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CRITICAL QUESTIONS ON COVID19 AND MANAGEMENT OF BEHAVIOURAL SAFETY INTERVENTIONS: INDIA CASE STUDY

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Abstract

In the present conditions of Covid19, it is very critical for everyone to redefine what is safe behaviour and spot-correct it for safety of self and others. This article addresses some behavioural safety aspects of Covid19 in terms of why do people take risks as they do?, what are the similarities and differences between Covid19 and behavioural based safety (BBS) management as both interventions are driving behavioural change?, how to implement BBS after lockdown in plant, and behavioural challenges and solutions to contain Covid19. This paper is based on qualitative methodology using interviews, group discussions, field surveys. Objective is to review the current conditions and enable people to access this researched information for effective management of behavioural safety interventions.

Keywords: Covid19, Questions, behavioural safety, interventions, implementation, India

INTRODUCTION

Behaviour based safety (BBS) is a culture of caring for people around to ensure “0” harm. Whereas, safety is not in our behaviors in our cultural context, and don’t even think that due to COVID-19, safety would stay in our behaviors, we have got it temporary in our behaviors, until it is emphasized on continuous basis, these Covid19 at-risk behaviors would re-emerge, and it would become a threat to our human resources and economy of our country again. According to WHO (2020), one of the most critical elements of reducing this virus transmission is behaviour of people. During this scenario, to combat Covid19 permanently, the governments (along with public private partnerships in all states) are trying harder to engage citizens and businesses of the country toward health and safety behaviors and mindsets. What is most compelling today is to engaging human mind with the work during lockdowns. The government, the workforce and managements are finding ways in this direction through brainstorming discussions so that the economy can come back on track in all countries (ILO, 2020). Also, there is a need to understand that in present conditions, the businesses that are going to survive are those whose health, safety and environment (HSE) systems are behavior-based, and are not merely reflected in documentation. The business leaders of the country must underline this that further the business journey is focused on safe behaviours involving people from top to bottom. The leaders must see through these changes in ways that gain and maintain the trust of their people (Accenture, 2020). The Covid19 has posed another major challenge that people are finding harder to adjust and internalize new behaviors expected during lockdown. Human minds are hard-wired. Imbibing new behaviors such as distancing etc. takes much time for most people, as because behaviors are rooted in cultures.

Objective: Objective is to review the current conditions of Covid19 and enable people to access this researched information for effective management of behavioural safety interventions.

Methodology: This paper, is based on the qualitative methods using personal interviews, group discussions, and field surveys. This study is part of an ongoing interdisciplinary intervention of behavioural science, management and industrial safety disciplines, which is national longitudinal action survey in India. For this research paper, a total of about 1000 persons were approached through remote data collection techniques. These research participants had already implemented behavioral safety at their sites. The research participants included, the CEO, Directors, managers, heads of departments, safety professionals belonging to the public and private industrial sectors such as chemicals, construction, gas, power, and steel across Indian locations. Their responses to the Covid19 related questions were collated and thematic data analysis was used to reflect the findings. Interestingly, as part of this action survey, the participating organizations also started implementing Covid19 related new behaviors at sites.

RESULTS AND FINDINGS

This research explored the following critical behavioural safety aspects of Covid19.

Research Statement 1: Why do people take risks as they do? Risk-taking behaviors vary among people, cultures and countries. Risk perception of Covid19 is based on risk consequences being felt as immediately visible, which is not. Hence people keep taking risk. Also the risk perceptions depend upon the antecedents, the social realm and cultural backgrounds of people (Jens, 2019). According to Susan Michie (2020), given differences in behaviours and their contexts, the factors maintaining them differ as do the ways of changing them. As a citizen, when we don’t follow safety practices in general on daily basis, our risk perception remains low. Moreover, we don’t conduct new safe behaviours (social/physical distancing, wearing face mask, hands hygiene etc.) as they are not in our cultural background. As soon as, the lockdown enforcement is relaxed, we come back to our old behavioural patterns, possibilities of Covid19 spread exist and our risk-taking

behaviors remain high. In order to prevent or circumvent this, we need to spread safety messages through multiple ways such as media, government, motivational speeches on continuous basis. Behavior based approaches are long term interventions to contain HSE (health, safety environment) risks. The lockdown enforcement, political thought process etc. are good enough, temporary and short-term responses to these pandemics. Hence the managements ought to prepare accordingly.

