2023

COVID-19, Mental Health, Technology Use, and Job Satisfaction Among School Psychology Trainers

Joel O. Bocanegra
Idaho State University

Jennifer Gallup
Idaho State University

Minghui Hou
Old Dominion University

Aaron A. Gubi
Kean University

Chung-Hau Fan
Idaho State University

See next page for additional authors

Original Publication Citation

Bocanegra, J. O., Gallup, J., Hou, M., Gubi, A. A., Fan, C.-H., Yang, N.-J., & Perihan, C. (2024). COVID-19, mental health, technology use, and job satisfaction among school psychology trainers. *Contemporary School Psychology*, *28*(1), 56-67. https://doi.org/10.1007/s40688-023-00449-5

Contemporary School Psychology (2024) 28:56–67
https://doi.org/10.1007/s40688-023-00449-5

COVID-19, Mental Health, Technology Use, and Job Satisfaction Among School Psychology Trainers

Joel O. Bocanegra[1] · Jennifer Gallup[2] · Minghui Hou[3] · Aaron A. Gubi[4] · Chung-Hau Fan[1] · Nai-Jiin Yang[5] · Celal Perihan[2]

Accepted: 14 January 2023 / Published online: 2 February 2023

Abstract
The COVID-19 pandemic threatens to exacerbate the school psychology personnel crisis. There is a dearth of knowledge regarding how the pandemic has impacted school psychology trainers and course delivery. In this national study, 92 school psychology trainers completed an online questionnaire regarding technological instructional changes, job satisfaction, and their own mental health well-being during the pandemic. Findings suggest that during the portion of the pandemic assessed most trainers reported that they: (a) switched from in-person instruction to primarily online instruction, (b) were mostly satisfied with their jobs, and (c) generally experienced a positive sense of well-being. Furthermore, a sizable portion of those that switched to a mixture of hybrid and online instruction during the pandemic endorsed that they are likely to continue to use these modalities after the pandemic subsides. Unfortunately, although school psychology trainers presented as generally resilient workforce during the pandemic, almost 20% participants screened positive for possible depression.

Keywords Mental health · Technology · Job satisfaction · Trainer · COVID-19

School psychology is in the midst of a personnel shortage crisis, which is not predicted to ameliorate in the near future (Castillo et al., 2014; Goforth et al., 2021). This crisis is complex and impacts both school psychology trainers and practitioners. Our inability to fully understand and solve this crisis at the graduate training level may affect our ability to train more school psychologists in order to meet the needs of K-12 grade schools (Bocanegra et al., 2022). Research suggests that this crisis has likely led to practitioners having higher caseloads (Farmer et al., 2021). School psychologists with higher caseloads have been found to be less likely to implement service provision more in-line with the National Association of School Psychologists' (NASP) comprehensive service model (National Association of School Psychologists, 2021).

Further complicating this issue, the COVID-19 pandemic likely created much instability and confusion within graduate training programs, as graduate faculty attempted to meet the educational needs of their graduate students while balancing the need for increased isolation due to quarantines. As a result of these changes, many programs likely increased the use of technology-mediated training modalities such as Zoom, Jabber, and Go-To-Meeting. The abrupt change in technology use, coupled with the stress of a pandemic and mercurial changes in policies, may have had a deleterious effect on training faculty's mental health and job satisfaction. However, it is currently unknown to what extent these changes were made and their relationship with trainers' mental health and job satisfaction. An increase in mental health difficulty and a loss of job satisfaction are often seen as correlated with increased job burnout and eventual exit from the field (Ogresta et al., 2008; Schilling & Randolph, 2021). Unfortunately, potentially due to negative stigma surrounding mental health difficulties, there is a dearth of

✉ Joel O. Bocanegra
bocajoel@isu.edu

1 Department of School Psychology and Educational Leadership, Idaho State University, 921 S 8Th Ave, Stop 8059,, Pocatello, ID, USA

2 Teaching and Educational Studies, Idaho State University, Pocatello, USA

3 Educational Foundations and Leadership, Old Dominion University, Norfolk, USA

4 Advanced Studies in Psychology, Kean University, Union and Hillside, USA

5 Department of Psychology, Utah State University, Logan, USA

scholarship regarding school psychology faculties' mental health (Victor, Schleider, et al., 2022a, b). Thus, due to the unique training circumstances during the COVID-19 pandemic and its potential impact on future training pedagogy, it is a paramount that we better explore the mental health of school psychology trainers during the pandemic and the relationship between mental well-being, technology use, and job satisfaction. Hence, in the subsequent sections, we will briefly review technology use in school psychology training programs, mental health during COVID-19, and job satisfaction.

Technology-Mediated Instruction

The use of technology-mediated instruction is not new within education. Some scholars argue that it has been used to enhance training within the field of medicine as far back as the seventeenth century (McGaghie et al., 2010). However, one of the first articles examining the use of computer-based training technology within school psychology was published in 1975 (Engin & Klien). Moreover, research and implementation within school psychology training has been slow. Some scholars contend that school psychology trainers have generally been slow adopters of computer-based training technologies (Bocanegra & Gallup, 2019). Nevertheless, scholars have recently noted the role that technologies (e.g., distance learning) may play in helping overcome some of the field's biggest challenges, such as ending the shortages crisis (Bocanegra & Gallup, 2019; D'Amato & Perfect, 2020). Research into the proliferation of online instruction in higher education, surveying only pre-pandemic usage, found that the use of distance education had increased for the 14th year in a row and had been growing faster than previous years with 31.6% of all students taking at least one distance course (Seaman et al., 2018). However, research into the outcomes associated with distance education has been largely mixed (Viola et al., 2019). Moreover, research into the usage, impact, and perception regarding distance learning within school psychology is generally lacking.

Nevertheless, a pre-pandemic exploratory study on distance education within school psychology graduate programs surveyed 233 school psychology graduate students (Viola et al., 2019). The authors defined hybrid/blended as "courses that are taught using both online technology and traditional face-to-face instruction, with no one component being more than 60%" (p.4). In contrast, they defined online courses as "courses that are offered completely online and do not meet face-to-face" (p.4). The authors found that approximately 41.3% of school psychology students reported taking hybrid/blended courses, and 43.5% reported taking online courses during their graduate training (Viola et al., 2019). Study results suggested that school psychology students: (a) viewed hybrid/blended models of distance learning as generally more favorable than solely online instruction, (b) generally expressed a greater desire for distance theoretical or foundational courses than applied courses, and (c) reported that distance courses had a positive impact on their educational progress (Viola et al., 2019). Moreover, only 18% of respondents reported that distance only courses were just as good as face-to-face courses, while 73% reported that hybrid/blended courses are just as good as face-to-face courses. A similar pattern was found for the perceived overall benefit of distance education. A significantly greater percentage of respondents reported that when weighing all the advantages and weaknesses of distance education, hybrid/blended courses were as beneficial as traditional instruction.

