



How Evolutionary Psychology Can Explain the Existence of Psychopaths

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Abstract

People diagnosed as psychopaths demonstrate callous, self-serving behaviour. They are extreme free riders who appear to be unable to experience guilt. We argue here that, in order to understand the existence of psychopaths at a population level, we need to consider both theoretical and empirical findings based around evolutionary principles. In particular we suggest that the concepts of Life History Theory, where individuals make trade-offs during development and Frequency Dependent Selection, where individuals develop reproductively successful strategies, can be used to understand the maintenance of psychopathy.

Keywords: Psychopathy; Life History Theory; Frequency Dependent Selection; Psychopathy Checklist

Abbreviations

ASPD: Antisocial Personality Disorder; PCL-R: Psychopathy Checklist-Revised; LHT: Life History Theory; FDS: Frequency Dependent Selection.

Introduction

The term psychopath conjures up many images in the mind's eye. The serial killer, the callous philanderer or perhaps the manipulative, ruthless, self-centred businessman? These are commonly held conceptions of individuals who have this unfortunate personality disorder. All of these images tap into some facets of what a psychopath can be. They are also, to some extent, stereotyped caricatures of the true psychopath. In reality, most psychopaths are not criminal and only a small proportion commit murder. In fact, counterintuitively, not all serial killers are psychopaths [1,2]. So technically what is a psychopath? According to the Diagnostic and Statistical

Manual of Mental Disorders (DSM-5) the term psychopath is a 'synonym for antisocial personality disorder' (ASPD). Those with ASPD show a disregard for, and violation of other people's rights. While there are debates concerning whether or not we should treat ASPD and psychopathy as synonymous (some consider the latter to be an extreme subset of the former) they overlap to the point where, to all intent and purpose, we can treat them as synonyms [3]. According to O'Donnell, et al. [4] the core personality traits of psychopaths include emotional and empathic insensitivity, impulsivity, superficial charm and being unresponsive to punishment. They appear to be unable to feel guilt and, despite their superficial charm, they treat others in a callous manner.

Assessment of Psychopathic Traits

One commonly used instrument to diagnose psychopathy is the 'Psychopathy Checklist-Revised' (PCL-R). Developed and revised by, arguably, the world's leading expert on the

subject Robert Hare in 1991 [5]. It was, however, Cleckley [6] who first described the traits of psychopathy in his book, *The Mask of Sanity*, some 50 years earlier. The PCL-R, which is regularly used in forensic settings, is a 20-item questionnaire that leads to what we can label a 'psychopathy score'. The higher the score the more likely a person is to be diagnosed as a psychopath. Additionally, a person's behaviour and previous actions are considered when making an assessment. Controversially, the cutoff point on the PCL-R for a diagnosis varies from one country to another with, for example, a score of 30 or above being considered the cutoff point in the USA, but a score of 25 resulting in a diagnosis in German speaking countries [7]. The PCL-R assesses factors such as social deviancy, self-centeredness, callousness, impulsivity, superficial empathy and pathological lying. Hence, it taps into features described by O'Donnell and Hetrick as listed above [4].

Psychopathy - A Successful Adaptative Response?

It has been estimated that around two percent of the population are likely to develop psychopathy (one percent for women and three percent for men). This means that they are by-no-means rare, and most people will have experienced their behaviour at some point in their lives. Interestingly, this proportion of a population appears to be approximately the same in all cultures examined [7]. This suggests that it is a strategy which is maintained within a population. As such it may be thought of as a product of evolutionary selective forces.

But how can it be that states of mind and behavioural responses which cause so much grief and distress to others could possibly have evolved in human populations? In fact, many experts consider psychopathy as a maladapted state. Evolutionary psychologists take a different view. They suggest that psychopathy may be a successful strategy for some individuals in terms of passing on their genes. When making such arguments it is important to realise that evolutionists are not suggesting psychopaths are not responsible for their actions or that such behaviour should be condoned. Natural selection selects for responses that boosts gene transmission and is unconcerned with morally correct behaviour. In order to understand the relationship between evolution and psychopathy we consider it is necessary to examine two evolutionary concepts [7]. These are 'Life History Theory' (LHT) and 'Frequency Dependent Selection' (FDS).

