Article

The Impact of Technostress on Teacher Educators' Work–Family Conflict and Life Satisfaction While Working Remotely during COVID-19 in Pakistan

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Abstract: This study aims to examine the relationship between teacher educators' technostress, work–family conflict, and life satisfaction while working from home during the COVID-19 pandemic in Pakistan. The sample consists of 292 respondents, 151 (51.7%) male and 141 (48.3%) female teacher educators, who participated in this study. Three scales, the Technostress Scale (TS), Work–Family Conflict Scale (WFCS), and the Life-Satisfaction Scale (LS), were administered to determine the impact of demographic variables (i.e., gender, age, qualification) on teachers' technostress, work–family conflict, and life satisfaction. The findings of the study suggest a positive correlation of technostress with work–family conflict (r = 381) and life satisfaction (r = 0.449). Moreover, gender differences were found in the variables of technostress (t = −3.506, df = 290, $p \leq 0.05$), work–family conflict (t = −2.834, df = 290, $p \leq 0.05$), and life satisfaction (t = −2.916, df = 290, $p \leq 0.05$). The present research is a baseline study within the context of Pakistan to report the findings in terms of educators' technostress, keeping balance between work and life, and status of life satisfaction as a result of teaching virtually while working from home during the pandemic.

Keywords: technostress; work–family life conflict; life satisfaction; COVID-19; teacher educators

1. Introduction

The pandemic has transformed the teaching and learning process from physical settings to virtual/online modes since COVID-19 suspended all in-person activities. This transformation has instigated a learning and teaching revolution for student and teacher educators; it has been a tremendous challenge to successfully accomplish high-quality learning outcomes in online settings [1]. According to the United Nations Educational Scientific and Cultural Organization (UNESCO), the COVID-19 pandemic has negatively influenced the academic activities of around 2 billion students in 165 countries all over the world. This new online learning and teaching context appears to be a struggle for both students and teachers, with potential negative influences on physical, emotional, and economic conditions. Due to COVID-19, the most challenging and unfamiliar situation in the entire world, implementation of technological mode in the educational sector is serving as a coping approach in this perplexing situation.

The COVID-19 pandemic posed several challenges for developing countries such as Pakistan: an emerging, Islamic, pluralistic state with a 57% literacy rate; it was ranked 145 out of 187 countries on the Human Development Index (HDI) [2]. In Pakistan, universities abruptly suspended their on-campus instructional activities following the emergence of the COVID-19 pandemic in March of 2020. The termination of in-class activities redirected the attention of academia to shift to a virtual learning environment. The Higher Education

Commission in Pakistan introduced the Online Distance Learning (ODL) policy in 2021 to scaffold the learning gap of students through online education. Pakistani universities suffered this massive transformation from traditional face-to-face teaching to virtual settings to avoid the dismissal of academic activities [3]. Like other countries such as China, most Pakistani teachers took on the challenges to cope with the rapid shift to online teaching; subsequently, it required time-consuming work on virtual lesson plans, responsive learning preparation, online content presentation, and support from technical support staff [4]. This virtual transformation was a relatively new concept in Pakistani universities; university faculty adapted to online teaching relatively more promptly than those who still were not well-versed with the modern teaching technologies and were anxious to use the technology while teaching online [5]. The rapid change in learning and teaching avenues increased the struggle for teachers and academic staff to ensure there was proper use of required software along with the effective delivery of online lectures [6]. Adapting to these new learning and teaching methods includes more teacher–student coordination and flexibility in the style of gaining knowledge. Some negative consequences have also been identified, specifically in relation to well-being, including anxiety, distress, and stress due to the persistent use of web surfing, email, instant messaging, and smartphones [7].

Throughout the COVID-19 pandemic, technology use has become ubiquitous, influencing many aspects of employee attitudes and behaviors at the workplace, and, of course, employee performance is crucial to any organization's success [8]. For example, the requirement to embrace technology to demonstrate effective productivity is causing physical and emotional exhaustion among employees and adversely affects performance [9]. Research studies also indicate that the incorporation of technology into teaching and learning processes can overload individuals, cause role vagueness, disrupt patterns of work, and efforts to still advance knowledge and skills can place additional burdens on performance and efficiency for university teachers [10,11].

The struggle to familiarize oneself with learning and technology applications and the latest resources for teaching has significantly increased workloads for teachers in the face of a pandemic and this also impacts the emotional and psychological well-being of educators. For example, a survey conducted at the Yale Center for Emotional Intelligence found that five prominent emotions were experienced by teachers working in a high-tech teaching context: (1) anxiety, (2) fear, (3) worry, (4) feeling overwhelmed, and (5) grief [12]. Ref. [12] also reported that uncertain situations during the pandemic negatively influenced educators in two ways; firstly, they experienced general anxiety for themselves and their families in terms of COVID-19, and secondly, they experienced stress in relation to managing families and work while trying to simultaneously adapt to working at home using new technologies.