We need to think even beyond vaccine for Covid19, as our most critical action is needed to contain the spread of the health risks through behavioural safety initiatives and interventions across all levels, areas and sectors in the country. We are at crossroads, today issue is not only tackling the Covid19, but to address and reinforce the overall safety culture as a national agenda of the governments as planned interventions for saving human life before the incidents. Henceforth, we need to adopt the new set of these desired behaviors as a SOP and work-life styles to say goodbye to such risks. It is time to reflect on our company's cultural values (Berman and Thurkow, 2020).

Research Statement 2: What are the similarities and differences between Covid19 and behavioral based safety (BBS) management, as both interventions are driving behavioural change?

People normally take at least 2-3 weeks to understand and adapt to the new behavioural changes expected in a new environment such as lockdown in the context of large public of a nation. Some deviations to these new behaviors may appear and reappear for few weeks till people adjust and self-control, irrespective of a place/country, and we deal with the implications thereof, and keep developing new solutions. We come across similar deviations while implementing behavior based safety at industry sites.

Secondly, when could we say that zero number of people who have Covid19 is achieved? What are its implications and solutions. It would depend, not only on lockdown enforcement, mass education and awareness, social / physical distancing, motivational speeches, economic relief packages but also on continuous identification of cases through testing, re-testing, quarantining, monitoring, treatment, innovation etc. as a long term perspective. Any such country-wide or global multilevel socio-medico-economic-behavioral intervention requires rigorous follow ups throughout for a year or so, failing which the chances of relapse/reoccurrence are equally high. We need to be ready for its long-time implications and solutions of any such pandemic social health issue. In brief, such interventions have to become a part of the existing safety health environment (SHE) management style in order to avoid relapse and achieve zero-corona-virus case or zero at-risk behavior at sites.

What are the similarities and differences between Covid19 and BBS management, as both are driving behavioural change? Negligence of both can cause havoc. Both can be controlled through behaviour. To save humanity, we need to focus on our behaviour which alone will ensure our victory in this hour of peril. BBS management and Covid19 management seem to be

similar. For Covid19: 1. Make him aware about Covid 19; 2. Educate him why precautions are necessary; 3. Tell him what is the risk; 4. Ask him what is missing; 5. Take promise that he will follow throughout; 6. Thank him.

Both Covid19 and BBS can lead to high severity if not corrected by taking adequate precautions in terms of behaviour (self as well as others), here everyone's safety is interdependent. Another similarity is both are observable, measurable, implementable and curable. If Government wants, it can implement HSE systems. All behavioral changes will take place. We have seen harsh punishment like police beating the violators but it was appreciated and supported by everybody including media. When safety professional advice management to take action against violators, they find excuses to save them. Now the government is implementing all safety measures, not the safety professional. The national safety council (NSC) should clamp down like WHO. But, on the contrary, as seen in past few decades, the safety enforcement in industry is poor by <30%. That is why, precisely, the behavioural implementation is recommended in all world safety standards (Kaila, 2019).

A similarity between Covid19 and BBS is that we care for each other. Both leading to positive, sustainable, environment friendly behaviour among human, whereas BBS management nurtured through harmonious and cohesive way, Covid-19 pandemic is working through fear-based approach which is opposite to BBS. According to an executive director of India Glycols, an application of BBS is the need of the hour. Wearing PPEs and staying at home are very much the desired behavioural aspects. During Covid19, the Police have become the observers and they also need BBS training. Of course, there are exceptions with some police people trying to counsel the public in a positive way. In many cases, they are not polite and many among the public also don't understand being polite, despite advices from leaders, celebrities and media. Patience and politeness are keys of any behavioral change intervention. Moreover, control by oneself (self-observation of social distancing, face mask etc.) in community sites is very crucial for one's own health and safety, when one is not certain about infection spread from another.

