DOI: 10.17354/ijpphs/2016/07

Original Article

Effect of Consciousness Fields on Random Events at Public Gatherings: An Exploratory Study

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ABSTRACT

Background: The existence of the psychokinetic potential of the human consciousness through the interactions between the man and the physical systems has explored the ability of the mind to collapse the randomness of the physical system.

Aims and Objectives: To study the effect of a collective gathering of people doing a common activity on the random event generator (REG) and to explore if there was a collapse in the random behavior of the REG data corresponding to epochs of attentiveness in field settings. The group activity chosen were the events of Mysore Dasara.

Methods: The field REG was placed proximally to the events happening, and a recording of random data was continuous from the program commencement time to its conclusion time.

Results: Significant anomalous deviations was observed with P < 0.05 during the periods of guests arrival, marathon (P = 0.02), acrobat performances (P = 0.03), inauguration (P = 0.05) in the Yoga Program. In the dance program missing boy announcement, felicitation for lead dancer 2 (P = 0.01), musical band 2, lead dancer solo and team performances, magical tricks and war scenes of the dance (P = 0.02), lead dancer 1 performances (P = 0.03) and P = 0.02), group dance (P = 0.008), crowd chatting (P = 0.03). REG trend observed during musical band 4 (P = 0.07). During periods of torch light parade show (P = 0.02) and during chief minister and governor arrival REG trend observed (P = 0.08).

Conclusion: Epoch's sustained attention would correspond with significant REG deviations and the momentum of focused attention also influences the REG behavior.

Key words: Collective gathering, Field REG, Human consciousness, Synchronized group activity

INTRODUCTION

There have been several experiments over the past decades, exploring interactions between mind, awareness and group consciousness with the behavior of external physical systems. Most of these studies have reported, although with considerable variability, an ability of the mind to collapse the randomness of the physical system. These studies, on the one hand, have explored the effect of the intention of a human operator to modulate the tendency of random events, while also looking into the effects of synchronized attention of a group in changing the randomness of events, and have broadly concluded on the existence of psychokinetic potential of the human consciousness.

This consciousness correlated collapse is said to be due to biophysical factors influencing the output of the random physical systems like random event generator (REG) and resulting in an anomalous process when there are pre-stated conscious intentions of a human operator. $^{\mbox{\tiny 4-7}}$

The REG or the random number generator (RNG) is a device representing quantum events, 1 s (one) and 0 s (zero) which are generated by electron tunneling within two field effect transistors or thermal noise (Johnson-Nyquist Noise)⁸ in a truly random manner which can be subjected to an experimental test. This phenomenon has been used for detecting the impact of human operator intention (micro-psycho-kinesis) for several decades. A meta-analysis of several experiments done using this principle have shown significant results but with small effect sizes⁹ Since it is almost impossible to isolate a the effect of a single human mind or intention and implicate its effect on the randomness of an event, this principle has to be adapted to observe the effects of synchronized group activity, shared

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Submission: 11-2015; Peer Review: 12-2015; Acceptance: 12-2015; Publication: 01-2016

attention/emotion (field consciousness) on random events. 10,11 This has resulted in several such studies called the "field REG" where group activities can show deviations from randomness. One of the biggest such endeavor is the global consciousness project that attempts to evaluate if globally distributed network of physical random sources will show a non-random behavior during major global events. While there were anomalous deviations in REG scores during some of these events (e.g. the 9-11 terror attacks), there are mixed opinions regarding the validity of the results. Many exploratory and replication studies have been done in group situations to find the impact of synchronized attention of the group in influencing the outcome of the REG^{10,11} and the observations of these data also suggest that interactions between consciousness and extracerebral processes. 12

While several theoretical constructs have been proposed to explain the results of an individual operator intention.13 In the field setting, it has become increasingly difficult to use these theories to explain the observations. There are several experiments done in religious settings that raise questions on the reliability of the field REG, and further explorations are called for. For instance, in the case of the haunted convent, significant deviations were observed during the poltergeist activity which "normalized" after activities like prayer. 14,15 These REG effect studied in religious and spiritual practices that are conducted in open, public environments have shown high inter-environment variability among local consciousness and in scenarios involving homogenized group and coherent individual attention as a factor in global field REG effects. A study on a weeklong Apthoryama Yagna (a Hindu ritual of offerings accompanied by chanting of Vedic mantras) demonstrated significant deviations from random behavior at crucial epochs during the event.¹⁶

