Novice K-12 Online Teacher Support

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The purpose of this study was to explore how novice online K-12 teachers in Arizona described the influence of organizational, interpersonal, and intrapersonal leader support on their psychological needs. To address the study purpose the author used qualitative descriptive design; using questionnaires and semi-structured interviews, the study sample included 39 novice K-12 online teachers in Arizona. The author used Support for Teachers' Psychological Needs (STPN) as the theoretical framework. Using Reflexive Thematic Analysis (RTA), nine themes emerged from the data that provide insight into specific leader supports in the K-12 online setting. Many organizational, interpersonal, and intrapersonal supports mimic brick-and-mortar findings. However, new supports were uncovered such as, teacher-to-student organizational supports and online communication best-practices. Recommendations included three practical ways that K-12 online leaders can increase competence, autonomy, and relatedness among their staff. This research adds to the existing body of work surrounding supports for teachers' psychological needs by expanding its focus to the online K-12 setting. Additionally, this research was unique for its focus on novice teachers as defined by having less than 4 years of experience in the K-12 online setting.

Keywords: online teachers' psychological needs, surveys of online teachers, new online teacher support, interpersonal leadership

INTRODUCTION

K-12 education in the online setting continues to grow in popularity (Molnar et al., 2019) and this study adds to the research to account for potential changes and specific needs of novice virtual teachers. The results of this study provide information to future leaders of K-12 online schools about organizational, interpersonal, and intrapersonal support for novice teachers' psychological needs. This study includes the perspective of novice K-12 teachers in the online modality and provides recommendations to future leaders regarding best practices. Supporting the psychological needs of brick-and-mortar teachers is known to increase motivation and job commitment, which in turn has positive effects on student outcomes (Haydon et al., 2018; Sorensen & Ladd, 2020). With a focus on K-12 online teachers' descriptions of leader support for their psychological needs, this study expanded the information available to leaders of this growing setting. Lastly, a review of research showed that leader support for psychological needs increases teacher motivation (Ford et al., 2019; Skaalvik & Skaalvik, 2018) and curbs turnover (Podolsky et al., 2019). Turnover is costly, and lack of leader support is a highly reported reason that teachers cite for leaving the profession (Diliberti et al. 2021; Glazer, 2018; Haydon et al., 2018; Navickiene et al., 2019; Podolsky et al., 2019). Novice teachers are known to leave the profession at higher rates than experienced teachers, some studies show as many as 40% of novice teachers turnover (Michel, 2020). This research was conducted to further the discussion and information available on leader support of teachers' psychological needs through the descriptions of K-12 novice online teachers.

THEORETICAL BACKGROUND

Ford et al.'s (2019) Support for Teachers' Psychological Needs Theory (STPN) was chosen as a best fit for the current study because it is based on Self-Determination Theory (SDT) and Basic Psychological Needs Theory (BPNT) that find when autonomy, competence, and relatedness needs are met a person can maintain motivation (Deci & Ryan, 2002). The STPN theory focuses directly on the SDT fulfillment of teachers through specific leader supports in three dimensions: organizational, interpersonal, and intrapersonal. The organizational dimension supports a teachers' autonomy, competence, and relatedness needs through professional development, social structure, trust in the principal, and trust in colleagues (Ford et al., 2019). The interpersonal dimension addresses competence and relatedness through direct interactions between leaders and teachers (Olsen, 2017). Lastly, the intrapersonal dimension accounts for teacher internalization of perceptions and experiences that affect their autonomy and competence

fulfillment (Chen et al., 2015; Collie et al., 2018). All three dimensions of STPN provided a foundation for the current research to identify how novice K-12 online teachers described support of their psychological needs.

Research indicates that when leaders implement the elements of support for teachers' psychological needs, it can lead to positive outcomes. Organizational support fosters all three areas of needs satisfaction. Professional development leads to motivation and commitment through increased competence (Ford et al., 2019) and yet professional development research for K-12 online settings is still underserved (Martin et al., 2019). Enabling social structure increases autonomy motivation (Eyal & Roth, 2011), greater work commitment (Grant et al., 2019), and relatedness which leads to job satisfaction (Wijaya et al., 2020). Finally, organizational supports of trust in principal and colleagues are known to increase motivation and commitment with autonomy, competence, and relatedness needs being met (Robert Jr. & You, 2018).

The interpersonal dimension of STPN involves direct interaction between principal and teacher. Research on this topic discussed themes of all three SDT needs met through high communication (Berkovich & Eyal, 2020), positive feedback and praise (Berkovich & Eyal, 2021), and caring emotional support (Seymour, 2019) which led to increased motivation, commitment, and satisfaction at work. Lastly, the research aligned to intrapersonal STPN involved perceptions and experiences of autonomy and competence satisfaction in teachers. Gregersen et al. (2023) referred to perceptions and experiences as defining each individual's well-being. In other words, each teacher experiences the stress, and the supports in different ways. However, a literature review found that autonomy supports are perceived more beneficial than competence or relatedness for well-being as described by teachers (Lee et al., 2020). The current study added to the body of literature discussed through descriptions of K-12 online teachers regarding leader support for psychological needs.

LITERATURE REVIEW

Teaching is a stressful occupation and high stress leads to burnout and turnover (Diliberti et al., 2021; Herman et al., 2020a). With a continued teacher shortage, leaders must understand how to support teachers' needs in order to increase motivation and commitment. New teachers are at the most risk for stress and turnover, and have higher needs of support (Glazer, 2018). Teachers in the online K-12 setting have higher rates of turnover than in traditional classrooms (Larkin et al., 2018). Furthermore, less is known about effective support for the K-12 online teacher setting (Farmer & West, 2019).

Stress and turnover are costly to schools, both monetarily and with student academic outcomes (James & Wyckoff, 2020; Sorensen & Ladd, 2020). However, educational researchers have documented encouraging trends for local education agencies seeking to develop new policy, finding that well supported teachers are more motivated and committed to stay (Berkovich & Eyal, 2021; Seymour, 2019). Teachers report that instructional supports (Jackson et al., 2019) and highly supportive principals (Grissom & Bartanen, 2019) not only increase commitment and decrease turnover intentions, but also champion psychological needs which increases self-efficacy (Ford et al., 2019). This research study expanded the focus of support for teacher psychological needs by adding the perspective of novice teachers in the K-12 online setting.

