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Technostress creators and inhibitors on the psychological Well-Being of tertiary educators in the state universities in Calabarzon Region, Philippines

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ABSTRACT

This study determined the demographic profile of the tertiary educators, their level of technostress creators and inhibitors, and the level of their psychological well-being. Likewise, the correlation among the said variables were also identified. A descriptive-correlational research design was employed in the study with a total of two hundred thirty-one (231) regular faculty members as participants. Frequency count and percentage, median, and Spearman's Rank-Order correlation were used to analyze the gathered data. Results revealed that most of the participants are in the middle age of their career, female, taking their PhD units, are in the assistant professorial level, have been connected in the university for sixteen years and above, and majority have no ICT related training attended for academic year 2023-2024. Findings also revealed that there was a low level of technostress creators and a high level of technostress inhibitors in the state universities in the region. Moreover, data showed that the participants have a high level of psychological well-being. Further, the results showed a significant negative correlation between technostress creators and psychological well-being; and a significant positive correlation between technostress inhibitors and psychological well-being of the tertiary educators. Thus, it only means that to improve the psychological well-being of the tertiary educators, the level of technostress creators must be reduced and the level of technostress inhibitors must be strengthened. This will ensure the continuous integration of ICTs in education by the tertiary educators for a technology-driven education in CALABARZON region.

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RESUMO

Este estudo determinou o perfil demográfico dos educadores do ensino superior, o seu nível de criadores e inibidores do tecnostress e o nível do seu bem-estar psicológico. Da mesma forma, a correlação entre as referidas variáveis também foi identificada. Um desenho de pesquisa descritivo-correlacional foi empregado no estudo com um total de duzentos e trinta e um (231) docentes regulares como participantes. A contagem de frequências e a porcentagem, a mediana e a correlação Rank-Order de Spearman foram usadas para analisar os dados coletados. Os resultados revelaram que a maioria dos participantes está na meia-idade da sua carreira, do sexo feminino, a frequentar as suas unidades de doutoramento, está no nível de professor assistente, está ligada na universidade há dezasseis anos ou mais, e a maioria não tem formação relacionada com as TIC frequentada para o ano letivo 2023-2024. Os resultados também revelaram que havia um baixo nível de criadores de tecnostress e um alto nível de inibidores de tecnostress nas universidades estatais da região. Além disso, os dados mostraram que os participantes têm um alto nível de bem-estar psicológico. Além disso, os resultados mostraram uma correlação negativa significativa entre os criadores de tecnostress e o bem-estar psicológico; e uma correlação positiva significativa entre os inibidores do tecnostress e o bem-estar psicológico dos educadores do ensino superior. Assim, significa apenas que, para melhorar o bem-estar psicológico dos educadores do ensino superior, o nível de criadores de tecnostress deve ser reduzido e o nível de inibidores de tecnostress deve ser reforçado. Isto garantirá a integração contínua das TIC na educação por parte dos educadores do ensino superior para uma educação orientada para a tecnologia na região de CALABARZON.

Palavras Chave:
TIC na educação, educação orientada pela tecnologia, educadores em universidades estaduais

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Introduction

Without a question, the necessity for high-quality education is acknowledged on a global scale as it served as an important contributor to the country's economic development. In the Philippines, the Commission on Higher Education (CHED) is one of the educational agencies responsible for promoting quality education mandated with ensuring that quality education is delivered by schools of higher learning to improve the Philippines' economic condition and to achieve national development goals. As a result, CHED was granted sufficient power to carry out its regulatory and developmental responsibilities throughout the nation (Malolos & Tullao Jr., 2018).

The Philippine state universities and colleges has served as change agents that are mandated to promote quality education and to help improve the Philippines' economic condition and achieve national development goals to become globally competitive. This is in connection and in full support of the Sustainable Development Goals of the United Nation, SDG3: Good Health and Well-Being, SDG4: Quality Education and SDG9: Industry, Innovation and Infrastructure, as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

As a matter of fact, SUCs in the country are challenged by Senator Allan Cayetano in a budget hearing in 2022, through CHED, to come up with a new set of "earth-shaking" reforms in the higher education sector in order to make Philippine universities and its graduates more competitive with Asian counterparts and with the best universities in the world (Senate of the Philippines 19th Congress, 2022). In effect, SUCs are becoming more aware of globalization and the demands of internationalization. In order to attract students in a global market and to prepare all of their students for lives in a globalized world, these universities, regardless of size or position in the national market, have started to realize how important it is to develop teaching and instructional programs that have both local and international relevance (Vasquez-Rivera, 2019). Hence, information and communication technologies (ICTs) are therefore thought to be essential to internationalization processes and the globalization of higher education.

In today's rapidly evolving world, integrating Information and Communication Technologies (ICTs) in education has become a pivotal force for transforming traditional learning approaches. ICTs in education, also referred to as digital learning or e-learning, has completely changed how professors and students impart knowledge. The accessibility, interactivity, and efficacy of education have all been greatly improved by this digital revolution (Teachmint, 2023). Multimedia tools, simulations, and interactive learning platforms all help students become more engaged than they would be using traditional teaching techniques. Moreover, as curriculum implementers, teachers also benefit from the integration of ICT into

teaching. Digital tools and platforms make administrative tasks more efficient, allowing teachers to focus more on core instruction and individualized instruction (Teachmint, 2023).