Yoga is a lifestyle practice that inculcates "mastery over the mind" as described by Vasishta (one of the original yoga proponents)¹⁷ and during the practice of yoga, one is able to control and direct the mind as desired. This component of mind control in yoga has been a setting in which to explore the behavior of true REG. One of the first explorations in this line of thought was a study by Radin *et al.*¹⁸ that evaluated group meditation sessions on its influence on the REG and reported significant downward deviations during the active intervention epochs. Another study by Tewani *et al.*¹⁹ showed that a yogabased emotion culture session also showed a collapse in the randomness of a physical system. There are other studies on other yoga practices; yoga-based relaxation sessions have also demonstrated an effect on the randomness of physical events.²⁰

In the present study, we chose to study the effect of a collective gathering of people doing a common activity on the REG. The group activity chosen were the events of Mysore Dasara. The Mysore Dasara is an annual event lasting for 10 days and is considered the state festival of Karnataka, a southern state in India, during which time about 10000 tourists visit and participate in several cultural and religious activities. Of the 10 days, three sub events were chosen, where the REG device was placed. Details and duration of the events are described in the methods section. The events chosen for REG data collection involved large numbers of people simultaneously engaging in a common activity with their attention focused at a common point. This phenomenon of simultaneous attention of large numbers of people is expected to elicit statistically significant deviations in the output of random numbers that are considered less likely

and thereby imply an ability of synchronously directed attention to influence the randomness of the surrounding environment. Although this study design and approach of the outcome is vulnerable to several confounders, like in previous studies a consistency in REG deviations corresponding to epochs of attentiveness could draw conclusions for further explorations.

The objective of this present experiment was to explore if there was a collapse in the random behavior of the REG data corresponding to epochs of attentiveness in field settings.

METHODS

Settings and Location

The field REG data was collected for selected public events, Yoga program, cultural Dance Program and Torch Light Parade in the city of Mysore during the Dasara Celebrations in the month of October. The field REG was placed proximally to the events happening, and a recording of random data was continuous from the program commencement time to its conclusion time.

Experiment 1: Yoga Program

The field REG data was collected for Yoga Program. The study was aimed at evaluating if during the event, the field REG would show any deviations from random behavior, what activity correlated with these deviations. The event involved a stage (approximately 100 sqft) and extendable carpeted open seating area that could accommodate about 200 people doing yoga practices. The actual REG device was located on the stage where all the Guests and Yoga teachers were seated. The event was unique as it offered epochs where the crowd gathered and dispersed, epochs of sustained synchronous awareness (oration on stage, chanting of hymns, talent performances) and self-awareness sessions (during yoga practice) which might influence the REG differently.

Experiment 2: Cultural Dance Program at Mysore Palace

The field REG data was collected for the Cultural Dance Program at Palace in the city of Mysore during the dasara celebrations in the month of October. The highlight of this public program was various cultural and religious dance music performances in which leading artists from other States were also invited to give performances on a stage set up in the palace grounds.

Experiment 3: Torch Light Parade

The field REG data was collected for the Torch Light Parade conducted at Bannimantap Grounds Mysore on the final day of the Mysore Dasara. The attractions of this event are State Governor receiving the guard of Honor, march past, equestrian show, acrobatic show on bikes and parade holding torchlight.

Equipment

Random data were generated using a Psyleron Field REG-1, sold by Psyleron Inc. (Princeton, NJ, USA). This device outputs non-quantum 1s and 0s that are representations of quantum events, extrapolated by quantum tunneling of electrons within two-field effect transistors into binary outcomes. The varying voltage levels which result from the quantum tunneling process are converted into digital data through a gated sampling procedure which allows for regularly spaced bit sequences. The output of both transistors is internally compared through an alternating (0, 1) XOR masking process in order to reduce any potential influence of physical artifacts or other external environmental variables. The device itself is further protected from static electromagnetic

factors by an aluminum outer shielding and a Permalloy mu-metal inner shield. Furthermore, the device was rigorously calibrated prior to shipment to ensure output conformed to statistical expectations. This ensures that the hardware RNG produces a truly unpredictable output that can be subjected to experimental tests. The device generates 200 random binary numbers (0 and 1) each second (200 bits/event). 12

Data Processing

All the data were collected with the Psyleron software, and data were examined according to overall experiments and by time-stamped epochs following human events in proximity to the test environment. All statistical procedures were conducted using Microsoft Excel.

