

Resilience in the Aftermath of Terrorism and During Warzone Exposure: Is It Religiousness or Is It Number of Blood Relatives?

Sir: The carefully constructed study by Kaplan et al.¹ is a major contribution to the literature on stress resilience. The authors concluded that "Religiousness combined with common ideological convictions and social cohesion was associated with substantial resilience as compared to a secular metropolitan urban population."^{1(p1146)} Kaplan et al. should also be lauded for emphasizing the limitations of this study. We would like to point out one additional confounding factor that Kaplan et al. should be able to examine using information already available or easily obtainable from their sample.

Strict adherents to several mainstream religions that frown on birth control usually have much larger families than secular individuals. A "subconscious awareness" that, if killed, one will still pass one's genes on to the next generation may be associated with lower levels of anxiety during constant risk to personal survival (independent of the belief in an afterlife, for which religiousness is a proxy).

We predict that the number of first-degree blood relatives (as specifically measured by number of siblings and number of children) may explain part of the statistical correlation between self-reported religiousness and high stress resilience. This prediction is testable/falsifiable. One can carry out a multiple regression (or general linear model) in which the dependent variable is the resilience score and the independent variables are x_1 = number of siblings and x_2 = self-reported religiousness score. The interaction between x_1 and x_2 will be informative. A 3-dimensional plot (of x = number of sibling and offspring, y = self-reported religiousness, and z = resilience) can visualize the effects of interaction.

The biological/evolutionary "level of explanation" we present above is less dependent on subjective self-report and may make the findings of Kaplan et al. more generalizable. As we and others have argued (and as can be seen above), clinical hypotheses based on neuroevolutionary reasoning are eminently testable and may be useful in elucidating factors that underlie fear-circuitry-related symptomatology and stress resilience.²⁻¹³

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