

Rural temperament and character: A new perspective on retention of rural doctors

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INTRODUCTION

Rejuvenating the rural health workforce remains a challenge to governments and stakeholders and innovative methods are required to help improve this situation. Revisiting the investigation of personality traits to better understand medical disciplines may provide a greater understanding of traits that are conducive to that discipline. No research to date has investigated the 'rural doctor', a profession that is increasingly recognised as an entity in itself. Although acknowledged by anecdotal narrative¹, the unique personality and lifestyle of doctors in rural and remote locations worldwide has received little attention.

In two successive studies, the temperament (mildly heritable) and character (influenced by socio-cultural learning) trait profiles of established rural and urban doctors were explored and compared to better understand the traits that retain them in or out of rural medicine. The first largely exploratory study aimed to identify a psychobiological profile for rural general practitioners (GPs). Building on these findings the aim of the second 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) are the profiles of GPs working in rural/remote environment different to GPs working in an urban/metropolitan context, and 2) are there certain demographic variables along with the dimensions of temperament and character that may be predictive of practice location?

The overall aim of this research is to describe how individual profiles (levels and combinations) of temperament and character traits are beneficial to GPs who flourish or fail in rural medicine.

METHODS

A mixed method, cross sectional design employed qualitative and quantitative methods. Study 1: A purposive sampling logic ensured participants were relevant to the research aim. Rural GPs (n=13) with 7 to 40 years (mean = 23.1) experience in RRMA 5-7 practice in Central and Southern Queensland were recruited. All completed a demographic questionnaire and the TCI-R140^{2,3} to identify the levels and profiles of the seven basic dimensions of temperament and character. These are Novelty Seeking (NS), Harm Avoidance (HA), Reward Dependence (RD), and Persistence (PS), Self-Directedness (SD), Cooperativeness (CO) and Self-Transcendence (ST). Semi-structured interviews provided in-depth information on what brought them to and kept them in rural practice. Triangulation of the data sources described the findings.

Study 2: The same research materials were posted to 286 rural GPs and 258 urban GPs to compare the individual levels and combinations of temperament and character traits of both GP cohorts.

Descriptive, frequency, Chi Square and ANOVA statistics were generated for comparison of TCI scores with demographics and population norms and between rural and urban GPs using SPSS version 14. Logistic regression was used to first predict rural or urban practice from the temperament and character dimensions and repeated while controlling for salient covariates. Ethical approval was obtained the University of Queensland.

RESULTS AND DISCUSSION

Study 1: TCI results showed that our sample of rural GPs are highly self-directed (SD), cooperative (CO), objective (ST) and persistent (PS) in character and also very caring (RD) in temperament. Interview analyses highlight findings that concur with the literature^{4,5,6,7} and lend credence to the argument that rural general practice may differ from urban general practice.

However, individual variations are evident in the temperament dimensions of Harm Avoidance (HA) and Novelty Seeking (NS). In particular, GPs who intended to leave rural practice had significantly

higher HA ($F=23.74$; $p<.01$) than those GPs who have practiced longer in and are intent on staying in rural. Furthermore these longer serving rural GPs were also higher in NS.

Study 2: The response rates were 42% ($n=120$) for rural and 36% ($n=94$) for urban GPs. The comparison of TCI dimensions in our rural and urban GP cohorts showed congruence with Study 1. The rural cohort are significantly higher in the NS ($F(1,198)=7.66$, $p>.006$) and lower in HA ($F(1,214)=3.93$, $p>.05$) compared with the urban GPs. Furthermore logistic regression found that both these traits (NS and HA) were independently predictive of rural or urban membership ($p<.01$).

Our results detected significantly higher levels of Novelty Seeking (NS) [curious, impulsive, enthusiastic], and significantly lower levels of Harm Avoidance (HA) [relaxed, confident in uncertain situations and optimistic] in the rural GPs compared with the urban GPs and this same pattern between longer serving rural GPs who were staying and those who were leaving rural practice. These findings have several implications.

Implications for recruitment

The differences detected between cohorts were NS and HA – both temperament traits – which are more innate and are not likely to change through socio-cultural learning. Therefore these traits could be identifiable in persons regardless of prior life experience or educational exposure. Indeed the logistic regression suggests these are identifiable and predictive in our sample. Character traits are developmental and identification of certain levels of these traits in established rural doctors may suggest areas for special training or counselling of students with an interest in rural practice e.g. someone low in persistence or cooperativeness might benefit from interventions that build these skills. Medical schools might use this information as an adjunct to train for an increase or decrease in certain character traits that are consistent and dominant in rural doctors.

Another implication reflects the higher curiosity level of a person high in NS. High NS might be the impetus responsible for medical graduates to engage with rural medicine. The majority of medical students are not of rural origin and may have little or no knowledge of rural life. Therefore high levels of NS could be a contributing factor to ‘testing the unknown’.

Implications for retention

According to Cloninger² HA has many adaptive advantages. HA is a measure of anticipatory anxiety and the ability to tolerate uncertainty. Persons low in HA portray greater confidence when faced with uncertainty and optimism in situations that would worry most people³. Lack of resources, location constraints and little or no professional support, means that rural/remote medical practice involves a high degree of uncertainty, independent decision making and adaptability. Rural GPs with low HA may be innately more suited to their environment and more likely to be retained for longer periods.

Literature suggests that specialties involving procedures require individuals who can tolerate uncertainty and enjoy a degree of excitement, whereas primary care specialties are more people oriented^{8,9,10}. If we consider again the rural GP as a unique entity,^{1,6,10} we see a mixture of both - a primary care specialist who is also a proceduralist. Our data imply that although temperament levels of Reward Dependence (RD) [warm, dedicated, sociable] may vary, the levels of Novelty Seeking (NS-high) and Harm Avoidance (HA - low), may be most descriptive of individuals who cope in rural medicine.

SUMMARY

These preliminary results serve as a starting point to establish a psychobiological profile for rural doctors. Considering the global challenges surrounding rural workforce shortages, this preliminary research may be the precursor to a new approach to the recruitment and retention of rural health professionals. The implications of these results include;

- *Predicting students who may be best suited to a rural career.* Identifying specific personality profiles associated with long term rural doctors may be predictive of students (with similar profiles) best suited to rural medicine.

- *Provide medical schools with more information regarding counselling students for (or against) rural medicine.* Understanding more about what it takes to be a rural doctor could provide more information to assist students in their choice of discipline.
- *Inform policy associated with incentives and retention strategies for existing rural doctors, nurses and allied health professionals.* Understanding more about the personality make-up of rural doctors could help policy makers tailor initiatives to their specific needs and expectations on appropriate initiatives and assistance to rural doctors and the communities they serve.

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