



## Digital divide and academic phobia engender psychological distress among the virtual learners of rural India's higher educational institutions during COVID-19

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**Abstract-** “Virtual learning” or “online learning” has become a widely used phrase in the education domain due to the commotion of the COVID-19 pandemic. From a conventional pedagogical slant, many educational institutions in India decided overnight to shift towards virtual learning. When urban India could quickly adapt to this mode, it is still skeptical whether rural India stands justified in its attempt to swing towards virtual learning considering the digital divide. This paper discusses the “academic phobia” of rural students manifested due to the “digital divide,” which results in ultimate “psychological distress” while focusing on the students of higher educational institutions in rural districts of Kerala, Karnataka and Tamil Nadu the three Southern states of India

**Design/methodology/approach** - A study was directed to test how virtual learning impacts the psychological distress directly and also through mediating variables, academic phobia, and digital divide among the students of higher education institutions in rural India. Data was collected through a judgment sampling method from 522 students of higher educational institutions in rural districts of Kerala, Karnataka and Tamil Nadu the three Southern states of India.

### Findings

In this research, a substantial positive correlation was established between variables such as virtual learning ↔ academic phobia ( $r = 0.712$ ), academic phobia ↔ psychological distress ( $r = 0.684$ ), virtual learning ↔ digital divide ( $r = 0.751$ ), digital divide ↔ psychological distress ( $r=0.652$ ), and virtual learning ↔ psychological distress ( $r=0.599$ ) with reference to the students of higher education institutions in rural districts of Kerala, Karnataka and Tamil Nadu of India. This research validates that the students of higher educational institutions have a high degree of psychological distress and academic phobia mainly due to the virtual learning glitches in the rural area like deprived access to the e-learning tools and dearth of seamless internet connectivity along with inclusive anxiety regarding the spread of the virus COVID-19. On testing the hypothesis, the result shows that the dependent variable, namely psychological distress, is substantially predicted by virtual learning directly and through specific indirect mediating variables academic phobia and digital divide at a 95 % level of confidence.

**Originality/value** – This study explores the relationship of virtual learning and psychological distress through mediating variables academic phobia and digital divide among the students of the higher education institutions in rural India, which has not been scrutinized theoretically and tested empirically in context with COVID-19 pandemic.

**Key Words** – virtual learning, academic phobia, digital divide, psychological distress, COVID-19.

### I. INTRODUCTION

The novel coronavirus COVID-19 hurled lassitude, pushing the world to go on a lockdown when WHO acknowledged it as a pandemic and asked the countries to take imperative action. With its 130 crores plus population, India did not have an option other than following the suit. This pandemic created world-wide havoc in all sectors, including the education system, resulting in a dramatic drift towards virtual learning, using Information and Communication Technologies (ICT). Employing an avalanche of user-friendly synchronous and asynchronous communication platforms and applications like Zoom, Google Meet (De', R.,

Pandey, N., & Pal, A. (2020) and edX, Coursera (Calonge, David et al., 2016), the instant transformation to an online forum or virtual mode was possible and accessible to a sizeable population of students, however with many glitches. Urban India swiftly acclimatized to this approach, but there are harrowing reports about how rural India's digital divide has become a bottleneck in its passage towards virtual learning. A dejected young girl, a class 9 student of Kerala, the southern Indian state, decided to end her life allegedly due to the unaffordability to join the online class as reported by a leading Indian newspaper (Latheef Naha, The Hindu, 2020) stands an eye-opener for us to comprehend the digital divide that has engulfed rural India. This study echoes the prior research done by experts on the "digital divide and mental health" (Robotham D, Satkunanathan S, Doughty L, Wykes T. J Med Internet Res. 2016) from the Department of Psychology, Institute of Psychiatry, Psychology & Neuroscience, King's College London. This paper through an extensive literature review acknowledges the importance of virtual learning during COVID-19 pandemic, appraises the e-learning methods adopted by Govt. of India and at the same time, points out the pitfall of the same in rural area due to the digital divide and how it impacts the virtual learners of higher educational institutions.