While there are benefits to integrating technology into the classroom, researchers have also found drawbacks. Previous studies that examined organizational behavior have described anxiety and tension, job dissatisfaction, and uncertainty about job demands as end-user reactions to ICTs (Ragu-Nathan et al., 2008). This is supported by the study of Salazar-Concha et al., (2021) saying that emerging technologies such as the use of smartphones and social media have been found to remove the limitations between end-users' work and personal lives. In addition, as stated in the study of Tarafdar et. al., (2019) and La Torre et. al., (2019), every individual has struggles with new technology, defining it as technostress.

According to Dong et al. (2020), teachers' technostress is a contemporary illness that impairs their capacity to deal well with the increasing use of new technologies in the classroom. As to Estrada-Muñoz et al. (2021), technostress pertains to the incapacity of an individual or an organization to utilize technology in a manner that is health-conscious. It is a condition resulting from a lack of ability to use technology healthily, due to age, workload, and perception of work environment or discomfort a teacher experience while using new technology (i.e., devices, platforms, changes to their teaching mode, or any digital media) in the learning and teaching process. Techno-overload, techno-uncertainty, techno-invasion, techno-insecurity, and techno-complexity are the categories that Califf and Brooks (2020) identified as the sources of technostress, and other researchers believe that these are the degrees of technostress that end users encounter with the use of a particular technology (Tarafdar et al., 2007).

The ability of an organization to adapt to new technology is unquestionably essential to its existence. Technology implementation is not simple as it changes the social performance, distresses persons and groups in the organization (Hang et al., 2022). Yet, there are mechanisms that could mitigate these ICT related stress in the organization. Technostress-inhibitors are situational factors that contribute to the stress reduction that comes from using ICTs. They function as moderators and help to lessen the unfavorable effects of introducing these technologies into businesses (Ragu-Nathan et al., 2008; Tarafdar et al., 2019). When used in organizations, techno-inhibitors could lessen the stress brought on by ICT use by reducing the effects of techno-creators brought on by demands for technology. These are through literacy facilitation, technical support provision, and involvement facilitation (Salanova et al., 2007). According to Tarafdar et. al., (2011), literacy facilitation is defined as a mechanism to share ICT-related knowledge within an organization through professional training or documentation. Technical support provision refers to technical support provided to users to solve technology-related problems. Involvement facilitation is defined as keeping the individual informed about the rationale of introducing new technology, involving them in system introduction to progress and application. Thus, it is imperative that the organization offers clear instructions on how to use new technologies, stresses teamwork in resolving issues

involving new technologies, has a technology help desk that responds quickly to requests from end users, offers incentives for utilizing new technologies, and consults prior to introducing new technology to help mitigate the stress created by the use of ICTs to improve the well-being of the employees (Estrada-Muñoz et al., 2022).

As they say, teaching is the noblest profession and yet the most challenging one. It has been considered as one of the most demanding and stressful jobs with high levels of tension, burnout, attrition, and low professional wellbeing (Benevene et al., 2020). Research studies revealed that the psychological well-being of educators influenced the teaching quality and well-being of students in academic performance, thus, affecting the overall performance of the universities. Taking care of the well-being of educators is a worthwhile endeavor. Hence, promoting the well-being of educators is paramount.

According to Hang et al. (2022), well-being is a subjective concept that relates to an individual's overall assessment of their quality of life based on their criteria and emotional experiences. It is a condition in which a person is distinguished by their comfort, home life, and personal prosperity. It speaks to the total quality of a worker's familiarity and performance at work. It fosters an atmosphere that supports contentment and enables a worker to grow and realize their greatest potential for the good of the company and themselves (Sarfraz et al., 2020). According to psychological well-being theory, individual‘s psychological health depends on his/her positive functioning in certain aspects of his/her life. Individual should have positive relationship with others; should be dominant over the environment; should accept himself and his past; should have a goal and meaning in his life; should have personal development and the ability to make his own decisions. The interconnectedness of these six distinct facets constitutes the overall well-being of an individual.

According to Johansson-Hidén, Wästlund and Wallin (2023), the use of ICTs in the organization, particularly in education, to improve and innovate its processes creates stress induced by work demands, time pressure and technical problems in connection with ICT use. Despite positive aspects of ICT utilization in education, the end result is stress that is manifested in both physical and psychological symptoms, which is considered a particular threat to the educators’ psychological well-being. Thus, affecting the overall performance and productivity of the educators in delivering quality education and services to its stakeholders and may be considered a great threat in the aim of the higher education institutions to establish a technology-driven education.

It is through these reasons that the study aims to analyze further the connection between technostress creators, technostress inhibitors and the psychological well-being of tertiary educators in CALABARZON region to be the prime region with the best ICT integration practices in higher education (Region-IVA).

Generally, the study aimed to determine the correlation of technostress creators and technostress inhibitors on the psychological well-being of the educators in the state universities in Region IV-A. Specifically, the study aimed to: determine the demographic profile of the participants in terms of: age; sex; educational attainment; academic rank; years of service; and number of ICT trainings attended for A. Y. 2023-2024. Determine level of technostress creators experienced by the participants in terms of: techno-complexity; techno-invasion; techno-overload; techno-insecurity; and techno-uncertainty. Determine the level of technostress inhibitors experienced by the participants in terms of: involvement facilitation; literacy facilitation; and technical support. Determine level of psychological well-being of the participants in terms of: self-acceptance; positive relation with others; autonomy; environmental mastery; purpose in life; and personal growth. Determine if there is a significant relationship between the level of psychological well-being to the level of technostress creators and inhibitors.