Level of Management of Safety Risks are: 1. Reactive safety, 2. Dependent safety, 3. Independent safety, 4. Interdependent safety. In Covid19, we are almost operating at level 1 & 2. We have reacted to the situation proactively and now dependent on the governments actions for our citizen's safety. Example, till the time, we are dependent on parents, we keep committing mistakes, as soon as we become independent, our behavioural alertness is increased/ multiplied. If we wish to go to level 3 & 4, then we need to open/exit lockdowns, everyone is supposed to manage the personal risk on his/her own. We need to understand here that our behavioural alertness is highest; when risk is known/well-defined. For example, we are at high risk during daily morning/evening's city peak traffic time, and we are highly alert at that time for road driving behaviors knowing the risks involved. Presently, in Covid19, we reached a situation when everyone is aware of risks. You are aware, you need to be alert and alert others as well.

Also, an enforcement for Facemasks and Social Distancing is not relaxed in level 3 & 4. It is considered a violation if people don't wear PPE or maintain social distance at all places etc. Companies also thought of a new better safety idea during this Corona virus lockdown time that would be practiced in the times ahead at sites. The responses included: 1. our management took benefit of e-learning during this lockdown period. We arranged audio conference for further action on safety implementation. 2. We started comprehensive training program on BBS for the workers who are residing in company premises. We have trained two of them through video conferencing and assign them to train all other workers. By doing this, we have engaged all of them for 4 hrs. This is also helping to get rid off from anxiety. We are maintaining 100% social distancing on daily basis. 3. prepare in time, we started temperatures scanning from 12th February 2020. 4. Using a device to proactively ensure de-energisation of electrical equipment in addition to conventional LOTO (lockout tagout) to eliminate human intervention, using AI (artificial intelligence) to enhance safety.

Research Statement 3: How to implement BBS after Lock down in plant and related challenges?

- a. We need to add a New Behavioral Category "Lockdown Behaviors" in BBS observation checklist and communicate to all employees through different media for implementation at site.
- b. Each area incharge must conduct daily small group TBT (tool box talk) to convey the principles of lockdown (social/ physical distancing, face mask, hand hygiene etc.) while observing and spot-correction of at-risk behaviors.
- c. Each area incharge must Display Sign-boards at all respective areas/entry/exit etc as below in English and Hindi
 - Maintain Safe Distance
 - Keep Wearing Face Mask
 - Follow Queue at entry/exit
 - Don't Touch Surfaces
 - Request each other to do so if they don't
 - Convey all the above on Public Address System (PAS)
- d. Occupational Health Centers (OHC) must conduct random medical/COVID19 specific tests for further actions. All employees entering should be checked at the gate with infra-red thermal cameras for fever.
- e. This is the time when all Safety, Health and Environment (SHE) teams must coordinate actively for behavioural implementation of procedures and guidelines through departments.
- f. There are similarities between BBS and lockdown implementation as both are people-based and behavior based. This is an opportunity to strengthen BBS further at sites.

HSE Vice President of Dorf Ketal company said, "we made the changes accordingly and advised all BBS observers at sites to do observations/spot corrections accordingly as mentioned above". At present, close leadership guidance is needed to all organizations all over. A safety head said, "power plant being essential services is continuously in operation and uninterrupted electricity is provided while ensuring all required safety precaution to prevent COVID 19.