Similarly, recent pre-pandemic research into faculties' perception of distance education in school psychology training programs found that faculty were more supportive of distance learning for knowledge courses than courses heavy on skill development (Fischer et al., 2020). This study included 131 participants representing 93 different school psychology programs. The majority of participants (79.6%) reported at least one course being taught within their training program using distance learning technology (DLT). The vast majority (almost 90%) of participants also reported that faculty at their programs would be either highly (60.9%) or moderately (28.3%) resistant to using distance education for skill-based courses. The most cited reasons for this resistance were: (a) belief that distance learning was inappropriate for school psychology training, (b) inadequate time, and (C) inadequate training in distance learning (Fischer et al., 2020). Lastly, 48.9% of participants reported no plans for expanding online course instruction.

Similarly, a previous pre-pandemic study that examined 63 school psychology training directors' perceptions and own experiences with distance education found that the majority (73%) reported never taking a distance learning course, and only 20% of those with distance learning teaching experience reported having been properly trained (Hendricker et al., 2017). Moreover, participants also reported concerns regarding the impact of online education on program prestige and the impact of distance learning on: (a) students' skill mastery, (b) ability to apply knowledge to real world problems, and (c) potential student, faculty, and supervisor complaints (Hendricker et al., 2017). Thus, the limited pre-pandemic research identified trainers': (a) lack of training or experience with distance education, (b) perceptions regarding the appropriateness of such modalities for school psychology training, and (c) potential negative impact to programs prestige as some of the barriers to the proliferation of distance education during the pre-pandemic era.

Unfortunately, the COVID-19 pandemic hit in 2020, and many instructors were forced to abruptly switch to DLT while dealing with their own stressors and increased

isolation. Currently, there is a surprising lack of data on academicians' mental health and the impact of COVID-19 on school psychology training.

Mental Health

According to the World Health Organization (WHO; n.d.), as of April 11, 2022, the COVID-19 pandemic and its variants have been responsible for the deaths of approximately six million people worldwide and almost one million people in the USA. In addition, there has been an estimated half billion reported cases worldwide and approximately 80 million COVID-19 cases reported in the USA (WHO, n.d.). Coupled with a mass loss of life, the world has also experienced a mental health pandemic. According to a WHO press release (2022, March), there has been a 25% increase in anxiety and depression worldwide. They report that this is likely due to numerous stress factors that include increased social isolation and changes in work, decreased support from loved ones and community engagements, COVID-related fears, infection, etc.

Due to the COVID-19 pandemic and related school closures, roughly 55.1 million students across the country were affected due to the substantial change in service delivery for educators, service providers, and school psychologists alike (Kaden, 2020; McFarland et al., 2019). Children and educational service providers may have lost opportunities to socialize with their peers and may have observed family members or friends becoming sick or dying or even becoming ill with the disease themselves (Blustein & Guarino, 2020).

The deleterious impact of the COVID-19 pandemic is highlighted in a report by the CDC Foundation (2021). They found that 27% of K-12 grade teachers reported symptoms consistent with clinical depression and that 53% of teachers endorsed increased thoughts of leaving education during COVID-19 compared to before the pandemic (CDC Foundation, 2021). In addition, they found a positive correlation between increased depressive symptoms and thoughts of quitting teaching. However, the continued impact of COVID-19 and its variants on mental health is ongoing with some scholars arguing that the pandemic may magnify school psychology's personnel shortages (Song et al., 2022).

Research into mental health within academia, especially school psychology, is generally lacking. Victor, Schleider, and colleagues (2022a, b) contend that this surprising lack of scholarship is likely due to the negative stigma associated with mental health difficulties, even among applied psychology professions, such as school psychology. Please see Victor, Schleider, et al., (2022a, b) for a more in-depth discussion on this topic. Nevertheless, pre-pandemic studies suggest that academics may be a highly vulnerable group for mental health issues. For example, a study of UC Berkeley's graduate students found that approximately 37% of master's students and 47% of PhD students screened positive for depression (UC Berkeley Graduate Assembly, 2014). Similarly, an international study consisting of over 2000 graduate students from 26 countries and representing approximately 230 different institutions found that 39% of graduate students screened positive for depression (Evans et al., 2018). In contrast, the World Health Organization (2021) reports a pre-pandemic global depression rate for adults at approximately 5%. Thus, graduate students were 6 to 8 times more likely to experience depression than the general population. It has been generally found that graduate students experience significantly elevated levels of mental health issues compared to the general population.

Similarly, although there is a dearth of data, pre-pandemic research has suggested elevated levels of depression among US university faculty with one study identifying 28.3% as experiencing severe or extremely severe depression (Meeks et al., 2021). Unfortunately, there is a lack of research regarding US university faculty mental health well-being during the COVID-19 pandemic, and international research has been largely mixed. Research on Spanish university workers found average rates of depression (Salazar et al., 2021), and a Jordanian study on the impact of distance teaching during the pandemic also found average rates of depression (Almhdawi et al., 2021). Interestingly, they also found significant depression symptoms in 30.6% of professors (Almhdawi et al., 2021). In contrast, a study from the United Arab Emirates found that during the pandemic 57.4% of faculty members experienced psychiatric problems, and 33.7% experienced significant worry (Al Miskry et al., 2021).

Thus, although no study was identified that examined the mental health of school psychology faculty before the pandemic, one study was recently published that examined the mental health of faculty within applied psychology professions. This study by Victor, Devendorf, and colleagues (2022a, b) is the only known large quantitative study to examine applied psychology faculties' mental health. The recruitment for this study which examined doctoral clinical, counseling, and school psychology training program's faculty and graduate students took place from January until March 2021 during the COVID-19 pandemic (Victor, Devendorf, et al., 2022a, b). The authors examined faculty and graduate students' endorsement of undiagnosed and diagnosed mental health difficulties using dichotomous yes/no items. They found that overall, across psychology disciplines and graduate student/faculty status, participants overwhelmingly reported previous experiences with mental health difficulties (82.2% of total sample) and almost half reported a formal mental health diagnosis (47.5% of total sample). A similar pattern was found when examining only

applied psychology faculty, with an overwhelming majority reporting previous mental health difficulty (70.8% of faculty sample) and almost half endorsing a formal mental health diagnosis (40.5% of faculty sample).

