Effect of deep relaxation technique on the capacity to influence REG - a randomized control trial

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Psychokinesis, power to influence a random event generator called REG from a distance is investigated in this study of the relaxation technique called Deep Relaxation Technique (DRT) which is known to invoke effulgence and higher power of the mind. In this investigation, the effect of DRT compared with supine rest (SR) on 80 healthy volunteers evoking the capacity to influence the REG has been examined. Each session consisted of 3 trials of pre followed by 10 trials during and 3 trails post. The experiment was repeated on the 1st day and the 15th day. Results showed no significant difference between the pre-values of both sessions. There was also no significant change in the REG values of both SR and DRT on the 15th day compared to the 1st day in the during as also post phase. Similarly, there were no significant changes between the groups on the psycho kinetic power to bring changes. There was no significant difference shown in the number of episodes in which REG was influenced significantly (chi square test) between the two groups.

Keywords: Deep relaxation technique, Random event generator

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The efforts of the Princeton University Anomalies group have taken the investigations a step further into the framework of scientific rigour. Here, efforts have been tried to proceed a little more in this direction. Modern Science is in a turning point1. The paradigm shift from matter based to consciousness based approach is becoming inevitable2. It is now accepted by quantum physicists when dealing with electrons and fundamental particles, that the observer can influence the behavior of the particles3. Influence of mind on matter has been a phenomenon in vogue from times immemorial in India and a systematic methodology was evolved by Patañjali in his yoga sūtras4. The demonstration of such capacities in the higher states of consciousness achieved by masters of any of the 4 streams of yoga- Rāja (Patañjali) Yoga, Bhakti Yoga, Jñāna Yoga & Karma Yoga5. This has been the greatest attraction for people at large all over the world to take to the path of yoga in all seriousness and with total commitment. These people even go to Himālayan peaks to meet such yoga masters6,7. In recent times, the book Geller Papers summarizes the research investigations on psychokinetic power of Uri Geller from various top universities and research institutions of United States and was even endorsed by the Association of the Magicians of America that Uri Geller had the powers to bend metal objects by his mind power8. It is believed that such powers exist in every one to different extents and manifests at times5. Dr Jahn and associates at Princeton University published their first work in large number of research papers brought out by the Princeton University, Anomalies Group9-11. The REG experiments have confirmed such possibilities that each individual has a degree of psychokinesis9.

A REG set up in a therapy office 304.8 cm. distant from a patient would be anomalously affected during those moments when the patients would express emotions compared to the times when patients would be emotionally neutral11. Recently, research project was undertaken by Swami Vivekananda Yoga Research Foundation on measuring consciousness field using REG from August 2001 to September 200312. The investigators carried on a study on following 5 sections: standardization, the effect of an individual alone on the unit, the effect of groups, collectively on the unit, a study of collective consciousness, where groups of people gathered for a common purpose; and a study of pairs of empathic individuals and whether they were able to detect how

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the other individual was attempting to alter the unit. With this background, the study is designed to evaluate how a particular state of consciousness induced during the Deep Relaxation Technique (DRT) can have an influence on REG. There have been studies in which the subjects did not have any intent to influence the REG\textsuperscript{13}. The paper attempts to study the effect of the very presence of the subjects doing an activity on the REG. It is well known that some people by their very presence can bring calming effect on others and vice versa\textsuperscript{14}.