## II. LITERATURE REVIEW

### **Virtual learning with the digital divide is a matter of concern for rural learners.**

A widely discussed phenomenon, the digital divide, was unequivocally exposed by the COVID-19 pandemic and the digital susceptibility of numerous citizens of rural India. The digital divide is presently explained as the variance between individuals within the society and regions, organizations, and countries in the access and usage of Information and communications technology (ICT) (MP Bach, J Zoroja, VB Vukšić, 2013). ICT is the mainstay of a country's development, and it is opined that lack of ICT blemishes proper governance (Sumanjeet, 2006). Studies show a significant digital divide laceration between rural and urban India (Dasgupta et al., 2005; Chakrabarty Mahuya, Dutta Chaitali 2014). Telecom Regulatory Authority of India (TRAI), in their monthly report, states that India has over 1,160 million wired and wireless subscribers as of June 2020, which is almost evenly distributed between urban (636 million) and rural (523 million). Even though India grew with 30 million subscribers per year since 2016, there is an abstruse gash between rural and urban India in the access to internet services and the literacy to operate internet-enabled gadgets like smartphones, tablets, laptops, and desktops. ICT has a paramount application in the field of virtual education, and the gulf that exists at diverse socio-economic levels with their prospects to access ICT is highlighted in "Education and learning" and "learning digital divide" is a crucial and obvious factor according to the Organisation for Economic Co-operation and Development (OECD), 2000. One cannot overlook the overwhelming digital divide that exists in rural India, majorly due to the students' economic disparity, access to gadgets, and the scarcity of bandwidth or internet connectivity, and the overall struggle in using technology itself. The students from affluent families would not have confronted any major issues as they have access to gadgets, high-speed internet, uninterrupted power supply, and affordability of data charges. Those who hail from average and lower-income groups had to endure hard-hitting time getting access to online education. Out of 138 crore population, 65% of Indians are from rural areas according to the Ministry of Statistics and Programme Implementation based on UN (World population prospects 2019). The research suggests, 75 percent of rural Indians are poor daily wage workers, landless laborers, and self-employed householders (Sumanjeet Singh, 2010). ICT accessibility issues are evident in rural India (S Kak and S Gond, 2015; S Kumar and Basavaraja, 2016; Kundu, Nath 2018), and most of them could not afford laptops, tablets, smartphones, and good data plan fair enough to meet the requirements of virtual learning. In rural India, only 14.9 percent of households have access to the internet connection against 42 percent of households from urban areas according to the 75th round of National Sample Survey, Key Indicators of Household Social consumption on Education in India, NSS 2017-2018.

The scantiness of internet connectivity has heaved urban and rural India miles apart in virtual learning during COVID-19. In some rural areas, though they have an internet connection, the diminutive bandwidth has even impacted the students from affluent families, as the quality of signal wanes and ensuing breakage of internet connection diminishes the clarity of videos and audios by implanting discomfort. When unprecedented pandemic COVID-19 disrupted the education of 320 million children in India as estimated by UNESCO, India's Ministry of Human Resource Development emanated with the Alternative Academic Calendar (AAC) with guidelines on virtual learning to continue the academic calendar 2020-21 (Rammohan Khanapurkar; Shalini Bhorkar; Ketan Dandare et al., 2020 (UNICEF). Central and state governments, NGOs,