Organizations need to provide feedback to all employees every single day using multiple communication channels to keep people informed about the company's responses to the crisis (Cooper, 2020). According to a Director of DCM Shriram, these are the thoughts and actions in order to change the post-Covid behaviours to prevent further spread and resuming operations safely. Above all, this is the high time that each citizen, each employee plays the role of safety catalyst in promoting interdependent safety culture everywhere. Governments alone cannot achieve zero number of people who have Covid19. Sooner the better for society that the public and each person understands this significant role in critical times in favour of human race by contributing safe behaviours each day. Be an active observer.

Research Statement 4: What are the Behavioural Challenges and Solutions?

- 1) According to Betsch, et al. (2020), behavioural insights for COVID-19 are of critical importance. Behavior remains a challenge for safety implementations. hence regulated training, retraining, monitoring, measurement, rewarding, should continue by respective area incharges.
- 2) Fear and Stress: keep listening and talking to people. Keep environment positive. Personal and group counselling is right approach that would keep organizational morale up.
- 3) How to mobilize people to be safe: continuously engaging people mentally through mass-communications helps to mobilize them for behaving safe. For example, in Mumbai local trains, people travelled on rooftops of electric trains due to overcrowding. Everyday a couple of persons would die. Then the Railways decided to communicate in every local train every 3 minute through public address system, that "the overhead wires are flowing with 20,000 volts, travelling on rooftop of trains is deadly". This communication went on for year by year. Today we don't see such fatalities in Mumbai public trains.
- 4) Maintaining peace of mind during free non-work times has become real difficult for most people. Some people are mature enough to maintain their emotional balance by engaging in yoga, meditation, new learning, pursuing hobbies, writing, reconnecting with old friends etc.
- 5) How to be creatively joyful during nonwork times: unroutine your activities, unknot your daily practice, do what you don't do, engage in new thoughts and actions, but all this within Covid19 laid down rules. This would re-energize yourself and remove boredom in nonwork situations.

- 6) What challenges further are: because of unavailability of sufficient testing kit (resources), only limited testing per day is possible in Gujarat, our media should give a positive news who came out from Covid19 (praise is more required to motivate and courage for others), and still people take it easy due to lack of knowledge and not sincere and serious.
- 7) How to get difficult persons engage in safe behaviours is a major challenge. Peer-based approach in respective areas seems workable as people are known and acceptable to each other, and the local leaders (Panchayats) are influential to facilitate safe behaviours in present times of Covid19 which was initiated on video conferencing on 24th April 2020 by Mr. Narendra Modi, our great Prime Minister of India.

Research Statement 5: Despite testing, tracing, and tracking, Covid19 is spreading. Can we say that this spreading chain is behavioural in nature, how do we break it?

Yes, this chain begins from one to another, and one to many, knowingly or unknowingly, and hence logically, truly behavioural in its nature. As in BBS implementation, we train and involve many observers to spot-correct at-risk behaviors, similarly we need to create a chain of behavioural safety active observers and mentors (such as social and community workers etc.) in each area and location who will keep an observation like a targeted missile to fight its objectives. Keep multiplying such observers to increase speed of breaking the Covid19 spreading chain. This is to be followed across the nation. This dedicated chain of observers would break chain of Covid19 spreading in communities by observing and spot-correction of Covid19 spreading chain. Police and political workers should be avoided in this approach as they often use negative approach (fear, compulsion, threat, etc.). It is a people-driven support framework like a tested behavioural science BBS approach. COVID-19 pandemic can only be brought under control by massive and rapid behaviour change. To achieve this we need to systematically monitor and understand how different individuals perceive risk and what prompts them to act upon it, argues (Betsch, 2020).