Administrators support for teacher psychological needs were found to yield positive outcomes, such as lower stress and higher commitment (Ford et al., 2019; Herman et al., 2020; Lee et al., 2020). These researchers studied the phenomenon in a traditional classroom setting and used quantitative methods to correlate support with stress and commitment. The discussions of future research also articulated a need to expand the research to different settings and gather more in-depth information to uncover other ways that leaders can support teachers' needs.

A review of both quantitative and qualitative studies of online teachers revealed that the virtual setting requires both varied supports and differentiation in needs when compared to traditional teaching (Borup & Stimson, 2019; Hebert, 2018; Moreira-Fontan et al., 2019). In a study of K-12 online teacher needs conducted by Farmer and West (2019), the findings also varied greatly from teacher to teacher. This may have been due to a small sample size with a large range of teacher experience. For this reason, the researchers added a suggestion that new studies focus on novice online teachers specifically to narrow in on the needs of a similar group by experience. A second reason found in literature showed teachers new to the profession had higher rates of turnover (Michel, 2020) and needed more individual support (Kaplan, 2021). The online setting continues to change, and the roles of online teachers and leaders evolve with the nuance and variation in needs from a rapidly increasing clientele base. The study informed knowledge by confirming support and finding a need for some shifts in supports, as online education continues to evolve. Post-secondary research confirmed similar findings that online and traditional teachers report different needs (Martin et al., 2019). Leader support for online teachers in preparation, use of technology, and experience in the online setting impact teacher well-being (Martin et al., 2019). There was a need to continue this work in the K-12 setting to determine how novice K-12 online teachers described the supports for their psychological needs today.

METHOD

Participants and procedure

The population of interest for the study consisted of K-12 teachers in Arizona who also teach at least one online class and have 0-3 years of experience teaching online. To reach the sample needed for the study, I used non-probability convenience sampling, by recruiting from five K-12 online school organizations and posting two flyers on social media teacher organization pages. Potential participants were given a link to a short questionnaire and an option to be contacted for a follow up interview.

Thirty-nine teachers completed the questionnaire fully and ten of those teachers completed an interview via Zoom. The sample profile is shown in Table 1. This study sample, though small, aligned with the demographics of teachers in Arizona. The Arizona Department of Education Teacher Workforce report (2020) indicated that 76% of K-12 teachers were Female, the average age was 47 years old, and 75% of the workforce were white. Furthermore, the report showed an average teaching experience in any K-12 educational capacity of nine years. As shown in Table 1, this study had a similar profile: median age between 45-54, 74% Female, 85% White. The average years of experience in education for this sample was slightly higher than the Arizona statistic. Though teachers in this study had less than four years of online teaching, the overall years of experience in education was higher. This indicated that many teachers recently switched from in-person teaching to the online modality. This could be a lingering effect due to the 2020 pandemic shifting classes online for everyone, though that is not known to be the only explanation for the difference in experience of the sample.

Though the demographic data aligned statistically with the study population, it did not signify generalizability or transferability. Qualitative methods are not generalizable (Changyong, 2021) due to lower sample size and participant self-selection and potential bias (Stratton, 2021). Furthermore, though demographic data was collected it was not considered during coding; however, participants did discuss experiences outside of online education and referred to their years as teachers in general that did show up in coding.

The following research questions were used to guide the study and to address the problem statement: RQ1) How do novice online K-12 teachers describe the influence of organizational leader support on their psychological needs? RQ2) How do novice online K-12 teachers describe the influence of interpersonal leader support on their psychological needs? RQ3) How do novice online K-12 teachers describe the influence of intrapersonal leader support on their psychological needs?

Table 1
Participant Demographics

Gender		Age		Ethnicity		Years Experience Total (Including in-person or blended)	
Female	29	18-24	0	White or Caucasian	33	0-3	4
Male	9	25-34	9	Black or African American	2	4-9	11
Non-Binary	0	35-44	7	Hispanic or Latino	1	10-15	10
Skipped	1	45-54	11	Asian or Asian American	2	16-25	8
		55-64	10	American Indian or Alaskan	1	>25	6
		65+	0	Pacific Islander or Hawaiian	0	Skipped	0
		Skipped	2	Another Race	0		
				Skipped	0		
TOTAL	39		39			39	39

Measures

To provide in-depth insight into the research questions, interviews and questionnaires were employed. Specifically, I designed a questionnaire in alignment with the original STPN survey from Ford et al., (2019) which provided rich data from open-ended response items. Then semi-structured interviews were conducted to gather more in-depth experiences and percep-tions of teachers about organizational, interpersonal, and intrapersonal di-mensions of STPN.

I designed the interview protocol in conjunction with the questionnaire to ensure that elements were not duplicated and all aspects of STPN were present. Each questionnaire contained five open-ended questions (shown in Appendix A) and the responses produced 43 pages of single-spaced text to inform all three RQs. The semi-structured interviews consisted of 12 open-ended questions written in the protocol (shown in Appendix A), with probes and follow up questions that varied by participant. Both instruments had questions addressing all three RQs. Both the interview protocol and ques-tionnaire were vetted by peer experts of STPN theory and online leadership. The instruments were also field tested a total of seven times before recruit-ment began.

The average interview length was 49 minutes and produced 15 pages of single-spaced transcribed data. I added some body language cues to the transcripts such as (smiling) or (moved hands one after the other) to add more description of the interview meaning before analysis. One interviewee chose to keep the video camera off, and therefore facial cues were not present in the transcript. All transcripts underwent member checking before analysis began.

