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REVIEW ARTICLE

STUDY ON DIFFERENT CORRELATIONS BETWEEN MEASURES OF TEMPERAMENT AND THOSE OF AGGRESSION

Study on Different Correlations between Measures of Temperament and Those of Aggression

Suresh Kumar¹ Dr. D. B. Singh²

¹Research Scholar, CMJ University, Shillong, Meghalaya

²Deptt. Of Management, Lord Krishna College of Engineering, Ghaziabad (U.P.)

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INTRODUCTION

Aggression is an action. It is intended to harm someone. It can be a verbal attack--insults, threats, sarcasm, or attributing nasty motives to them--or a physical punishment or restriction. Aggression also seems to be a way of maintaining social order among many species. Animals compete with each other over food, mates, and dwelling spaces, often showing aggression and occurring among virtually all vertebrate species, including humans. However, if aggression is an effective way of maintaining social order, reckless violence appears to be a poor survival mechanism. Nevertheless, this trait has not been wiped out. Since it hasn't disappeared, it is logical that researchers have tried to understand the nature of this behavior. In doing this, there has been an ongoing argument of what its source is. One need only pick up the daily newspaper to see how serious a problem violence is in today's society. Although the incidence of violent behavior in the US has fallen significantly in the past few years, there is still about an 80% chance that a person will be the victim of a violent crime during his or her lifetime. Even more troubling is the trend of increasing violence among the very young.

After each school shooting, there is a media blitz of experts searching to explain how and why troubled teens sometimes turn to violence. Much of what they say is the result of research on the psychobiology of aggression, a field that has recently experienced many breakthroughs in identifying correlates of violent behavior. Some researchers claim that we are coming closer to predicting from a brain scan or a blood test whether a person is at risk for committing an act of violence. Ethical complications aside, a closer look at the neurobiology of aggression shows why we are unlikely to find a conclusive test for potential violent behavior. While there are many biological factors associated with aggression, their predictive value remains still quite low. The first hurdle in researching aggression is how to define it.

It is an easier task with animals, who tend to display stereotyped patterns of violence such as killing to gain food or territory. With humans and non-human primates, classifying aggression becomes more difficult because there is complication of intent. Punishment, for example, represents an especially gray area. Should spanking be considered an aggressive act? What about capital punishment? Indeed, almost all acts we consider aggressive have been socially sanctioned by some cultures over the years. To simplify matters, many psychologists and ethologists find it useful to classify aggressive behavior into one of three main categories:

- (1) predatory aggression, which refers to stalking and killing of other species,
- (2) social aggression, which is unprovoked aggression that is directed at members of the same species for purposes of establishing dominance, and
- (3) defensive aggression, which refers to attacks delivered when an animal is cornered by a threatening aggressor. There is evidence from animal studies that suggests the different types of aggression are controlled by different subsets of brain structures within the [limbic system](#), including the [amygdala](#), the septum, and the hypothalamus. For example, in the rat, lesions of the lateral septum decrease social aggression but increase predatory aggression, suggesting that neural substrates for offensive and defense aggression are intertwined but separate.

MATERIAL AND METHOD

Correlations between the measures of Personality (HSPQ) and those of Temperament:

In general the correlations between 14 measures of personality and three measures of temperament are low ranging from -.23 to -.21 only 2 out of 42 correlations are significant at or above .05 level of significance. Factor A,B,C and D has not shared

positive and negative correlation with measures of temperament. Factor E has yielded negative correlation with excitation ($-.21$ $p < .05$). Factor F, G, H, I, J, Q2 and Q3 has borne out significant correlation with none of the measures of Temperament. Factor Q4 has significant negative correlation with excitation ($-.23$ $p < .05$).

Correlations between measures of Personality (HSPQ), and those of Aggression:

In general the correlations between fourteen measures of personality and three measures of Aggression is ranging on $-.21$. Only one out of 42 correlations are significant at or above .05 level of significance. Factor A, B, C, D, E, F and G has no significant positive and negative correlation with aggression.

Factor H has significant negative correlation with verbal Aggression ($-.20$ $p < .05$). Factor I, J, O, Q2, Q3 and Q4 has no significant positive and negative correlation with aggression.

