Investigating the Interplay between Glucose Regulation, Neural Activity, and Motivation: A Novel Approach Utilizing Vibration Stimulation

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Background

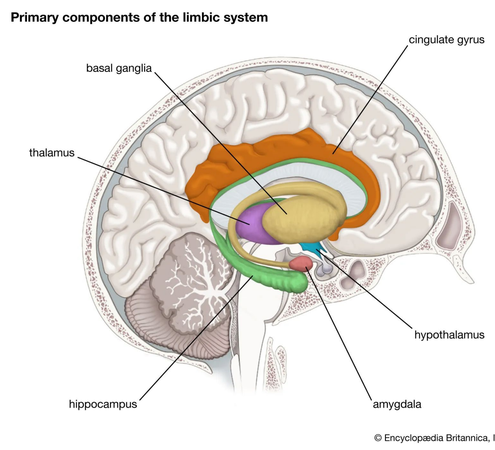


Image 1: Key areas of the limbic system**.** ***Encyclopedia Britannica***

§Our innovative approach involves heterodyned whole-body vibration in the spinal column to stimulate the ventral tegmental area (VTA) and nucleus accumbens, areas associated with motivation and rewards.

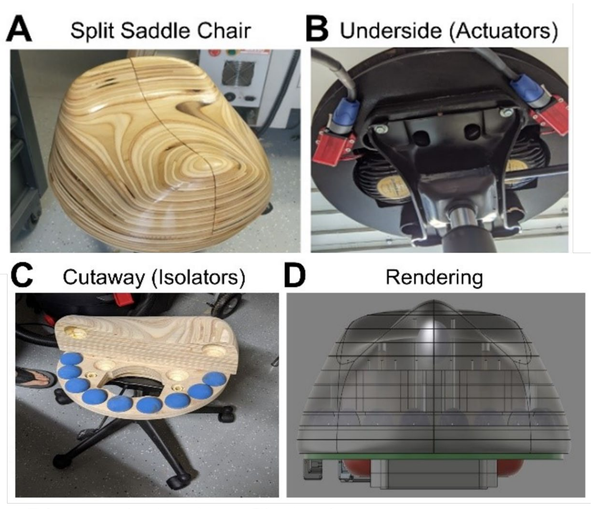
Methods

§Controlled diet for five control days, recording all macronutrients and sugars.

§Followed by five days of sitting on the vibrating chair, two times a day. While repeating the controlled diet.

WBV Schedule								
Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri
Place CGM	Control	Control	Control	Control	AM, PM	AM, PM	AM, PM	AM, PM
	AM: Before 11:00							
	PM: After 15:00							