The present research explores the role of technostress [13] in the relationship between work–family conflict and employee life satisfaction. Work–family conflict includes the process of influence among burdens and resources from the work (or family) sphere and the individual's attitude towards family (or work) [14]. This "conflict" view is one of the approaches that exists to comprehend these relationships. Amidst the COVID-19 pandemic, teachers tended to work by integrating technology into their teaching remotely by working from home—and this may have conflicted with work–family time balance. Hence, this study aims to explore the relationship between technostress, work–family conflict, and life satisfaction [15].

2. Technostress

The concept of technostress was initially derived by [13], who described it as a modern adjustment disorder instigated by the failure to cope with new information technologies in a healthy way. Over time, the concept of technostress has been considered by researchers as technophobia, computer phobia, computer stress, and undesirable computer-related attitudes [15]. Considering technostress as an important phenomenon that aligns with the person–environment fit theory (P–E fit) [16] that proposes that there is a balance or fit between people and their environment and when this association is out of balance,

anxiety and/or stress is caused [10]. In the current study, technostress is hypothesized as a potential negative influence between a person and their environment. Technostress not only comes from the technology itself but also from the organization and its members who have instituted the demand for its use, and this could likely have an impact on the individual's utilization of technology [17].

Ref. [18] stated that teaching is one of the most hectic professions in the world due to constant changes derived from scientific and hi-tech advances that have taken place from the 1990s to the present. Currently, the responsibility of the instructor has changed from a simple knowledge transmitter to a knowledge transformer by creating a safe learning environment where technology is consumed within the teaching–learning process. Teachers tend to interact with students by addressing three main elements of the learning environment: content, pedagogy, and technology. It is considered a requirement for teachers to have command of technological pedagogical content. The advanced features of technology, and its integration into the teaching process, has increased teachers' struggle with the accessible time to keep pace with emerging technology and with the related advancement in pedagogy [19]. Moreover, teachers generally perceive technology as a tool for lesson planning and presentation, knowledge transfer, and engaging students, however, they lack sufficient skills and abilities in devising and executing these constructive uses of technology in the teaching and learning process [20]. The continuous advancement of technology exposes teachers to constant technostress as teachers do not always have the knowledge required to use the latest technologies [21]. Presently, university teaching is all based on technology integration that was not supposed to follow earlier. The lockdown of teaching institutions instigated by the COVID-19 pandemic has left teachers improvising on their own in more of an emergency situation rather than having access to quality technology supports to aid in their teaching online.

3. Work–Family Conflict

Work–family conflict takes place when family and work pressures on the individual are out of alignment, and as a result, involvement in the family and work roles is more demanding and conflicting [22]. Work–family conflict may be temporary and in times of added stress it may increase. The concept of role conflict has its foundation in the idea that personal resources, such as time and energy, are finite and that distributing more resources to one role involves allocating fewer resources to other role responsibilities [23]. Hence, individuals who engage in several roles related to family and work tend to experience more conflicting situations and stress among their roles. The experience of conflict within the same role is known as intra-role conflict (e.g., balancing household chores while being a supportive parent) and the understanding of conflict among multiple roles is called inter-role conflict (e.g., being a father and a teacher). Taking on numerous roles at the same time, it will be more challenging to accomplish each role effectively due to time demands, inadequate resources, and lack of energy, which can produce stress and anxiety [22].

Moreover, work–family conflict has been linked to a range of adverse emotional and behavioral outcomes including family discontent, family absenteeism, and meager performance in family-related roles [24]. Prior research has also found that those with a greater degree of work–family conflict had weakened individual, physical, and psychological well-being and contentment with life [25]. Within the milieu of the COVID-19 pandemic, moving work from the office to home settings could create some risks for employees due to fewer barriers, including physical ones, between work and family spheres. These risks could add to increased incompatibility between work and family life as the employee appears to be comfortable to be reached in order to manage family burdens. In addition, technology (e.g., teaching and having meetings only online) could lead to an increase in work–family conflict including longer work hours and the interruption of family activities that would usually take place outside of work [26].

4. Life Satisfaction

Emotional well-being has been described as a set of phenomena comprising emotional responses that are linked to personal areas of life fulfillment (e.g., work, leisure, family, etc.) [27]. A person who has high levels of well-being is usually contented with life, often conveys positive sentiments, and quite rarely experiences negative emotions such as melancholy, anger, and/or discontentment [28–30]. Ref. [22] explored the relationship between work–family conflict, technostress components (techno-overload and techno-invasion), and psychological well-being of 217 employees. They found that work–family conflict entirely influenced the association between techno-overload and psychological well-being, hence strongly distressing the psychological well-being of employees in the context of experience with stress generated by technology integration overload. Likewise, results were ascertained considering the intervening role of work–family conflict in the relationship between techno-invasion and psychological well-being.

