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## Trait and gender differences in personality: implications for GP training and future research

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Joffe et al.'s study examines personality and trait differences between General Practice (GP) trainers and trainees. Here, we explore these findings, and review related concepts and avenues for further enquiry to encourage debate on this important topic within the academic and practitioner community. We explore five key questions to contribute to a future research agenda.

### 1. Is the personality – performance relationship as robust as we think?

The authors rightly highlight the positive associations found between personality and job performance, across a diverse range of occupations.[1,2] Indeed, in medical education, research shows that Conscientiousness predicts medical school success [3,4] and preclinical assessments for students.[3] However, in postgraduate training, Ferguson et al. [3,5] found *Conscientiousness to be a negative predictor of subsequent performance once students entered clinical practice, highlighting the differential prediction of personality traits depending on the outcomes of interest.* More recently, Ferguson et al. [5] argue that Conscientiousness also has a 'dark side' as it can actually reduce the acquisition of knowledge in clinical years. Similarly, Neuroticism also has a 'bright side' by enhancing the acquisition of skills during these clinical years.

Given these findings, we suggest that selecting on the basis of personality alone is problematic given that personality traits differentially predict in-role performance across the course of medical training. We urge caution in drawing negative conclusions about individuals who report high Neuroticism or low Conscientiousness.

### 2. What is the relationship between personality and 'resilience'?

In reviewing Joffe et al.'s paper, one might draw the conclusion that 'resilience' is the same construct as the Big Five personality factor, Emotional Stability. Joffe et al. state that the original aim of their paper was stimulated by anecdotal information suggesting that trainees were less resilient than those of the past (which is not an unreasonable assumption), yet the Big Five personality domains were measured in their study, and not 'resilience' per se. A recent systematic review of resilience [6] suggests that many psychological resources (in addition to personality) are important in an individual's capacity for resilience, including adaptability, self-efficacy, positive emotions (arguably individual traits/states) as well as external resources such as social support. Thus, resilience is a complex construct and any measurement tools should reflect its multifaceted composition.

The Epstein and Krasner [7] study referred to by Joffe et al. suggests individual facets of resilience also include capacity for mindfulness, ability to self-monitor, set limits and hold attitudes that promote a healthy engagement with challenges at work. Although clearly it might be inferred that some personality factors could facilitate or hinder these abilities, there is no direct evidence of a causal link between personality and resilience. Further, Epstein and Krasner suggest that changes in personality can potentially *result* from practicing certain techniques such as mindfulness meditation, and appreciative enquiry-based dialogue, so it cannot be assumed that Emotional Stability and resilience are one and the same construct. In future exploration of resilience specifically, we propose that researchers favour measuring a broad range of psychological resources for

resilience (e.g. social support, flexibility, openness), rather than measures of personality traits alone.

We agree with Joffe et al. that early assessment and identification of lower levels of resilience in trainees, and subsequent development interventions, would be highly valuable and timely. Promoting resilience would likely improve the retention of trainees due to increased well-being, psychosocial, physical/biological, and performance outcomes.[8] There is a pressing need to introduce valid targeted educational interventions [9] which focus on the development of resilience in context using situational judgement scenarios. More contextualised measures of resilience could more closely represent the complex interaction of personal attributes with environmental factors,[10] especially given the highly demanding, challenging and high-stakes nature of medical education and clinical practice.

### 3. Are personality traits stable over time and situation?

Historically, research literature has assumed personality traits to be relatively stable across time and situations. [11,12] More recently, however, research shows that personality traits are dynamic, and can change across the course of one's life, as well as across situations [13,14]; (and see a paper by Ferguson and Lievens [15] for a full review of the literature and discussion). Further, there is good evidence for the predictive validity of the GP selection methods,[16] which target Coping with Pressure (described as *Remains calm under pressure; demonstrates self-awareness; understands own limitations, manages own emotions and is resilient* [17]) which is an important competency for success as a GP. One could argue that these behaviours are the opposite of behaviours that may be displayed by individuals high in Neuroticism. Thus one might argue that Joffe et al.'s findings could be interpreted as an indication that medical training *itself* promotes changes in physicians' personality traits, rather than these differences being a result of the selection system.

Research consistently shows that 'stress inoculation' [18]; that is, exposure to adversity in moderation (such as the highly cognitively and emotionally demanding context of clinical practice), can promote self-efficacy and reduce anxiety.[19–22] Therefore, it is plausible that manifestation of facets of Neuroticism including anxiety, vulnerability, self-consciousness and so on, may be reduced over time as trainees successfully navigate their way through medical training and clinical practice. This may account for Joffe et al.'s findings that trainers are lower in Neuroticism than trainees, as trainers will have successfully navigated and overcome challenges during the course of their GP training.

### 4. Is there evidence that females do better in the selection process than males?

Joffe et al. state that the selection process appears to privilege softer skills associated with agreeableness, compassion and modesty which 'may contribute to females' success in selection for training' and further that 'it is important that the selection process does not disadvantage more resilient and perhaps male applicants'. In practice, females do perform slightly better than males, although the effect size is relatively small. That said, there is no direct evidence to suggest that males are innately more resilient than females (one could in fact argue the opposite), especially given that resilience encompasses many factors other than Emotional Stability alone, since resilience is a complex construct where many psychological resources are involved (see above). It is however, an important consideration for any selection process to ensure that the process does not disadvantage any group (be it gender, ethnicity etc.) and current research has tended to focus on differential attainment on the grounds of ethnicity.[23] However, where any sub-group differences are apparent, it is important to note that this does not necessarily imply that a selection process is biased.

### 5. Are there other research designs that could be used in future personality research?

We suggest that two types of research design could be useful in this context. First, it would be useful to explore personality data in the two groups – trainee and trainer – using a longitudinal research design. For example, it might be that the trainee's high levels of Neuroticism become lower over time and thus more in line with the trainers'. We favour this 'trait expression perspective', which assumes that personality traits are dynamic and can change over the course of one's lifetime.[13]

Second, another avenue for future research could be to use matched datasets – that is to match trainer and trainee data and to explore differences in personality based on the trainer-trainee relationship. As Joffe et al. helpfully explain, there were no links between the trainer and trainee groups in their study, which could have resulted in their specific findings.

In summary, Joffe et al.'s paper provides an interesting and timely springboard for further research and we hope that our commentary will encourage further debate on this important topic.

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