In regard to school psychology, 133 school psychology faculty and graduate students at docotoral granting programs were included. The authors also found a similar pattern with an overwhelming majority reporting previous mental health difficulty (75.9% of school psychology sample) and almost half endorsing a formal mental health diagnosis (39.1% of school psychology sample). The authors reported no significant differences between mental health statuses between applied psychology specialties. However, they did find significant differences between graduate students and faculty, with graduate students reporting significantly higher rates of mental health difficulties than faculty (both diagnosed and undiagnosed). Moreover, 25.4% of the overall faculty sample reported still being impacted by mental health difficulties (Victor, Devendorf, et al., 2022a, b).

Some limitations of this study were the use of self-report dichotomous items (i.e., yes/no) and a focus on doctoral programs which excludes faculty working at non-doctorate granting school psychology programs. Future research should specifically investigate the mental health of school psychology faculty, both at doctoral and non-doctoral granting programs, and use arguably more sensitive measures to assess current mental health difficulties during the pandemic. Thus, with the potential impact of mental health difficulties, coupled with increased isolation during the COVID-19 pandemic and potential exit from the field, it is also important to better understand school psychology trainers' job satisfaction during the COVID-19 pandemic.

Job Satisfaction

The study of school psychologists' job satisfaction is important due to the deleterious impact that low job satisfaction can have on attrition (Brown & Sobel, 2021). The US News and World Report ranks school psychology as the 5th best social service type job and 24th best STEM job (US News and World Report., 2022). Similarly, pre-pandemic researchers have generally found that school psychologists tend to be satisfied with their job (Brown & Sobel, 2021). A literature review of school psychologists' job attitudes found that school psychologists generally reported between average and above average job satisfaction (Brown & Sobel, 2021). Similarly, a meta-analysis found that approximately 85% of school psychologists reported being satisfied or very satisfied with their jobs (VanVoorhis & Levinson, 2006). In contrast, job satisfaction reported by the Conference Board found that for 2006 only 47% of US workers reported being satisfied with their jobs (The Conference Board, 2021). Thus, pre-pandemic research strongly suggests that school psychologists generally experienced greater job satisfaction than the typical US worker.

A recent study of the impact of COVID-19 on practicing Canadian school psychologist practitioners found that 96.7% of respondents reported that their jobs had significantly changed due to the pandemic (Ritchie et al., 2021). Furthermore, a majority of respondents (approximately 70%) reported a significant change in work hours with 66% of those reporting a change in work hours indicated a decrease in work hours and 15.9% reporting that they had been laid off (Richie et al., 2021). Moreover, the majority of respondents reported a decrease in time spent on assessments, mental health interventions, and report writing. In contrast, they reported an increase in professional development and consultation activities. In addition, about 70% reported feeling prepared to face COVID-19-related changes in their professional role (Richie et al., 2021). In regard to job satisfaction, 72% reported changes to their job satisfaction with the majority reporting some decrease in job satisfaction. Similarly, study participants reported a general decrease in mental health well-being since the pandemic (Ritchie et al., 2021). Thus, there is currently a paucity of knowledge regarding school psychology faculties' pandemic-related job satisfaction and relationship with technology use and mental health. This information is paramount due to the importance of better understanding, normalizing, and destigmatizing mental health difficulties among academics while highlighting the potential interactions between technology use, mental health, and job satisfaction. A better understanding of these factors can lead to the implementation of increased supports and policy modifications and hopefully help to mitigate any negative technology related impacts on faculty attrition.

Purpose of Study

Due to the great technological changes and demands brought upon by the COVID-19 pandemic, it is important to better understand technological changes in training and their potential impact on school psychology training faculty. This study was conducted in February 2021 and serves as a snapshot of training faculties' functioning and potential impact on future training efforts. A better understanding of these factors may help the field better support school psychology faculty, potentially reducing job burnout, and may lead to improved strategies when mitigating such situations.

Thus, research questions were:

- What changes in teaching technology have been made by school psychology training faculty as a response to COVID-19?

- What are school psychology training faculties' beliefs about the long-term use of COVID-19 related technology changes?
- What are school psychology training faculties' job satisfaction and general well-being during COVID-19?
- Is there a perceived change in job satisfaction related to COVID-19?
- Is there a relationship between COVID-19-related changes and general well-being or job satisfaction?

Method

Participants

A total of 117 participants took part in this study. However, participants that did not complete at least 90% of the survey were excluded from the analysis. This left a final sample of 92 participants. Participants were school psychology trainers. Approximately 69.6% of final analytic sample self-identified as female. Furthermore, 87% identified as White, 6.5% African American, 3.3% Multi-racial, and 2.2% as Asian American/Pacific Islander. Furthermore, 7.6% identified as Hispanic/Latinx (please see Table 1).

Moreover, the majority of respondents reported working in a training program residing within a metropolitan or large urban area (Approximately 58.9%; please see Table 1). Respondents represented at least 72 different programs with nine respondents not providing university name and 11 additional programs having two respondents for that program. No training program reported more than two respondents within the study.

Table 1 Demographics

Variable	$N=92$
Gender	%
Male	30.4
Female	69.6
Ethnicity	%
Hispanic/Latinx	7.6
Race	%
White	87
African-American/Black	6.5
Asian/Pacific Islander	2.2
Multi-Racial	3.3
Other	1.1
Urbanicity	%
Metropolitan (> 1,000,000)	27.8
Large urban (> 100,000)	31.1
Medium urban (> 75,000)	7.8
Small urban (> 50,000)	15.6
Suburban (> 25,000)	7.8
Rural (< 25,000)	8.9
Other[a]	1.1

[a]Solely online program

Survey

This survey was adapted from a previous study on the use of technology by school psychology training faculty (please see MASKED FOR REVIEW for details regarding construction of original survey). Moreover, for both studies, online classes were defined as courses where "instruction and content are delivered solely via a computer program or an internet site, with no in-person engagement between trainer and trainee during class time" and hybrid classes were defined as classes where "course content and instruction are delivered both face-to-face and online." Moreover, for the current study, researchers removed questions not pertinent to the current study and added questions regarding changes in technology use related to COVID-19, beliefs about future use of technological changes, mental health well-being, and job satisfaction. Definitions regarding online and hybrid courses were retained. Furthermore, a literature review was conducted on extant research regarding educational technology use, job satisfaction, mental health difficulties within academia, and COVID-19-related issues within education.

New questions were created and well-being and job satisfaction scales were included based on this literature review and research content experts' feedback. Scales added for this study are the WHO-5 Well-Being Index (WHO-5) and the Short Index of Job Satisfaction (SIJS). The modified survey was piloted by sending to content experts in order to review and provide feedback. Changes were made to the survey iteratively. This process was repeated until content experts were satisfied with the quality of the revised survey. Changes made during this revision process included grammatical changes for clarity and addition of questions regarding COVID-19-related changes in job satisfaction.