Methodology

This study utilized quantitative research approach where the researcher analyzed the data obtained from the survey questionnaire. Descriptive-correlational research design was used since it involved identifying the demographic profile of the participants in terms of age, sex, educational attainment, academic rank, years of service in the institution, and number of ICT trainings attended for A.Y. 2023-2024; the level of technostress creators in terms of techno-complexity, techno-invasion, techno-overload, techno-insecurity and techno-uncertainty; the level of technostress inhibitors in terms of involvement-facilitation, literacy facilitation, and techno-support; and the level of psychological well-being of the participants in terms of self-acceptance, positive relation with others, autonomy, environmental mastery, purpose in life and personal growth. In addition, a correlational design was employed since the study determined the relationship among the said variables.

The primary sources of data were obtained from the answers of the tertiary educators from the adapted and modified research instrument used while secondary sources of data came from the different reference books, journals, articles, and other studies from various websites and printed materials which are all related to the scope of the study.

The participants of the study are the regular tertiary educators from the state universities in Region IV-A. However, from the five major state universities in the region, only four state universities allowed the researcher to obtain the necessary data and distribute research instruments. From the list of the total number of regular faculty members, the researcher then used Raosoft online calculator with ninety percent (90%) confidence level to obtain the sample size and out of 1,572 regular faculty members, only 231 was considered as part of the study which was distributed proportionately (Table 1).

Table 1
Distribution of the participants from the state universities in Region IVA

STATE UNIVERSITY	POPULATION (N = 1,572)	SAMPLE (n = 231)	PERCENTAGE (%)
SUC A	401	58	25.00
SUC B	438	65	28.00
SUC C	283	41	18.00
SUC D	450	67	29.00
TOTAL	**1,572**	**231**	**100.00**

Proportionate and purposive sampling techniques were used in gathering the necessary data to the participants. Administration of the adapted and modified research instrument was done both through personal distribution and the use of Google form during the participants' most convenient time. The statements of the modified research instrument were approved and already have corresponding validity and reliability test done by the original authors.

Statistical analysis of the data was conducted using appropriate software packages. Quantitative data from surveys were subjected to descriptive and inferential statistics such as frequency count and percentage, median, and Spearman's Rank-Order correlation to summarize responses and examine relationships between variables.

This study ensured that it adhered to all ethical guidelines in conducting research to ensure that the gathered data are all valid and credible. Since the study involves human participants, the researcher prepared an informed consent and this was distributed prior the distribution of the modified research instrument. This initiative ensured that the participants are aware of the study, and knows the possible risks and benefits they may obtain from participating the study. Through the informed consent, the researcher ensured the voluntary participation of the participants.

Results and Discussion

This section includes the discussion and analysis on the demographic profile of the participants, the level of technostress creators and technostress inhibitors of the participants, the level of psychological well-being, and the relationship between the said variables.

Demographic Profile of the Participants

Table 2 presented the demographic profile of the tertiary educators in the state universities in the region in terms of age, sex, educational attainment, academic rank, years of service and the number of ICT trainings attended for A. Y. 2023-2024.

The data shows that most of the participants are in the middle age of their career, female, taking their PhD units, are in the assistant professorial level, have been connected in the university for sixteen years and above, and majority has no ICT related training attended for this academic year.

Table 2

Demographic profile of the participants in the state universities in the region

DEMOGRAPHIC PROFILE	CLASSIFICATION	FREQUENCY (n=231)	PERCENTAGE (%)
Age	35 and below	81	35
	36 to 49	**87**	**38**
	50 and above	63	27
Sex	Male	94	41
	Female	**137**	**59**
Educational Attainment	Master's units	19	8
	Master's Degree	66	29
	PhD Units	**93**	**40**
	PhD Degree	53	23
Academic Rank	Instructor	76	33
	Asst. Professor	**92**	**40**
	Assoc. Professor	56	24
	Professor	7	3
Years of Service	5 and below	41	18
	6 to 10	65	28
	11 to 15	41	18
	16 and above	**84**	**36**
Number of ICT Trainings Attended	**None**	**79**	**34**
	One	54	23
	Two	51	22
	4 and above	47	20

Overall, the results showed that the educators in the state universities in CALABARZON region are in the middle age of their career which made them to deliver their tasks and responsibilities effectively, and it is a manifestation that they have chosen teaching as their profession which is evident in their long years of service in the university since majority of them have been connected in their respective institutions for sixteen years and above. The results also states that educators have continuous interests to advance their academic ranks since majority of them are already in the assistant professorial level leading to being a professor and this is apparent to their efforts to learn more and be capacitated further in their field of specialization since most of them are taking postgraduate degrees. However, in terms of ICT trainings attended, it revealed that majority of the educators have no ICT related trainings

which may lead to some difficulties in the implementation and utilization of ICTs in education to be at par with other well-known universities in the country and across the globe.

Level of Technostress Creators as Perceived by the Participants

Technostress creators involve institutional stressors that produce stress in individuals and are associated with use of ICT. After the analysis of the gathered data, the results revealed that the level of technostress creators as perceived by participants in terms of techno-complexity, techno-invasion and techno overload was moderate with a median of 2.00, 1.50, and 2.00, respectively. Meanwhile, the participants only have a low level of technostress in terms techno-insecurity and techno-uncertainty, with a median of 1.00 (Table 3). Overall, with a median of 1.00, the educators of the state universities in the region only have a low level of technostress in the use of ICTs in education. Therefore, it only implied that the utilization of ICTs in delivering quality education is really not a hindrance and only produce a low level of frustrations or worries in performing their tasks.

