

## CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

Name(s)	Project Number
Faatima Zahra Motala	
Project Title	36609
Joggin' Your Noggin	$\mathcal{N}$
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Abstract	
<b>Objectives/Goals</b> Will Lumosity, a brain-training app focused on improving cognitive flexibility	ave positive effect on
participants who suffer from diminishing mental abilities? I wanted to analyze	
determine the effects of Lumosity, upon the mental capacities of series partici	
Methods/Materials	
I found a geriatric facility that holds elderly people 65 years and older. I inter- found 10 eligible participants (5 variable and 5 control). I downloaded the Lu	ewed the residents and
Next, I assigned a Lumosity account to each participant to maintain consider	ality During each session
we played a series of 3 games, testing various mental abilities (memory, flyxit	bility, speed, attention, and
problem solving). I consistently held sessions 3 times a week for 5 week wit	h my variable group. I met
with my control group twice in the beginning and end of my study. Recorded	scores and took
observations. Results	
All variable participants had an overall increase in scores. One participant's in	itial score was 600 points
and his/her final score was 7,650. The average increase of the variable group was approximately 250	
points per session. Conversely, the control group displayed an average decrease	se of about 150 points per
session.	
Conclusions/Discussion	increase in scores
I hypothesized that the variable group of participants would display an overall indicating cognitive improvement. One of my participants recently had brain s	surgery and had lost parts of
her memory- she benefited the most from playing the app. She remembered things from her past during	
certain sessions. Lumosity improves pattern recognition. As an extension, I further tested Lumosity with	
another brain-training app called Elevate. While both apps have the same premise, Evelate focuses on a	
different set of skills than Lumosity, with an emphasis on writing, reading and as an educational tool, while Elevate profiles are mobile game. This creates t	l listening. Lumosity works
different set of skills than Lumoetty, with an emphasis on writing, reading and as an educational tool, while Elevate appears as a mobile game. This creates t improved pattern recognition improve fluid and crystal intelligence?	ne next question, will
Summary Statement	
The efforts of a brain raining application on the cognitive flexibility of partic	pants who suffer from
diminishing mental abilities.	punts who surrer from
Help Received	
	view him Ms Naz Hai from
Dr. Faisal Qazi is a neurologist in Pomona, California for allowing me to interview him. Ms Naz Hai from The Heights Senior care facility for allowing me to carry out my study on the people who live there. My	
Science teacher for helping me develop my topic.	