An executive director of ONGC said, “human being today, can live in 100 % isolation. Complete isolation is must for stopping the spread of Covid. So success rate is function of isolation effectiveness. So it is chain of behavioral patterns of socioeconomic strata. According to a senior manager at Tata projects, “prevention by social/ physical distancing is the only solution”. A safety professional of GAIL stated that there is an immediate need of developing local contingency plan in small pockets. Like all societies, muhallas (old settings) should prepare contingency plan and which should be led by one expert. Be it sanitisation etc. and all proactive measures, and there should be proper planning for action in case there is case of Covid19. Proper plan should include post planning after recovery stage. There should be some special team for controlling psychological effect also. Top most thing is that people should be disciplined and obey the directions given by the team”. As per opinion of a HSE Manager of Dorf Ketal: spreading chain is more due to behaviours and reasons such

as Overconfidence, Lack of awareness about consequences, Inadequate precautions, Improper communication, and Lack of resources in terms of adequacy and accuracy of testing.

Covid19 is indeed a behavioral issue. The administration/ police need to be trained on this matter. Also, media, celebrities and prominent/ respected personalities to constantly address the public. Politicians may not be doing enough. According to a CEO of chemical plants, more symptomatic testing by Government is needed, asymptomatic private testing to be made mandatory for running establishments, post-lockdown is only Alternate alongwith 50% attendance allowance to ensure physical distancing, and for Red & Hot Zones, lockdown should continue till 30th May 2020.

According to a safety manager at Hiranandani Constructions, “the identified hotspots are sealed by local police CRPF and other means, so no civilian ever are allowed outside, thus now the number of Covid 19 persons rose due to emergency services personnel like, 1. Police, 2. CRPF, 3. Municipality workers, 4. Doctor, Nurses, 5. Ambulance drivers, Medicine vehicle drivers and other emergency material transport drivers, 6. News Reporters, Cameramen, photographer, 7. Other emergency aids servants and shop keepers.

- However list of above personnel to be prepared for each Hotspot management. They must be separated from their respective families to break the chain.
- If possible PPE Kit to be distributed to all these group of personnel, not only for hospital personnel, in order to restrict such person from infection of Covid19 virus.
- Now focus on the people who live in the Hotspot areas: categorize their requirements to safe supply chain management.
- Complete lock down for people living inside hotspot.
- The areas like Dharavi (a biggest slum in Asia) where people have to use common toilets and bathrooms should be provided with temporary latrine facility which can be accommodated in the room only by small partition. In India, most numbers of Covid19 positives came from densely populated areas as TV channels reported.
- One important thing via public address system, people should be made aware that they shall not take fever tablets on their own so that early identification of this virus may be possible”.

A veteran safety professional said, “the only way is to wear mask and don’t touch anywhere outside your home. People are not following this, hence Covid19 is spreading”. But TV channels reported that though number of people with Covid19 has increased, most of these affected people could be in early stage of Covid19.

Ironically, a safety expert admitted that Covid19 is a natural course of pandemic in the sense that the water, noise, air

pollutions were found much lower than before during lockdowns. Also Covid19 pushed people to become more safety minded than before.

IMPLICATIONS

Behavioural reinforcement is a major factor to ensure that people are adopting new behaviors related to COVID-19. People will take shortcuts and violate. An active observer will not fail to spot-correct such at-risk behaviors, be it anywhere, at workplace or public place, or residence. A safety manager said, “we at Agrococel company, started spot-correction and employees are spreading the message to each other to follow COVID19 precautions.

In case of India, we still need to observe. Currently no much improvement in many States of India, people who have Covid19 are increasing. Remote areas are not affected by Covid19 as untouched by crowded population. At Factory site: social/ physical distance is maintained. Hand wash every hour. Work from home for majority of people who are not needed at site. Nose mask is compulsory for all. It is important to let people know that during lockdown when factories operations are being managed at less workforce, the employees would have to be doubly cautious as two fatal incidents occurred at a site in Tarapur, Maharashtra, India.