Table 3

Level of technostress creators as perceived by the participants

TECHNOSTRESS CREATORS	MEDIAN	INTERPRETATION
Techno-Complexity	2.00	Moderate
Techno-Invasion	1.50	Moderate
Techno-Overload	2.00	Moderate
Techno-Insecurity	1.00	Low
Techno-Uncertainty	1.00	Low
OVERALL	**1.00**	**Low**

Note: 1.00 – 1.74: Low, 1.75 – 2.49: Moderate; 2.50 – 3.24: High; 3.25 – 4.00: Very High

From the findings of the study, in order to keep up with the rapid advancement of new ICTs, educators must continuously update their technical skills while also suffering tension from a more complex system and higher productivity demands. Apparently, technologies are also responsible for changes in people's lives that aren't always acceptable because it disrupts personal and interpersonal relationships and even have a negative impact on their health. The use of digital technologies in modern workplaces causes stress, which is generally referred to as IT-driven stress or simply technology stress, and has frequently negative consequences for employees (Benlian, 2020).

Techno-complexity. The findings of the study revealed that there was a moderate level of technostress in terms of techno-complexity with a median of 2.00. This means that the tertiary educators are slightly frustrated because of the complexity of the ICTs they use and

because of the slight pressure they are experiencing in upgrading their skills in the use of technology. Therefore, it only showed that the continuous improvements and upgrading in the ICTs of their university was quite challenging on their part to understand and to comprehend which made them feel they need some time to study and update their technological skills.

Techno-invasion. The data for the techno-invasion showed that there was a low level of technostress among the educators in the state universities in the region with a median of 1.50. This only shows that the tertiary educators have a slight feeling that they are obliged to be constantly connected to technology regardless of the place and time due to the work demands and this made them somehow feel that ICTs invade their personal life. Thus, it implies that tertiary educators somehow felt that their non-working time was somehow invaded due to the use of ICT tools.

Techno-overload. The result for the techno-overload showed that there is a moderate level of technostress among the educators in the state universities in the region with a median of 2.00. This simply means that the tertiary educators sometimes felt that they are forced by the ICTs to do more work in a faster way that somehow changed their work habit. Therefore, with the use of ICTs, it somehow worried the educators due to the expectations to produce more outputs and to handle more tasks and responsibilities even beyond the usual in a faster pace.

Techno-insecurity. The findings for the techno-insecurity revealed that there is only a low level of technostress among the educators in the state universities in the region with a median of 1.00. This simply shows that the tertiary educators never felt that their job is at risk because of the ICT automation and/or because of the threat from other people who might have better understanding and skills in the use of ICTs. Therefore, the educators are confident enough on their current technological skills and they are not frightened on someone who knows better the use of ICT tools in their profession.

Techno-uncertainty. The findings for the techno-uncertainty revealed that there was a low level of technostress among educators in the state universities in the region with a median of 1.00. This only means that the tertiary educators are not worried because of the continuous development and constant changes in ICTS that affects their feeling of uncertainties as a user. Therefore, it only proves that the tertiary educators do not feel any frustrations with the developments and changes in the computer software and hardware of the university.

Level of Technostress Inhibitors as Perceived by the Participants

The survival of an organization depends on its ability to adopt to new technologies. Technology implementation is not simple as it changes the social performance, distresses persons and groups in the organization. An organization allocates resources to assist its staff in adjusting to the technological and societal shifts brought about by the introduction of new technology. Such organizational tools or techniques that lessen employees' technological stress are known as technostress inhibitors.

Findings revealed that the educators in the state universities in CALABARZON perceived that they were provided with high support by their respective institutions in the use of ICT tools in all aspects of technostress inhibitors, with a median of 3.00, in terms of involvement facilitation, literacy facilitation and technical support provision (Table 4). Generally, in consideration of all technostress inhibitors, the educators were provided with good and high support in the use of ICT tools in education through the conduct of different programs and activities to continuously capacitate their technological skills. Therefore, it only implied that state universities in CALABARZON have initiatives to really mitigate the level of stress of the educators related to the use of ICT tools.

Table 4

Level of technostress inhibitors as perceived by the participants

TECHNOSTRESS INHIBITORS	MEDIAN	INTERPRETATION
Involvement Facilitation	2.50	High
Literacy Facilitation	3.00	High
Technical Support Provision	3.00	High
OVERALL	**3.00**	**High**

Note: 1.00 – 1.74: Low, 1.75 – 2.49: Moderate; 2.50 – 3.24: High; 3.25 – 4.00: Very High

Involvement facilitation. With a median of 2.50, the result for the technostress inhibitors in terms of involvement facilitation showed a high level which means that the tertiary educators often felt that their organization often consult and involve them before the actual implementation or any changes in the use of ICT tools. Hence, the participants really have this feeling of involvement since they are highly encouraged by their respective universities to utilize and explore the use of ICT tools in education and that they are indeed involved in the actual implementation of these technologies.

Literacy facilitation. The result for the technostress inhibitors in terms of literacy facilitation showed a median of 3.00 and interpreted as high. This means that the tertiary educators in the state universities in the region often felt that their organization provides them

with proper orientation, documentation and knowledge sharing and support about ICT tools. Therefore, it only implied that state universities in CALABARZON encourages and fosters the sharing of ICT-related knowledge within the organization through the conduct orientation, trainings on the use of ICT tools, and demo-teaching and knowledge sharing from the ICT experts of the university.