WHO-5 Well-Being Index

The WHO-5 is a 5-item Likert scale that measures subjective psychological well-being that was developed by the World Health Organization and published in 1998 (Topp et al., 2015). It has been found to have good validity, has been translated into over 30 languages, and can be used as a screening tool for depression (Topp et al., 2015).

Response options for the WHO-5 are on a 6-point scale and range from *at no time* (0) to *all of the time* (5). Higher scores signify higher overall well-being. The WHO-5 can be used as a screener for depression by transforming total score into 100 by multiplying total score by four. Scores of ≤ 28 are indicative of depression (Omani-Samani et al.,

2019). An example of a question found within this scale is "I have felt cheerful and in good spirits." Previous research has found this scale to have good internal consistency (α = 0.86) and adequate test–retest validity ($r = 0.77$). Furthermore, researchers also found this scale to demonstrate inverse correlation with depression ($r = -0.70$), anxiety ($r = -0.53$), and psychological distress ($r = -0.73$) measures (Downs et al, 2017). For the current study, internal consistency was found to be excellent (α = 0.90).

Short Index of Job Satisfaction

The SIJS is a 5-item Likert scale examining respondents' purported job satisfaction. Response options are on an 11-point scale and range from *strongly disagree* (1) to *strongly agree* (11). Some items were reverse coded and had to be recoded for analysis. An example of a question found within this scale is "I feel fairly well satisfied with my present job." The SIJS was modified from Brayfield and Rothe's (1951) Index of Job Satisfaction, which has 18 items. The original version has been found to have good reliability and validity (Brayfield & Rothe, 1951). The SIJS was shortened from the original 18 items to 5 items. Previous research has found the shortened version to have good internal consistency α = 0.89 (Sinaval & Maroco, 2020). For the current study, internal consistency was found to be excellent (α = 0.91).

COVID-19-Related Changes in Job Satisfaction

Changes in COVID-19-related job satisfaction consisted of eight items on a 7-point scale ranging from *much lower job satisfaction* (1) to *much higher job satisfaction* (7). Items found in this section included "Job satisfaction change due to COVID-19-related HEALTH Concerns," "Job satisfaction change due to COVID-19-related increased isolation," and "Job satisfaction change due to COVID-19-related increased technology use." These items were created in order to identify and assess perceived changes in job satisfaction related to the COVID-19 pandemic. Due to the exploratory nature of this and the lack of research in this area, item questions were created and piloted by the research team based on: (a) a literature review, (b) researchers' experiences with training changes during the pandemic, and (C) discussions on social media, professional forums, and listservs regarding training COVID-19-related changes.

Procedure

This study was approved by the first author's Internal Review Board. This survey was distributed on February 17, 2021, through Qualtrics by email and sent to a list of previously identified school psychology trainers. This national list was created for a previous study by gathering the emails of school psychology training programs within the USA and its territories (please see MASKED FOR REVIEW for details). This process captured 1116 emails representing 246 school psychology programs. Upon receiving the email potential study participants had to read the consent page and click on *I wish to participate* before commencing the study.

According to Qualtrics data, 125 surveys were started and 117 finished. Of the 117 started, 92 were retained after meeting our inclusion criteria. Time to completion ranged from 5 to 689 min with higher time likely representing participants who left the study open and completed it after a significant amount of time elapsed. However, most participants completed the study in 7 min (mode).

Analyses

Upon gathering the data, descriptives were run and data were checked for outliers and irregularities. For quantitative questions regarding specific technological changes implemented in direct response to COVID-19, six respondents gave multiple responses. These six responses were recoded in order to ease interpretation and better represent their responses. The new categories that were created were *moved from primarily in-person and to primarily online* and *moved from primarily in-person and hybrid to hybrid and online.* Subsequently, following instrument recommendations, the WHO-5 total scores were multiplied by four in order to use as a screening measure, and a scaled score was also created by dividing the total score by the number of scale items. Moreover, the change in job satisfaction since COVID-19 was recoded into 1 (decrease since COVID-19), 2 (about the same since COVID-19), and 3 (increase since COVID-19). This allowed to more efficiently address whether there were changes in job satisfaction due to COVID-19. Lastly, descriptive and correlational analyses were run. It is important to note that all data reported within the results section of this study was gathered in February of 2021 during which most locales within the USA were under active lockdown.

Results

What Changes in Teaching Technology Have Been Made by School Psychology Training Faculty as a Response to COVID-19?

In regard to the use of technology within school psychology training programs during the COVID-19 crisis of February of 2021, 60.9% of respondents reported that their training programs had at least one course taught solely online. Furthermore, of those that reported at least one course taught solely online, the median response was that approximately

80% of their program was currently online with the most common (mode) response being approximately 100% of their program.

In regard to the most common technological changes in instructional delivery made in response to COVID-19, the top three most frequently endorsed were *moved from in-person classes to primarily online classes* (58.1%), *moved from in-person classes to primarily a mixture of hybrid and online classes* (19.4%), *and moved from in-person to primarily hybrid classes* (10.8%). Please see Table 2.

What Are School Psychology Training Faculties' Beliefs About the Long-Term Use of COVID-19-Related Technology Changes?

In regard to the percentage of responses that moved to hybrid classes during the pandemic, 27.3% reported greater than 50% probability that they would continue to use such technology after the pandemic subsided. In fact, no respondent reported zero percent probability of not using it in the future after COVID-19 subsided. Please see Fig. 1.

In regard to those that switched to primarily online classes, 18.8% reported greater than 50% probability to continue to use online technologies after the pandemic subsided with 19% reporting zero possibility that they would continue to use online instruction as the primary form of instruction after COVID-19. Please see Fig. 2.

In regard to those that switched to a mixture of hybrid and online classes, 30% reported greater than 50% probability to continue to use it after the pandemic subsided with 15% reporting zero possibility that they would continue to use a mixture of hybrid and online instruction as the primary form of instruction after COVID-19. Please see Fig. 3.

What Are School Psychology Training Faculties' Job Satisfaction and General Well-Being During COVID-19?

In regard to well-being (WHO-5) and job satisfaction (SIJS) scaled scores, we found: (a) that participants reported experiencing a general sense of well-being approximately 50% of the time (WHO-5; $M = 2.6$, $SD = 1.06$) and (b) that they had a generally high rate of job satisfaction (SIJS; $M = 8.0$, $SD = 2.13$). However, based on the WHO-5 depression screener transformation, we also found that 19.6% of participants screened positive for depression.

