the presence of ongoing or residual symptoms of psychological distress post injury and postclaim, despite some of these participants, having returned to the workplace.

Given that this group was no longer exposed to the demands of the workers' compensation environment, it is interesting that their personality profile reflects less emotional stability and resilience than that of nonclaimants and that they continue to experience subclinical levels of psychological illness. These changes could reflect some residual impact of their interaction with the compensation system as many participants reported a perception that their personality had 'changed' as a result of their workers' compensation experience, and described being less trusting and more suspicious of others intentions than before entering the system. Evidence for enduring personality change stemming from an external life event is considered weak (McCrae & Costa, 2003), with the research indicating that enduring personality change occurs mainly in response to biological injury or illness, such as depression. At the time of assessment the mean scores on the GHQ depression subscale were not in the clinical range for this group, suggesting that this result may be more reflective of pre-existing personality traits rather than an enduring personality change. It is also likely that some of these individuals became depressed during the course of their involvement with the compensation system and in the absence of preinjury personality measures, the possibility that that this outcome reflects either the pre-existing personality trait profile of this group, or long-term amplification of these traits cannot be ruled out.

Limitations

Limitations of this study related to the voluntary nature of participation, which allows for the possibility that some personality styles may be over or underrepresented in the research, and to the cross-sectional design that does not provide evidence of causality or statistical evidence of personality/environment interaction. Ideally a prospective study, tracking individuals through the various stages of return-to-work would provide the best opportunity to observe change over time in personality traits and psychological health. Unfortunately, such a study is difficult to undertake in this population. For example, the highly adversarial nature of the compensation system means that workers are often reluctant to participate, particularly if there is potential litigation. Also, injured workers are under considerable pressure and often in pain. Many are unfit to manage the demands of work or activities of daily life and therefore ethical consideration must be given to exposing these individuals to the additional stressor of taking part in an ongoing research endeavour.

Conclusion

The current findings indicate that workers with current compensation claims experience clinical level symptoms of psychological illness that are significantly more severe than non claimants, and greater than postclaimants. From the perspective of personality/environmental interactions it is possible that compensation claimants, when confronted with the stressful transition from the work environment to the work-

ers' compensation system, experience amplifications in emotional instability and introversion. Therefore, even workers who are relatively adept at managing stress may have their resources overwhelmed by the environmental demands of the compensation system and be vulnerable to secondary workplace disability as a result. This prompts further consideration of the question of whether subclinical trait elevations in the worker population may escalate to the high rate of clinical level personality disorder reported in the compensation population via this person/environment transaction.

Directions for Future Research

Despite the limitations identified, the current study indicates that exploration of normal personality traits (that have proven to be important in predicting and explaining behaviour in the occupational and health spheres) are worthy of increased attention in regard to compensable injury. Further investigation of these differences in personality may enhance our understanding and offer an opportunity to avoid or minimise the development of secondary psychological injury and chronic work disability via effective claims management, as well as potentially temper the adversarial tone of many compensation claims.

Future research needs to embrace the conceptualisation of work injury and disability as person/environment interactions — where work injury is seen as a function of the individual, the workplace, and the systems with which the worker interacts (Feuerstein, 2005). Those currently taking part in the system were more depressed and anxious, experienced greater somatic symptoms and social dysfunction than workers who had no experience of workers' compensation. Further exploration of the interaction between personality and environment for those with compensable injuries from a theoretical and policy perspective would facilitate an understanding of how particular personality styles may respond to the compensation environment. In the short-term, including a dimensional assessment of a worker's personality traits on entry into the compensation system may inform claims management, rehabilitation and return-to-work planning, by facilitating improved personal/environment fit. Ultimately, this knowledge may offer the opportunity to reduce risk of protracted recovery, secondary psychological injury and chronic work disability through the development of effective personality-guided rehabilitation and return-to-work processes.

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References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders IV-TR*. (4th ed. text revision). Washington, DC: Author.
- Barrick, M.R., & Mount, M.K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44*, 1–26.
- Caspi, A., & Moffitt, T.E. (1993). When do individual differences matter? A paradoxical theory of personality coherence. *Psychological Inquiry, 4*, 247–271.
- Cellar, D.F., Miller, M.L., Doverspike, D.D., & Klawnsky, J.D. (1996). Comparison of factor structures and criterion-related validity coefficients for two measures of personality based on the five factor model. *Journal of Applied Psychology, 81*, 694–704.