Technical support provision. The findings for the technostress inhibitors in terms of technical support provision showed a high level as well with a median of 3.00. This means that the state universities in the CALABARZON have good performance in providing its users with different ICT support activities that leads to the solution of ICT problems through their competent technical support staff. Therefore, it only showed that the university has good technical support operated by qualified and skilled ICT personnel and that the aid and assistance are accessible to the tertiary educators.

Level of Psychological Well-Being of the Participants

Psychological well-being is about the positive attitude about self, effective use of opportunities, and a sense of mastery in managing environmental factors and activities. It also encompasses the high engagement in meaningful relationships with others that include reciprocal empathy, intimacy, and affection, and these are hallmarks of a healthy mind and body.

The results for the level of psychological well-being of the educators in the state universities in the region was presented in Table 5. The findings revealed that self-acceptance, positive relations, autonomy, environmental mastery, and purpose in life got a median of 3.00 and interpreted as high, and only the personal growth got a median of 4.00 and interpreted as very high. This only shows that among the aspects of psychological well-being, the tertiary educators were believed to have continuous growth and development and have a full sense of continued progress and advancement in life, which is really evident to their profession as they have to continually capacitate their selves for the benefit of their learners.

Generally, the level of psychological well-being of the tertiary educators in CALABARZON was high with a median of 3.00 which only proves that the educators have a positive attitude toward themselves, maximizes the opportunities, and have a sense of mastery in managing environmental factors and activities. They are eager to pursue personal growth, open to new experiences, recognize improvement in behavior and self over time, have a goal orientation that life has meaning, they are independent, and they regulate their behavior independently out of social pressures.

Table 5

Level of psychological well-being of the participants

PSYCHOLOGICAL WELL-BEING	MEDIAN	INTERPRETATION
Self-Acceptance	3.00	High
Positive Relations	3.00	High
Autonomy	3.00	High
Environmental Mastery	3.00	High
Purpose in Life	3.00	High
Personal Growth	4.00	Very High
OVERALL	**3.00**	**High**

Note: 1.00 – 1.74: Low, 1.75 – 2.49: Moderate; 2.50 – 3.24: High; 3.25 – 4.00: Very High

Self-acceptance. The data revealed that the participants have a high level of psychological well-being in terms of acceptance with a median of 3.00 which means that the tertiary educators often possess a positive attitude towards their selves; often acknowledge and accept multiple aspects of their selves; and often feel positive about their past life. This simply implied that tertiary educators have an optimistic view of the world, proud of their personal achievements whether big or small, and see the beauty of their past experiences with purposes and reasons that leads to their self-confidence and positive outlooks.

Positive relations. The result for the level of psychological well-being in terms of positive relations revealed a high level with a median of 3.00 which indicates that the tertiary educators often have these trusting relationships with others; are concerned about the welfare of others; are capable of strong empathy, affection and intimacy; and they often understand the give and take of human relationships. Thus, this only shows that the tertiary educators really have the ability to form warm and harmonious relationships with others and the capability to establish strong empathy and affection with others which is needed in their profession as they teach their learners the relevance of social relationship, belongingness and connections.

Autonomy. The data for the level of psychological well-being in terms of autonomy showed a high level with a median of 3.00 which shows that the tertiary educators have a positive attitude toward themselves; are often self-determining and independent; they can often resist to social pressures to think and act in certain ways; and they can often regulate behavior from within and evaluate themselves by personal standards. This only implied that the tertiary educators are independent and can make their own decisions by knowing what is important for them and not being strongly influenced by the people around them. This was actually a good trait to be passed on to their learners for them to learn on how to stand on their

own and in voicing out their opinions even if it is different from the people around them for the sake of check and balance of the situations.

Environmental *mastery*. The result for the level of psychological well-being in terms of environmental mastery showed a high level with a median of 3.00. This means that the tertiary educators have a mastery and competence in managing the environment; have a control on external activities; can make effective use of surrounding opportunities; and can often choose or create contexts suitable to personal needs and values. This only implied that the tertiary educators have the ability to manage the environment and make effective use of surrounding opportunities. The result clearly showed that they are the one in-charge of their lives and they fit very well with the people and community they belong.

***Purpose in life*.** The data for the level of psychological well-being in terms of purpose in life showed a high level with a median of 3.00 which indicates that the tertiary educators have a lot of goals in life and a sense of directedness; often feel that there is a meaning to the present and past life; and often have aims and objectives for living. Thus, an indication that the tertiary educators see their life to have purpose and meaning, have goals to be achieved and they have a sense of directedness. This is a good manifestation on their profession as they teach students to have a purpose in life, set goals to achieve and planning for the future and making it a reality.

***Personal growth*.** Findings for the level of psychological well-being in terms of personal growth revealed a very high level with a median of 4.00 which indicates that the tertiary educators have a strong feeling of continued development; can always see their selves growing and expanding; are always open to new experiences; have a strong sense of realizing their own potential; and can often see improvement in their selves and behavior overtime. Therefore, it only implied that tertiary educators really have a sense of continuous growth and development and the sense of continued progress and advancement life. It cannot be denied that as part of the teaching profession, educators are really required to undergo continued learning and professional development process not just for their sake but for the benefit as well of the learners, and this only validated one of the may responsibilities of the educators.

