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The relationship between personality subtypes and motivational structure among alcohol abusers

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Abstract

Studies suggest that motivational structure and personality play important roles in goal-seeking behaviour.
We studied the relationship among motivational structure indices (its derived factor scores) and the MMPI-2 validity and clinical scales. Participants were alcohol abusers (187 males; mean of age = 40.37) who completed a demographic information sheet, the MMPI-2 and the MSQ. The results showed that resilience and adaptive motivational structure were inverse predictors of substance abuse. The results were as follows. *First*, participants' response styles on the MMPI-2 were related to their responses on the MSQ, such that a defensive response style was associated with more socially desirable indices and adaptive motivational structure. This suggests that higher scores on the adaptive motivation are associated with a *faking-good* response style. *Second*, there was generally a lack of relationship between the MMPI-2 one-code clinical types and the MSQ indices and factor scores. The only exception was that participants with elevated scores on the MMPI-2 depression scale reported less Active Role and Commitment in goal-seeking than those with elevated scores on the Psychopathic Deviant and Hypochondriasis scales.
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1. Introduction

Human beings are goal strivers. They set different goals to pursue; they achieve some goals, but they fail to accomplish some. Progress toward achieving a goal is crucial in affective regulation. There are factors that cause increments or decrements in motivation to achieve a goal. Based on individual diversities in selection and pursuing goals, Cox and Klinger (2004) argued that the construct motivational structure is crucial in goal-directed activities. Motivational structure is a totality characterised by idiographic properties that are related to and influence current

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goal pursuit (Cox and Klinger, 2002). To investigate motivational structure, Klinger, Cox, and Blount (1995) developed the Motivational Structure Questionnaire (MSQ). Motivational structure is a product of the interaction between different parts of the motivational system, which causes more stable ways of approaching one's goals.

Other wise, an attempt has long been made in the history of psychology to classify and differentiate people, especially clinical groups from non-clinical groups, in terms of personality characteristics (Saucier, 2002; Shmelyov, 2001) to order to explain and predict behaviour. Briefly, personality is the totality of characteristics that distinguishes one person from another and is relatively stable across time and situations (Saucier, 2002). Many personality tests exist, among which are the Minnesota Multiphasic Personality Inventory (MMPI and MMPI-2), which is the most frequently used one in clinical and non-clinical settings (Greene, 1991; Hathaway & McKinley, 1983).

As far as the relationship between personality and motivation is concerned, there is a general idea that personality is not the same as motivation (that is, is goal-directed behaviour). However, some authors (e.g., Revelle, 1993) believe that the two are related to each other in the sense that personality explains how people behave, whereas motivation explains why people behave in the way that they do. There are many personality classification systems. Affect direction (positive or negative) and energetic density (high or low) have been shown to be distinguishable motivational states (Revelle, 1993). Apparently, the above properties of motivational system are not stable and vary dramatically upon the time and situation.

Personality and motivation interplay with each other. Isenhart (1994, 1997) reported that high scores on personality dimensions such as agreeableness, conscientiousness, and neuroticism were associated with affects that are more negative, impulsiveness, hostile cognitions, and maladaptive coping styles. The examples above illustrate how personality traits and biological factors contribute to behavioural decision-making: the motivation to perform the behaviour. Motivation acts as a control process, altering the parameters of the cognitive system to execute responses most efficiently (Revelle, 1993). As described earlier, according to Revelle, motivation explains why behaviour is performed.

Within Cox and Klinger's motivational model, the answer to why people drink abusively is addressed within a comprehensive, but essentially motivational, explanation of how people are led to make decisions about drinking alcohol. It seems that motivational structure functions as a link between stable factors included in the model (e.g., biology, personality) and less stable factors (such as the immediate situation in which the person is located). Mulder (2002) reviewed it seems that personality variability is more critical in the development of future alcohol abuse than is a specific personality.

In conclusion, alcohol abuse is often associated with other psychopathologies among, which antisocial disorder and conduct behaviour. Much of the reported associations between alcohol abuse and psychopathological states may be secondary to the effects of alcohol abusing.

2. Method

Participants were consecutive admissions to an inpatient treatment for substance abuse (N = 187; 75% male, mean age = 40.3), who were recruited through cluster random sampling method from the North Chicago Department of Veterans Affairs Medical Centre, Chicago. Illinois, USA. The modal educational attainment was completion of high school. Participants gave their informed consent prior to completing the questionnaires.

2.1. Instruments

Instruments were self-reported, paper-and-pencil questionnaires. All participants completed a demographic information sheet prior to completing the study measures.