Table 2 Technological changes in instructional delivery made in response to COVID-19

Variable ($n = 92$)	%
Moved from in-person classes to primarily online classes	58.1
Moved from in-person classes to primarily a mixture of hybrid and online classes	19.4
Moved from in-person to primarily hybrid classes	10.8
Moved from hybrid to primarily online classes	3.2
Moved from primarily in-person and hybrid to online	2.2
Moved from primarily in-person and hybrid to primarily online and hybrid	2.2
No technological changes were made	1.1
Other	3.2

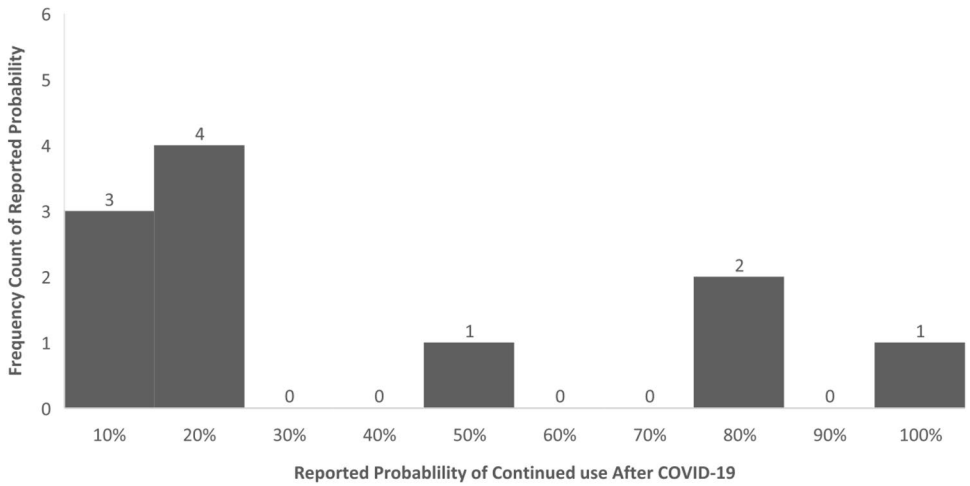

Fig. 1 Frequency Count of Reported Probability of Continued use After the COVID-19 Pandemic: Hybrid Instruction

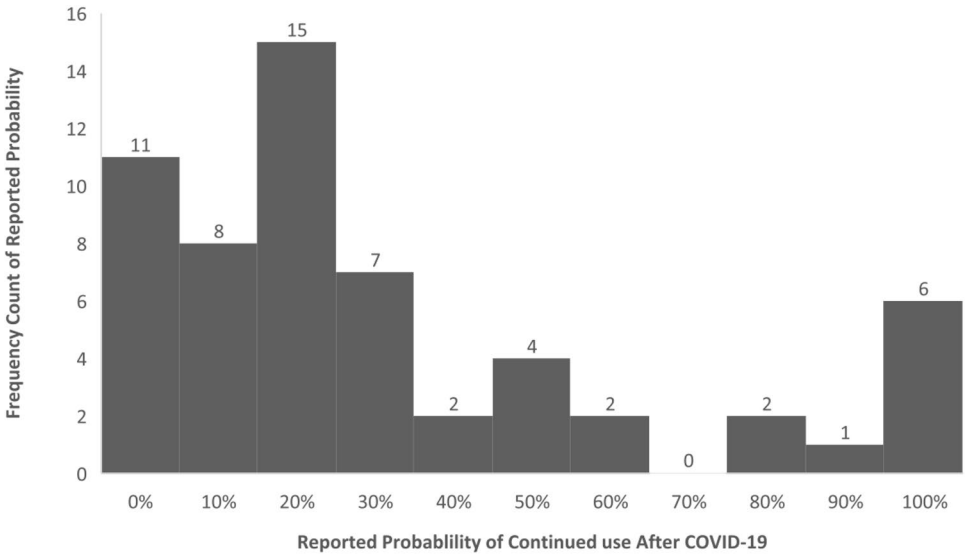

Fig. 2 Frequency Count of Reported Probability of Continued use After the COVID-19 Pandemic: Primarily Online Instruction

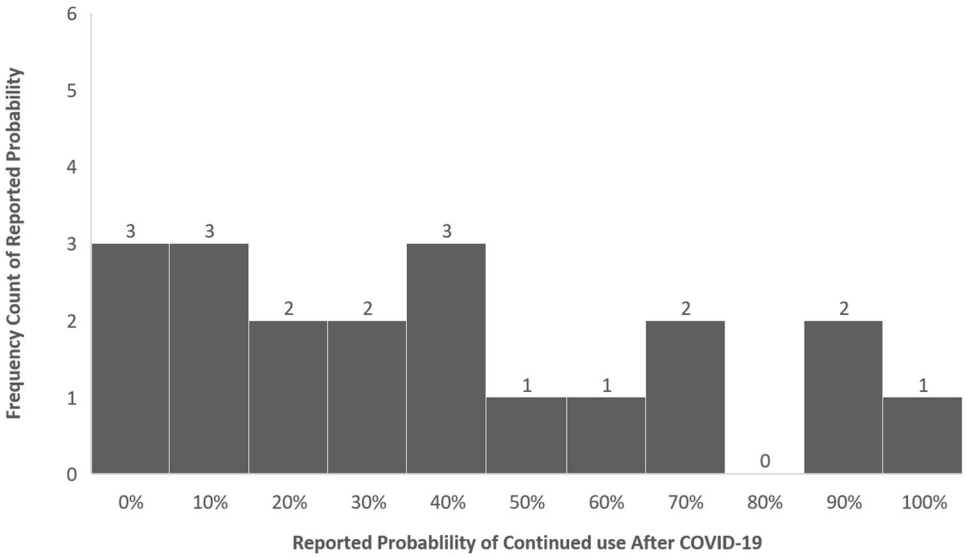

Fig. 3 Frequency Count of Reported Probability of Continued use After the COVID-19 Pandemic: Mixture of Hybrid and Online Classes

Is There a Perceived Change in Job Satisfaction Related to COVID-19?

As previously mentioned, response options for this measure were recoded from a 7-point scale to a 3-point scale (i.e., decreased since COVID-19, about the same since COVID-19, and increased since COVID-19) in order to increase interpretability. In regard to changes in job satisfaction perceived by participants as a result of COVID-19-related changes, we found that: (a) 47.8% of respondents reported a decrease due to the influence of health concerns and 45.7% reported no change, (b) 58.7% reported a decrease due to increased technology use and 23.9% reported no change, (c) 70.3% reported a decrease due to increased isolation and 22% reported no change, (d) 64.1% reported a decrease due to training modification/changes and 27.2% reported no change, (e) 54.3% reported a decrease due to funding cuts and 45.7% reported no change, (f) 34.8% reported a decrease due to salary decrease furloughs, etc. and 64.1% reported no change, and (g) and 71.4% reported a decrease due to decrease in student contact and 25.3% reported no change. Please see Table 3.