**Methodology**

The effect of DRT compared with supine rest (SR) was studied in 80 healthy volunteers evoking the capacity to influence the REG. Each session consisted of 3 trials of pre followed by 10 trials during and 3 trials post. The experiment was repeated on 1\textsuperscript{st} day and 15\textsuperscript{th} day. Eighty healthy volunteers, came for attending residential yoga instructor course (YIC) and gave their informed consent were selected for the study. These 80 subjects were divided into 2 groups of 40 subjects in each group. Their age range was 18-50 yrs (mean age = 28.98, SD = 5.12). The assessment of the REG variables was made using REG unit-Mindsong, Inc Research Micro REG s/n 0128, US Patent 5, 830, 064, which is supplied by M/S Mindsong, Inc. A typical micro electric REG comprises of an analog section based on a solid diode, a Johnson noise source, or a field effect transistor (FET), with output processed through a multi-stage amplification and clipping circuit. Components are selected to produce a white noise spectrum that is flat within db over a range from 500 - 30,000 Hz. Such analog portions of REG system are very sensitive to variations of design and construction a sophisticated shielding from environmental fields. The analog signal is compared with a DC reference level, yielding a digital (CMOS or TTL logic) output that unambiguously defines analog inputs as binary, above and below the reference voltage. This digital signal is periodically sampled by an edge triggered flip flop, which locks in a bit of 1or 2 until the next clocking period. These devices typically have an adjustable sampling rate (1,000/sec). The sampling process yields a continuous sequence of bits which are further processed to mitigate residual biases. The sequence of bits then is shifted into an 8 bits shift register, the content of which is transferred at 18 milli second to a UART chip for asynchronous transmissions as a data byte. These bytes are transmitted to the serial port of the computer at 9600 baud, where they are read and converted to REG data by dedicated software. The digital and analog circuits of the REG are electrically isolated from each other and they are active asynchronously. A separate external power has been used to minimize electromagnetic field interactions within the device. Further, the REG are protected by design against most internal and external sources of electromagnetic interference, μ-metal or other shielding around the sensitive early stages of the analog circuit.

**Intervention**

The following yogic relaxation technique developed by Swami Vivekananda Yoga Anusandhana Samsthana-Deep Relaxation Technique (DRT), which can bring deeper relaxation at physical level and which, in turn, can bring about deeper relaxation at mental level, has been chosen as an intervention in the study.

**Deep relaxation technique (DRT)**

Deep relaxation technique emphasizes on part-by-part relaxation of the whole body. It works at all levels, i.e. physical, mental, emotional, intellectual, and spiritual levels. It is the relaxation technique where one relaxes the body part-by-part by directing the attention of the mind on different parts of the body, starting from the toes and ending with the head. A feeling of relaxation is propagated. The subjects were taking the practicing intervention three times per day.

**Assessment**

Random Event Generator (REG) is a device that is connected to a computer to generate random numbers which are converted into a plot. The question as to whether our will or intent or the very presence can break the random number generation process of REG is being tackled in this technique. If the curve (Fig. 1) goes on fluctuating within the parabola, it is an
indication that the changes are all non-significance (p>.05). If the will or intent or the presence has a distinct capacity of psycho kinesis, the curve would move beyond the parabola.

**What does it measure?**

It measures the extent to which our state of consciousness can influence the REG. And hence it measures our psycho kinetic power. Whether the subjects can influence REG and bring a change in random number generation. It depends on the persons trying to influence the REG. If the mean value is <101.00, then it is non-significant (Fig. 2). That means the subjects have no significant influence on REG. When the mean value is >101.00, the subjects have highly significant influence on REG indicating a capacity called psycho kinesis.

**What is Intent?**

Intent is a conscious application of our will to influence the REG. Three types of intents are used in REG studies; high, low and neutral\(^2\). High: To move up the curve in positive direction to maximize the value, i.e. to move the curve above the parabola; Low: To move down the curve in negative direction, i.e. to move the curve below the parabola curve; and Neutral: To keep the curve along the central line (Fig. 1).

**No Intent**

There have been studies in which the subjects did not have any intent to influence the REG\(^2\). This would study the effect of the very presence of the subjects doing an activity on the REG. It is well known that some people by their very presence can bring calming effect on others. The study was chosen to see whether ECS can induce a state in which the subjects can influence REG even without their intent (Fig. 2).

**Whether distance of the subject from the computer screen has any role to play?**

Studies have shown that 1.5 m distance from the computer screen has an optimum effect in bringing highest influence on the REG\(^3\). The mentioned distance was chosen. Accordingly, the design is as follows: in the pre-session, 3 trials were taken to assess the maximum influence that the subjects could exert on the computer screen. During the session, lasting for 20 minutes, 18 trails were recorded. Again, in the post session, the same procedure is repeated 15\(^{th}\) day at the same time with the same subjects. The same procedure was repeated on all volunteers selected for the study.