private organizations, and civil society organizations have started a collective effort to empower rural India using digital e-learning platforms to transform the educational system. During COVID-19 with a motto “Bharat Padhe Online” (India Studies via online), virtual learning is pushed across the country, and Govt of India’s initiatives, EKranti, aims to bridge the urban-rural digital divide; Ministry of HRD’s Diksha and e-Pathshala broadcasts lessons via radio and television; e-Basta aims to promote e-books through the means of tabs and computers in rural areas while Edusat supports video education (Kumar P, IIM-U 2020). Considering the paucity of internet access by many Indians, another flagship initiative by Govt. is SWAYAM-Prabha, which provides 34 TV channels that cover educational content for Schools and Higher Educational Institutions (Ministry of Education,2020). State governments have undertaken numerous initiatives to reach out to their students as KITE-VICTERS by Govt. of Kerala. Nevertheless, the whopping amount of investment in ramping up the technology to the growing demand of the sector with the motto of providing a real classroom like a learning experience, we cannot ignore a marginal section of the population of students who have lost the prospect to continue education owing to unaffordability and inaccessibility. Despite these initiatives by the stakeholders of the education, febrile and feeble digital infiltration has turned virtual learning into a distant dream for countless children in the rural areas; and rural areas are far-off from the digital outreach (Anindit R Chowdry, Save the Children,2020). Studies have highlighted that the digital divide can have psychological consequences (JAGM Van Dijk, 2006; Afolayan Oluyinka Titilope, 2018; Geoff Watts, 2020). Hence, it is hypothesized:

H1: Virtual learning has significant impact on digital divide

H2: Digital divide has a significant impact on psychological distress

H3: Virtual learning with digital divide has significant impact on psychological distress

### **Academic Phobia and Psychological distress - An aftermath of virtual learning in the context of Covid-19**

American Psychiatric Association elucidates phobia as an irrational and extreme fear of a situation or an object (Garcia R, 2017), which can be tenacious or unrealistic, and the person tries to circumvent it or endure it (Harvard Medical School,2018). People experience fear or anxiety based on their individual differences, according to theorists Freud (Breuer and Freud, 1974; Spielberger (1975), and Barlow (2002). Characterized as an excessive fear (Lena Reuterskiöld 2009), a phobia is beyond voluntary control (Marks, 1969) and is considered as a psychological and anxiety ailment (Matig Mavissakalian and David H. Barlow 1981) which is common amid children and youths (Lichtenstein and Annas, 2000).

Academic Phobia, Academic Fear, Academic Anxiety are all synonyms allied with the study of “Fear of failure in learning” by Martin, A.J. (2012) in N.M. Seel (Ed.). Encyclopedia of the Sciences of Learning. American Psychological Association(2007), had defined “fear of failure” as “persistent and irrational anxiety about failing to measure up to the standards and goals set by oneself or others”. Studies done on academic anxiety of students portray that test anxiety (Zeidner, 1995; Stober and Pekrun (2004); Gregor (2005); Bodas J et al. 2008), examination threat (Spielberger & Vagg, (1995) examination stress (Dave Putwain, 2008) can impact the lives of adolescents radically. Research done on Indian higher education students also establishes the anxiety of examination (Kumari, Jain 2014) and other factors like academic subjects, educational environment, and teachers (Atieq Ul Rehman et al., 2016). Tests and examinations are predominant in our culture and considered as a yardstick in which part of individuals’ lives are measured by their performance in a test (Sarason et al.,1958). Studies reveal academic phobia as a prevalent phenomenon in Indian students, and test anxiety of Indian students (Mary, Marslin, Franklin, Sheeba, 2014) is associated with poor academic performance (Patil, Aithala, 2017).

Considering the numerous research articles published on the topic “psychological distress” on higher education students, it’s safe enough to conclude that 20 to 25 percent of students across the world suffer from psychological distress (Vitasari et al. 2010; Kumaraswamy N, 2013; N Mutalik et al., 2016). Short-term distress and long-term distress arise from negative self-beliefs and feedback (Dave Putwain, 2008). Studies in India also shows that anxiety was rampant in boys with 20.1% and with girls 17.9% (Deb, Sibnath et al., 2010); anxiety and despair diminish academic performance (Mohd Shakir, 2014), which notoriously boosts social anxiety disorder (SAD), a vigorous fear of being examined in situations like performance or societal (Sue et al., 2017). Social anxiety disorder regularly appears in teenagers and youths (Witthen HU et