Is There a Relationship Between COVID-19-Related Changes and General Well-Being or Job Satisfaction?

In regard to the relationship between COVID-19-related changes, and job satisfaction and well-being scaled scores, respondents that reported greater well-being or greater job

Table 3 Reported COVID-related factors influencing job satisfaction change and correlation with WHO-5 and job satisfaction

COVID-19-related factors							WHO-5	Job satisfaction
	n	*M*	*SD*	% reporting direction of change			*r*	*r*
				Decrease	No change	Increase		
Health concerns	92	3.3	1.2	47.8	45.7	6.5	.46**	.50**
Increased technology use	92	3.4	1.4	58.7	23.9	17.4	.41**	.32**
Salary decreases, furlough, etc	92	3.4	1.0	34.8	64.1	1.1	.14	.29**
Training modification/changes	92	3.0	1.2	64.1	27.2	8.7	.40**	.37**
Funding cuts	92	2.9	1.2	54.3	45.7	0	.26*	.36**
Increased isolation	91	2.7	1.3	70.3	22	7.7	.50**	.42**
Decrease in student contact	91	2.6	1.2	71.4	25.3	3.3	.28**	.21

* $p < .05$, two-tailed. ** $p < .01$, two-tailed

satisfaction generally reported less negative impact from COVID-19-related training changes. See Table 3. More specifically the two strongest correlations between general well-being and changes in COVID-19-related changes in satisfaction were: health concerns ($r = 0.455$) and increased isolation ($r = 0.496$). This suggests that those that scored higher on general well-being also reported less negative COVID-19-related changes in job satisfaction due to health concerns or isolation. Similarly, the two strongest correlations between job satisfaction and changes in COVID-19-related changes in satisfaction were also: health concerns ($r = 0.492$) and increased isolation ($r = 0.422$). This also suggests that those that scored higher on job satisfaction also reported less negative COVID-19-related changes in job satisfaction due to health concerns or isolation.

Discussion

Limitations and Future Directions

In part due to the novel and time sensitive nature of this study, several limitations must be considered. Although attempts were made to have a more representative sample of school psychology trainers, due to the smaller sample size and low response rate, the results may not represent the views of all school psychology trainers. Similarly, due to the sensitive nature of some of the questions regarding faculties' mental health well-being, it is possible that some participants' responses were biased or that those with more significant symptomology underreported or simply chose not to participate. Moreover, due to the lack of data regarding participants' job satisfaction, technology use, and mental health well-being, there lacked representative pre-COVID-19 data that could be used for more accurate comparison. Thus, some of our findings depended on the participants' perceived changes from pre-pandemic levels, which could be biased due to memory difficulty or be colored by negative emotionality (e.g., a possible artifact of depressive or anxiety features). Lastly, trainers' job burnout was not assessed. Job burnout has been found to significantly correlate with faculty attrition (and other psychological variables) and is an important variable for future research (Maslach et al., 2001).

In addition, future studies should seek to expand the current findings using a more representative and robust sampling technique to better understand school psychology faculties' mental health well-being, job satisfaction, and technology use. Furthermore, variables such as job burnout and resiliency factors should be included in order to better understand predictors of attrition.

Conclusion

Our study, which was conducted during the same time period as Victor, Devendorf, and colleagues' (2022a, b) seminal work, helps to provide a fuller picture of school psychology faculties' mental health well-being by: (a) using validated screeners of depression and mental health well-being instead of relying on dichotomous self-reports questions, (b) including faculty from both doctorate and non-doctorate granting training programs, (c) acknowledging contextual factors and changes that took place during the pandemic, and (d) assessing its relation to job satisfaction and increased technology use. In general, we found our sample to be generally resilient during the pandemic. However, many participants still endorsed being negatively impacted by changes made during COVID-19, and significant number screened positive for possible depression. Moreover, a sizable portion of respondents reported likely continuing to use some of the technological modifications post COVID-19.

In regard to technology use, school psychology trainers appeared to transition to a greater use of technology as a response to the unique training challenges that the COVID-19 pandemic presented. More specifically, the most common technological change reported during the surveyed portion of the COVID-19 pandemic (February 2021) was

from in-person instruction to primarily online instruction, and the second most common was from primarily in-person to a mixture of hybrid and online instruction. It should be noted that this study took place when most locales within the USA were in active lockdown. Moreover, participants also reported that a sizable proportion of those that switch to a mixture of hybrid and online instruction are likely to continue to use these modalities after the pandemic subsides. A similar, but less sizable, pattern was found for those that switched to solely online instruction.

These preliminary findings suggest that the field of school psychology may have forever changed due to the pandemic with findings suggesting that school psychology trainers are likely to integrate greater use of technology into their course offerings. This potential greater use of distance learning technology and online course work, although potentially presenting new challenges may also present new opportunities. For example, the greater use of distance learning and online coursework may help combat the shortages crisis as it may help some students overcome geospatial and economic hurdles likely contributing to this shortage (Bocanegra & Gallup, 2019). Distance learning can help further grow-your-own type of initiatives in remote regions who may not have access to nearby training programs nor provide the resources to attract providers to move to isolated school districts. Unfortunately, this greater use of technology may also decrease face-to-face instruction, while increasing faculty isolation and decreasing faculties' job satisfaction and reported well-being.

In regard to trainers' reported job satisfaction and well-being, trainers reported to be generally satisfied with their jobs and generally experienced a positive sense of well-being. Furthermore, both well-being and job satisfaction were positively correlated with COVID-19-related changes in job satisfaction due to: health concerns, technology use, isolation, and training modifications. Thus, individuals who reported greater well-being or job satisfaction also generally reported positive changes in job satisfaction due to COVID-19-related changes. Inversely, those that reported lesser well-being or job satisfaction reported decreased job satisfaction due to health concerns, increased technology use, isolation, etc.

Unfortunately, almost 20% of participants screened positive for possible depression. This suggests that although the school psychology trainers proved resilient, one in five trainers may be at risk for depression. Although this number is higher than ideal: (a) when compared to pre-pandemic graduate student and US faculty depression data (approximately 39% and 28.3%, respectively), (b) taking into consideration that there was approximately a 25% increase in depression worldwide due to the pandemic, (c) and that approximately 27% of K-12 grade teachers reported clinically symptoms of depression, and (d) then it can be argued that school psychology trainers have been largely resilient.