Relationship between the Level of Technostress Creators and the Level of Psychological Well-Being of the Participants

The relationship between the level of technostress creators in terms of techno-complexity, techno-invasion, techno-overload, techno-insecurity and techno-uncertainties and the level of psychological well-being of the educators in the state universities in CALABARZON is presented in Table 6.

Table 6

Relationship between the level of technostress creators and the level of psychological well-being of the participants

TECHNOSTRESS CREATORS	PSYCHOLOGICAL WELL-BEING	SPEARMAN RANK CORRELATION COEEFFICIENT	P-VALUE	REMARKS
Techno-Complexity	Overall	-0.224	0.001	**Reject Ho**
Techno-Invasion	Overall	-0.207	0.002	**Reject Ho**
Techno-Overload	Overall	-0.181	0.006	**Reject Ho**
Techno-Insecurity	Overall	-0.318	0.000	**Reject Ho**
Techno-Uncertainty	Overall	-0.209	0.001	**Reject Ho**

Surprisingly, all the sub variables of technostress creators in terms of techno-complexity, techno-invasion, techno-overload, techno-insecurity and techno-uncertainty were all significantly related to the overall results of the psychological well-being with a p-value of 0.001, 0.002, 0.006, 0.000 and 0.001, respectively. Therefore, Ho_3 saying that "there is no significant relationship between technostress creators and psychological well-being" was rejected.

In addition, the findings also revealed through the spearman rank correlation coefficient that all the sub variables of technostress creators were all negatively correlated to the psychological well-being of the tertiary educators. Meaning, there is an indirect or opposite relationship between the said variables. Among the technostress creators, only the techno-insecurity has a negative moderate correlation with a value of -0.318. Meanwhile, only a negative weak correlation was found on techno-complexity with a value of -0.224, techno-invasion with a value of -0.207, and techno-uncertainty with a value of -0.209. Further, only a negative low or negligible correlation was found on techno-overload with a value of -0.181.

The results emphasized that of all technostress creators, the techno-insecurity of the educators has the highest effect on their psychological well-being. This clearly implied that the lower the techno-insecurity experienced by the tertiary educators, the better their psychological well-being, and vice-versa. Likewise, aside from the techno-insecurity, the state universities must also focus on the techno-uncertainty aspect since it also obtained a low level of technostress among the tertiary educators. Thus, both can be considered as one of the factors that may greatly affect the overall psychological well-being of the tertiary educators. If the management wants to continuously improve the psychological well-being of the tertiary educators in CALABARZON, they must finds ways to eliminate the feeling of technological insecurity.

Contradict to the study of Asad *et al.* (2023), whose findings showed no significant correlation between technostress creators and the study participants' psychological well-being.

The study suggests that learners who experience technostress creators are more likely to report no sign of poor psychological well-being, including anxiety, depression, and stress. Similarly, a study by Akter and Rayhan (2019) found that technostress creators are positively related to other variables, but not to the psychological well-being of employees. Nevertheless, the research by Delmo and Dequito (2023) found that stress influences people's behavior independent of their physical condition and is the body's general response to demands, even though librarians may encounter some modest technostress producers from their profession. Academic institutions must, in turn, establish a plan for their libraries and librarians to prevent or reduce occupational stress caused by technology.

Furthermore, according to Laguador (2013), in order to foster a stress-free work environment, the administration must instruct the staff on how to use both recently acquired and purchased technology. Increased productivity and a balanced approach to professional and personal development would result from a stress-free work environment.

Overall, the results clearly implied that the technostress creators experienced by the tertiary educators significantly affect the level of their psychological well-being, negatively. Thus, can be considered as one of the factors that cause undesirable effect on the overall psychological well-being of the tertiary educators in CALABARZON.

Relationship between the Level of Technostress Inhibitors and the Level of Psychological Well-Being of the Participants

Table 7 shows the relationship between the level of technostress inhibitors in terms involvement facilitation, literacy facilitation and technical support provision and the level of psychological well-being of the participants in terms of self-acceptance, positive relation with others, autonomy, environmental mastery, purpose in life and personal growth of the educators in the state universities in CALABARZON.

Table 7

Relationship between the level of technostress inhibitors and the level of psychological well-being of the participants

TECHNOSTRESS INHIBITORS	PSYCHOLOGICAL WELL-BEING	SPEARMAN RANK CORRELATION COEEFFICIENT	P-VALUE	REMARKS
Involvement Facilitation	Overall	0.202	0.002	**Reject Ho**
Literacy Facilitation	Overall	0.262	0.000	**Reject Ho**
Technical Support	Overall	0.257	0.000	**Reject Ho**

Surprisingly, all the sub variables of technostress inhibitors in terms of involvement facilitation, literacy facilitation and technical support provision were all significantly related to the overall results of the psychological well-being of the participants with a p-value of 0.002,

0.000, and 0.000, respectively. Therefore, Ho_3 saying that "there is no significant relationship between technostress inhibitors and psychological well-being" was rejected.

In addition, the findings also revealed through the spearman rank correlation coefficient that all the sub variables of technostress inhibitors were all positively correlated to the psychological well-being of the tertiary educators. Meaning, there is a direct positive relationship between the said variables. The higher the level of the technostress inhibitors, the higher the level of psychological well-being of the participants will be. To be specific, there is a positive weak correlation between involvement facilitation, literacy facilitation and technical support provision and the psychological well-being of the educators in the state universities in the region with the values 0.202, 0.262, and 0.257. Thus, the findings revealed that there might be a significant association between the technostress inhibitors and psychological well-being, but only a feeble effect.