al.,1999). Indians are undergoing a massive amount of stress and worries during the COVID-19 outburst (Roy et al., 2020). Anxiety, depression, stress, fear, insomnia are reported as major psychological ailments linked to the COVID-19 pandemic globally (Torales et al., 2020; Wang Wet al., 2020). The swift transition to virtual learning from classroom mode has created turmoil among students of India (Chandra, Y, 2020), which has a very adverse bearing on the mental health (Kaushik Deka, Shelly Anand, India Today,2020). After considering the various research results and literature, the first part of this paper has deliberated about India's plight of rural students and the absence of proper learning tools or internet accessibility. The digital divide pushes students from a poor economic background with partial or no access to virtual academic sessions (Najmul Hasan, Yukun Bao,2020). The digital divide during COVID-19 is thoroughly explored by researchers (Beaunoyer, Dupere, Guitton,2020), and studies also indicate a substantial connexion between poverty and psychological stress (Jiang, 2020). It is opined that psychological health problems can disturb individuals' education (Elliott, I., 2016), and deteriorating educational accomplishment increases phobia (Bachman, Randolph & Brown, 2011). Hence it is hypothesized:

H4: Virtual learning has a considerable impact on Academic phobia.

H5: Academic Phobia has a significant impact on psychological distress

H6: Virtual learning has a considerable impact on Academic phobia and psychological distress

### **Virtual learning engenders psychological distress in rural Indian students.**

COVID-19 seems to have forced urban and rural Indian students to join the digital bandwagon to continue their education regardless of their exposure to virtual learning. While urban students leapfrog to this new paradigm at ease, rural Indian students scuffle with smartphones, tablets, and computers. Lack of cognizance, reluctance, digital illiteracy, poor infrastructure (Rimmi A, Sarad S, Shilpi S, 2012), along with notorious power supply, continue to be a bottleneck for virtual education in rural areas. Though only 0.01% of Indian households are there to be electrified ("Saubhagya", Ministry of Power, Govt. of India), India is ranked 80th amongst 137 countries in the "reliability of electricity supply" by Global Competitiveness Report, WEF (World Bank, 2018). Lack of access to laptops and smartphones in households is another major roadblock for rural virtual learners where children have to depend on their parents to access smartphones for virtual learning (Kumar P, IIM-U 2020). As per reports, students and parents struggle because of the enormous cost of gadgets and data plans (Observer Research Foundation, 2020). Seamless internet access is a significant stress for virtual learners owing to poor internet access in rural India. "Internet access is plagued by issues related to quality and reliability, outages, call drops and weak signals, says "Niti Aayog", which is the policy think tank of Govt of India in its report "Strategy for New India@75",2018(P.89). Many occurrences of students trekking to stochastic locations far away from their homes in search of mobile signals, as a boy climbing a tree in Karnataka with his mobile phone to catch the signal says Naik and Rao, Forbes(India), 2020. As per the report, another virtual learner's plight was that she mostly sits on her terrace in the scorching heat to access the internet (Singh, Qureshi and Perera, BBCNews,2020). Prevailing networks have been strained by restricted spectrum obtainability and usage, disrupting the provision of eminence services can cause distress in virtual learners.

From coping with fundamental issues like lack of necessary devices, poor internet connectivity, intermittent power supply etc., students of rural areas come under physical and mental burnout. An extensive review of literature also suggests psychological distress among virtual learners ( Najmul Hasan, Yukun Bao,2020); (Deemah A. AlAteeq, Sumayah Aljhani, Dalal AlEesa 2020, especially with uncertainty they feel about the exams (Moawad, R.A. (2020) during COVID-19. Hence it is hypothesized:

H7: There is a significant relationship between virtual learning and psychological distress

### **Pilot study**

A pilot study of the questionnaire was executed with higher education institutions in rural districts of Kerala, Karnataka and Tamil Nadu the three Southern states of India, before doing the core study. Five higher education institutions from each state were selected and one hundred and twenty students were chosen for the pilot study, with total of 15 higher education institutions in Kerala, Karnataka and Tamil Nadu. The validity along with reliability of the measured scales were verified to ensure correction of any obscurities in

the measurements. Based on the feedback suggested by the respondents, minor corrections were made to the questionnaire.

