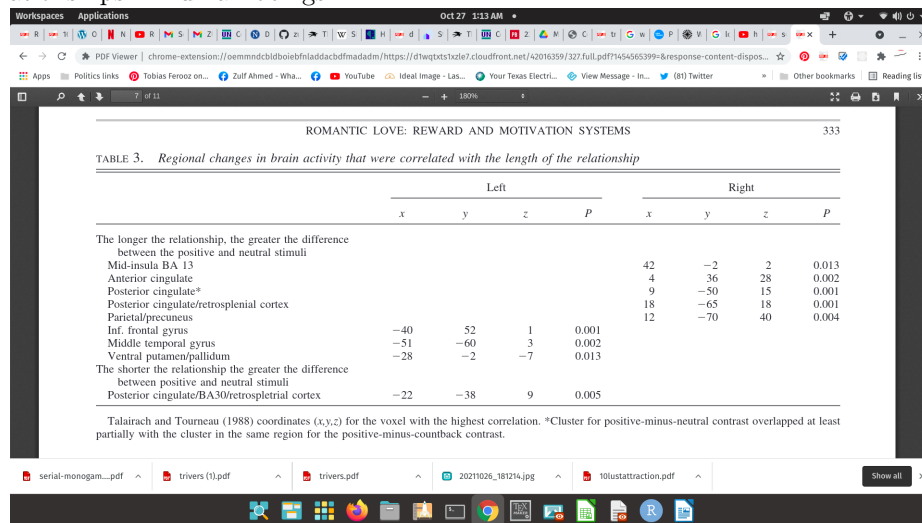


NEUROBIOLOGY OF HUMAN MONOGAMY

ZULFIKAR MOINUDDIN AHMED

This note is not original research at all but rather just examines the beautiful work examining some of the neurobiological correlates for long term romantic relationships in human beings.

A screenshot of a PDF viewer window. The title bar shows 'Oct 27 1:13 AM'. The address bar shows a URL. The PDF content displays a table titled 'ROMANTIC LOVE: REWARD AND MOTIVATION SYSTEMS' with page number 333. Below the title is a caption: 'TABLE 3. Regional changes in brain activity that were correlated with the length of the relationship'. The table has columns for 'Left' and 'Right' hemispheres, each with sub-columns for 'x', 'y', 'z', and 'P'. The table lists brain regions and their coordinates, categorized by relationship length. The bottom of the screenshot shows a taskbar with various application icons.

	Left				Right			
	x	y	z	P	x	y	z	P
The longer the relationship, the greater the difference between the positive and neutral stimuli								
Mid-insula BA 13					42	-2	2	0.013
Anterior cingulate					4	36	28	0.002
Posterior cingulate*					9	-50	15	0.001
Posterior cingulate/retrosplenial cortex					18	-65	18	0.001
Parietal/precuneus					12	-70	40	0.004
Inf. frontal gyrus	-40	52	1	0.001				
Middle temporal gyrus	-51	-60	3	0.002				
Ventral putamen/pallidum	-28	-2	-7	0.013				
The shorter the relationship the greater the difference between positive and neutral stimuli								
Posterior cingulate/BA30/retrosplenial cortex	-22	-38	9	0.005				

Talairach and Tournoux (1988) coordinates (x,y,z) for the voxel with the highest correlation. *Cluster for positive-minus-neutral contrast overlapped at least partially with the cluster in the same region for the positive-minus-countback contrast.

I am examining the work that finds ventral pallidum activations that correlates with long term romantic relationships. Helen Fisher explicitly suggests that she believes monogamy evolved 4.4 million years ago in humans. I am very interested because my hypothesis is that love preceded growth of human intellect.

Helen Fisher's characterisation of our mating behaviour as serial monogamy with clandestine adultery is reasonable going back 7 million years. I am not compelled at all by theories of recent transition to monogamy or at least serial monogamy, as there are some theories of this type. We did not suddenly 20,000 years ago have evolutionary adaptations that marked ventral pallidum (which is millions of years old part of our brain) as a function of relationship length. All these 'recent monogamy' theories are wrong.

REFERENCES

- [1] Arthur Aron, Helen Fisher, Debra J. Mashek, Greg Strong, Haifang Li, and Lucy L. Brown, Reward, Motivation, and Emotion Systems Associated With Early-Stage Intense Romantic Love, J Neurophysiol 94: 327-337, 2005

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