5. Purpose

The purpose of the study is to: (1) investigate the relationship between teacher educator's technostress, work–family conflict, and life satisfaction while working remotely (from home) during the pandemic; and (2) examine the relationship of demographic variables with teachers' technostress, work–family conflict, and life satisfaction while working from home during the pandemic. This research contributes to the understanding of teachers' technostress while using technology in a developing country, such as Pakistan, where online teaching is a relatively new concept and universities are just beginning to set-up and offer online programs. Hence, teacher educators in Pakistan are not well-aware of digital resources and the application of technology to teach online. Therefore, the present research aims also to inform and improve the preparation of the teachers to use technology and to continue online programs.

6. Method

6.1. Participants

A cross-sectional research design was used to investigate the impact of technostress on work–family conflict and life satisfaction during the COVID-19 pandemic. The sample for the current study was obtained through purposive sampling from four universities in Pakistan. The sample (N = 292) included 151 (51.7%) male and 141 (48.3%) female teaching faculty members. Pakistani universities follow some age criteria to recruit faculty, less than thirty years for the entry position of lecturer, and above thirty for the senior academic positions. Age categories were decided according to these age criteria for recruiting faculty in the Pakistani Universities. The age group of the participants included 112 (38.4%) less than 30 years of age and 180 (61.6%) more than 30 years of age. The academic qualifications of the faculty included 71 Masters (24.3%), 80 MPhil (27.4%), and 141 PhDs (48.3%). The participants taught in either a public university 174 (59.6%) or a private university 118 (40.4%). (See Table 1)

6.2. Instruments

Technostress Scale (TS). Developed by [31], the TSS is intended to evaluate technostress on three dimensions. It has 12 items that access the key features of technostress including "Techno Overload" (4 items, $\alpha = 0.72$), "Techno-Invasion" (3 items, $\alpha = 0.68$), and "Techno-Complexity" (5 items, $\alpha = 0.71$), which reported sufficient alpha reliabilities for the current study. The questionnaire has a 5-point Likert-type scale with four possible responses ranging from 0 (Strongly Disagree) to 4 (Strongly Agree). High scores on Techno-Overload indicate role burden due to changed or enhanced technological demands on an individual level. High scorers on Techno-Invasion are more likely to experience the invasive effect of technology. Score elevation for Techno-Complexity demonstrates the individual's difficulty in technological task completion. The Cronbach alpha value of the overall scale (12 items)

for the current sample is 0.72, which shows the appropriateness of the scale in the Pakistani context [32].

Table 1. Demographic Information of Participants.

Demographic Variable	N	%
Gender		
Male	151	51.7%
Female	141	48.3
Age		
Less than 30 years	112	38.4%
Above 30 years	180	61.6%
Qualification		
Masters	71	24.3%
MPhil	80	27.4%
PhD	141	48.3%
University Type		
Public	174	59.6%
Private	118	40.4%

Work–Family Conflict Scale (WFCS). A short measure consisting of 10 items was developed by [33] for determining the work-to-family conflict (5 items) and family-to-work conflict (5 items). The scale has a 7-point Likert-type scale with responses ranging from 1 (Very Strongly Disagree) to 7 (Very Strongly Agree). High ranges of score on dimensions of work-to family and family-to-work conflict included 7–35, highlighting the increased levels of conflict. The scale's Cronbach alpha value found for the current sample is 0.70.

Life Satisfaction Scale (LS). This 5-item measure was designed by [34] to examine the general satisfaction with one's life. Possible responses are recorded using a 7-point Likert type scale that ranges from 1 (strongly disagree) to 7 (strongly agree). The summed-up score ranging within 5–9 indicates extreme dissatisfaction while score within the range of 31–35 highlights the extreme satisfaction with one's life. The scale's obtained Cronbach alpha value is 0.68 for the current sample, reflecting adequate reliability in this study [32].

6.3. Procedure

After IRB approval, the teacher educators were recruited through an email invitation. Participants were given an information sheet that provided basic details of the research and a consent form before participating in the study. An online cross-sectional survey (hosted by Google form) was disseminated to participants through the universities' administration offices. The online survey administration phase took 2–3 months to gather data from the targeted teacher educators at public and private universities in Pakistan. Along with the 3 scales described previously, a demographic information sheet was administered to gather information about age, gender, academic degree, and university type (i.e., public or private).

7. Data Analyses and Results

To address the aims of the study, data were analyzed using inferential statistics such as bivariate correlation among technostress, work–family conflict, and life satisfaction. The findings of the study suggest a positive correlation among the variables, i.e., technostress and work–family conflict (r = 0.381), life satisfaction and work–family conflict (r = 0.449), and technostress and life satisfaction (r = 0.218).

The results of means difference suggest significant gender difference in the variables of technostress (t = −3.506, df = 290, $p < 0.00$), work–family conflict (t = −2.834, df = 290, $p < 0.00$), and life satisfaction (t = −2.916, df = 290, $p < 0.00$). Female teachers indicated significantly more technostress (M = 31.55, SD = 8.20), work–family conflict (M = 21.76, SD = 7.32), and life satisfaction (M = 22.71, SD = 6.79) than their male counter-

parts (see Table 2). However, the eta squared statistic (0.02) indicated a small effect size on all variables.