2.1.1. *Minnesota Multiphasic Personality Inventory (MMPI)*

The MMPI is the most frequently used clinical test. It provides descriptions of people's problems, symptoms, and characteristics. The test is mostly used in clinical settings (Hathaway & McKinley, 1983). As discussed shortly, the MMPI is comprised of 10 clinical scales (i.e., Hypochondriasis, Depression, Conversion Hysteria, Psychopathic

Deviate, Masculine/Feminine, Paranoia, Psychasthenia, Schizophrenia, Hypo mania, and Social Isolation) and three main validity scales (i.e., The Lie*; the Infrequency; and the Defensiveness scales*) (Greene, 1991).

The MMPI-2 contains three original MMPI validity scales (L, F, and K) (Friedman, Lewak, Nichols, & Webb, 2001).

2.1.2. *The Motivational Structure Questionnaire (MSQ)*

Klinger, Cox, and Blount (1995) devised the Motivational Structure Questionnaire (MSQ) to measure participants' motivational structure. It normally lists 10 common areas of their lives (e.g., home and household Matters, Relationships, Love, Intimacy and Sexual Matters, Self-changes). Participants are then asked to rate their views about achieving their goals on 11 indices that are important in goal pursuit (e.g., sense of control, knowledge, commitment, and expected happiness or sorrow). There are a few studies supporting the validity of the test (for a review see Cox & Klinger, 2002, 2004).

3. Results

1 Factor analysing of the PCI data

The MSQ data were first factor analysed, which resulted in two factors; clearly suggestive of an adaptive and a maladaptive motivational structure. To define further the two factors in MSQ, participants were allocated to either Group 1 (i.e., adaptive motivation) or Group 2 (i.e., maladaptive motivation) of the factor scores. The results revealed that Group 1 was significantly higher than Group 2 on "Active role," $t_{(142)} = 9.78$, $p < .001$, $d = 1.64$[3]; "Commitment to achieving goals," $t_{(142)} = 7.83$, $p < .001$, $d = 1.31$; "Happiness from achieving goals," $t_{(142)} = 3.27$, $p < .05$, $d = .54$; "Sorrow from failure to achieve goals," $t_{(142)} = 4.33$, $p < .001$, $d = .72$; and "Probability of Success if Action is Taken," $t_{(142)} = 8.16$, $p < .001$, $d = 1.36$. Group 2 scored significantly higher than did Group 1 on "Unhappiness from achieving goals," $t_{(142)} = 2.28$, $p < .05$, $d = .38$; "Time available before taking action," $t_{(142)} = 6.35$, $p < .001$, $d = 1.06$; and "Distance from goal achievements," $t_{(142)} = 3.68$, $p < .05$, $d = 0.62$.

Testing the study hypotheses

In MMPI-2, who met the cut-off points on the validity scales were distinguished based on the following criteria: (a) F scale > 90, (b) L scale > 70, (c) K scale > 70. In addition, participants' responses on the L, F, and K validity scales were cluster analysed and three response styles were obtained: *Exaggerated*, *Straightforward*, and *Defensive.* To further test the relationship between the MMPI-2 response styles and the participants' motivational structure, MSQ Factor 1 and Factor 2 were subjected to another one-way multivariate ANOVA, in which Factor 1 and Factor 2 (for the whole sample) were dependent variables and response styles (for the whole sample) were between-subjects factor. There was a significant difference between the response styles on the combined dependent variables, $F_{(4, 358)} = 3.27$, $p < .05$, = .035. When the results for dependent variables were tested separately, there was a main effect for the MMPI-2 Validity Profile on Factor 1, $F_{(2, 180)} = 4.63$, $p < .01$, = .050, but not on Factor 2, $F_{(2, 180)} = 1.81$, $p > .05$, = .020. A Bonferroni *post hoc* analysis revealed the source of the main effect: those participants with a Defensive Validity Profile on the MMPI-2 validity scales were significantly higher on Factor 1 than were those with an exaggerated response pattern.

To see if excluding the invalid profiles influences the pattern of results for the above analysis, another one-way multivariate ANOVA was conducted ($n = 158$). In the model, Factor 1 and Factor 2 (for the trimmed sample) were dependent variables and the response style (for the trimmed sample) with three levels was the independent variable. Again, there was a significant difference between the response styles on the combined dependent variables Factor 1 and Factor 2, $F_{(4, 308)} = 4.68$, $p < .05$, = .057. However, testing the results for dependent variables separately, two main effects were revealed for the MMPI-2 response styles: one on Factor 1, $F_{(2, 155)} = 4.35$, $p < .05$,

= .053; and the other on Factor 2, $F_{(2, 155)}$ = 4.88, p > .01,   = .060. A Bonferroni *post hoc* analysis revealed the source of the main effects. Those participants with a Defensive Profile were significantly scored higher on Factor 1 than were those with an Exaggerated Profile. However, noticeably, Defensive participants were also significantly scored higher on Factor 2 than those with either an Exaggerated or Straightforward response pattern. Again, excluding data with invalid profiles resulted in a somewhat clearer effect of the response styles on the MSQ indices.