RESULTS

The events selected for the experiment during Mysore Dasara provided an interesting opportunity to explore the effect of a different group activity types on the randomness of truly random events. The details of considering the theoretical (chance) for the number of "1s" a event, the mean for each event is 100 with a standard deviation of $\sqrt{50}$. REG data from each event within each epoch were analyzed independent of either previous or subsequent values; relevant statistics and figures were produced accordingly. Individual event scores were standardized according to 0.5 chance expectations $Z = \frac{x-100}{\sqrt{50}}$ where x is the trial value of each event. Combined overall Z-scores (Zc) for each overall experiment and each individual epoch were computed using Stouffer's method $Zc = \frac{Z}{\sqrt{N}}$ where

Z = individual event Z-scores and N = the number of events in the epoch. Effect sizes were calculated as $E_s=\frac{Zc}{\sqrt{N}}$, which is equivalent to the mean event z-score. Two-tailed probabilities

of deviations have been reported of REG output. Measurement uncertainty for each segment (σ_{i}) was computed according to

$$\sigma\mu = \frac{\sigma\mu}{\sqrt{2N}}$$
 , where $\sigma = \sqrt{50}$ and N = number of REG events.

A probability of <0.05 was considered significant and since this being an exploratory study, a probability value between 0.1 and 0.05 has been reported as a trend.

The time-stamped epochs, their respective trial counts and statistics are presented in the tables where N = number of REG events, zc= combined z-score, es= effect size (zc/\sqrt{N}); equal to mean REG z), P= probability (2T) of zc, $\sigma\mu=$ measurement uncertainty ($\sigma/\sqrt{2N}$), where $\sigma=\sqrt{50}$); *significant at P<0.05 (2T), trend at P<0.1 (2T).

The REG device placed at a yoga program resulted with highly significant results with P=0.01 observed during the periods of guests arrival, marathon, P=0.02 in Inauguration and Acrobat Yoga. In dance performance event, significant results observed during P=0.00 for group dance performances, P=0.01 for Musical Band 1, in different performances of lead dancer 1, crowd chitchatting, lead dancer 2 performances, magical tricks, war scenes in the dance drama and during the felicitation of lead dancer 2, P=0.03 was observed during Musical Band performances 4. In the torchlight parade event periods of the arrival of the chief minister and governor P=0.04, in torchlight parade show P=0.01. The REG trend was observed in the full

Table 1: Schedule of all activities in the yoga program and REG event data for each yoga dasara segment									
Event-yoga program	Start time	End time	N events (seconds)	zc	P	es	σμ		
Full event	6:41:55	10:32:09	13815	0.65	0.52	0.01	0.04		
Assembling of people before practice	6:41:55	6:54:21	747	0.50	0.62	0.02	0.18		
Arrival of guests	6:54:22	7:02:14	473	2.39	0.02*	-0.11	0.23		
No activity	7:02:15	7:18:38	984	0.57	0.57	0.02	0.16		
Marathon	7:18:39	7:21:16	158	2.36	0.02*	-0.19	0.40		
Announcements	7:21:17	7:36:14	898	1.22	0.22	0.04	0.17		
Distribution of the free t shirts and guests settling on diace	7:36:15	7:40:28	463	0.80	0.42	0.04	0.23		
SN practice	7:40:29	7:52:08	700	0.12	0.90	0.00	0.19		
Inauguration	7:52:09	8:20:29	1701	1.96	0.05	0.05	0.12		
Yoga guru 1 speech	8:20:30	8:43:32	1383	1.20	0.23	0.03	0.13		
SN practice	8:43:33	8:50:58	446	1.18	0.24	0.06	0.24		
Classical SN practice	8:50:59	9:06:37	939	0.06	0.95	0.00	0.16		
Yoga guru 1 with crowd doing SN	9:06:38	9:11:36	299	1.32	0.19	0.08	0.29		
Mudra yoga	9:11:37	9:19:34	478	0.47	0.64	0.02	0.23		
Media interview to yoga guru 1	9:19:35	9:24:18	284	0.89	0.37	0.05	0.30		
Acrobat yoga	9:24:19	9:57:04	1966	2.15	0.03*	0.05	0.11		
Advance yoga technique	9:57:05	10:05:10	486	1.40	0.16	0.06	0.23		
Yoga guru 2	10:05:11	10:09:10	240	0.03	0.62	0.00	0.32		
Vote of thanks	10:09:11	10:10:19	69	1.02	0.31	0.12	0.60		
Event closes with all having breakfast	10:10:20	10:32:09	1310	0.27	0.79	0.01	0.14		