Nevertheless, when compared to Victor, Devendorf and collegues (2022a, b) data which was gathered during the same time period, our study found a lower rate of mental health issues. However, this difference between data could be due to differing school psychology samples and mental health difficulty assessment methodology. For example, our study screened for present symptomology of depression, while their study used participants' self-endorsement of mental health difficulty. Nevertheless, much more research needs to be conducted in order to better understand trainers' resiliency, mental health difficulties, and its impact on the shortages crisis and future practice.

Moreover, if the field of school psychology does transition to greater use of distance learning technology, efforts should be made in order to combat the potential increased isolation that could degrade trainers' purported well-being and job satisfaction. A decrease in well-being and satisfaction may in turn increase job burnout, thus potentially worsening the shortages crises due to attrition issues or worsening faculty productivity. Hence, programs that choose to continue or expand the use of distance learning technology after COVID-19 pandemic subsides should take a measured approached and weigh the potential proximal benefits of increased technology use with its potential long term deleterious effect on faculty retention. Lastly, the potential mental health stigma associated with trainers of applied psychological disciplines must be addressed and represents a promising area of advocacy and research.

Data Availability Data is available upon request.

Declarations

Conflict of Interest The authors declare no competing interests.

References

Al Miskry, A. S. A., Hamid, A. A., & Darweesh, A. H. M. (2021). The impact of COVID-19 pandemic on university faculty, staff, and students and coping strategies used during the lockdown in the United Arab Emirates. *Frontiers in Psychology, 12*, 1–9. https://doi.org/10.3389/fpsyg.2021.682757

Almhdawi, K. A., Obeidat, D., Kanaan, S. F., Hajela, N., Bsoul, M., Arabiat, A., ... & Alrabbaie, H. (2021). University professors' mental and physical well-being during the COVID-19 pandemic and distance teaching. *Work*, 69(4), 1153–1161. https://doi.org/10.3233/WOR-205276

Blustein, D. L., & Guarino, P. A. (2020). Work and unemployment in the time of COVID-19: The existential experience of loss and fear. *Journal of Humanistic Psychology, 60*(5), 702–709. https://doi.org/10.1177/0022167820934229

Bocanegra, J. O., Gubi, A. A., Zhang, Y., Clayson, E., Hou, M., & Perihan, C. (2022). Upending the shortages crisis: A national survey of school psychology recruitment. *School Psychology, 37*(2), 97–106. https://doi.org/10.1037/spq0000486

Bocanegra, J. O., & Gallup, J. (2019). Virtual training platforms within school psychology. In A. Fischer, T. A. Collins, E. H. Dart, & K. C. Radley (Eds.), *Technology applications in school psychology consultation, supervision, training*. Routledge.

Brayfield, A., & Rothe, H. (1951). An index of job satisfaction. *Journal of Applied Psychology, 35*(5), 307–311. https://doi.org/10.1037/h0055617

Brown, T. J., & Sobel, D. (2021). School psychologists' job attitudes: A systematic review. *Contemporary School Psychology, 25*, 40–50. https://doi.org/10.1007/s40688-019-00241-4

Castillo, J. M., Curtis, M. J., & Tan, S. Y. (2014). Personnel needs in school psychology: A 10-year follow-up study on predicted personnel shortages. *Psychology in the Schools, 51*(8), 832–849. https://doi.org/10.1002/pits.21786

CDC Foundation (2021). *Mental health impact of the covid-19 pandemic on teachers and parents of K-12 students.* https://www.cdcfoundation.org/mental-health-triangulated-report?inline

D'Amato, R. C., & Perfect, M. (2020). History of the future of proactive school psychology: Historical review at our 75th APA anniversary to transcend the past, excel in the present, and transform the future. *School Psychology, 35*(6), 375–384. https://doi.org/10.1037/spq0000420

Downs, A., Boucher, L. A., Campbell, D. G., & Polyakov, A. (2017). Using the WHO–5 Well-Being Index to identify college students at risk for mental health problems. *Journal of College Student Development, 58*(1), 113–117. https://doi.org/10.1353/csd.2017.0008

Engin, A. W., & Klein, I. R. (1975). The effectiveness of a simulation technique as an integral part of a school psychology training program. *Journal of School Psychology, 13*(3), 171–184.

Evans, T. M., Bira, L., Gastelum, J. B., Weiss, L. T., & Vanderford, N. L. (2018). Evidence for a mental health crisis in graduate education. *Nature Biotechnology, 36*(3), 282–284.

Farmer, R. L., Goforth, A. N., Kim, S. Y., Affrunti, N., Naser, S. C., Lockwood, A. B., & Affrunti, N. (2021). Status of school psychology in 2020: Part 2, professional practices in the NASP membership survey. *NASP Research Reports*.

Fischer, A. J., Moy, G., Bloomfield, B. S., Whitcomb, S., & Florell, D. (2020). Faculty perceptions of distance education in school psychology training. *Trainer's Forum: Journal of the Trainers of School Psychologists, 37*(1), 34–43.

Goforth, A. N., Farmer, R. L., Kim, S. Y., Naser, S. C., Lockwood, A. B., & Affrunti, N. W. (2021). Status of school psychology in 2020: Part 1, demographics of the NASP membership survey. *NASP Research Reports, 5*(2), 1–17.

Hendricker, E., Saeki, E., & Shannon, V. (2017). Trends and perceptions of distance learning in school psychology. *Trainers' Forum, 34*(2), 37–69.

Kaden, U. (2020). COVID-19 school closure-related changes to the professional life of a K–12 teacher. *Education Sciences, 10*(6), 165. https://doi.org/10.3390/educsci10060165

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology, 52*(1), 397–422. https://doi.org/10.1146/annurev.psych.52.1.397

McFarland, J., Hussar, B., Zhang, J., Wang, X., Wang, K., Hein, S., Diliber ti, M., Forrest Cataldi, E., Bullock Mann, F., and Barmer, A. (2019). The Condition of Education 2019 (NCES 2019–144). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved [date] from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2019144.

McGaghie, W. C., Issenberg, S. B., Petrusa, E. R., & Scalese, R. J. (2010). A critical review of simulation-based medical education research: 2003–2009. *Medical Education, 44*, 50–63. https://doi.org/10.1111/j.1365-2923.20009.03547.x

Meeks, K., Peak, A. S., & Dreihaus A. (2021) Depression, anxiety, and stress among students, faculty, and staff. *Journal of American College Health*, 1–7. https://doi.org/10.1080/07448481.2021.1891913

National Association of School Psychologists. (2021). Improving school and student outcomes: the importance of addressing the shortages in school psychology [handout].