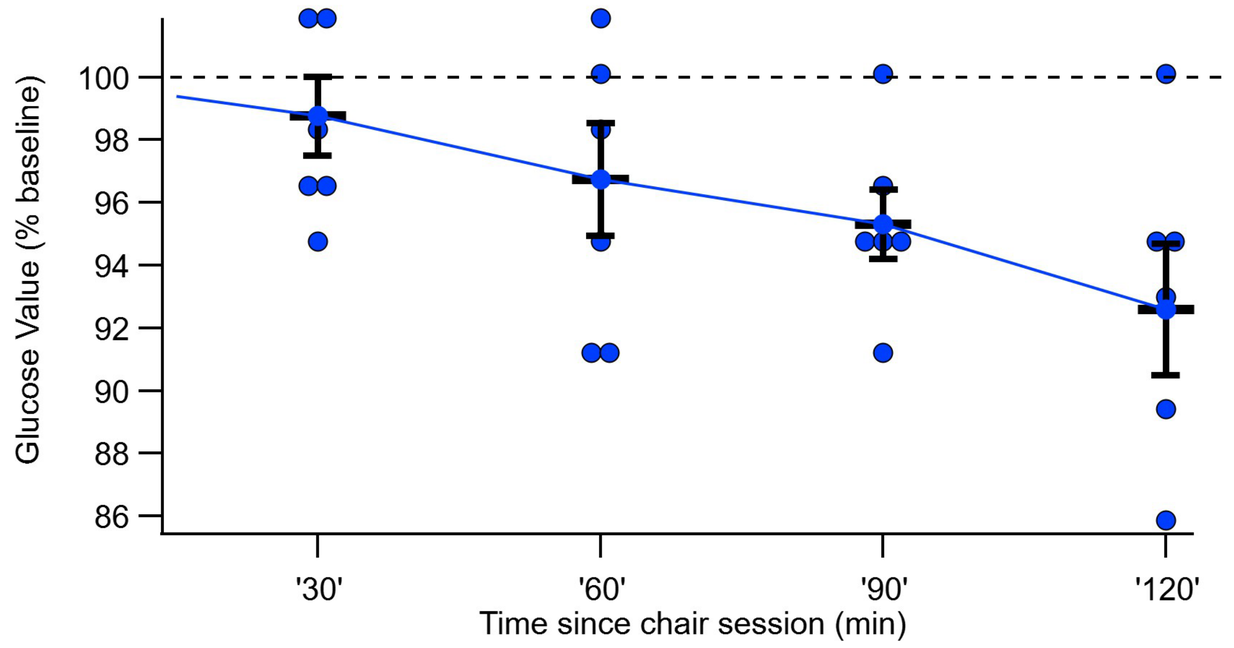
Chair Mechanism



Picture 1. Anxiety Chair photo

Whole Body Vibration Effects On Neural Glucose Regulation

Preliminary Results (N=6)



	average	SEM
0-30 min	98.7657752	1.25276277
30-60	96.7481928	1.80163621
60-90	95.3090078	1.10193705
90-120	92.588014	2.09762193

Figure 1. Relationship showing average glucose values against time since whole body vibration session.

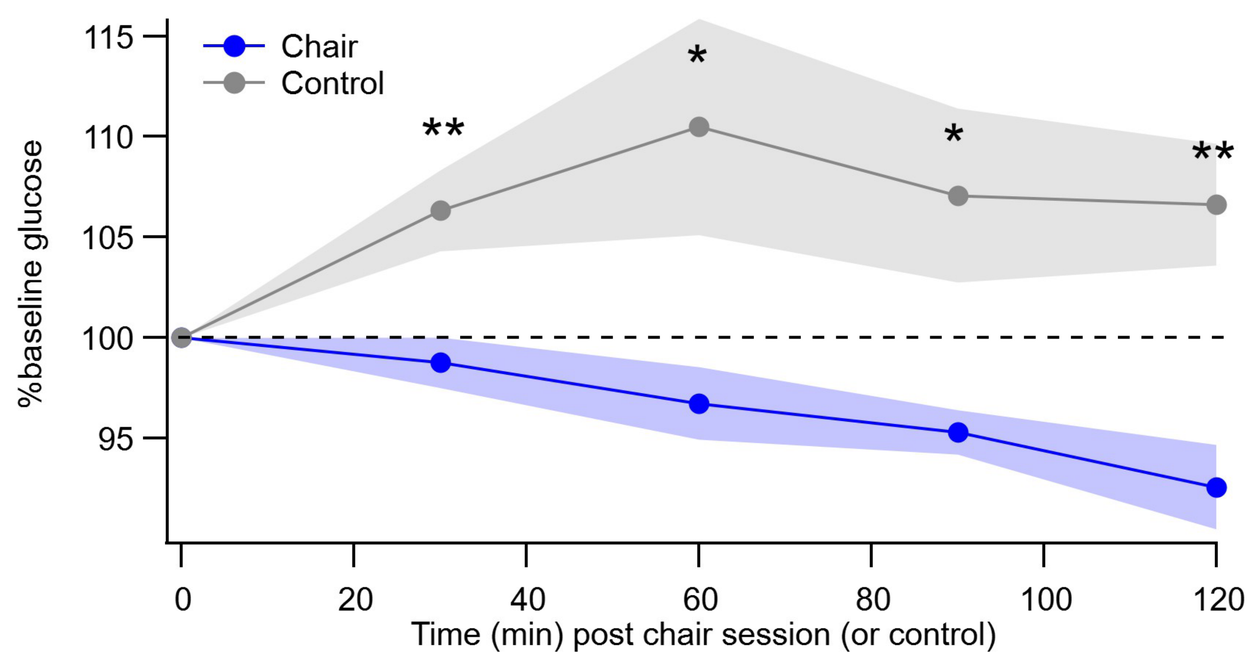


Figure 2. % baseline glucose between control days and experimental days using the chair. ** indicate significance levels $p<0.05$ and $p<0.01$ respectively

Conclusion

Preliminary literature review and research data suggest a notable interplay between glucose homeostasis and neural activity in the specified brain regions due to glucose transporters. This research contributes to our understanding of the intricate mechanisms underlying motivation, dopamine release, and anxiety modulation. The potential implications of these findings extend beyond the scope of the study, opening avenues for further exploration in the realms of neurobiology, mental health interventions, and glucose-mediated neural regulation.

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