The occurrence of significant REG deviations were observed during periods of arrival of guests (N events=473, zc=2.39, P=0.02), marathon (N events=158, zc=2.36, P=0.02), inauguration (N events=1701, zc=1.96, P=0.05) and acrobat performances (N events=1966, zc=2.15, P=0.03). REG trend observed during yoga guru 1 with crowd doing SN (N events=299, zc=1.32, P=0.09), advance yoga technique (N events=4.86, zc=1.32, P=0.08), SN: Suryanamaskar, REG: Random event generator. *Significant at P<0.05.

event of dance program (P=0.09) and torch light parade event (P=0.08). REG trend observed for yoga program during yoga guru 1 with crowd doing Suryanamaskar (P=0.09), advance yoga technique (P=0.08) for dancers introduction (P=0.1) in the dance program event.

The REG device placed at a yoga program (Table 1) resulted with highly significant deviations with P=0.01 observed during the periods of guests arrival, marathon, P=0.02 in Inauguration and Acrobat Yoga all of which are shown in Graph 1.

In the dance program (Table 2), resulted with highly significant deviations with missing boy announcement, felicitation for lead dancer 2 (P=0.01), musical band 2, lead dancer solo and team performances, magical tricks and war scenes of the dance drama was observed with P=0.02, The influence of the collective consciousness fields was observed during the lead dancer 1 performances with (P=0.03 and

P=0.02), group dance (P=0.008), crowd chatting (P=0.03). REG trend observed during musical band 4 (P=0.07) all of which are shown in Graph 2.

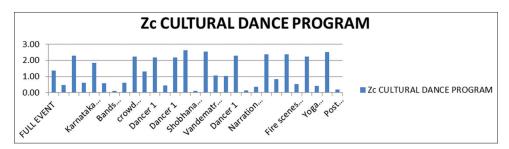
In the torchlight parade event (Table 3) significant deviations are observed during the periods of torch light parade show (P=0.02) and during of arrival of chief minister and governor, REG trend observed (P=0.08) all of which are shown in Graph 3.

DISCUSSION

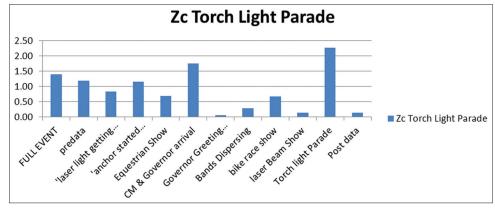
The present exploratory study attempted to test if sustained group attentiveness corresponded with unlikely REG scores. The REG device was placed at three different events, a yoga program, a dance performance and a parade, wherein large gatherings of people participated in a common event. Data from the REG was segmented to correspond to each of the epochs which contained



Graph 1: REG data corresponding to epochs of attentiveness in field settings of the Yoga Program. Values >1.96 relates to the statistically significant anomalous deviations



Graph 2: REG data corresponding to epochs of attentiveness in field settings of the cultural dance program. Values >1.96 relates to the statistically significant anomalous deviations



Graph 3: REG data corresponding to epochs of attentiveness in field settings of the Torch Light Parade Program. Values >1.96 relates to the statistically significant anomalous deviations