Table 2. Mean difference on gender in the variables of technostress, work–family conflict, and life satisfaction during COVID-19 among teacher educators.

Variables	Male (*n* = 151)		Female (*n* = 141)			
	M	**SD**	**M**	**SD**	**T**	**Sig. (*p* < 0.001)**
TS	28.25	7.83	31.55	8.20	−3.506	0.001
WFCS	19.25	7.79	21.76	7.32	−2.834	0.005
LS	20.47	6.29	22.71	6.79	−2.916	0.004

Note: TS = Technostress, WFCS = Work–Family Conflict, LS = Life Satisfaction.

In addition, regression analysis was performed in which each of the three instruments (TS, WFCS, and LS) was independently considered as the outcome variable, with age, university type, and qualification. The result suggests insignificant gender difference after controlling for the effect of age, qualification level, and university type through collinearity statistics in regression analysis (See Table 3).

Table 3. Regression Analysis of demographic information on the variables of technostress, work–family conflict, and life satisfaction during COVID-19 among teacher educators.

Variables	β	SE	R^2	F	Collinearity Statistics	
					Tolerance	**VIF**
Age	0.106	0.061	0.018	1.807	0.972	1.028
University Type	−0.085	0.060			0.986	1.014
Qualification	−0.030	0.036			0.963	1.039

Results indicate an age group difference in the variable of technostress (t = −4.033, df = 290, *p* < 0.001). Teacher educators belonging to the older age group revealed more technostress (M = 31.38, SD = 7.37, *p* < 0.00) than the younger age group teachers (M = 27.37, SD = 8.80, *p* < 0.00). The eta squared statistic (0.50) indicated a medium effect size. There was no age group difference found in the variables of work–family conflict (t = −2.561, df = 290, *p* > 0.05) or life satisfaction (t = −1.580, df = 290, *p* > 0.05). Likewise, no significant difference was found in the university sector variable.

A one-way ANOVA was employed to determine significant differences among university degree groups (i.e., Masters, MPhil, PhD). Results show significant differences by teachers' degree level in technostress (F (2, 289) = 13.634, *p* < 0.00) and life satisfaction (F (2, 289) = 22.812, *p* < 0.00). Teacher educators with PhDs had less technostress (M = 27.70, SD = 7.67, *p* < 0.00) than educators with Masters degrees (M = 33.62, SD = 8.10, *p* < 0.00) and MPhil degrees (M = 30.27, SD = 7.93, *p* < 0.00). In addition, teacher educators with doctorate degrees had higher levels of life satisfaction (M = 23.08, SD = 4.74, *p* < 0.00) as compared to the other degree groups, MPhil (M = 22.69, SD = 6.81, *p* < 0.00) and Masters (M = 17.25, SD = 7.76, *p* < 0.00). However, no significant differences were found for the degree groups in the variable of work–family conflict (F (2, 289) = 0.837, *p* > 0.05).

8. Discussion

8.1. Teaching Life during the Pandemic

The aim of the study was to investigate the relationship between teacher educators' technostress, work–family conflict, and life satisfaction while working remotely during a pandemic. According to the results, a significant relationship was found among technostress, work–family conflict, and life satisfaction. The unforeseen circumstances of the COVID-19 pandemic have not only influenced distance learning but also increased the need for work-from-home adaptation in academia. This rapid change in the academic system has caused work-related stress for educators as these alterations have resulted in

negative psychological effects along with medical and financial crises [35,36]. For teacher educators, the key stress factors include a sudden shift into a new normal routine with home-based working, lack of digital usage training, and most often the unavailability of proper equipment for online education [37].

Online education is a comprehensive and multifaceted method of teaching and learning that involves adding meaning to the created, adapted, and uploaded learning material, allowing students to become more flexible and responsible toward their own learning [38]. However, it has been observed that online learning has failed to deliver purposeful and meaningful education, in some cases, especially during uncertain pandemic circumstances [39].

Moreover, it has seemed difficult for teachers to simultaneously fulfill the duties in their personal as well as professional lives while working from home during these same periods of uncertainty [15]. Similarly, a research investigation by [40] suggested an existence of a relationship between work–life conflict and work–life balance, but with insignificant gender differences. Further empirical work found that organizational employees irrespective of their gender prefer more family time over work, which could increase conflicts with work [41].

8.2. Gender Roles and Technostress

Research conducted in different countries including the UK, Spain, and Turkey supports the results of the current study. Empirical findings investigating teachers revealed significant gender differences in life satisfaction as female teachers seemed to be more satisfied with their lives as compared to male teachers [42,43]. It was suggested [44] that as males and females socialize, they are expected by society to cultivate and empower their roles and skills differently; therefore, following expected gender roles may positively influence life satisfaction [44].