Analysis

I utilized reflexive thematic analysis (RTA), as defined by Braun and Clarke (2019; 2021), for analysis of both the questionnaire and interview transcripts. Open coding was done manually to ensure familiarization, immersion, and a deep understanding of how codes are created in all phases. However, transcripts were housed in MAXQDA for ease of organization. Journaling took place after each coding session and a detailed audit trail was kept. After a month-long period of familiarization with the data and pre-coding in journals, the first pass of coding through all of the questionnaire and interview transcripts resulted in 64 unique codes and 2,335 coded segments. The second full pass of coding resulted in 74 codes, 2,274 segments. Code book definitions were created for all codes which helped refine the segments into more detailed buckets. Therefore, the amount of codes grew, but the segments of text became more specific and less in number. Numerous iterations of step two of RTA resulted in a final codebook of 88 codes, with descriptive definitions, and an anchor text sample for each. There were 2,283 total coded segments of data. Questionnaires averaged 17 codes per participant and interviews averaged 163 codes per participant or 11 codes per page of transcript. The codes were then stratified into 23 categories, and lastly the categories were groups to create themes that answered the research questions.

The first five phases of RTA were utilized in cyclical fashion, as a phase was completed once, I went back to prior phases and started again with a fully iterative and reflexive approach to each step of analysis. The three research questions guided the study as the questionnaire and interviews were designed around the RQs, however, the initial coding was conducted with inductive reasoning, to first emerge organically from the data itself (Braun & Clarke, 2021). The saturation of codes was evident by interview eight. Few codes were added after interview three, and codes added after interview eight were subcodes creating more nuanced and precise meaning from the codes already in place. Figure 1 shows the flow of analysis, which lasted over 60 days.
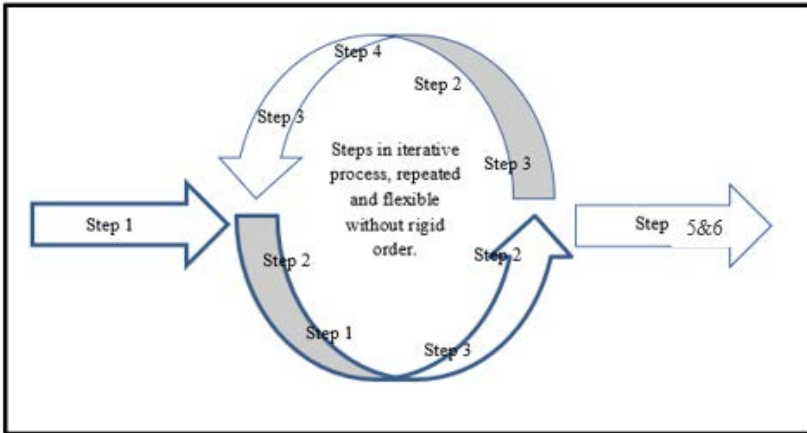
Figure 1. Research Analysis Flow.

RESULTS AND DISCUSSION

Nine themes emerged from the data. Table 2 (Appendix B) shows the frequency of coded segments, how many unique participant transcripts held each code, and how coded were grouped into categories. Table 3 (Appendix B) shows which categories were grouped together to create themes. RQ1 asked, "How do novice online K-12 teachers describe the influence of organizational leader support on their psychological needs?" and was answered by the following six themes: 1) Relevant and on-demand training influence teacher confidence and autonomy, 2) Systems and roles that allow for communication and collaboration fosters autonomy, 3) Structures built around student-to-teacher interaction provide purpose and competence, 4) Organizational structures centered on allowing more time to teach reduce frustration, 5) A leader who shows up and follows through builds trust, 6) Relatedness with other teachers influences well-being and academic confidence. RQ2 asked, "How do novice online K-12 teachers describe the influence of interpersonal leader support on their psychological needs?" which was answered by the seventh theme, 7) personalized relationships with leaders build organizational pride and allow for work life balance. Finally, RQ3 asked "How do novice online K-12 teachers describe the influence of interpersonal leader support on their psychological needs?" which was answered by the last two themes as follows: 8) Perceptions of have a voice and knowing their purpose develops pride and motivation, 9) Experiences of freedoms and being trusted influence confidence.

Theme 1: Relevant and on-demand training influence teacher confidence and autonomy

The overall findings from my study revealed that participants felt confident when they received professional development tailored to their specific roles, made available to them when they were ready to learn, and were given the time and space to improve. Participants spoke about their preparation for the job, both before they became online teachers and within their experience so far. During interviews, I probed about the participant's preparation before the first day of teaching online. Responses were very clear: there was no preparation for online teaching during college, nor was there much training from the online school site prior to the first day of school. Those who reported some summer training described that they were not ready for the information at that time, and it did not help them in starting the year. Teacher 9 noted, "I'm not ready for all that information…I need to know [info] when I need to know it." This finding aligns with what I found in Qadhi et al.'s (2020) study, which concluded that when hiring novice teachers, leaders cannot rely on prior training. One participant did complete their student teaching online, but that was only due to the pandemic and their lead teacher had "zero experience in the virtual environment." Prior research has also supported the notion that online teachers were less likely to be prepared because student teaching and college programs did not include online training (Archibald et al., 2020; Rice, 2017). The results of this study indicate that this issue remains relevant even today.

This makes on-the-job professional development an essential aspect of organizational support. The results of this research found that the content and timing of training influenced confidence. Though many participants reported having frequent professional development, they also reported not being ready for the information when it was delivered. Furthermore, interviewees described attending required trainings that were for their brick-and-mortar colleagues which were irrelevant, or for things they already knew how to do. Teacher A19 wrote, "I would much prefer professional development that was tailored to our specific technological needs." Contrarily, when feelings of confidence and autonomy were expressed, the teachers in the study described training that provided choice of content as well as training that was online and available anytime. One participant even referenced pulling up the training video often and sharing it with other teachers. Kaplan's (2021) research showed that lack of choice in training led to autonomy suppression, and therefore elements of choice should be included. This study confirmed that providing choice in training influenced autonomy, especially when coupled with on-demand availability.

Teachers also described types of content they found relevant, which could assist an organization in procuring the choices. Many of the responses pertained to technology training support, specifically focused on online feedback to students. Teacher A29 also described needing more technology support, stating "I struggled" with all the essential technological aspects of the job. This finding aligned to Farmer and West (2019) who found that online teachers needed more training for technology. However, other prior research focused on novice teachers needing classroom management training (Redding et al., 2019). This was not the case in the current study. The participants did not talk about classroom management as an issue, in fact they spoke about how in online classrooms distractions are less, and that they can simply turn off mics or place kids in separate online rooms, making classroom management a non-issue. These findings aligned with Martin et al., (2019) that online teacher preparation is different from traditional teacher needs.