The MMPI-2 elevated one-code clinical types which exclude in response styles could alter the influences of participants' response patterns on the individual MSQ indices and the MSQ factor structures (i.e., Factor 1 and Factor 2).

To determine whether elevations on the MMPI-2 clinical scales (i.e., one-code clinical types) influenced the participants' responses on the MSQ, a one-way between-groups multivariate ANOVA was conducted. When the results for dependent variables were considered separately, there was a main effect for the clinical scales on the MSQ Commitment index, $F_{(7, 173)}$ = 2.84, p < .01,   = .10. A Bonferroni *post hoc* follow-up test revealed the source of the difference: Depressed participants were significantly lower on the Commitment scale than those with Hypochondriasis or Psychopath Deviation.

To determine whether omitting participants with invalid scales (i.e., L, K, or F-K >70) from the above analysis would change the pattern of the influence of the MMPI-2 one-code clinical types on the participants' (n = 157) responses on the MSQ, another one-way between-groups multivariate ANOVA was conducted. Depressed participants were significantly lower on the Commitment scale than those with Hypochondriasis, but not those with Psychopath Deviation (different from the earlier analysis). This finding suggests that inclusion or exclusion of invalid responses on the MMPI-2 scale slightly changed the pattern of participants' responses on the MSQ indices. However, when the results for the dependent variables were considered separately, there was a main effect for clinical scales on Factor 1, $F_{(7, 155)}$ = 2.26, p < .05   = .093; the response styles on Factor 1; $F_{(2, 155)}$ = 2.84, p < .05,   = .044; and their interaction on Factor 1, $F_{(14, 155)}$ = 2.12, p < .05,   = .16. A series of Bonferroni *post hoc* analyses were conducted to determine the source of the differences. However, Bonferroni pairwise comparisons failed to uncover statistically significant differences between the clinical scales on Factor 1. Participants with a Defensive Response Style scored higher on Factor 1 than those with an Exaggerated Response Style.

In addition, the results for each dependent variable, separately, indicated a significant effect for the response styles on both Factor 1, $F_{(2,.133)}$ = 3.45, p < .05,   = .052; and Factor 2, $F_{(2,.133)}$ = 3.98, p < .05,   = .059. Bonferroni follow-up showed that the Defensive profile was marked by higher scores on Factor 1 than the Exaggerated profile. Importantly (and different from the above analysis when the invalid scales were included), a Defensive profile was also marked by higher scores on Factor 2 than an Exaggerated Profile. No further significant effects were found.

To determine whether those participants who scored in the clinical range (a cut-of point >70) differed on the MSQ indices from those who did not (a cut-of point <70; n = 59) a series of *t*-tests were conducted (all test two-way). The only significant difference between the two groups was related to be the MSQ Probability of Success if Action is Taken, $t_{(185)}$ = 2.55, p < .05, d = .37; with non-clinical participants scoring higher on the index than clinical ones.

The MMPI-2 two-code clinical types (elevated clinical scales including invalid and pathological scales) are associated with the MSQ maladaptive motivational structure.

To test the hypothesis, a two-way multivariate ANOVA was performed, in which Factor 1 and Factor 2 (for the reduced data) were entered into the model as dependent variables (n = 68). when the results for the dependent variables were considered separately, there was a main effect only for the two-cod type on Factor 2, $F_{(5, 50)}$ = 2.58, p < .05   = .20. This suggests that higher scores on the adaptive motivation are associated with a *faking-good* response style. However, when the MMPI-2 invalid scores were excluded, the defensive response style was associated with maladaptive motivation. The finding suggests that factor structures are a better representative of respondents' motivational characteristics than are individual MSQ indices. The only exception was that participants with elevated scores on the MMPI-2 depression scale reported less Active Role and Commitment in goal-seeking than those with elevated scores on the Psychopathic Deviant and Hypochondriasis scales.

4. Conclusion

Knowing participants' response style does make a difference in interpreting their MSQ results. This is the first time that response validity has been studied in connection with the MSQ. It is noteworthy that participants with a defensive style of responding are the ones who show the most adaptive motivational structure, but only when the invalid responses are included in the analysis. Therefore, excluding versus including invalid profiles did make a different in the pattern of results. However, there were not enough clear relationships between the MMPI-2 clinical scales and the MSQ indices to allow firm conclusions to be drawn.

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