### **Population and Sample**

Every student of the arts and science college was equally considered to be part of this study in rural districts of Kerala, Karnataka and Tamil Nadu the three Southern states of India and the judgment sampling technique was applied here. The judgmental sampling technique is also identified as purposive sampling. It is a type of non-probability sampling, and researchers bank on their judgment while selecting samples from the population to be part of the study. Judgmental sampling is when researchers methodically think through about establishing a sample population, albeit it is not statistically demonstrative of the larger population at hand.

The primary data was collected through google forms by a structured questionnaire. The questionnaire had two sections. Demographic information was included in part one, and part two with different construct items for evaluation of the conceptual model. A total of thousand questionnaires were circulated through google forms, three hundred each from Kerala and Karnataka and four hundred from Tamil Nadu along with a letter emphasizing privacy and confidentiality. A total of 590 questionnaires were collected back, representing a response percentage of (59%) which is treated as a reasonable rate response. Out of the 590 questionnaires received, 68 questionnaires were rejected due to missing data. Net total of 522 questionnaires consisting 152 from Kerala (50.67%), 164 from Karnataka (54.67%) and 206 from Tamil Nadu (51.5%) were taken into consideration for the current study, that is more than fifty percentage response rates from each state and very acceptable at an overall rate of (52.2%).

### **Analytical approach**

Structural equation modeling (SEM) was adopted in this research, which is considered as a strong multivariate analytical method. From the observational data, primary constructs and their relationships can be identified easily. This tool is also apposite for testing the projected conceptual framework. Both measurement and structural models were calculated along with few descriptive statistics. T-Statistics and P-values were measured for the final decision purpose, with a significance level of 95%.

### **Demographic statistics**

This analysis consists of 522 students of higher education institutions, aged between 17 and 24 years old and (58.4%) were boys, and the remaining (41.6%) were girls. Most of the students (68%) have a monthly household income between 12000 and 20000. Very few students (16%) have laptops or desktops for virtual learning, (84%) uses mobile phones for their academics. Most families are with two children using the internet at a time (43.3%). The majority of the students (82%) were not satisfied with their internet connectivity. There were few students with a former medical history of depression (3%)