Last, this study confirmed that professional development support not only includes providing training, but also allowing time and space to try new things (Ford et al., 2019). Teacher T2 explained that one must "learn by doing" and be provided with opportunities and time to try things "over and over again," Teacher T8 added. Overall, teachers reported that their confidence and autonomy improved over time simply by learning from experiences. Some participants even expressed that being given a specific time or compensation to develop the skills was appreciated.

Theme 2: Systems and roles that allow for communication and collaboration foster autonomy

The study confirmed that collaborative social structure, a term derived from literature, is a critical attribute of an effective K-12 online setting. However, an added finding was that campus leadership developed systems that operate specifically within a virtual setting to support the needs of teachers remotely. Teachers showed an appreciation for online platforms as a viable method of expressing specific requirements for their online classroom, and this in turn fostered autonomy since they found independent and collaborative ways to meet their own needs without the perceived feeling that they were overcommunicating with the principal or school leadership. Structures such as online communication threads and platforms for principal communication, as well as leader-identified technology experts, counselors, and administrative assistants as outlets for concerns and needs, created a norm to collaborate with one another. Eighteen unique teachers described having access to structures and systems that allow them to communicate easily with each other. Teacher A1 explained, "My team has a chat we keep

going daily" and a live folder "to share resources." These structures or systems were available at all times and teachers describe utilizing them frequently. Teacher A4 added that the availability of coworkers was a "huge asset to working online" and it was helpful to know that they "can get a response anytime." This evidence indicates that social structure is derived from the existence of norms and structures for communication and interaction amongst teachers (Ford & Ware, 2018).

Based on teacher feedback, this research found that dedicated direct communication platforms for each type of need was a helpful and specific social structure for online teachers.

Formal collaborative structures within a K-12 online school also provide teachers with autonomy and efficacy. Online schools within this study showed evidence of initiating collaborative meetings, teacher-led committees, and teacher leadership roles. These structures, as implemented by campus leadership, allowed teachers to hone their craft in an online setting or allowed teachers to develop individual efficacy within the campus. Fourteen teachers described being involved in school level decisions or having team-based schools, often using positive adjectives about those structures. Teacher A12 wrote that "being involved" in the leadership team was when their confidence was "highest." With 59 coded segments from 28 unique participants, one of the most common formal collaborative structures occurring in the data was teacher to teacher meetings, or PLCs. Richardson et al. (2020) found that PLCs for online faculty resulted in teachers supporting each other. While the online schools in this study confirmed this assertion, schools that lacked structures for PLCs showed evidence of isolation and feelings of distrust amongst teachers, as evidenced by feedback from participants. Owen (2016) linked teacher well-being to PLC practice, and the evidence, feedback statements describing isolation and distrust, indicate that the opposite could be true when PLCs are ineffective or nonexistent.

Theme 3: Structures built around student to teacher interaction provide purpose, relatedness, and competence

While the STPN theory this study was based on does not concern itself with student relationships, the data yielded student to teacher interaction as an organizational support contributing to online school effectiveness. Teachers working in online schools with formalized systems for student to teacher interaction described pride and purpose when working with students. Structures for student interaction such as field trips, "fun Friday," supply pick up, and face-to-face testing and tutoring yielded positive feelings from teachers.

Participants placed importance on teacher to student relationships, and they also described a sense of gratitude towards principals and organizations that formalized these experiences or communicated a process to deepen the

educational relationship with students. The study indicated teachers show concern for their students, and the remote nature of online schools may contribute to this sense of concern. Participants described leaders or principals, who sought information on behalf of teachers in regard to student well-being, helped to contribute to overall teacher well-being as they could work knowing that a student was in an acceptable state of care.

Participants even described simpler structures, like student profiles that allow a teacher to discern critical information about their students, such as likes and dislikes. A pervasive experience found in most participant feedback is that teachers felt confident in their work performance when students kept their cameras on for live sessions. Such as Teacher T5 stating, "I am motivated when all students have their cameras on." Aldrup et al. (2017) found that relationships with colleagues were not as important as relationships with students and overall feelings of competence. While this study did not evaluate the effect of teacher-to-teacher relationships versus student-to-teacher relationships, the results present a critical value on positive student relationships being an indicator of teacher satisfaction. This was most evident in online schools where organizational structures fostered student relationships.

Theme 4: Organizational structures centered on allowing more time to teach do reduce frustration

Novice K-12 online teachers benefitted from resources that are both reliable and provide choice, as evidenced by the results of the study. Examples of preferred resources included the learning management system, physical resources, supplemental programs, and the online curriculum provided by the online school. Teachers described having access to a reliable LMS and having access to all of the programs they needed to successfully teach online as being contributors to their workplace satisfaction. The results confirmed research by Skaalvik and Skaalvik (2018) that the availability of quality resources positively affects teacher motivation, and conversely stress is induced when teachers experience a lack of quality resources (Navickiene et al., 2019). Novice teachers also described policies and systems that contribute to their overall workload as a source of stress and frustration. One example derived from the feedback is an ineffective curriculum. When a curriculum is rigid or outdated, it requires the teacher to recreate aspects of the lesson delivery, and this in turn contributes to teacher frustration and stress. Additionally, time-consuming, or difficult to navigate online systems, also contributed to stress and frustration.

Policies and required tasks from the school level were also a part of the results of this study centered around this theme. Policies deemed beneficial by participants include small class sizes and independence in teacher work

time and location. This aligned to Skaalvik and Skaalvik (2018) research that reducing the workload of teachers and giving time to complete mandatory tasks were positive ways that administrators could increase motivation and decrease stress. A unique finding of this study was that participants described feeling supported by an attendance policy enforced by the online school, and conversely, participants described feelings of frustration when they perceived a lack of consistent follow through on student attendance. One participant wrote, "I feel best when all students show up and participate." When principals and campus leadership put time and effort to communicate with families about student absences and missing work, some of the participants described this as relieving stress as it gave them insight into the whereabouts of the students, and it conveyed the administration had knowledge about their students.