Table 2: Schedule of all activities in the cultural dance program in Mysore palace								
Event-cultural dance program	Start time	End time	N	zc	Р	es	σμ	
Full event	18:39:07	22:43:08	14642	1.36	0.17	0.03	0.791	
Musical bands 1	18:39:07	18:43:25	259	0.47	0.64	-0.03	0.31	
Musical bands 2	18:43:26	18:45:22	117	2.29	0.02*	0.21	0.46	
Musical bands 3	18:45:23	18:51:48	386	0.62	0.54	-0.03	0.25	
Musical bands 4	18:51:49	18:52:29	41	1.83	0.07	0.29	0.78	
Prize and medal distribution	18:52:30	19:07:24	895	0.59	0.56	-0.02	0.17	
Bands dispersing with saare jahan se accha tune	19:07:25	19:19:04	691	0.03	0.98	0.00	0.19	
Seating arrangements/break time	19:19:05	19:21:30	155	0.61	0.54	-0.05	0.40	
Crowd engrossed in chatting among themselves	19:21:31	19:30:54	564	2.23	0.03*	0.09	0.21	
Dancers introduction	19:30:55	19:35:45	291	1.30	0.19	-0.08	0.29	
Lead dancer1	19:35:46	19:56:17	1232	2.19	0.03	0.06	0.14	
Group dance	19:56:18	20:13:39	1042	0.44	0.66	-0.01	0.15	
Lead dancer 1	20:13:40	20:17:50	251	2.18	0.03*	0.14	0.32	
Group dance	20:17:51	20:30:00	730	2.63	0.01*	-0.10	0.19	
Lead dancer 1 - introduction to audience	20:30:01	20:33:28	208	0.02	0.98	0.00	0.35	
Missing boy announcement	20:33:29	20:36:15	167	2.56	0.01*	0.20	0.39	
Vandematram dance/world harmony	20:36:16	20:48:47	752	1.06	0.29	-0.04	0.18	
Missing boy announcement	20:48:48	20:50:09	82	1.05	0.29	-0.12	0.55	
Lead dancer 1	20:50:10	20:56:51	402	2.29	0.02*	0.11	0.25	
Felicitation for lead dancer 1 as dance ends	20:56:52	21:17:12	1221	0.13	0.90	0.00	0.14	
Narration about dance/drama	21:17:13	21:31:31	859	0.36	0.72	-0.01	0.17	
Lead dancer 2 solo and team performance	21:31:32	21:41:59	628	2.37	0.02*	0.09	0.20	
Dance drama	21:42:00	21:59:19	1040	0.82	0.41	-0.03	0.16	
Dramatic scenes in dance - war scenes	21:59:20	22:00:23	64	2.39	0.02*	0.30	0.63	
Fire scenes in dance drama	22:00:24	22:13:35	792	0.53	0.60	-0.02	0.18	
Magical tricks depicted in this scene'	22:13:36	22:16:43	188	2.24	0.03*	0.16	0.36	
Yoga postures in dance	22:16:44	22:38:57	1334	0.41	0.68	-0.01	0.14	
Felicitation for lead dancer 2	22:38:58	22:42:28	211	2.51	0.01*	0.17	0.34	
Crowd dispersing	22:42:29	22:43:08	40	0.20	0.84	0.03	0.79	

The occurrence of significant REG deviations during periods of musical band 2 (N events=117, zc=2.63, P=0.02) lead dancer 1 (N events=1232, zc=2.19, P=0.03), (N events=251, zc=2.18, P=0.03) (N events=402, zc=2.29, P=0.02) group dance (N events=730, zc=2.39, P=0.008) crowd chitchatting (N events=564, zc=2.23, P=0.03), missing boy announcement (N events=167, zc=2.56, P=0.01), lead dancer 2 solo and team performance (N events=628, zc=2.37, P=0.02), magical tricks (N events=188, zc=2.24, P=0.03), war scenes (N events=564, zc=2.39, P=0.02), felicitation for lead dancer 2 (N events=211, zc=2.51, P=0.01) REG trend observed during musical band 4 (N events=41, zc=1.83, P=0.07). *Significant at P<0.05. REG: Random event generator