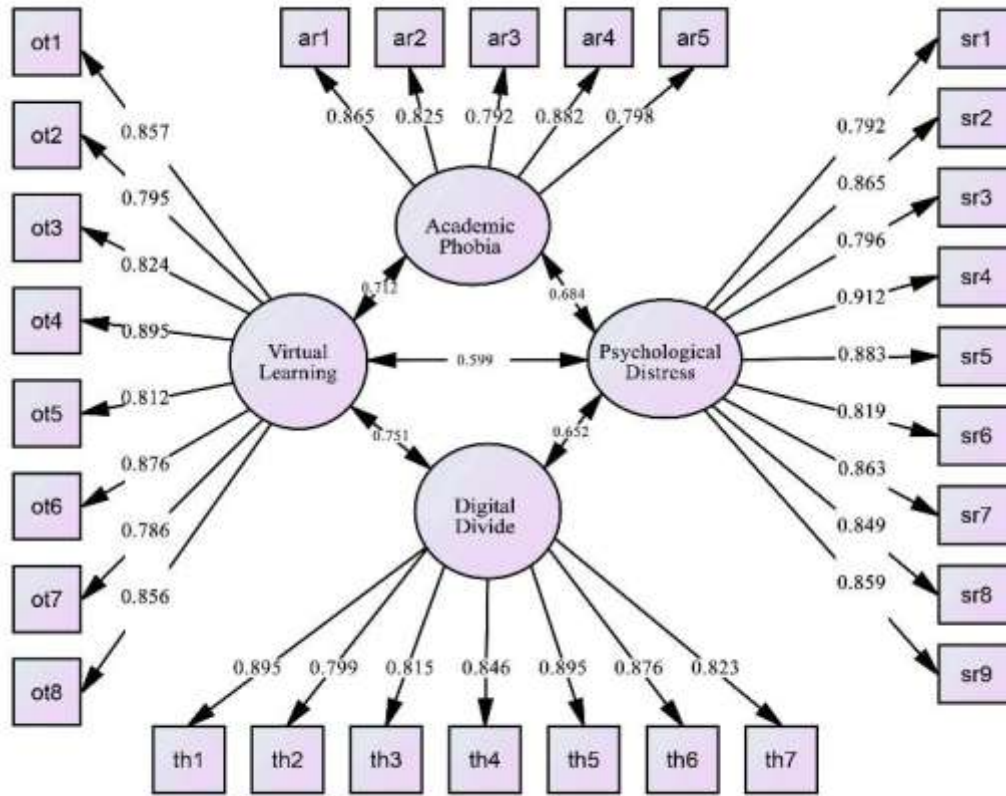
### **NORMALITY TEST**

**A skewness -Kurtosis** method was adopted to analyze every variable's univariate normality (Byrne, 2013). Skewness measures symmetry in distribution. The symmetrical dataset will have a skewness equal to 0. Kurtosis is the grade of "peakedness of a distribution" (Wolfram MathWorld). In this study, the results were found in their promising scales, respectively. The test supported the univariate distribution normality with skewness values within the -1.96 to + 1.96 range and kurtosis values within -7 and + 7 range. (Byrne, 2013).

## Construct validity

*Figure 01*

*Convergent validity*



*Table 01*

*Discriminant validity*

Indicator variable	←	Latent variable	Standardised loadings	Square of standardised loadings	Some of squared standardised loading	No of indicators	Ave	Square root of ave.
OT1	←	virtual learning	0.857	0.734				
OT2	←	virtual learning	0.795	0.632				
OT3	←	virtual learning	0.824	0.679				
OT4	←	virtual learning	0.895	0.801				

OT5	←	virtual learning	0.812	0.659				
OT6	←	virtual learning	0.876	0.767				
OT7	←	virtual learning	0.786	0.618				
OT8	←	virtual learning	0.856	0.733	5.624	8.000	0.703	0.838
TH1	←	digital divide	0.895	0.801				
TH2	←	digital divide	0.799	0.638				
TH3	←	digital divide	0.815	0.664				
TH4	←	digital divide	0.846	0.716				
TH5	←	digital divide	0.895	0.801				
TH6	←	digital divide	0.876	0.767				
TH7	←	digital divide	0.823	0.677	5.065	7.000	0.724	0.851
SR1	←	psychological distress	0.792	0.627				
SR2	←	psychological distress	0.865	0.748				
SR3	←	psychological distress	0.796	0.634				
SR4	←	psychological distress	0.912	0.832				
SR5	←	psychological distress	0.883	0.780				
SR6	←	psychological distress	0.819	0.671				
SR7	←	psychological distress	0.863	0.745				
SR8	←	psychological distress	0.849	0.721				
SR9	←	psychological distress	0.859	0.738	6.495	9.000	0.722	0.849
AR1	←	academic phobia	0.865	0.748				
AR2	←	academic phobia	0.825	0.681				
AR3	←	academic phobia	0.792	0.627				
AR4	←	academic phobia	0.882	0.778				
AR5	←	academic phobia	0.798	0.637	3.471	5.000	0.694	0.833

