

The challenge hypothesis (Wingfield 1990)

As humans are essentially monogamous we might expect male testosterone levels to rise sharply in response to such challenges, particularly those which are considered threats to reproductive success. The challenges might be direct for example a dispute over a female, or indirect for example a dispute over resources or status, both of which are linked to reproductive success in humans. According to this explanation competitive encounters between young men would lead to a surge in testosterone levels.

Cortisol and aggression

Cortisol is produced by the adrenal gland and is an important part of the body's reaction to stress.

Explanations of the cortisol aggression link

an alternative explanation of this link is that low ANS arousal, and therefore low cortisol levels is experienced as being aversive (unpleasant). As a result, aggressive behaviour becomes an attempt to create a stressful situation in order to provoke ANS activation and cortisol release.

Evaluation

The evidence is inconsistent on the testosterone-aggression link. In addition most of the studies that do show a positive correlation between testosterone and aggression have involved relatively small samples of males within prison populations, using either self reports of aggression or they measured aggression that are assumed from the type of severity of the crime involved.

Self report techniques are advantageous when assessing aggression is that they're a quick method and are easy to analyse. They're also an inexpensive research method, and there is a large geographical dispersion of which it can cover. They are high in reliability, because the questions are standardised. Questionnaires provide quantitative data, this means that they are a scientific method of investigation. They could be a starting point for hypothesis testing, however self reports also have disadvantages, the main one being the lack of internal validity. Aggression needs to be operationalised when it is being researched and the questions may not be an adequate measure of aggression. There is also the danger of social desirability when using self reports, this is where people could lie or exaggerate, this could be especially problematic within a prison population because it could lead to more violence and aggression among the inmates, also there is no way of assessing whether the respondents are actually telling the truth. It's highly probable that prison inmates will have lower levels of literacy, this means that they wouldn't be able to interpret and answer the questions properly, they also might not be able to fully write down their answers.

Aggression or dominance?

Aggression is more likely when the intent is to inflict injury on another human being, whereas individuals display dominance behaviour if their intent is to achieve or maintain status over the other individual. Mazur argues that aggression is only one form of dominance behaviour and that the influence of testosterone on dominance may be evident