Ogresta, J., Rusac, S., & Zorec, L. (2008). Relation between burnout syndrome and job satisfaction among mental health workers. *Croatian Medical Journal, 49*(3), 364–374. https://doi.org/10.3325/cmj.2008.3.364

Omani-Samani, R., Maroufizadeh, S., Almasi-Hashiani, A., Sepidarkish, M., & Amini, P. (2019). The WHO-5 Well-Being Index: A validation study in people with infertility. *Iranian Journal of Public Health, 48*(11), 2058–2064.

Ritchie, T., Rogers, M., & Ford, L. (2021). Impact of COVID-19 on school psychology practices in Canada. *Canadian Journal of School Psychology, 36*(4), 358–375.

Salazar, A., Palomo-Osuna, J., de Sola, H., Moral-Munoz, J. A., Dueñas, M., & Failde, I. (2021). Psychological impact of the lockdown due to the covid-19 pandemic in university workers: Factors related to stress, anxiety, and depression. *International Journal of Environmental Research and Public Health, 18*(8), 4367. https://doi.org/10.3390/ijerph18084367

Schilling, E. J., & Randolph, M. (2021). Voices from the field: Addressing job burnout in school psychology training programs. *Contemporary School Psychology, 25*(572–581), 1–10. https://doi.org/10.1007/s40688-020-00283-z

Seaman, J.E., Allen, I.E., & Seaman, J. (2018). Grade increase: Tracking distance education in the United States. https://www.bayviewanalytics.com/reports/gradeincrease.pdf

Sinval, J., & Maroco, J. (2020). Short index of job satisfaction: Validity evidence from Portugal and Brazil. *PLOS ONE 15*(4) https://doi.org/10.1371/journal.pone.0231474

Song, S. Y., Wang, C., Espelage, D. L., Fenning, P. A., & Jimerson, S. R. (2022). COVID-19 and school psychology: Research reveals the persistent impacts on parents and students, and the promise of school telehealth supports. *School Psychology Review, 51*(2), 127–131. https://doi.org/10.1080/2372966X.2022.2044237

The Conference Board. (2021). Job satisfaction 2017. https://www.conference-board.org/pdfdownload.cfm?masterProductID=27278

Topp, C. W., Østergaard, S. D., Søndergaard, S., & Bech, P. (2015). The WHO-5 Well-Being Index: A systematic review of the literature. *Psychotherapy and Psychosomatics, 84*(3), 167–176.

U.S. News and World Report. (2022). School psychologist overview. https://money.usnews.com/careers/best-jobs/school-psychologist

UC Berkeley Graduate Assembly (2014). *Graduate student happiness and well-being report.* http://ga.berkeley. edu/wellbeingreport

VanVoorhis, R. W., & Levinson, E. M. (2006). Job satisfaction among school psychologists: A meta-analysis. *School Psychology Quarterly, 21*(1), 77–90. https://doi.org/10.1521/scpq.2006.21.1.77

Victor, S. E., Devendorf, A. R., Lewis, S. P., Rottenberg, J., Muehlenkamp, J. J., Stage, D. R. L., & Miller, R. H. (2022a). Only human: Mental-health difficulties among clinical, counseling, and school psychology faculty and trainees. *Perspectives on Psychological Science, 17*(6), 1576–1590.

Victor, S. E., Schleider, J. L., Ammerman, B. A., Bradford, D. E., Devendorf, A. R., Gruber, J., ... & Stage, D. R. L. (2022b). Leveraging the strengths of psychologists with lived experience of psychopathology. *Perspectives on Psychological Science*, *17*(6), 1624–1632.

Viola, S., Saeki, E., & Hendricker, E.N. (2019). Distance education in graduate training programs: Lessons learned from school psychology students. *The Journal of Educators Online, 16*(2).

World Health Organization (n.d.). *WHO Coronavirus (COVID-19) Dashboard.* https://covid19.who.int/

World Health Organization (2021, September 13). *Depression.* https://www.who.int/news-room/fact-sheets/detail/depression

World Health Organization (2022, March). *COVID-19 pandemic triggers 25% increase in prevalence of anxiety and depression worldwide.* https://www.who.int/news/item/02-03-2022-covid-19-pandemic-triggers-25-increase-in-prevalence-of-anxiety-and-depression-worldwide

Joel O. Bocanegra graduated with a Ph.D. in educational psychology with a concentration in school psychology from the University of Wisconsin-Milwaukee. He is a licensed psychologist and school psychologist. He is an Associate Professor in the Department of School Psychology and Educational Leadership at Idaho State University. His research interests include diversity, recruitment, training issues, system change efforts, mental health, and technology use.

Jenn Gallup is an Associate Professor at Idaho State University. She publishes and disseminates research in the area of Autism and effective integration technologies such as video games, simulations, virtual environments, and robotics that support and develop interpersonal relationships and soft-skills required for STEM careers. She specifically focuses her research on adolescents and young adults with Autism. Finally, Dr. Gallup utilizes innovative technology such as Bug-in-Ear to coach and support rural and remote teachers across Idaho. Dr. Gallup is passionate about helping individuals with disabilities through the many transitions in life by helping educators harness the power of technology.

Minghui Hou is a Ph.D. candidate in higher education at Old Dominion University. Her research focuses on international and comparative higher education, student mobility, racism, diversity, equity, and inclusion, and student development. Specifically, her work focuses on international students' multifaceted identities and agency in the transnational context. She is currently serving as Communications Coordinator at the Council on International Higher Education in the Association for the Study of Higher Education. She also serves on the editorial board for the Journal of Comparative & International Higher Education.

Aaron A. Gubi Ph.D., is a licensed psychologist and certified school psychologist, and is an Assistant Professor in the Department of Advanced Studies in Psychology at Kean University. His research interests include examining trauma-informed care practices and diversity issues in school and child-clinical psychology training and practice.

Chung-Hau (Howard) Fan Ph.D., NCSP, is a professor in the Department of School Psychology and Educational Leadership at Idaho State University. His current research focuses on improving response-to-intervention (RTI) methodologies, including reduction of measurement error for progress monitoring and systemic troubleshooting for effective RTI implementation. Other areas of interest include school-wide positive behavior support, special education leadership, behavioral consultation training, nondiscriminatory cognitive assessment with cross-cultural students, and autism spectrum disorders.

Nai-Jiin Yang is a doctoral student attending the school psychology program at Utah State University. Her research interests include behavioral consultation and implementation of evidence-based interventions in areas of behavioral and mental health services in school settings.

Celal Perihan is an Assistant Professor in the Department of Teaching and Educational Studies at Idaho State University. He earned his Ph.D. in Educational Psychology with special education specialization from Texas A&M University and joined the faculty at Idaho State University in 2018. His research, teaching, and service focus on students with or at risk for emotional/behavioral disorders (EBD) and autism spectrum disorders (ASD). Specifically, he investigates school-based evidence-based practices for internalizing behavior problems.