Table 02

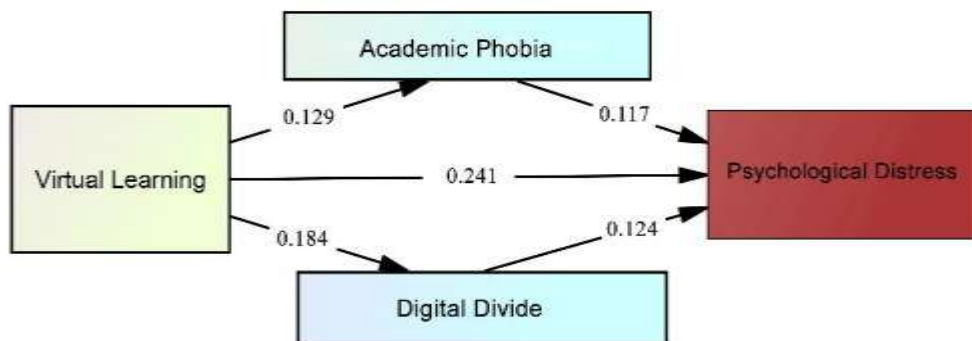
square root of the ave		↔	Correlation		
Virtual Learning	0.838	↔	digital divide	0.751	dv>co
Digital divide	0.851	↔	psychological distress	0.652	dv>co
Psychological distress	0.849	↔	virtual learning	0.599	dv>co
Academic phobia	0.833	↔	psychological distress	0.684	dv>co
Virtual Learning	0.838	↔	academic phobia	0.712	dv>co

**Measurement Model**

The measurement model was tested by means of Cronbach alpha, composite reliability, convergent validity and discriminant validity. The initial reliability of the construct has been calculated using Cronbach alpha where value should be more than 0.7 and the composite reliability is also more than 0.7. The construct validity was measured by convergent validity analysis and discriminant validity analysis. As per convergent validity (Table 01) the average of each construct has more than 0.5. Here virtual learning has an average construct of 0.703; the digital divide has 0.724; academic phobia 0.694, and psychological distress 0.722. This means all variables have more than the accepted average. So, we can conclude that all the constructs in the conceptual model have the required convergent validity. It also confirms the decrement validity. The square root of the average has to be higher than the correlation of the construct, and here the (Table 02) shows the sufficient standards of the discriminant validity of the analysis. That means the square root of the average of all the **constructs > correlation**.

**Mediating role analysis**

Figure 02



By following the procedures of the test of mediating relationship, specific indirect effect is measured and illustrated in the fig: 02 and the result shows the direct effect of virtual learning to psychological distress =



0.241 sig (p) = 0.000, specific indirect effect of virtual learning to academic phobia to psychological distress = 0.246 sig (p) = 0.000, specific indirect effect of virtual learning to digital divide to psychological distress = 0.308 sig (p) = 0.000, total indirect effect of virtual learning to psychological distress = 0.554 sig (p) = 0.000 and finally, total effect of virtual learning to psychological distress 0.795 sig (p) = 0.000. These results confirm the significant specific indirect consequence, which indicates that academic phobia mediated the relationship between virtual learning and psychological distress; similarly, the digital divide also has a specific mediating relationship between virtual learning and psychological distress.

**Table 03**

effect	path	$\beta$	T-statistics	P-value	SE
Direct effect	Virtual Learning > Academic phobia	0.129	15.236	0.000	0.00012
	Virtual Learning > Psychological distress	0.241	212.425	0.000	0.00072
	Academic phobia > Psychological distress	0.117	13.254	0.000	0.00121
	Virtual Learning > Digital divide	0.184	10.256	0.000	0.00123
	Digital divide > Psychological distress	0.124	14.256	0.000	0.00023
Indirect effect	Virtual Learning > Academic phobia > Psychological distress	0.246	11.265	0.000	0.00012
	Virtual Learning > Digital divide > Psychological distress	0.308	17.245	0.000	0.00061
Total Indirect Effect	Virtual Learning > Academic phobia	0.554	53.002	0.000	0.00332
	Academic phobia > Psychological distress				
	Virtual Learning > Digital divide				
	Digital divide > Psychological distress				
Total Effect	Virtual Learning > Academic phobia	0.795	265.427	0.000	0.00423
	Virtual Learning > Psychological distress				
	Academic phobia > Psychological distress				
	Virtual Learning > Digital divide				
	Digital divide > Psychological distress				

