

REVIEW OF

"Hormones, Emotional Dispositions,
and Aggressive Attributes in Young Adolescents"

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This article describing research done by Elizabeth Susman, et al, was particularly interesting, though difficult to follow in places because of its professional ^{argon?} focus, as an example of the multi-disciplinary nature of current psychology, of well-designed experimental neurobiological research, and of research that contradicts popular conceptions of behaviour among adolescents. It introduces new scientific knowledge which could have a profound impact on both future research, and on policies dealing not only with adolescents, but on adults with disorders which could stem from adolescent hormone imbalances.

This experiment was designed to test the hypothesis that "...hormone levels, particularly androgen levels, would be positively related to negative emotional dispositions and aggressive attributes (p.1117)". The design of the experiment is extremely complex, with many cross-checks, and with most steps based on other validated, well-researched conclusions. In several instances, this was complicated by either a lack of extensive data ("Females are less frequently studied than males with regard to hormonal influences on aggression" (p.1114)), or by data which used different parameters than this research required ("Hormone-aggression findings generally are based on studies of experimentally induced changes in hormone level, ...pathological conditions, ...unusual or prison samples, ...or infrahumans." (p.1116)). The use of self-reports by the children, behavioural measurement by the child's mother, and physiological assessments of hormone levels, while being extremely thorough, brought into play variables that were unmanageable in number, and it was

necessary to select only those variables which were felt to be the most relevant. The article indicates that the number of questions about their child answered by the parents during the initial visit with the researchers runs to at least 133, including "lies and cheats", "cruel to others", and "blames others for things". There are, as well, other possible variables that were apparently not considered (and would admittedly have made the research even more unwieldy).

The research summary admits that "The influences of culture, family, and peers as moderators of hormone-aggression links also remain to be explored (p.1131)." The choice of participants, though, shows a social bias by the researchers: "The adolescents were from intact families...", and "The majority of the families were middle to upper middle class (p.1117)." This implies that the researchers feel that there are more social contributors to aggression in "broken homes" and lower class families. This is not consistently shown by research, and so adds an unacknowledged possible error factor to this research.

adding
more
variables
complicates
the
analysis
further

Distilling thousands of pages of data into a useable form has resulted not only in ignoring some variables, but in using groupings of both hormones and emotional dispositions to further reduce the number and impact of variables. It does, however, increase the possibility that other researchers will be able to make different deductions from the same data, depending on which variables are ignored, and which groupings are used.

✓ replication
advised

The findings of the research are especially interesting from

two perspectives. First, the impact of hormones on the girls' emotional tone, impulsiveness, and aggression was not shown statistically, in contrast to the hormonal effect on the boys. Most surprising from this perspective is the finding of a lack of relationship between testosterone levels and aggression in the boys, except in an indirect way, through influences on other behaviours. Second, and most contrary to popular thinking, is the finding that girls and boys have very similar levels of aggressive behaviour, and that the aggressive behaviour in girls is related to some other, unknown factor rather than hormones, and in fact may differ in subtle ways ("Females can be highly aggressive under certain circumstances, for example those involving defense of one's young ...or those in which aggression is positively sanctioned."p.1131).

This experiment seems to set up a marvellous opportunity for longitudinal study of the group, to see if the trends discovered continue through for 20 years or so, in terms of hormone levels and of behaviour that could later result in legal consequences. The sociological significance of the findings of this experiment, if ^{not in science -} proven incontrovertibly (and accepted as such, which does not necessarily follow), could conceivably result in major changes in the way children are gender-stereotyped, and are then treated throughout their lives by schools, sports organizations, employers, the police, and many others.

✓ good summary
✓ difficulties well
discussed

10/10