According to a senior safety professional from DCM Shriram, the main reasons that has actually increased the number of people who have Covid19 included: the lack of risk anticipation due to Covid! “If it had not happened to me till date it will never happen to me as I am immune, false sense of mental immunity. Its similar to typical safety mindset. I am working here in this plant for last 25 years, never ever got injured nor see any hazard here which poses high risk. Do not see others carrying corona/suspected patients as risk. Till Covid19, wearing of face mask and social/ physical distancing is included in BBS checklist”. He added further, “This is purely behaviour of maintaining safe physical/social distancing (SD) in true sense and just not for name sake. I know many essential services/industries are being operated without any SD compliance which makes entire efforts futile. This is similar to our at-risk behaviours at work place which can cause serious accidents if not corrected. Same is the case here too”.

According to an Executive Director of India Glycols, the steps mentioned below would have helped or lack of them was the cause of spread of Covid19 in India.

1. We were a bit late in anticipating what was coming. Lockdown should have been announced in the first week of March 2020.
2. Monitoring activities and prompt actions (This could have avoided Nijamuddin episode).
3. Applying BBS, especially by police/ admin, for a better public response.
4. Quickly Creating more hospitals through makeshift arrangements (say, by converting gymnasiums, convention

halls etc . to hospitals)

5. Promptly procuring/ distributing PPEs and testing kits for identification and containing the spread.
6. Allowing vendors to deliver essential items at door steps while closely monitoring the health of these distributors. Inviting volunteers and poor people (on payment basis) facilitate this distribution. This would have avoided more people rushing to shops.
7. Overall monitoring of people movement through more drones.
8. Donations were prominently by Centre only (through PM Cares) and not by states. There was perhaps more potential for contributions from willing public to help this cause.

Our speed of decision-making based on accurate data as well as actions determine what we achieve in managing the risks and their consequences. In India, we lacked in speed of decision making, and timely management of above mentioned points Moreover, Tablighi Jamat participants further speeded Covid19 in Indian States as per media reports (Sharma, 2020). There were attacks on people, police, media and medical personnel during Covid19 times, which posed a greater and scary challenge to government, corporates and everyone else.

Now this is a period of change, chaos and challenge which is a difficult time for human race. Stress, anxiety, irritability, fear are the experiences of adjusting to new behaviors in the context of Covid19 (Hoof, 2020). People would explore new definitions of their own behavioral safety. People have to deal with their own cognitive confusions. It would be surely a long-term affair. Employees would need to brainstorm for new work formats in order to avoid Covid19. According to chairman, Maruti Suzuki, the key for us is to prepare workers with many health and safety measures that are here to stay (Business Standard, 2020). Covid19 has pushed corporate leaders to implement HSE measures more seriously than before.

According to some safety practitioners, we have to live with this now like other diseases, early we accept, better it would be. Probably, the human beings would learn to live with certain viruses with more safety precautions as we progress to deal with or without Covid19. Behaviour and attitude are the reason for increasing Covid19 cases across the globe. Hope post-Covid mindset of people would be positively different in terms of their spiritual insights, re-balancing person-environment-fit, compassion, tolerance, adjustment, understanding, patience, and so on. Pray, All be safe. Don't get scared, rather resolve it. Share motivational positive messages of strong determination to fight and break Covid19 spreading chain (WHO, 2020). A senior psychologist said, “develop immunity system by right life style and keep high quality of hygiene in regular behaviour”.

Human life is more valuable than the business or economy. So, let the countries understand clearly that lockdown exits in particular places are logical only when the number of Covid19 persons have significantly decreased. Till then, let the businesses

be allowed with minimum workforce, online, work from home or another innovative formats. In India especially, the spread of Covid19 persons has taken a complicated political, religious, socio-cultural, communal base (**Mufsin and Muhsin, 2020**). Some opposition parties made it difficult instead of being a support in this human cause. For various reasons, people have been hiding that they have Covid19 which increased the incidence of this problem multifold. As a result of which, the Covid19 spreading chain could not be broken. Hence, most strict measures are needed by our central/state governments as soon as possible failing which the problem is likely to get further intensified.