Participants in the study outlined feedback on schoolwide systems that contribute to higher stress and frustration, most notably in policies and systems that take time away from teaching. These items included larger class sizes, tedious administrative tasks and paperwork, and superfluous meetings. Teacher A28 stated, "I spend significantly more time on administrative tasks and data analysis than I do interacting with students." Glazer (2018) reported that teachers described themselves as successful but left the profession due to policy implementation causing them stress and concern. While this study did not explore teacher intent to leave the profession, the stress and frustration suggested by Glazer (2018) was seen in participant responses regarding concern over policies viewed as detrimental to teacher time.

Finally, as K-12 online schools have fewer face-to-face interactions with students and other teachers, the communication systems were unique to the remote platform and required consideration on the part of the organization and the teacher. The constraints of distance learning hinder communication between teachers and students, parents, and other teachers (Farmer & West, 2019). Electronic delivery must be more precise and accurate to avoid being misunderstood in the absence of non-verbal cues experienced during in-person communication, as found by Richardson et al (2016), and this researcher found evidence to support this notion. Some participants provided information wherein they received training and routine feedback about their communication with students, and this was described as helpful to reduce issues and allow them to focus more on planning for learning.

Theme 5: A leader who shows up and follows through builds trust

Participants within the study described structures within the online classroom that allowed the principal or leadership to be present at all times. Structures such as chat rooms, popping into live class streams, and working

on tasks to support teachers behind the scenes, are all practices teachers expect of principals or campus leadership. This confirms Lambersky's (2016) finding that teachers expected principals to be present in classrooms and provide feedback. Additionally, this study confirmed research that a principal's frequency of communication (Newman & Ford, 2021) and a principal's responsiveness to teachers (Hoy & Tschannen-Moran, 1999) helped to create trust between campus leadership and teachers. Participants showed that teachers still expect these behaviors, even when it is not happening, and participants further described the unique ways principals and campus leadership overcame the constraints of distance learning to be present in the online classroom. One participant responded, "My admin are always around… [they] are very active in our [school chat] page, cheering us on and responding to comments, questions, and concerns."

Teachers also perceived trust in a principal when they were reliable and competent at their job (Ford et al., 2019). Participants in the study provided descriptions of online leaders who show follow through and show support for classroom teachers. By completing tasks as a campus leader on behalf of the classroom teacher, a principal shows competence and positively affects trust in the organization. Participants additionally described principals who provide useful feedback and principals who are knowledgeable of classroom teacher strengths and weaknesses. Participants who described principals who lack these traits showed a desire for useful feedback and knowledgeable campus leadership. The results also showed that teachers trusted leaders who were aware of students, families, and other challenges and handled the issues collaboratively with the teacher when they arose. Trust that exists in both directions between teachers and leaders is derived from distributed leadership, as confirmed by teacher respondents to Seelig and McCabe (2021). The results of this study showed that principals who are perceived to be visible, competent, and capable of follow through are also perceived as respecting teacher time and acknowledging teacher ability.

Theme 6: Relatedness with other teachers influences well-being and academic confidence

A prominent trend in results from this study suggests that teacher-to-teacher relationships influence well-being and academic confidence. Novice K-12 online teachers spoke of improved personal well-being and increased professional support by utilizing formal and informal methods of teacher interaction. Teachers who described feeling connected and making friends at work, similarly, described constant interaction among coworkers. This confirmed other research that bonding with colleagues increased commitment (Grillo & Kier, 2021) and decreased job stress (Bottiani et al., 2019).

According to participants in this study, mentorships served as a formal system that provides an individual with at least one strong, ongoing interaction with another teacher. The mentors were often described as "extremely helpful" and "indispensable." Teacher T4 furthered the accounts by saying they built a "genuine organic relationship…where I don't feel like I'm being critiqued or judged" and continued that the mentor was there for "support" without connection to administration. The literature review showed that mentors helped assimilate new teachers to the online setting and offered encouragement which reduced stress (Kraft & Blazar, 2018; Larkin et al., 2018; Storandt et al., 2012). Confirming prior research, participants in this study described their mentors as essential to their ability to perform effectively, and notably, it allowed classroom teachers the ability to seek support without fear of having to ask campus leadership for help. Data from this study suggests that mentors were most effective when they operated in a mentorship role full-time, as they were designated to help new online teachers and readily available to provide support in the virtual setting. Furthermore, designated, full-time mentors were not evaluative while also possessing institutional knowledge within the school, as well as content or level knowledge to assist the novice online teacher.

Additional data described by participants in this study regarding relatedness among teachers was the implementation of structures or systems that contribute to the ability of teachers to support one another beyond formal mentorships and PLCs. These formal structures were a new finding within this study. Structures described by participants included peer evaluations and peer feedback. Teacher T7 even described the ability to "pop into somebody else's classroom" with the click of a button. Teachers could support one another by going into another teacher's virtual classroom or even reviewing another teacher's feedback log. These practices allowed teachers to help themselves or the other teacher to improve without the stressful process of a formal evaluation. Furthermore, these practices were described as helpful and empowering, and participants posited that this was a safe structure for teachers to improve their craft with help from a colleague. Teacher A13 exclaimed, "there are opportunities twice a year for peer evaluations!" and Teacher A21 said, "The best feedback I get is from other teachers in the online world…co-workers." Teacher A29 acknowledged that the "support of my colleagues… has gone a long way in helping me feel capable."

Theme 7: Personalized relationships with leaders build organizational pride and allow for work life balance

The results of the data demonstrated that the theme is centered around participant descriptions showing that leaders not only listened intently and offered availability routinely, but leaders showed care for teachers as individuals. Research situated in brick-and-mortar schools holds similar findings that leaders who acknowledged and validated teacher success and

provided encouragement and emotional support for areas of growth, lowered stress and increased job commitment (Grillo & Krier, 2021; Lambersky et al., 2016; Redding et al., 2019; Tran et al., 2018; Van den Berge et al., 2014). Novice K-12 teachers participating in this study described leaders who celebrated success, forgave missteps, checked-in proactively, and cared for them personally. Respondents' descriptions were followed by comments suggesting increased commitment, lowered stress, and not having to choose between work and personal life. Participants in the study commented on loving their jobs and feeling confident when a principal or campus leader positively recognized them or proactively noticed their need for assistance or compassion. Teacher A24 wrote, "I feel most confident when I hear what I am doing good." Teacher T10 furthered to say that the principal was not just "responsive" they "validate exactly how I'm feeling." Ford et al., (2019) described interpersonal leader support as any direct interactions between teacher and leader that result in increased autonomy, competence, or relatedness fulfillment. According to this study, principals who proactively conveyed personal care for teachers and routinely made themselves available for direct help also increased belonging and lowered stress for novice K-12 online teachers.