- Clark, L.A. (2007). Assessment and diagnosis of personality disorder: Perennial issues and emerging reconceptualisation. *Annual Review of Psychology*, 58, 227–257.
- Costa, P.T., & McCrae, R.R. (1985). *The NEO Personality Inventory manual*. Odessa FL: Psychological Assessment Resources.
- Costa, P.T., & McCrae, R.R. (1992). *NEO PI-R professional manual: Revised NEO Personality Inventory (NEO PI-R) and NEO Five-Factor Inventory (NEO-FFI)*. Odessa, FL: Psychological Assessment Resources.
- Cotton, P. (2002). *Challenges in the assessment and management of work stress*. Paper presented at the Psychological and psychiatric trauma: Approaches to injury management, Sydney, Australia.
- Dersh, J., Gatchel, R.J., Mayer, T., Polatin, P., & Temple, O.R. (2006). Prevalence of psychiatric disorders in patients with chronic disabling spinal disorders. *Spine*, 31, 1156–1162.
- Dersh, J., Gatchel, R.J., Polatin, P., & Mayer, T. (2002). Prevalence of psychiatric disorders in patients with chronic work-related musculoskeletal pain disability. *Journal of Occupational Environmental Medicine*, 44, 459–468.
- Ettner, S.L., & Grzywacz, J.G. (2001). Workers' perceptions of how jobs affect health: A social ecological perspective. *Journal of Occupational Health Psychology*, 6, 101–113.
- Fadyl, J., & McPherson, K. (2008). Return to work after injury: A review of evidence regarding expectations and injury perceptions and their influence on outcome. *Journal of Occupational Rehabilitation*, 18, 362–374.
- Feuerstein, M. (2005). Introduction: The world challenge of work disability. *Journal of Occupational Rehabilitation*, 15, 451–452.
- Freckelton, I. (2002). *Determining compensation for psychiatric injury: Controversies and new developments*. Paper presented at the Psychological and Psychiatric Trauma: Approaches to Injury Management, Sydney.
- Gallagher, R.M., & Myers, P. (1996). Referral delay in back pain patients on worker's compensation: Costs and policy implications. *Psychosomatics*, 37, 270–284.
- Gatchel, R.J. (2000). How practitioners should evaluate personality to help manage patients with chronic pain. In R.J. Gatchel & J.N. Weisberg (Eds.), *Personality characteristics of patients with pain*. Washington, DC: American Psychological Association.
- Gatchel, R.J., Polatin, P.B., & Kinney, R.K. (1995). Predicting outcome of chronic back pain using clinical predictors of psychopathology: A prospective analysis. *Health Psychology*, 14, 415–420.
- Goldberg, D.P., & Hillier, V.F. (1979). A scaled version of the general health questionnaire. *Psychological Medicine*, 24, 18–26.
- Goldberg, D.P., & Williams, P. (1988). *A user's guide to the general health questionnaire: GHQ*. Berkshire: NferNelson.
- Grant, S., & Langan-Fox, J. (2007). Personality and the occupational stressor-strain relationship: The role of the big five. *Journal of Occupational Health Psychology*, 12, 20–33.
- Livesley, J.W. (2003). *Practical management of personality disorder*. New York: Guilford.
- Lounsbury, J.W., Moffitt, L., Gibson, L.W., Drost, A.W., & Stevens, M. (2007). An investigation of personality traits in relation to job and career satisfaction of information technology professionals. *Journal of Information Technology*, 22, 174–183.
- Lustman, P.J., Velozo, C.A., Eubanks, B., Montag, J.A., & Cole, D.M. (1991). Prior psychiatric problems in rehabilitation clients with work-related injuries. *Journal of Occupational Rehabilitation*, 1, 227–233.
- Mason, S., & Turpin, G. (2002). Outcomes after injury: A comparison of workplace and non-workplace injury. *Journal of Trauma, Injury, Infection, and Critical Care*, 53, 98–103.
- McCrae, R.R., & Costa, P.T. (2003). *Personality in adulthood: A five-factor theory perspective*. New York: Guilford.
- Nicholas, M.K. (2002). Reducing disability in injured workers: the importance of collaborative management. In S.J. Linton (Ed.), *New avenues for the prevention of chronic musculoskeletal pain and disability: Pain research and clinical management* (Vol. 12, pp. 33–46). Orebro: Elsevier Science B.V.

- Paulhus, D.L. (1998). *Paulhus deception scales (PDS): The balanced inventory of desirable responding* — 7. New York: Multi-Health Systems.
- Pransky, G., Gatchel, R., Linton, S.J., & Loisel, P. (2005). Improving return to work research. *Journal of Occupational Rehabilitation*, 15, 453–458
- Sadigh, M. (1998). Chronic pain and personality disorders: Implications for rehabilitation practice. *Journal of Rehabilitation*, 64, 4–9.
- Schultz, I.Z., Crook, J., Meloche, G.R., Berkowitz, J., Milner, R., Zuberbier, O.A., et al. (2004). Psychosocial factors predictive of occupational low back disability: Towards development of a return-to-work model. *Pain*, 107, 77–85.
- SPSS. (2005). *SPSS Graduate Pack* (Version 14.0). Chicago: SPSS Inc.
- Strunin, L., & Boden, L.I. (2004). The workers' compensation system: Worker friend or foe? *American Journal of Industrial Medicine*, 45, 338–345.
- Sullivan, M.J., Feuerstein, M., Gatchel, R., Linton, S.J., & Pransky, G. (2005). Integrating psychosocial and behavioural interventions to achieve optimal rehabilitation outcomes. *Journal of Occupational Rehabilitation*, 15, 475–389.
- Svensson, T., Karlsson, A., Alexanderson, K., & Nordqvist, C. (2003). Shame-inducing encounters: Negative emotional aspects of sickness-absentee's interactions with rehabilitation professional. *Journal of Occupational Rehabilitation*, 13, 183–195.
- The Royal Australasian College of Physicians, H.P.U. (2001). *Compensible injuries and health outcomes*. Sydney, Australia: The Royal Australasian College of Physicians.
- Waddell, G., Burton, A.K., & Main, C.J. (2003). *Screening to identify people at risk of long-term incapacity for work: A conceptual and scientific revolution*. London: Royal Society of Medicine Press Ltd.
- Wall, C.L., Ogloff, J.R.P., & Morrissey, S.A. (2006). The psychology of injured workers: Health and cost of vocational rehabilitation. *Journal of Occupational Rehabilitation*, 16, 513–528.
- Wall, C.L., Ogloff, J.R.P., & Morrissey, S.A. (2007). Psychological consequences of work injury: Personality, trauma and psychological distress symptoms of non-injured workers and injured workers returning to, or remaining at work. *International Journal of Disability Management*, 2, 37–46.
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