Covid19 challenged everyone for re-survival, and we are challenged for, what we can achieve! A plant manager said, “for survival, boost our immunity through, positive thinking, take care of hygiene, healthy diet, listen good music, pray to god”. According to a HSE general manager, “It will teach human beings a lot many things such as: how to survive in worst situation, what is real nature, to become closer to your own family, importance of PPE, the learnings from our Honourable Prime Minister’s leadership action/reaction/calmness and the way he handles each one of us”.

Certain indirect behavioural implications of Covid19 are also likely to emerge. Hugging (as against physical distancing which is a reflection of human bonding that people use in many cultures across the globe), it seems Covid19 would take that away from human race, or people would be afraid of. Similarly, handshaking as an expression of human touch may become a thing of the past. Globally, Covid19 has also become the reason for cold war between China and many countries that are severely affected by this Chinese virus as it is called by the American President. Most affected countries are against China as COVID-19 emanated from there and spreaded to most countries (Awasthi, 2020).

REFERENCES

- 1) Accenture (2020). *COVID-19: Managing the human and business impact of coronavirus*. APRIL 30, 2020. <https://www.accenture.com/in-en/about/company/coronavirus-business-economic-impact>
- 2) Berman, Marc and Thurkow, Tracy (2020). *Covid-19 Creates a Moment of Truth for Corporate Culture*, April 01, 2020. <https://www.bain.com/insights/covid-19-creates-a-moment-of-truth-for-corporate-culture/>
- 3) Betsch, Cornelia (2020). *How behavioural science data helps mitigate the COVID-19 crisis*. *Nat Hum Behav* 27 March 2020. <https://doi.org/10.1038/s41562-020-0866-1>.
- 4) Betsch, Cornelia; Lothar, H Wieler and Katrine, Habersaat (2020). *Monitoring behavioural insights related to COVID-19*. *The Lancet*, 25 April 2020, Volume 395, Issue 10233. <https://www.thelancet.com/journals/lancet/home>
- 5) Business Standard (2020). *What lessons has India Inc learnt as it prepares for life after lockdown by Surajeet Das Gupta*, April 06 2020. https://www.businessstandard.com/article/companies/challenges-await-firms-after-covid-19-work-from-home-may-become-permanent-120040500935_1.html
- 6) Cooper, Dominic (2020). *Faces of EHS: Talks Behavioral Safety and Managing COVID-19*. *EHS Daily Advisor*, Mar 27, 2020. <https://ehsdailyadvisor.blr.com/2020/03/faces-of-ehs-dominic-cooper-talks-behavioral-psychology-and-managing-covid-19/>
- 7) Hoof Elke Van (2020). *Lockdown is the world’s biggest psychological experiment - and we will pay the price*. *World Economic Forum*, 09 Apr 2020. <https://www.weforum.org/>
- 8) ILO (2020). *COVID-19: stimulating the economy and employment*. *ILO Press release*, 07 April 2020. https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_740893/lang--en/index.htm
- 9) Jens, O. Zinn (2019) *The meaning of risk-taking – key concepts and dimensions*, *Journal of Risk Research*, 22:1, 1-15, DOI: 10.1080/13669877.2017.1351465
- 10) Kaila, Harbans Lal (2019). *Behaviour Based Safety for Corporates: A Shift toward an Interdependent Safety Culture*, *WSO World Safety Journal*, 2019,
- 11) *WSJ Vol. XXVIII No. 4*. <https://worldsafety.org/wso-world-safety-journal/>
- 12) Mufsin, P. P. and Muhsin, P. P. (2020). *Sociocultural and Religious Factors Complicate India’s COVID-19 Response*. *The Diplomat*, March 25, 2020. <https://thediplomat.com/2020/03/sociocultural-and-religious-factors-complicate-indias-covid-19-response/>
- 13) Awasthi, Prashasti (2020). *Covid-19 virus accidentally leaked by an intern in China: Fox News report*, April 18, 2020. <https://www.thehindubusinessline.com/news/world/covid-19-virus-accidentally-leaked-by-an-intern-in-china-fox-news-report-claims/article31373917.ece>
- 14) Sharma, Nidhi (2020). *Cases doubling in 4.1 days; without Jamaat, it would’ve been in 7.4 days*. *ET Bureau*, Apr 05, 2020. <https://m.economictimes.com/news/politics-and-nation/rate-of-doubling-of-covid-19-cases-4-1-days-without-tablighi-jamaat-incident-it-would-have-been-7-4-government/articleshow/74994181.cms>
- 15) Susan Michie (2020). *Behavioural strategies for reducing covid-19 transmission in the general population*. *BMJ*, March 3, 2020. <https://blogs.bmj.com/bmj/2020/03/03/behavioural-strategies-for-reducing-covid-19-transmission-in-the-general-population/>
- 16) WHO (2020). *Mental health and psychosocial considerations during the*