**Data analysis**

Data was analyzed using SPSS 10.0 version. Kolmogorov-Smirnov test used to check the normality. Independent’ t’ test was used for between day’s events difference and also matching for baseline value. Again, for both within and between day’s events were tested by Repeated Measure ANOVA. REG influence frequencies were analyzed by $\chi^2$ test.

**Hypothesis**

Relaxation between DRT and SR do not differ from each other; they have no effect in inducing psycho kinetic power. Alternative hypothesis includes relaxation between DRT and SR differs from each other; they have effect in inducing psycho kinetic power.

**Results**

The base line data was normally distributed as shown by the Kolmogorov-Smirnov normalcy test. Results showed no significant difference between the pre values of both sessions on day 1 as shown by Independent t test (Table 1). Pre-data do not differ significantly (p>0.1), as shown by Independent ‘t’ test. There was a non significant decrease in the REG values of the DRT and SR on 15\(^{th}\) day compared to DRT 1\(^{st}\) day session in the during phase (Table 2).

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<thead>
<tr>
<th></th>
<th>Average PRE Yoga</th>
<th>Average PRE control</th>
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<tr>
<td><strong>MEAN ± SD</strong></td>
<td>99.99±0.24</td>
<td>100.06±0.31</td>
</tr>
<tr>
<td><strong>p value</strong></td>
<td>0.294</td>
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Fig. 2—Three types of intents used in REG
There was also a non-significant decrease in the REG values of the SR and DRT on 15th day compared to SR and DRT on 1st day session in the post phase (Table 2). There is no significant different between group of pre-pre, during-during and post-post between groups (yoga versus control). There is no significant different between group of pre-pre, during-during and post-post of yoga and control of group (Day 1 versus Day 15). There is no significant different within group of pre-during, during post and pre-post of yoga and control group of Day 1 and Day 15. There is no significant difference shown in the number of episodes in which REG was influenced significantly (Chi Square test) (Table 3). There is no significant different shown in number of episodes in which there REG was influenced significantly (Chi Square test).

Discussion

Earlier studies on HRV and HRC have brought out that other variables of cognition have shown significant improvements. REG is a higher faculty and needs probably different types of practices than just a relaxation. This is true with our earlier findings\(^1\). DRT and Supine rest intervention make no difference. REG has shown significant changes in cases of deep agony or pain or excitement as seen in field REG trials on Diana’s death, Millennium change, etc. Results on Bhajan (devotional singing) sessions, Christian mass, etc. also have indicated similar findings. Individual REG studies examining the effect of Bhajans on REG has shown significant changes\(^17\), Gāyatrī mantra also has shown individual changes\(^16\). Hence, it looks that emotional states of extreme distress or eustress, bring the changes in REG\(^17\). As there were no such intense practices in YIC, no change between the groups was observed. Patañjali Yoga Sūtras indicate that there should be samayama in which Dhāranā, Dhyāna and Samādhi are done simultaneously for getting higher powers. Neither were these practices included in the YIC. Hence, there appears to be no change in REG.

Conclusion

The study was designed to examine the possibilities of influencing the REG by DRT in contrast to random thinking sessions: before and after DRT session; before and during the DRT sessions, and during and post-sessions. The pre and post sessions lasted for 5 minutes while the DRT and SR sessions lasted for 20 minutes. The output display of random event generator (REG) on a laptop computer was used to assess the influence of the state of mind associated with the above sessions. The Pre - Pre comparisons show that pre-data do not differ significantly (p>0.1) between the two events showing a matching of initial data in both the events. The during and post data showed no significance in either of the sessions (\(\chi^2\) test). The pre vs. during data showed no significant changes (\(\chi^2\) test). The number of episodes in which the REG could be influenced significantly (mean value>101.00) was analysed next. The results showed that there was also a non significant change in the pre v/s during data of DRT. There was no significant change in the pre v/s during of SR, during v/s post in both DRT and SR sessions. In conclusion, the study has shown that states of relaxation induced by simple relaxation techniques like DRT and SR will not invoke the psycho kinetic power in human beings.

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