Life History Theory

Life History Theory concerns the trade-offs that animals make in order to reach sexual maturity and reproduce. Importantly, evolutionists also consider LHT to be an

important phenomenon to consider in human development [8]. One of the main trade-offs for our own species (and others) is the amount of time and effort an organism spends on development prior to reproduction. Some individuals reproduce at a relatively late stage - a situation known as a 'slow life history'. Others, in contrast, reproduce as early as possible - a situation labelled a 'fast life history'. A great deal of evidence suggests that under harsh conditions people shift towards a fast life history. Unfavourable in this context generally means that during development parental care is minimal and both parents show little or no affection towards the child. Individuals who experience such a harsh childhood tend to be less trusting as adults, breed early (having reached sexual maturity) [9], and often engage in a number of short-lived relationships. Such individuals are also more likely to be exploitative and hostile to others [10]. A sub-set of people who develop a fast life history will also develop psychopathic tendencies as outlined above and for some even full-blown psychopathy. Why some develop this pattern of callous, self-centred exploitative behaviour and others do not is matter of debate. Some evolutionists have suggested that these individuals inherit a number of genes which makes this outcome more likely. In fact, there is evidence that psychopathy is, in part, heritable. It is known, for example, that first degree male relatives of psychopaths are five times more likely to develop the condition themselves [11]. Importantly, in terms of reproduction, while no one seeks to condone the behaviour of psychopaths, this may be a successful strategy since in ancestral times being brought up under harsh conditions would have signalled that adult life is likely to be harsh [12,13]. In fact, there is clear evidence that, unlike other personality disorders, at least in the case of male psychopaths, such individuals are reproductively successful [14]. That is, a successful strategy provided only a relatively small proportion of the population adopt it. This brings us on to our second evolutionary concept - Frequency Dependent Selection.

Frequency Dependent Selection

It used to be thought that evolution led to similar optimal solutions to environmental and social challenges for each member of a population. In the case of avoiding predators, gathering food or spotting cheaters, this is probably true. There are, however, some challenges where how successful you are (in terms of survival and reproduction) will depend on the strategies that most others adopt [15]. If everybody is acting in certain way, then it may be possible to exploit this strategy by adopting a different (often opposite) one. One regular social strategy that the vast majority of humans adopt is to be broadly altruistic to others in the community. In fact, the majority of us demonstrate mild altruistic behaviour on a daily basis. We give strangers directions, we do chores for our friends and neighbours, we give friends a lift in our

cars. At an ultimate level this mild altruism has been selected for because others regularly reciprocate such acts. In fact, such behaviour has been known as 'reciprocal altruism' since the early 1970s [16] and has been documented as a universal human phenomenon [17]. Because, reciprocal altruism is so common, it does of course mean that it can be exploited by freeriders who take the benefits but do not reciprocate. Exploitative non-reciprocation is a common feature of those diagnosed with psychopathy. Hence it has been suggested that, provided it remains at a low level in the population (three percent for this condition as outlined earlier) then natural selection will support this alternative strategy. In a nutshell, psychopaths may be successful within a population because they are behaving as hawks in a world largely inhabited by doves [18,19]. This is the crux of this type of frequency dependent selection, that is, it is successful provided it remains at a low frequency within a population. Once it raises above a certain level then, due to the fact that it is so commonly encountered, suspicions are raised and the whole system of reciprocation breaks down.

In summary we consider that the universal existence of psychopathy can be understood within an evolutionary context if we incorporate the concepts of Life History Theory and Frequency Dependent Selection. While it is an undesirable personality disorder it may also be an adaptive response for a sub-section of society who have both nature and nurture combining to push some of these individuals in the wrong direction.

Final Thoughts – The Problem of Psychopathic Leaders

Presenting evolutionary explanations for the existence of psychopathy can sound like a rather esoteric academic exercise. Determining the causes and possible functions of psychopathic behaviour, however, transcends mere academic intrigue. Many psychopaths cause personal distress and financial loss to individuals due to their attainment of positions of power and authority over them. Interestingly, while, he was not referring to psychopaths in particular, in 1989 pioneering evolutionary psychologist Jerome Barkow suggested that ancestral males who were able to achieve high status would be likely to have a larger number of mating opportunities and hence leave more descendants than their less status seekers contemporaries [20]. Striving for status in the ancient past may not have caused major problems for a given settlement because the amount of power that a man could achieve would not have been great prior to the development of nation states. Being the leader of a small tribe might have been bad news for some members of the tribe, but this would have been limited to relatively small populations in restricted geographical areas. Prophetically, Barkow warned that men who seek status at all costs today

can lead nation states down the path to brinkmanship and even warfare. Psychopaths certainly seek status and power and, as mentioned above, are reproductively successful. This makes them prime candidates for the types of leader that Barkow cautioned against. In fact, arguably many twentieth century heads of state have exhibited clear psychopathic traits from Adolph Hitler of mid-20th century Germany to Joseph Stalin of the Soviet Union to Mao Zedong in post-war China and Pol Pot leader of Cambodia during the 1970s - to name but a few [7]. All of these, and many more, have strived for and misused their status and power in self-serving ways and to the detriment of the people they purportedly served. Indeed, arguably some of the world's most powerful leaders today demonstrate psychopathic traits. Any increase in our ability to predict the causes of psychopathic development and to identify such individuals might help nation states to avoid being fooled by such callous and self-centred non-reciprocators.

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