Inter-correlations among measures of Temperament:

In general the inter-correlations among the measures of Temperament are low ranging between .22 to .37. All the three correlations are significant at or above .05 level of significance. Excitation has significant positive correlation with Inhibition ($.24$ $p < .05$) and Mobility ($.37$ $P < .01$). Inhibition has yielded significant positive correlation with Mobility ($.22$ $P < .05$).

Correlations between measures of Temperament and those of Aggression:

Excitation, Inhibition and Mobility have borne out significant correlation with none of the remaining measures of Aggression. Inter-correlations among the measures of Aggression:

In general the inter-correlations among the measures of Aggression is .26. Only one out of three correlations are significant at or above .01 level of significance. Verbal Aggression has significant positive correlation with Physical Aggression ($.26$ $P < .01$). Physical Aggression and Attitudinal Aggression has no positive and negative correlation.

Table No-2

Inter-correlation Matrix among Males

	A	B	C	D	E	F	G	H	I	J	O	Q2	Q3	Q4	Ex	In	Mo	Va	Pa	At
A	-	.02	.07	.01	.13	.07	.06	.13	.00	.15	.06	.07	.14	.01	.18	.07	.02	.04	.02	.12
B		-	.30*	.06	.17	.13	.17	.03	.18	.05	.01	.22*	.29*	.03	.02	.00	.05	.13	.18	.02
C			-	.01	.07	.02	.19	.18	.01	.11	.09	.01	.23*	-.13	.13	.19	.03	.06	.03	.03
D				-	.04	.13	.06	.00	.16	.25*	.24*	.04	.31*	.01	.08	.15	.03	.00	.12	.14
E					-	.16	.18	.13	.21*	.20*	.06	.22*	.04	.02	.15*	.05	.18	.08	.05	-.11
F						-	.03	.17	.09	.22*	.22*	.13	.06	.02	.02	.17	.09	.03	.02	.00
G							-	.09	.38*	.22*	.00	.31*	.15	.02	.07	.08	.02	.13	.00	.00
H								-	.01	.12	.01	.04	.08	.01	.15	.08	.12	.06	.11	.06
I									-	.10	.03	.24*	.07	.06	.04	.06	.05	.11	.01	.01
J										-	.04	.07	.11	.03	.08	.06	.11	.03	.04	.04
O											-	.07	.11	.01	.12	.05	.16	.06	.02	.02
Q2												-	.06	.02	.13	.03	.05	.07	.04	.04
Q3													-	.02	.11	.07	.06	.01	.03	.03
Q4														-	.23*	.18	.02	.08	.07	.07
Ex															-	.24*	.37**	.00	.11	.00
In																-	.22*	.13	.03	.03
Mo																	-	.12	.04	.04
Va																		-	.13	.13
Pa																			-	.18
At																				-

Is it in the Genes?

One of the earliest attempts to link genetics and violent behavior occurred during the 1960s, when researchers thought they had discovered a propensity for violence in men born with an extra Y chromosome. Although the studies attracted a lot of attention at the time, further examination of XYY males revealed that they did not display any particularly violent tendencies. Furthermore, XYY males are extremely rare, and thus the syndrome could not possibly explain the frequency and

prevalence of violent behavior around the globe. Scientists agree that there is probably a genetic component to aggression because violent behavior tends to run in families. However, with a complex behavior like aggression, it is especially difficult to separate genetic and environmental contributions. Most likely it is possible to inherit a predisposition to violence, but psychologists also stress that modeling aggressive behavior in the home is the surest method for propagating violence.

CONCLUSION

A large body of research implicates the amygdala as a key brain structure for mediating violence. One of the first indications that the amygdala might be important for fear and aggression came from Kluver and Bucy's 1939 descriptions of monkeys who had their [temporal lobes](#) removed. They noted that the animals were remarkably tame and showed little fear. Later research indicated that docile behavior associated with [Kluver-Bucy syndrome](#) is likely mediated by the amygdala, as selective removal of that structure produced similar effects on fear and aggression. It is also possible to increase aggression through modulation of the amygdala. In animals, electrical stimulation of the amygdala augments all types of aggressive behavior, and there is evidence for a similar reaction in humans. Sniper Charles Whitman, who killed several people from the University Tower at Texas, left a note behind that begged people to examine his brain for possible dysfunction. His autopsy revealed he had a tumor pressing into his amygdala.

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