Considering the spearman rank correlation coefficient values, the results highlighted that literacy facilitation has the highest positive effect on the psychological well-being of the tertiary educators in CALABARZON, followed by technical support provision and the least was involvement facilitation. Thus, focusing on the mechanisms that encourages and fosters the sharing of ICT related knowledge and ICT support within the organization such as providing educators with proper orientation, professional trainings, documentation and knowledge sharing and support about ICT will actually produce a favorable outcome to the overall psychological well-being of the tertiary educators in CALABARZON.

The study findings is supported by the research of Abdullah, Amin, Hang and Hussain (2022) saying that technostress inhibitors such as literacy facilitation, technical support provision, and involvement facilitation are the organizational mechanisms expected to reduce techno-stressors' negative effects on employees' well-being. Their study showed that technostress inhibitors such as literacy facilitation and technical support provision have significantly and positively affected the employee's well-being. The results imply that technostress inhibitors, as organizational resources, positively contribute toward employees' well-being. It is also in line with the study of Ragu-Nathan *et al.*, (2008) saying that the organizational resources known as the technostress inhibitors are anticipated to perform two tasks; (1) they have a favorable relationship with the welfare of the workforce, (2) they serve as boundary conditions to mitigate the damaging impacts of technological pressures on employee's well-being. Likewise, according to Ma *et al.*, (2021) these technostress inhibitors lessen the negative impact of technological stresses on workers' wellbeing. They include things like giving staff members technical training relevant to the system, assisting staff members in troubleshooting issues and incorporating them in creating and putting into place systems that can guarantee the effective execution and deployment of the new system. These are actions that foster confidence and raise employees' confidence in new systems implemented in the organizations.

Overall, the results clearly implied that the technostress inhibitors as perceived by the tertiary educators significantly and positively affect the level of their psychological well-being. Thus, can be considered as one of the factors that may cause desirable effect on the overall psychological well-being of the tertiary educators in CALABARZON.

Final Considerations/Conclusions

With the findings of the study, the following conclusions were written:

As to the demographic profile of the participants, the data showed that most of the participants belonged to thirty-six to forty-nine (36-49) years old, female, taking their PhD units, are in the assistant professorial level, have been connected in the university for sixteen years and above, and majority has no ICT related training attended for this academic year. Thus, it only implied that the tertiary educators are female who are in the middle age of their career and see teaching a serious profession as they invest on professional growth and development through pursuing further studies which helped them upgrade on their academic ranks.

As to the participants' perceptions in the use of ICTs in education, the tertiary educators in the region generally experienced a minimal level of technostress on technology. Therefore, it only implied that the utilization of ICTs in delivering quality education is really not a hindrance and only produce a low level of frustrations or worries in performing their tasks.

Taking into account the technostress inhibitors, tertiary educators received good and high support in using ICT tools in education through various programs and activities aimed at continuously enhancing their technological skills. Therefore, it only implied that state universities in CALABARZON have initiatives to really mitigate the level of stress of the educators related to the use of ICT tools.

As to the psychological well-being of tertiary educators, it was characterized by a high degree of self-acceptance, positive relationships, autonomy, environmental mastery, and life purpose, with the exception of a very high degree for personal growth. This simply demonstrates that the tertiary educators were thought to be in a state of constant growth and development with a strong sense of personal advancement. This is particularly true given their profession, which requires them to continuously better themselves for the benefit of their students.

The results for the correlation between the level of psychological well-being and the level of technostress creators demonstrated a negative significant relationship. The result also emphasized that of all technostress creators, the techno-insecurity of the educators has the highest negative effect on their psychological well-being. Thus, it can be concluded that the feeling of being threatened or anxious about losing their jobs or being replaced in their work position, either because of automation from ICTs or due to other people who have better understanding of ICTs affects negatively their positive attitude about self, effective use of

opportunities, sense of mastery in managing environmental factors and the high engagement in meaningful relationships with others.

Conversely, the correlation between the degree of technostress inhibitors and psychological well-being demonstrated a positive significant relationship. Thus, it can be assumed from the findings of the study that the better the involvement of the tertiary educators in the use of ICTs, the more capability enhancement activities to provide and conduct, and the higher the technical support to be given to the tertiary educators, the better the psychological well-being of the tertiary educators will be. Hence, the continuous conduct and provision of technostress inhibitors to ensure better psychological well-being of educators in the state universities in CALABARZON.

REFERENCES

Abdullah, M. I., Huang, D., Sarfraz, M., Ivascu, L., and Riaz, A. (2021). Effects of internal service quality on nurses' job satisfaction, commitment and performance: Mediating role of employee well-being. *Nurs. Open 8*, 607–619. doi: 10.1002/nop2.665

Akter, N., & Rayhan, R. (2019). Technostress and its impact on employee job strain and psychological distress: A study on private commercial bank employees in Bangladesh. *Journal of Financial Services Marketing, 24*(4), 105-117. https://doi.org/10.1057/s41264-019-00078-x

Asad, M. M., Erum, D., Churi, P., & Guerrero, A. J. M. (2023). Effect of technostress on psychological well-being of post-graduate students: A perspective and correlational study of Higher Education Management. *International Journal of Information Management Data Insights*, *3*(1), 100149. https://doi.org/10.1016/j.jjimei.2022.100149

Benevene, P., De Stasio, S., and Fiorilli, C. (2020). Well-being of school teachers in their work environment. Front. Psychol. 11, 1–4. doi: 10.3389/fpsyg.2020.01239

Benlian, A. (2020). LSE Business Review: Can technology stress at work impair partnerships at home? https://blogs.lse.ac.uk/businessreview/2020/09/23/cantechnology- stress-at-work-impair-partnerships-at-home/

Calif, C. B., & Brooks, S. (2020). An empirical study of techno-stressors, literacy facilitation, burnout, and turnover intention as experienced by K-12 teachers. Computers & Education, 157, 103971.