8.3. Gender Roles and Work–Family Conflict

Previous research is also in line with the current results that found significant gender differences in the variables of technostress, work–family conflict, and life satisfaction [45]. The current findings indicated that female teacher educators were more likely to experience technostress as compared to males, and this is consistent with other research [45]. Considering gender differences, [5] reported that Pakistani female teachers' household chores and family expectations increased immensely during the lockdown. Moreover, cultural and gendered stereotypes such as household responsibilities being taken care of particularly by female teachers, along with their online classes, created supplementary responsibilities during working hours.

8.4. Gender Roles and Life Satisfaction

Research evidence prior to the COVID-19 pandemic highlighted varied findings with respect to gender difference in life satisfaction. Some findings indicate that females have had higher levels of life satisfaction than males [46–48]. On the other hand, research studies have also found high levels of life satisfaction among males in comparison to females [49,50]. Additionally, a few studies have also found insignificant gender differences in the variable of life satisfaction [51,52]. Though various factors may affect life satisfaction, with respect to gender, the relationship seems to be influenced by nationality, societal and cultural settings, and demographic variables [53].

In considering Gender Role Theory [54] within the context of Pakistan, due to traditionally prescribed gender roles by society, females are considered to be more focused on both work and family while males are mainly focused on their professional work; thus, it may become challenging for females to simultaneously fulfill their roles in family and at work in Pakistan [54]. In such circumstances, support and care from family members seem to ease the difficulty for professional working women in maintaining stability between the job and family [55]. For example, research suggests that family support is likely to be

more significant for female workers than male workers, as it reduces the probability of family–work conflict and the experience of frustration and stress [56,57].

The new normal circumstances experienced during the COVID-19 lockdown forced working women in Pakistan to take on domestic chores in professional work-from-home settings as domestic helpers were not accessible [5]. This situation may have further elevated working women's struggle to maintain an effective balance between home and work [58]. Therefore, working females in the current study may have been more prone to emotional stress than males as they dealt with work anxiety in an unpredictable economic slowdown while struggling to effectively fulfill home duties.

8.5. Teaching Levels and Technostress

The current study found that teacher educators of all backgrounds and ages had to prepare and deliver their classes from home during the COVID-19 pandemic and that likely added to the stress and workload for educators who were already struggling to keep balance in teaching, research, and service obligations [59]. On top of that, a significant challenge for university teachers has been a lack of the technological and pedagogical content knowledge (PCK) needed for teaching online [60]. Likewise, lack of training and technological support within the context of mandatory online teaching likely increased teachers' anxiety and tension, which could lead to mental and physical stress related to the use of technology [21]. In addition, according to [21], technostress seems to have had a significant negative impact on older university teachers as compared to younger ones. More research in this area should be conducted, however, as no previous research was found on the variable technostress in university teachers during the COVID-19 shutdown in terms of teaching graduate or undergraduate students.

8.6. Limitations and Future Directions

Though the present study indicated significant findings concerning the relationship between technostress, work–family conflict, and life satisfaction among teacher educators during the uncertain COVID-19 pandemic, it also contains some important limitations. One limitation includes a limited sample comprising university teacher educators only. Future research should include a focus on larger and more diversified samples and a mixed method (i.e., including both quantitative and qualitative data) approach for a clearer and more comprehensive understanding. Another limitation of the study is weak internal consistency of the life satisfaction scale. In future research, other relevant constructs can be used. In addition, future research could focus on technological affordances and preparedness of teacher educators, including gauging participants' attitudes and interests towards building a technology-rich off-campus learning environment in Pakistan.

9. Conclusions

The present study indicated that female teacher educators experienced greater adverse effects such as lack of family support, technology expertise, poor or overwhelming student turnout for online lectures, preparation time, etc., during the COVID-19 pandemic in Pakistan. Consequently, it is crucial to develop detailed policies to decrease the adverse effects of the pandemic on female teacher educators. For instance, setting up virtual chat environments where female teachers can assist each other in dealing with COVID-19 pandemic circumstances may increase psychological flexibility and resiliency. In addition, university leaders could increase training opportunities for teachers through e-mentoring, for example, so that they can effectively adapt to their assigned duties and responsibilities. Frustration and stress due to lack of technical training and work–family conflict were found to a greater degree among female teacher educators in the current research. Findings such as this demand taking precise and satisfactory proactive measures, including offering online psychological counseling, to help facilitate teachers in boosting and improving their work–family balance and well-being during the pandemic and beyond. The current study also suggests some implications for policy makers working within the educational system

in Pakistan. It is an irrefutable fact that the COVID-19 pandemic has adversely affected higher education systems all over the world and this requires a focused (re)evaluation of policies such as emergency plans for technology training and support for teacher educators to help minimize any negative effects in a shorter time period.