17) COVID-19 outbreak. WHO reference number: WHO/2019-nCoV/MentalHealth/2020.1. 18 March 2020.

18) WHO (2020). WHO tool for behavioural insights on COVID-19. <http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov-technical-guidance/who-tool-for-behavioural-insights-on-covid-19>

Competing or conflicting interests

The author declares no competing or conflicting interests for publishing this article.

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STUDENT CHAPTER GUIDELINES

- 1) Rs. 500/- fees as Student Member.
- 2) Student Member will remain as Student Member so long as he is the Student of the Institute from where is applied for membership.
- 3) As Student Member applies for Life Membership as an when he is eligible, he will be getting a discount of Rs. 250/- on the Life Membership fees. (as resolved in NC Meeting No. 138)
- 4) Student Membership automatically comes to an end as Students leaves the Institute from where he applied for Membership.
- 5) A Student Chapter share of 50% will be given to the Institute by IIIE NHQ every time there is an enrolment of Student Members in a batch. This Student Chapter share is expected to be utilized for Student Chapter activities at their Institute and expenses be documented and audited in the Institute audits.
- 6) Institute / college should propose IIIE NHQ for opening of Student Chapter with a minimum of 25 members.
- 7) IIIE NHQ will provide the certificate of Student Member.
- 8) Student Membership form can be downloaded from IIIE website www.iiie-india.com
- 9) All the Student Chapters of the specific region will be mentored by their local chapter.
- 10) All the activities performed by the Student Chapters should be reported to the Local Chapter in form of news so as to publish it in the IIIE Newsletter.

GRADUATESHIP EXAMINATION IN INDUSTRIAL ENGINEERING

The Indian Institution of Industrial Engineering (IIIE), a National Body dedicated to the advancement of the profession of Industrial Engineering. An ISO 9001:2008 certified Institution, IIIE conducts Graduateship Examination every year through a nation-wide network of 33 Chapters and Centres. It provides an opportunity to individuals aspiring to acquire professional qualification for career advancement while contributing to the productivity of the nation. A pass in the Graduateship Examination is deemed at par with a Bachelor's Degree in Industrial Engineering, from a recognized Indian University.

The Institution also publishes a monthly "Industrial Engineering Journal" which is informative and useful to the students, Professionals and Academicians in the field of Industrial Engineering. One who wishes to qualify through the Graduateship Examination of this institution can enroll as a student member (qualifications required are given below). For detailed information about the Syllabus and Application Form, Examination and Project work are available on IIIE website www.iiie-india.com / iiieexamdept@gmail.com .

QUALIFICATIONS REQUIRED FOR STUDENT MEMBERSHIP

- H.S.C (Std. XII with Science) with two years working experience.
- Graduate in Science with one year working experience.
- Diploma in Engg. / Technology (3 years course) with one year working experience.
- Has completed and passed first two years of a regular degree course in Engineering / Technology.
- Degree in Engineering / Technology of a University of India or equivalent qualification recognized by All India Council for Technology Education (AICTE) as equivalent.

Controller of Examinations