Table 3: Schedule of all activities in the torch light parade and REG event data for each torch light parade program segment								
Event - torch light parade	Start time	End time	N	zc	P	es	σμ	
Full event	17:53:05	21:29:34	12990	1.41	0.16	0.01	0.044	
Crowd assembling	17:53:05	18:06:39	815	1.19	0.23	0.04	0.18	
Laser lights testing	18:06:40	18:22:53	974	0.83	0.41	0.03	0.16	
Announcements	18:22:54	18:24:32	99	1.17	0.24	0.12	0.50	
Equestrian show	18:24:33	19:01:46	2234	0.70	0.48	0.01	0.11	
CM and governor arrival	19:01:47	19:14:39	773	1.76	0.08	0.06	0.18	
Governor greeting bands	19:14:40	19:40:47	1568	0.02	0.98	0.00	0.13	
Bands dispersing	19:40:48	19:49:05	498	0.29	0.77	0.01	0.22	
Bike race show	19:49:06	20:20:22	1877	0.67	0.50	0.02	0.12	
Laser beam show	20:20:23	20:40:13	1272	0.14	0.89	0.00	0.14	
Torch light show	20:40:14	21:21:47	2413	2.28	0.02*	0.05	0.10	
Crowd dispersing	21:21:48	21:29:34	467	0.14	0.89	0.01	0.23	

The occurrence of significant REG deviations during periods of torch light parade show (N events=2413, zc=2.28, P=0.02*). REG trend observed during the periods of chief minister and governor arrival (N events=773, zc=1.76, P=0.08).*Significant at P<0.05

descriptive annotations of the surrounding activities underway. Results noted that certain events corresponded with a significant deviation in the REG scores. Although the hypothesis was that epochs sustained attention would correspond with significant REG deviations, this was not always consistent. Below, we have attempted to discuss the results in comparison to previous studies but also propose a new way of looking at the relationship between REG and attentiveness.

The earlier studies REG devices are found to produce anomalous outputs due to synchronous directed attention when deployed in various group environments. Significant deviations of REG involving marathon, acrobat yoga, dance performances, entertaining acts of the dance such as magical tricks, war scenes, group discussion of the crowd, musical band performances and torch light parade show has proved to create a synchronous directed attention influencing the REG.¹¹

The REG also was influenced due to the momentum of focused attention as observed during the periods of arrival of guests, Introduction and Felicitations of the elite Artists. The Inauguration of the Yoga program was followed with lighting of lamp and Prayers which indicates that religious and spiritual practices such as Vedic chanting, 16 Bhajans, Japa 19 that are conducted in open, public environments have shown high inter-environment variability among local consciousness and in scenarios involving homogenized group and coherent individual attention as a factor in Field REG effects. Similarly, significant deviations in REG observed for the advance yoga techniques and acrobat performances proves that group situations impact the synchronized attention of the group in influencing the outcome of the REG.^{10,11} Studies on Yagna have proved the existence of synchronous directed attention producing anomalous deviations in the fire-involved activities and hence Torch Light Parade show a fire-involved activity produces anomalous deviations. 16 All the selected events of Mysore Dasara Program reflects the role of Festival atmosphere filled with positive emotions. The Synergy of the matched emotions can influence REG significantly.¹⁹ Epoch's of Sustained attention on these activities gives a strong indication of those theatrical, musical venues, charismatic events keeping the audiences deeply engaged.¹¹

Limitations

Single REG was used in this study and the equipment being placed stationery had its own limitation in covering different events which were simultaneously happening all over different parts of Mysore. Further REG data could also be analyzed for the opposite nature of the events which can emotionally influence the gatherings.

CONCLUSION

Data from the REG were segmented to correspond to each of the epochs which contained descriptive annotations of the surrounding activities underway. Results noted that epoch's sustained attention would correspond with significant REG deviations and the momentum of focused attention also influences the REG behavior.

RECOMMENDATIONS

More REG's can be used in covering the different events happening which were not possible in this study. A comparative study based on nature of events (entertainment vs. spiritual) (traditional performances vs. contemporary performances) (vocal to dance), place (private gatherings vs. social gatherings), (verbal tasks vs.

physical tasks) which can give us a deeper understanding of the events with a higher synchronized directed attentions.

ACKNOWLEDGMENTS

The Authors would like to thank Keshavamurthy for his consistent moral support without him; this project would not have been completed.

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HOW TO CITE THIS ARTICLE:

Divya BR, Nagendra HR, Ram A. Effect of Consciousness Fields on Random Events at Public Gatherings: An Exploratory Study. Int J Prevent Public Health Sci 2016;1(5):26-31.