Theme 8: Perceptions of ownership and purpose provide pride and motivation

Results of this study suggest that teachers take pride in school team involvement, appreciate decision making power, and seek purpose in their roles. Emerson et al., (2012) researched collaborative governance in schools and found that it built legitimacy and commitment, while Wijaya et al., (2020) found it also increased job satisfaction. The results of this study suggest that the perception of collaboration within an online school setting is a key contributing factor in increasing pride and motivation among online teachers. Participants described feelings of pride and motivation when they felt their opinions were valued by campus leadership and they felt they were a part of the process, regardless of the variance in campus systems and structures from school to school. Teacher T3 spoke of bringing up issues and appreciating that their "principal…are actively participating in the conversation." And Teacher T10 spoke of the leader valuing their thoughts and seeing collaboration modeled saying, "this is a reflection of my [leader], they involve us teachers a lot." A few participants described the experience of sharing feedback and meeting with leaders, knowing that it would result in little or no impact. The results of this study further posit that online school leaders truly foster commitment when initiating valid collaboration and implementing actions in response to teacher input and feedback.

Secondly, the internal teacher voice that spoke of purpose and organizational value was an intrapersonal support for motivation. Teachers described their role in student success, engagement, and well-being as motivators for doing the work. This aligned with known research that a large part of a teacher's motivation is intrinsic (Ford & Ware, 2018) and built on the good work they are performing for students. Additionally, leaders who empowered teachers increased autonomy and motivation (Eyal & Roth, 2011; Kanat-Maymon et al., 2020). This study confirmed that this type of distributed leadership was perceived as ownership and being valued in the K-12 online setting.

Theme 9: Experiences of freedoms and being trusted influence confidence

The results of this study found that teachers who experienced choice, creativity, and autonomy described confidence and growth in their own competence. This finding was in line with current research in school leadership. A leader who provided opportunities for choice and promoted self-starters was found supportive of autonomy needs (Deci et al., 2001; Ebersold et al., 2019). Furthermore, principals who were perceived to allow teachers increased control in their job, were also found to positively associate with teacher organizational commitment (Collie et al., 2018), and result in higher teacher engagement (Sokmen & Kilic, 2019). This study results held no exception. Teachers described being able to choose what and how they teach daily as something they love about their job.

In contrast, teachers who were unable to change aspects of the job were frustrated and overwhelmed with inadequacies and the time it took to make them better. This finding confirmed the researcher by Farmer and West (2019) that a lack of control over content or online platforms is another unique concern of virtual teaching and even the technology itself created a need for more time to adjust. Teachers described pride in themselves, yet at the same time that the restrictions on their freedom of choice were a source of stress. Teacher T7 went as far as to say "unfortunately, we have lost the ability to [create]. We're just basically regurgitating the lesson." When teachers do not have freedom or control over content, they lost confidence and purpose and feel discredited.

Finally, this study also concluded that novice K-12 online teachers found many internal and external supports to help them outside of the organization. Teachers described using the internet to find help, trying new things, and learning from the process, and even venting to family or others outside when they needed to find motivation to try again. The resilience of teachers and the drive to be the best for students coupled with wanting freedoms, choices, and trust from the organization. They overall described that as

novice K-12 online teachers they want to do what is best and will work extra to make sure that happens, but if choices and freedoms are not afforded by the organization it is self-defeating and they do not feel like good teachers.

PRACTICAL IMPLICATIONS

Current leaders of K-12 online schools can benefit from practical examples of leader support for novice K-12 teachers' psychological needs in the online setting. Leaders who use this report to improve their understanding of best practices will profit from implementing the supports found for teachers with increased motivation and pride in the school.

Findings showed that teachers benefitted from open communication online along with collaborative structures both for governance and informal collaboration. Leaders of online schools should be informed that novice teachers reported having dedicated teacher mentors was essential. Professional development may need to be different with online schools, and leaders should utilize the technology of the school to ensure that PD is relevant and on-demand. Though much of the findings surrounding trust in leadership and intrapersonal supports are not new, a leader can benefit from these findings by noting the specific online supports and how current trusted leaders built close relationships with staff from a distance. As leaders of K-12 online schools become more informed about best practices as described in this study, their teachers will be more motivated, proud, and committed to doing their best for the school and students.

RECOMMENDATIONS

This study utilized qualitative methods to fill a problem space in literature. Future studies could return to quantitative methods or explore other qualitative designs. Quantitative methods would serve to measure and predict the effect of each found leader support in this study beyond their psychological needs influence. For example, a correlational quantitative study could look at the novice K-12 teacher support found here in connection with other concerns of schools, such as turnover. Because this study focused on novice interpretation of supports, a quantitative study could also analyze how years of experience might affect findings.

Based on the findings in this study, future researchers could look at different subsets of the K-12 teacher population. This study was situated in the problem space that novice teachers need more support (Farmer & West, 2019), however the teachers in the study had a wide variety of experiences outside of the online setting that may have affected the results. Future researchers could define a novice to represent a few years of experience in

education in any setting. Conversely, future researchers could look solely at novice experienced teachers, those who are new to the online setting, but are towards the end of their teaching career. This study had both populations represented but did not analyze the data with those distinctions in mind. Another subset included the varied types of online teachers who participated. Future studies could narrow the scope of K-12 online teaching by defining whether the position is largely asynchronous instruction, or live instruction. It is still unknown whether different supports are needed depending on the type of instruction the online teachers were asked to provide, as this study did not analyze responses by instructional setting beyond K-12 online schools as a whole.