References

1. Vaziri, H.; Casper, W.J.; Wayne, J.H.; Matthews, R.A. Changes to the work–family interface during the COVID-19 pandemic: Examining predictors and implications using latent transition analysis. *J. Appl. Psychol.* **2020**, *105*, 1073–1087. [CrossRef] [PubMed]
2. United Nations Development Program. Annual Report. 2020. Available online: https://annualreport.undp.org/assets/UNDP-Annual-Report-2020-en.pdf (accessed on 1 January 2020).
3. Latif, A.; Sajid, I. Pakistan Closes Schools, Universities over Coronavirus. Anadolu Agency. 2020. Available online: https://www.aa.com.tr/en/asia-pacific/pakistan-closes-schools-universities-over-coronavirus/1765276 (accessed on 13 March 2020).
4. Bao, W. COVID-19 and online teaching in higher education: A case study of Peking University. *Hum. Behav. Emerg. Technol.* **2020**, *2*, 113–115. [CrossRef] [PubMed]
5. Abid, T.; Zahid, G.; Shahid, N.; Bukhari, M. Online teaching experience during the COVID-19 in Pakistan: Pedagogy—Technology balance and student engagement. *Fudan J. Humanit. Soc. Sci.* **2021**, *14*, 367–391. [CrossRef]
6. Thulin, E.; Vilhelmson, B.; Johansson, M. New telework, time pressure and time use control in everyday life. *Sustainability* **2019**, *11*, 3067. [CrossRef]
7. Salanova, M.; Llorens, S.; Cifre, E. The dark side of technologies: Technostress among users of information and communication technologies. *Int. J. Psychol.* **2013**, *48*, 422–436. [CrossRef]
8. Marchiori, D.M.; Mainardes, E.W.; Rodrigues, R.G. Do individual characteristics influence the types of technostress reported by workers? *Int. J. Hum.—Comput. Interact.* **2019**, *35*, 218–230. [CrossRef]
9. Saleem, F.; Malik, M.I.; Qureshi, S.S. Work stress hampering employee performance during COVID-19: Is safety culture needed? *Front. Psychol.* **2021**, *12*, 655839. [CrossRef]
10. Ayyagari, R.; Grover, V.; Purvis, R. Technostress: Technological antecedents and implications. *MIS Q.* **2011**, *35*, 831–858. [CrossRef]
11. Tarafdar, M.; Tu, Q.; Ragu-Nathan, T.S. Impact of technostress on end-user satisfaction and performance. *J. Manag. Inf. Syst.* **2010**, *27*, 303–334. [CrossRef]
12. Cipriano, C.; Brackett, M. Teacher, Interrupted: Leaning into Social-Emotional Learning Amid the COVID-19 Crisis. 2020. Available online: https://www.edsurge.com/news/2020-03-18-teacher-interrupted-leaning-into-social-emotional-learning-amid-the-covid-19-crisis (accessed on 18 March 2020).
13. Brod, C. *Technostress: The Human Cost of the Computer Revolution*; Addison-Wesley Publishing Company: Reading, MA, USA, 1984.
14. Bakker, A.B.; Ten Brummelhuis, L.L.; Prins, J.T.; van der Heijden, F.M. Applying the job demands–resources model to the work–home interface: A study among medical residents and their partners. *J. Vocat. Behav.* **2011**, *79*, 170–180. [CrossRef]
15. Aktan, O.; Toraman, Ç. The relationship between Technostress levels and job satisfaction of Teachers within the COVID-19 period. *Educ. Inf. Technol.* **2022**, *27*, 10429–10453. [CrossRef] [PubMed]
16. Harrison, R.V. Person-environment fit and job stress. In *Stress at Work*; Cooper, C.L., Payne, R., Eds.; Wiley: New York, NY, USA, 1978; pp. 175–205.
17. Avanzi, L.; Fraccaroli, F.; Castelli, L.; Marcionetti, J.; Crescentini, A.; Balducci, C.; van Dick, R. How to mobilize social support against workload and burnout: The role of organizational identification. *Teach. Teach. Educ.* **2018**, *69*, 154–167. [CrossRef]

18. Schildkamp, K.; Wopereis, I.; Kat-de Jong, M.; Peet, A.; Hoetjes, I. Building blocks of instructor professional development for innovative ICT use during a pandemic. *J. Prof. Cap. Community* **2020**, *5*, 281–293. [CrossRef]

19. Voet, M.; De Wever, B. Preparing pre-service history teachers for organizing inquiry-based learning: The effects of an introductory training program. *Teach. Teach. Educ.* **2017**, *63*, 206–217. [CrossRef]

20. Munyengabe, S.; Yiyi, Z.; Haiyan, H.; Hitimana, S. Primary teachers' perceptions on ICT integration for enhancing teaching and learning through the implementation of one laptop per child program in primary schools of Rwanda. *EURASIA J. Math. Sci. Technol. Educ.* **2017**, *13*, 7193–7204. [CrossRef]

21. Wang, X.; Li, B. Technostress among university teachers in higher education: A study using multidimensional person-environment misfit theory. *Front. Psychol.* **2019**, *10*, 1791. [CrossRef]

