

Comparison of Temperament and Character Traits in Australian Rural and Urban Doctors

INTRODUCTION

This preliminary study builds on previous pilot work toward the establishment of a psychobiological profile for rural doctors by comparing temperament and character traits with an urban cohort. The 'folk-lore' of medicine holds many personality stereotypes for particular medical specialities. Studies have established through various instruments that personal characteristics may play a part in student decisions on their choice of medical specialty. Of the many studies and methods used to investigate personality types pertaining to particular medical specialities, general practice is most often portrayed as a mixture of types which could be attributed in part to the varied nature of general practice which entails expertise in personal communication, procedural and diagnostic skills.

The aim of this study was to extrapolate further to differences within the speciality of general practice and consider location or context as a defining characteristic. Specifically our research questions asked; 1) if the temperament and character profiles of general practitioners (GP) working in rural/remote environments are different to GPs working in an urban/metropolitan context, and 2) if certain demographic variables along with the dimensions of temperament and character may be predictive of practice location. Although acknowledged and supported by anecdotal narrative, the unique personality and lifestyle of doctors in rural and remote locations worldwide has received little attention in personality research.

In Australia, there is a recognised excess of urban GPs and a deficit of rural GPs¹. The gravity of the rural health workforce shortage has prompted a re-examination of personality as a fresh way to understand our present rural doctors and how they cope in rural medicine. To date there is little information allowing any characterisation of rural and remote medicine by personality traits. This has encouraged an interest in new methodologies and is reflected in the theory which underpins the main research tool we employed. The Temperament and Character

Inventory (TCI) ² was developed from a psychobiological model of personality that has the potential to provide comprehensive insight into human personality at multiple levels of analysis. This paper reports on a comparison of the profiles of temperament and character traits in urban and rural GP cohorts in Queensland Australia.

METHODS

Cross sectional cohort design using quantitative (self-report questionnaire) methods.

Rural (n=120) and urban (n=94) GPs completed a demographic questionnaire and the TCI-R 140 ² to identify levels of the seven basic dimensions of temperament and character. These are Novelty Seeking (NS), Harm Avoidance (HA), Reward Dependence (RD), Persistence (PS), Self-Directedness (SD), Cooperativeness (CO) and Self-Transcendence (ST).

Multivariate statistics (2 way with Bonferroni and ANOVA) were used to determine significant differences between urban and rural GPs with regard to their TCI, based on gender, and rural background to make multiple comparisons between TCI scores among GPs and other demographic variables. Logistic regression was used to first predict rural or urban practice from the seven temperament and character dimensions and repeated while controlling for salient covariates.

RESULTS

The response rate for this postal survey was 42% (n=120 rural GPs) and 36% (n=94 urban GPs). The mean age of the whole sample (n = 214) was 47.6 years (range 28-71, SD = 9.9), the majority were male (n= 132, 62%) and were married/partnered. The rural cohort had significantly more males (Pearson $X^2 = 7.99$, df=1, $p < .005$) and was slightly older than the urban cohort. More rural GPs (n = 65; 55%) reported they (Pearson $X^2 = 29.9$, df=1, $p < .001$) and their spouse (n=50; 43%) were from a rural background/rural origin (Pearson $X^2 = 26.8$, df=1, $p < .001$).

The sample was normally distributed (Kolmogorov-Smirnov and Normal Q-Q Plots). Preliminary results show that our sample of rural GPs are higher in the temperament traits of NS and lower in HA compared to the urban sample. All female GPs were higher in RD and CO compared to all males and all older GPs (over 55 years) were lower in RD compared to all younger GPs.

No significant interaction effects were detected. There was a weak but significant main effect for rural–urban group [$F(1, 214)=3.93, p>.05$], *partial* $\eta^2 = .02$) and gender $F(1, 198)=4.83, p>.05$], *partial* $\eta^2 = .03$) on HA. A main effect for rural–urban group [$F(1,198)=7.66, p>.006$], *partial* $\eta^2 = .03$) on NS. There was a main effect for gender [$F(1, 214)=16.60, p>.001$] *partial* $\eta^2 = .07$) and age [$F(2, 198)=7.56, p>.001$] *partial* $\eta^2 = .07$) on RD and for gender [$F(1, 198)=7.90, p>.005$], *partial* $\eta^2 = .04$) on CO. Logistic regression showed that temperament dimensions of NS and HA were independently predictive of rural or urban membership (percentage accuracy classification (PAC) = 60.3% ($X^2 = 12.349, df=7, p<0.090$). The PAC for the second analysis = 76.4% ($X^2 = 18.568, df=7, p<0.010$) indicated that rural background, spouse rural background, and again NS and HA were also predictive of rural or urban membership.

DISCUSSION

Analysis detected significant differences in two temperament traits i.e. higher levels of NS (curious, impulsive, enthusiastic) and lower levels of HA (relaxed, confident in uncertain situations and optimistic) in the rural GPs compared with the urban GP cohort.

HA in particular has many adaptive advantages and persons low in HA portray greater confidence in the face of uncertainty and optimism in situations that would worry most people. Persons' high in NS show a higher curiosity level and acceptance of risk. Rural medical practice is typified by a lack of resources, location constraints, little or no professional support, a large degree of risk and commonly involves a high degree of uncertainty, independent decision making and adaptability.

Doctors practising in rural/remote locations who portray this temperament profile (i.e. low HA and high NS) may be predicted to be best suited for rural practice and therefore more likely to be retained for long periods in this environment. Considering the global challenges surrounding rural workforce shortages, this preliminary research may be the precursor to a new approach to a better understanding of what it takes to be a rural doctor.

1. Wilkinson D *Australian Journal of Rural Health* 2000; 8: 87-93.
2. Cloninger CR *Archives of General Psychiatry* 1993; 50: 975-990.