Finally, this research furthered the discussion on leader support of teachers' psychological needs through descriptions of K-12 novice online teachers, but it did not touch on the intent for turnover, which is a costly issue, highest amongst novice teachers (Michel, 2020). Future researchers could look at novice K-12 online teacher supports as they influence organizational commitment specifically. The current literature on teacher psychological needs fulfillment does align with teacher commitment (Ford et al., 2019; Lee et al., 2020), but this research did not delve into that topic directly with teachers. The results describing commitment and pride were ancillary responses from teachers that deserve more attention in future research for novice K-12 online teachers specifically.

Along with the recommendations for future research studies, this researcher recommends three practices to implement for current leaders of K-12 online schools. Teachers in the online K-12 setting (Larkin et al., 2018) and novice teachers (Farmer & West, 2019; Glazer, 2018; Kaplan, 2021) are a high-risk group for leaving the profession. This study identified nine supports as described by novice K-12 teachers in Arizona that influence their psychological needs in positive ways. Implementing these supports through three noted intentional leader moves could result in similar psychological needs fulfillment of teachers in the practitioner's care.

The first recommendation implores leaders to be intentionally visible to the teachers in their staff. Drawing upon the empirical findings of this research a school leader should frequently show up in the chat room discussions, stop by either physically or in the virtual class sessions just to check in, and implement collaborative structures that also include the leader. These specific leader moves were described by participants of the study as positively influencing trust, competence, and pride in the organization. Teachers spoke highly of leaders who were consistently present, and they described wanting more attention from leaders who were absent.

The second recommendation for future practitioners is based on both this research data findings and the STPN framework; providing both formal and

informal structures for teachers to collaborate and build relationships with each other satisfied all three areas of basic psychological needs (Ford et al., 2019; Richardson et al., 2020). Specifically, this research data was rich with descriptions of teachers finding the most benefit from each other. Allowing time and structures for teacher interaction, provided teachers in this study with academic and emotional support. This can be done through online chat platforms, providing teachers the ability to view each other's classrooms, and giving space to share resources and ideas with each other. It alleviated stress and provided friendship and connection at work. Practical ways to implement this recommendation include online PLCs, teacher mentor programs, teacher-led committees, and creating reliable platforms for easy communication.

The third recommendation from the data for future practice involves removing barriers to teacher creativity and ensuring proper resources for online education. This includes having a curriculum that provides a strong foundation but can also be easily customized by teachers. Teachers described that LMS and other online programs need to be reliable and user-friendly. When teachers found other programs that fit these parameters and allowed them to focus on teaching students, they were most supported when leadership found ways to purchase the programs for the teachers. This also included leaders advocating for proper physical materials and flexible space and time to implement resources. Despite the challenges of leading an online school, the data suggests that these three practical steps are crucial moves to ensure teachers have effective supports for their job and well-being.

DECLARATIONS

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APPENDIX A
QUESTIONNAIRE

* 1. Voluntary Consent:
PARTICIPANT'S RIGHTS

You have been given an opportunity to read and discuss the informed consent and ask questions about this study;
You have been given enough time to consider whether or not you want to participate;
You have read and understand the terms and conditions and agree to take part in this research study;
·   You understand your participation is voluntary and that you may stop participation at any time without penalty.

◯ I Agree

◯ I Do Not Agree

Next

Questionnaire- STPN

Initial Screening

Please answer the following 3 questions truthfully. This is used to determine your ability to participate in this study.

* 2. Are you 18 or older?

○ Yes

○ No

* 3. Do you teach (or have taught within the last 5 years) at least 1 online K-12 course in Arizona?

○ Yes

○ No

* 4. How many years (completed school years) have you taught in the online modality?

○ 0-3

○ 4+

Questionnaire- STPN

Optional Demographic Questions

The following 4 questions are optional, you can also choose to skip this section.

5. Gender

○ Male

○ Female

○ Non-Binary

○ Prefer not to say

6. Age

○ 18-24

○ 25-34

○ 35-44

○ 45-54

○ 55-64

○ 65+

○ Prefer not to say

7. Ethnicity

○ White or Caucasian

○ Black or African American

○ Hispanic or Latino

○ Asian or Asian American

○ American Indian or Alaska Native

○ Native Hawaiian or other Pacific Islander

○ Another race

○ Prefer not to say

8. How many years of experience do you have in K-12 education in any setting altogether (In-person, blended, and/or online)?

○ 0-3

○ 4-9

○ 10-15

○ 16-25

○ >25

○ Prefer not to say

Prev   Next

Questionnaire- STPN

Questionnaire

Thank you for your participation in this study about leader support for teachers' psychological needs. In this final section of the questionnaire, you will find 5 open ended questions and an optional form if you are interested in participating in the follow up interview. The 5 questions all require a response and you can go back and edit before hitting submit if you want to change a response.

* 9. How do you feel about your role as an online teacher?

[ ]

10. Describe any systems in place at your organization (For example, chain of command, curriculum or LMS use, communication practices, etc.). Explain if you feel these systems help or hinder your work as an online teacher.

[ ]

* 11. Describe any opportunities you have to work with other online teachers within your organization.

[ ]

* 12. Describe any mentoring, feedback, or coaching that you receive from your organization. Is this something that you feel helps and supports you? Why or why not?

[ ]

* 13. Describe when you feel most confident during your workday and why you chose that instance.

[ ]

14. Thank you for your time. If you are willing to participate in a follow up interview via Zoom please provide valid contact information using this link: "Contact Information Form" . This will open a new window and is not connected to your responses in this questionnaire. The follow up interview will be scheduled at your preference.

[ ] You do not need to click this. You can skip this question by clicking "Done" or follow the link first and then click "Done" to end the survey. Thank you again.

[Prev] [Done]

SEMI-STRUCTURED INTERVIEW QUESTIONS

RQ1: ORGANIZATIONAL STPN

1. Before your first day of teaching online, did you feel prepared for teaching in this setting?

Probes: What helped you prepare the most? College or site training?

2. Throughout your time as an online teacher, describe a memorable continued professional learning experience that you've had.

Probe: Do you feel the experience helped you in your job, how so? Who delivered the training and how was it delivered?

3. How are decisions made and communicated at your school?

Probe: Are you involved in the decision making? Do you think this is a good system and why?