22. Riglea, S.; Rus, C.L.; Ratiu, L. The mediating role of the work-family conflict in the relationship between technostress and psychological well-being in the COVID-19 pandemic context. *Psihol. Resur. Um.* **2021**, *19*. [CrossRef]

23. Goode, W.J. A theory of role strain. *Am. Sociol. Rev.* **1960**, *25*, 483–496. [CrossRef]

24. Mihelic, K.K.; Tekavcic, M. Work-family conflict: A review of antecedents and outcomes. *Int. J. Manag. Inf. Syst.* **2013**, *18*, 15–26. [CrossRef]

25. Frone, M.R. Work–family conflict and employee psychiatric disorders: The national comorbidity survey. *J. Appl. Psychol.* **2000**, *85*, 888–895. [CrossRef]

26. Sarbu, M. The role of telecommuting for work-family conflict among German employees. *Res. Transp. Econ.* **2018**, *70*, 37–51. [CrossRef]

27. Gurin, G.; Veroff, J.; Feld, S. *Americans View Their Mental Health*; Basic Books: New York, NY, USA, 1960.

28. Kahneman, D. Objective happiness. In *Well-Being: The Foundations of Hedonic Psychology*; Kahneman, D., Diener, E., Schwarz, N., Eds.; Russell Sage Foundation: New York, NY, USA, 1999; pp. 3–25.

29. Keyes, C.L.M.; Waterman, M.B. Dimensions of well-being and mental health in adulthood. In *Well-Being: Positive Development across the Life Course*; Bornstein, M.H., Davidson, L., Keyes, C.L.M., Moore, K.A., Eds.; Lawrence Erlbaum Associates Publishers: Mahwah, NJ, USA, 2003; pp. 477–497.

30. Robitschek, C.; Keyes, C.L.M. Keyes's model of mental health with personal growth initiative as a parsimonious predictor. *J. Couns. Psychol.* **2009**, *56*, 321–329. [CrossRef]

31. Tarafdar, M.; Tu, Q.; Ragu-Nathan, B.S.; Ragu-Nathan, T.S. The impact of technostress on role stress and productivity. *J. Manag. Inf. Syst.* **2007**, *24*, 301–328. [CrossRef]

32. Creswell, J.W. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*, 4th ed.; Pearson: Boston, MA, USA, 2012.

33. Haslam, D.; Filus, A.; Morawska, A.; Sanders, M.R.; Fletcher, R. The Work–Family Conflict Scale (WAFCS): Development and initial validation of a self-report measure of work—Family conflict for use with parents. *Child Psychiatry Hum. Dev.* **2015**, *46*, 346–357. Available online: https://link.springer.com/article/10.1007/s10578-014-0476-0 (accessed on 12 June 2014). [CrossRef]

34. Diener, E.D.; Emmons, R.A.; Larsen, R.J.; Griffin, S. The satisfaction with life scale. *J. Personal. Assess.* **1985**, *49*, 71–75. [CrossRef]

35. Collie, R.J. COVID-19 and teachers' somatic burden, stress, and emotional exhaustion: Examining the role of principal leadership and workplace buoyancy. *Area Open* **2021**, *7*, 2332858420986187. [CrossRef]

36. Karakose, T. The impact of the COVID-19 epidemic on higher education: Opportunities and implications for policy and practice. *Educ. Process Int. J.* **2021**, *10*, 7–12. [CrossRef]

37. Dietrich, N.; Kentheswaran, K.; Ahmadi, A.; Teychené, J.; Bessière, Y.; Alfenore, S.; Laborie, S.; Bastoul, D.; Loubière, K.; Guigui, C.; et al. Attempts, successes, and failures of distance learning in the time of COVID-19. *J. Chem. Educ.* **2020**, *97*, 2448–2457. [CrossRef]

38. Bozkurt, A.; Sharma, R.C. Emergency remote teaching in a time of global crisis due to Coronavirus pandemic. *Asian J. Distance Educ.* **2020**, *15*, 1–6. Available online: http://asianjde.com/ojs/index.php/AsianJDE/article/download/447/297 (accessed on 30 April 2020).

39. Barrot, J.S.; Llenares, I.I.; del Rosario, L.S. Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Educ. Inf. Technol.* **2021**, *26*, 7321–7338. [CrossRef]

40. Taşdelen-Karçkay, A.; Bakalım, O. The mediating effect of work–life balance on the relationship between work–family conflict and life satisfaction. *Aust. J. Career Dev.* **2017**, *26*, 3–13. [CrossRef]

41. Pasamar, S.; Johnston, K.; Tanwar, J. Anticipation of work–life conflict in higher education. *Empl. Relat.* **2020**, *42*, 777–797. [CrossRef]

42. Fugl-Meyer, A.R.; Melin, R.; Fugl-Meyer, K.S. Life satisfaction in 18-to 64-year-old Swedes: In relation to gender, age, partner and immigrant status. *J. Rehabil. Med.* **2002**, *34*, 239–246. [CrossRef] [PubMed]

43. Fırat, Z.M.; Cula, S. The impacts of work-family conflict, family-work conflict and job satisfaction levels on teachers' overall life satisfaction. *Başkent Univ. J. Educ.* **2016**, *3*, 146–155. Available online: http://buje.baskent.edu.tr/index.php/buje/article/view/65 (accessed on 20 December 2021).