Delmo, C. A., & Dequito, E. (2023). A Study on the Work-Life Balance, Technostress Creators and Psychological Well-Being of Librarians. *Library Philosophy and Practice*.

Dong, Y., Xu, C., Chai, C. S., & Zhai, X. (2020). Exploring the structural relationship among teachers' technostress, technological pedagogical content knowledge (TPACK),

computer self-efficacy and school support. The Asia-Pacific Education Researcher, 29(2), 147–157.

Estrada-Muñoz, C., Vega-Muñoz, A., Castillo, D., Müller-Pérez, S., & Boada-Grau, J. (2021). Technostress of Chilean teachers in the context of the COVID-19 pandemic and teleworking. International Journal of Environmental Research and Public Health, 18(10), 5458.

Estrada-Muñoz, C., Vega-Muñoz, A., Boada-Grau, J., Castillo, D., Müller-Pérez, S., & Contreras-Barraza, N. (2022). Impact of Techno-Creators and Techno-Inhibitors on Techno-Stress manifestations in Chilean kindergarten directors in the context of the COVID-19 pandemic and teleworking. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.865784

Hang, Y., Hussain, G., Amin, A., & Abdullah, M. I. (2022). The moderating effects of technostress inhibitors on Techno-Stressors and Employee's Well-Being. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.821446

Johansson-Hidén, B., Wästlund, E., & Wallin, S. (2023). Reflecting on ICT and stress: conceptual connections and a suggested application. In Human IT. Karlstad: Karlstad University Studies. Kecklund G., & Åkerstedt, T. (1992). The psychometric properties of the Karolinska Sleep Questionnaire. Journal of Sleep Research, 1(Suppl 1), q13.

Laguador, J. (2013). Technology as a source of stress among employees: input to human resource management (a review). International Journal of Information, Business and Management. https://research.lpubatangas.edu.ph/wpcontent/uploads/2020/07/Technology- as-the-Source-of-Stress.pdf

La Torre, G., Esposito, A., Sciarra, I., & Chiappetta, M. (2019). *Definition, symptoms and risk of techno-stress: a systematic review*. *International Archives of Occupational and Environmental Health,* 92(1), 13–35. Retrieved from https://doi.org/10.1007/s00420-018-1352-1

Ma, J., Ollier-Malaterre, A., and Lu, C.-,q. (2021). The impact of techno-stressors on work–life balance: the moderation of job self-efficacy and the mediation of emotional exhaustion. Comput. Hum. Behav. 122:106811. doi: 10.1016/j.chb.2021.106811

Malolos, C., & Tullao Jr., T. (2018). Role of the Commission On Higher Role Of The Commission On Higher Education In Promoting Education In Promoting Quality Education Quality Education. *De La Salle University Animo Repository*, *1–2018*(Working Paper Series Working Paper Series er Series 2018-01-046).

Ragu-Nathan, T. S., Tarafdar, M., Ragu-Nathan, B. S., & Tu, Q. (2008). The Consequences of technostress for end users in Organizations: Conceptual development and empirical validation. *Information Systems Research*, *19*(4), 417–433. https://doi.org/10.1287/isre.1070.0165

Salazar-Concha, C., Ficapal-Cusí, P., Boada-Grau, J., & Camacho, L. J. (2021). Analyzing the evolution of technostress: A science mapping approach. Heliyon, 7(4), e06726.

Salanova, M. S., Llorens, S., Cifre, E., and Nogareda, C. (2007). NTP 730: Tecnoestrés: Concepto, medida e intervención psicosocial. Instituto Nacional de Seguridad e Higiene en el Trabajo. Available onlineat: https://app.mapfre.com/documentacion/publico/es/catalogo_imagenes/grupo.do?path=1033661

Sarfraz, M., Shah, S. G. M., Ivascu, L., and Qureshi, M. A. A. (2020). Explicating the impact of hierarchical CEO succession on small-medium enterprises' performance and cash holdings. Int. J. Finance Econ. 1–15. doi: 10.1002/ijfe.2289

Senate of the Philippines 19th Congress (2022). *Press Release - Cayetano to CHED: Give us new "earth-shaking" higher education reforms.* https://legacy.senate.gov.ph/press_release/2022/1118_cayetanoa1.asp

Tarafdar, M., Cooper, C. L., & Stich, J. F. (2019). The technostress trifecta-techno eustress, techno distress and design: Theoretical directions and an agenda for research. Information Systems Journal, 29(1), 6–42.

Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. S. (2007). The impact of technostress on role stress and productivity. Journal of Management Information Systems, 24(1), 301–328.

Teachmint. (2023). *Role of ICT in education*. Teachmint Blogs. https://blog.teachmint.com/role-of-ict-in-education/#:~:text=It%20empowers%20students%20with%20unparalleled,tools%20to%20enhance%20their%20teaching.

Vasquez-Rivera, A. M. (2019). Level of Internationalization of State Universities And Colleges (SUCS) In CALABARZON, Philippines. *International Journal of Advanced Research and Publications*, *Volume 3*(Issue 6), 200–206.