4. Describe how you would go about asking for support if you needed it.

Probe: Who gives the support to help you fix the issues? If you've ever had a bad day is there something you do or support you have to help with the issue and encourage you to try again?

RQ2: INTERPERSONAL STPN

5. Describe for me the nature of social interactions with your colleagues or leaders as an online teacher.
Probe: With whom, how often and for what purpose? Do you feel it is important to have social interactions? Do these impact your thoughts about your job in any way?
6. Describe social interactions with parents, students, or anyone else you may interact with for work.
7. Will you please describe any professional interactions you have with other teachers, such as planning sessions or formal meetings?
Probes: Who leads them? Are these times valuable, why or what about them?
8. Thinking about your interactions with your leader, do you feel they care for your well-being? If so, what is it that makes you feel that way?
Probe: Expand why or if they can provide examples of leader moves that show this. Possibly ask about other leaders or colleagues they may have filled this need.

RQ3: INTRAPERSONAL STPN

9. Describe a situation that made you feel challenged as a teacher.

Probe: What did you do about it? Have you changed anything since then? Did you feel there was support to get you through the challenge, if so, describe it.

10. Since starting your position as an online teacher what are some things that you have improved on?

Probe: What do you think made the biggest impact on your ability to improve?

11. How much control do you have in deciding what and how to teach daily?

Probe: Do you feel you can veer from the plan at all? Do you like the amount of freedom and restriction you described, why or why not?

12. Is there anything else that you would like to add about how you feel supported as a K-12 online teacher?

Probe: Recap the supports we have spoken about and ask if there are any others that were left out.

APPENDIX B

Table 2
Codes to Categories

Frequency/# of participants (Total 2282/39)	Codes	Category
28/16 30/10 15/7	PD Frequency Relevant PD No PD	Professional Development
11/7 25/11 44/22 7/3	Need Tech Support Irrelevant PD Self Confidence PD Readiness/Timeliness	Ongoing Purposeful PD
41/11 8/5	Time as experience/support Provide Time or compensation	Space for New Things
6/5 19/9	College Prep Covid Prep	Other training
40/21 11/8	Structure of Teacher communication Mode causing communication issue	Collaborative communication
30/16 59/28 12/5 39/8	Collaborative Leader T2T set meetings No teacher interaction Teacher isolation	Collaborative Structure
42/18 10/6 13/4 44/14	T2T Leader roles Secretary or para pro Counselor support Tech Support +	Roles/Hierarchy
59/29 41/15 34/15 45/14 11/7 23/7 14/5 19/6	S2T interaction + S2T interaction − Student engagement + Student engagement − ToS to parent contact/involvement Parents not involved S2S relationship building In-person interaction	Social Structure for Students
7/5 32/12 8/6 45/15	S2T tech support Student Well Being Worry or stress over kids' well-being S2T relationships	Student Relationships

Frequency/# of participants (Total 2282/39)	Codes	Category
19/13	Policies/Systems+	Policies/Procedures
5/3	PS+ for whole school/community	
31/14	Policies-	
48/16	Required tasks	
13/9	Tracking academics	
14/8	Flexibility in location	
39/13	Flexible Time	
29/12	Not required task	
9/5	Extra time outside work hours	
22/14	Reliable LMS	Resources
13/6	Physical resources	
45/18	Programs +	
35/10	Programs –	
23/15	Curriculum +	
57/18	Curriculum –	
13/8	Classroom management +	
7/6	Misread communication	
30/12	Strained communication	
27/12	Visible leader	Leader structures
4/3	Want more visibility	
28/18	Structure of leader communication	
11/6	Respect of teacher time	
14/4	Parent experience –	
19/13	Leader as coach	Competent Leader
26/16	Leader as coach –	
29/5	High leader to student involvement	
2/1	Low leader to student involvement	
10/7	Leader follows through	
11/7	Leader on your side professionally	Familiarity
44/11	Distrust	
77/28	T2T availability/organic	Colloquial Opportunity
62/14	Teacher relationships +	
37/16	Mentor or Coach +	Mentors
12/8	Mentor or coach –	
33/11	T2T training/feedback	Professional Opportunity

Frequency/# of participants (Total 2282/39)	Codes	Category
28/8 18/10 23/9	Caring leader Recognition/celebration Forgiving leader	Personalization
27/13 56/20 5/4 10/6	Leader listens Available leadership Unavailable Leader initiate communication	Approachability
24/9 29/10 30/16 21/12	Teacher voice + Teacher voice – Collaborative leader Pride/belonging as motivation	Voice
23/9 25/9 19/11	Teacher freedom or creativity – Create curriculum- High autonomy +	Choice
9/8 36/9 42/19 18/10 34/15	Teacher role- Organic parent involvement Student success Recognition/celebration Student engagement +	Purpose
10/5 60/18 33/8 14/9	Other people who support Self help Self-doubt Self-praise/reflection	Internal Support

Table 3
Categories to Themes by RQ

Categories	Theme	RQ
Professional Development Ongoing Purposeful Space New Things Other Training	Relevant and on-demand training influence teacher confidence and autonomy	
Collaborative Communication Collaborative Structure Roles/Hierarchy	Systems and roles that allow for communication and collaboration fosters autonomy Structures built around student to teacher interaction provide purpose, relatedness, and competence	
Social Structure Student Focus Student Relationships	Organizational structures centered on allowing more time to teach reduce frustration A leader who shows up and follows through builds trust	RQ1 How do novice online K-12 teachers describe the influence of organizational leader support on their psychological needs?
Policies/Procedures Resources Leader Structures Competent Leader Familiarity	Relatedness with other teachers influences well-being and academic confidence	
Colloquial Opportunity Mentors Professional Opportunity		
Personalization Approachability	Personalized relationships with leaders build organizational pride and allows for work life balance	RQ2 How do novice online K-12 teachers describe the influence of interpersonal leader support on their psychological needs?
Voice Purpose Internal Support Choice	Perceptions of ownership and purpose provide pride and motivation Experiences of freedoms and being trusted influence confidence	RQ3 How do novice online K-12 teachers describe the influence of intrapersonal leader support on their psychological needs?