The results can be explained as given. The hypothesis H1 indicates that virtual learning among rural students was positively associated with the digital divide. ( $r = 0.751$  &  $p = 0.000$ ). H2 indicates that the digital divide among rural students was positively associated with psychological distress ( $r = 0.652$  &  $p = 0.000$ ). H3 indicates that virtual learning with the digital divide significantly impacts psychological distress ( $p = 0.000$ ). H4 indicates that virtual learning has a considerable impact on academic phobia among rural students ( $r = 0.712$  &  $p = 0.000$ ). H5 indicates that academic phobia has a significant impact on psychological distress among rural students ( $r = 0.684$  &  $p = 0.000$ ). H6 indicates that virtual learning has a considerable impact on academic phobia and psychological distress ( $p = 0.000$ ). H7 indicates that virtual learning has a direct significant relationship with psychological distress correlation ( $r = 0.599$  &  $p = 0.000$ ).

**Suggestion for Future Research**

Future research may be warranted by collecting data from rural areas of other states in India which will give more insights on digital divide and academic phobia to understand how these factors effect virtual learning and induce a psychological distress among students. Since the data was collected from students of higher education institutions under rural districts of Kerala, Karnataka and Tamil Nadu the three Southern states of

India, the study may find difficult in making a sweeping statement about rural students in the pan India context.

### III. IMPLICATIONS OF THE STUDY

This paper examines the COVID-19 exigency circumstances and the ensuing shift towards virtual education in rural India. The focus was on variables virtual education, digital divide, academic phobia, and psychological distress; the findings have their implications principally on all the stake holders in Indian education. Cohesive efforts of Government, education policymakers, NGOs, civil society organizations are essential to create a convivial learning atmosphere and easy-to-use digital platform, which is propitious for teachers and students to have an uninterrupted erudition. A voluntary collective drive to ensure the supply of essential educational gadgets free-of-cost or subsidized by educational stakeholders and additional mobile network towers installation by internet providers can help rural students overcome the digital divide to a large extent. Moreover, educational institutions may structure the learning resources ensuring constant and consistent accessibility without computers, mobiles, and wireless internet connections through televisions and radios in rural areas.

The results from this paper will be valuable to comprehend the academic phobia and psychological distress endured by students. The analysis by means of structural equation model shows that an overall positive correlation among the variables; total indirect effect through mediating variables academic phobia and digital divide of virtual learning to psychological distress = 0.554 sig (p) = 0.000 and finally, total effect of virtual learning to psychological distress 0.795 sig (p) = 0.000. Which means, psychological distress is well predicted by indirect and direct effect of virtual learning. Educational institutions and child welfare organizations can join hands to facilitate digital training and counseling programs to reduce the agony of higher education students of rural India. In short, an overall educational and instructive modification can be done to iron out the crinkles in the current virtual learning system.

### IV. DISCUSSIONS WITH CONCLUSION

COVID-19 triggered a paradigm shift in education systems, and virtual learning has turned out to be a modus operandi for students in India and across the globe. Virtual learning in India has a stupendous scope and massive challenges due to its digital divide in particular. The problems are myriad for rural virtual learners starting with penury, digital illiteracy, infrastructure deficit, intervallic power supply, sporadic internet connections, et cetera, resulting in overall disrupted learning opportunities (Cao et al., 2020). It is opined that virtual education can trigger “technophobia” (Yunus, Wahid, Omar, and Ab Rashid, 2016) and anxiety (Saadé, Kira, Mak, and Nebebe, 2017). During this pandemic, academic phobia or academic anxiety has escalated among the students in India, and virtual education has become a reason for this stress (Chakraborty et al., 2020). The critical factor of anxiety or tension for students is “fear of academic failure”, and as per National Crime Records Bureau (NCRB), there is an alarming rate of one student per hour committing suicide in India (S Garai, The Hindu, 2020).

Studies suggest that academic stress can increase suicide ideation (Ang and Huan, 2006); hence, an empathetical approach is essential by the stakeholders of education to reduce this academic anxiety among youth, especially during this pandemic. It is also essential for the Indian education system to accentuate guidelines and adopt innovative strategies that can bridge the digital gap, or else it will “deepen fractures in our society” (Marco Iansiti & Greg Richards, 2020).

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