44. Matud, M.P.; Bethencourt, J.M.; Ibáñez, I. Relevance of gender roles in life satisfaction in adult people. *Personal. Individ. Differ.* **2014**, *70*, 206–211. [CrossRef]

45. Lee, Y.K.; Chang, C.T.; Lin, Y.; Cheng, Z.H. The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Comput. Hum. Behav.* **2014**, *31*, 373–383. [CrossRef]

46. Stone, A.A.; Schwartz, J.E.; Broderick, J.E.; Deaton, A. A snapshot of the age distribution of psychological well-being in the United States. *Proc. Natl. Acad. Sci. USA* **2010**, *107*, 9985–9990. [CrossRef]

47. Tay, L.; Ng VKuykendall, L.; Diener, E. Demographic factors and worker well-being: An empirical review using representative data from the United States and across the world. In *The Role of Demographics in Occupational Stress and Wellbeing*; Perrewé, P.L., Rosen, C.C., Halbesleben, J.R.B., Eds.; Emerald Publishing Limited: Bingley, UK, 2014; Volume 12, pp. 235–283. [CrossRef]

48. Jovanović, V. The validity of the satisfaction with life scale in adolescents and a comparison with single-item life satisfaction measures: A preliminary study. *Qual. Life Res.* **2016**, *25*, 3173–3180. [CrossRef]

49. Helliwell, J.F.; Putnam, R.D. The social context of well–being. *Philos. Trans. R. Soc. B Biol. Sci.* **2004**, *359*, 1435–1446. [CrossRef]

50. Goldbeck, L.; Schmitz, T.G.; Besier, T.; Herschbach, P.; Henrich, G. Life satisfaction decreases during adolescence. *Qual. Life Res.* **2007**, *16*, 969–979. [CrossRef]

51. Glaesmer, H.; Grande, G.; Braehler, E.; Roth, M. The German version of the satisfaction with life scale (SWLS): Psychometric properties, validity, and population-based norms. *Eur. J. Psychol. Assess.* **2011**, *27*, 127–132. [CrossRef]

52. Kong, F.; Ding, K.; Zhao, J. The relationships among gratitude, self-esteem, social support and life satisfaction among undergraduate students. *J. Happiness Stud.* **2015**, *16*, 477–489. [CrossRef]

53. Meisenberg, G.; Woodley, M.A. Gender differences in subjective well-being and their relationships with gender equality. *J. Happiness Stud.* **2015**, *16*, 1539–1555. [CrossRef]

54. Rajadhyaksha, U.; Korabik, K.; Aycan, Z. Gender, gender-role ideology, and the work–family interface: A cross-cultural analysis. In *Gender and the Work-Family Experience*; Springer: Cham, Switzerland, 2015; pp. 99–117. Available online: https://link.springer.com/chapter/10.1007/978-3-319-08891-4_6 (accessed on 12 March 2020).

55. Poduval, J.; Poduval, M. Working mothers: How much working, how much mothers, and where is the womanhood? *Mens Sana Monogr.* **2009**, *7*, 63–79. [CrossRef]

56. Rupert, P.A.; Stevanovic, P.; Hartman ER, T.; Bryant, F.B.; Miller, A. Predicting work–family conflict and life satisfaction among professional psychologists. *Prof. Psychol. Res. Pract.* **2012**, *43*, 341. [CrossRef]

57. Drummond, S.; O'Driscoll, M.P.; Brough, P.; Kalliath, T.; Siu, O.L.; Timms, C.; Riley, D.; Sit, C.; Lo, D. The relationship of social support with well-being outcomes via work–family conflict: Moderating effects of gender, dependents, and nationality. *Hum. Relat.* **2017**, *70*, 544–565. [CrossRef]

58. Delina, G.; Raya, R.P. Dilemma of work-life balance in dual-career couples-a study from the Indian perspective. *Int. J. Indian Cult. Bus. Manag.* **2016**, *12*, 1–27. [CrossRef]

59. Houlden, S.; Veletsianos, G. *Coronavirus Pushes Universities to Switch to Online Classes but Are They Ready?* The Conversation. 2020. Available online: https://theconversation.com/coronavirus-pushes-universities-to-switch-to-online-classes-but-are-they-ready-132728 (accessed on 29 November 2018).

60. Ching, Y.H.; Hsu, Y.C.; Baldwin, S. Becoming an online teacher: An analysis of prospective online instructors' reflections. *J. Interact. Learn. Res.* **2018**, *29*, 145–168. Available online: https://www.learntechlib.org/primary/p/181339/ (accessed on 29 November 2018).