Using Data to Make Evidence Informed Decisions in School Social Work

The use of data to inform practice and decision-making continues to expand and evolve within school social work (SSW) and the larger social work profession. As a profession, the American Academy of Social Work and Social Welfare has put forth 12 Grand Challenges facing the field of social work, many of them calling for social workers to find and develop the best evidence-based practice (EBP) to tackle massive social challenges like homelessness, health inequality, and violence (Coulton et al., 2015). One of the 14 challenges involves social workers using technology to promote social good, with one clear application of technology being the use of data to inform practice and promote change. Evidence is building that social workers are using data to promote change in their therapeutic client interactions (Baker et al., 2014), increase family engagement for child protection services (Houston, 2015), and improve health outcomes through social determinants (Lee et al., 2013).

With these efforts in agency settings that typically employ social workers, Keuning et al. (2017) identified a parallel effort to embrace the use of data to help drive school level changes in education-based process change. This echoes the district level work of Crone et al. (2016) who found that data-based decision making (DBDM) was not only achievable but was key to stimulating actionable decisions. Curry et al. (2016) found that classroom level data can be used to drive teaching and thus close the loop on the potential for the use of DBDM for educators. As with educators, the literature suggests that SSW practitioners are answering the grand challenge to leverage technology for social good. Prior to the articulated grand challenges, Kelly (2011) called SSWers to engage in a three-step path on this issue; define why they are collecting data, ensure that data collection is user-friendly and map a clear process for data use. Sabatino et al. (2013) argued that operating with this pathway is critical to mapping student outcomes as it relates to the myriad of interventions routinely used by SSWers.

A recent review of the literature on the use of data in SSW produces some clear trends (Author, 2020). The researchers identified only 13 studies over the past ten years that specifically demonstrate an evolving trend in SSW practice towards DBDM. It was found that support for SSWers collecting and utilizing data collected for direct practice decision making is most often at the individual level (Tier 3). Other studies found that some SSWers engage in active data utilization that is aligned with the national SSW practice model (Kelly et al., 2015; Richard & Villareal Sosa, 2014).

While accountability has been growing in schools with the implementation of multi-tiered systems of supports (MTSS) and the expectation that all educators and related service professionals like school psychologists are using DBDM more frequently in their regular practice, there have been few studies that look

specifically at how SSWers work with data in their routine school practice. In 2009, Bye et al. surveyed SSWers and administrators across four school districts about their expectations regarding the benefits of SSW services, outcomes data, and how outcomes were disseminated to school stakeholders. They found that almost 70% of SSWers saw informal conversations as the primary way of conveying SSW outcomes. This was contrasted by administrators who rarely recalled these conversations, suggesting that more formalized processes are critical for conveying the effectiveness of SSW services (Bye et al., 2009).

Several SSW position papers have argued for the importance of data use in SSW. In 2011, Kelly presented a pathway with the use of Data Based Decision Making (DBDM) to advance the outcomes in school mental health and to promote professional accountability and effective practices for students. The pathway proposed was extended into the discussion of the National SSW Model (Frey et al., 2012). They presented a rationale and conceptualization for a national DBDM framework, which was further developed in 2015 by Kelly and colleagues. These national efforts served as a springboard for efforts to frame models for state level application in SSW (Richard & Villareal Sosa, 2014). Phillipo et al. (2017) led a series of focus groups to explore the types of data driven models utilized by practicing SSWers and found that there were limited opportunities and support for additional learning, making it difficult to apply consistent SSW practice models.

A conceptual framework was applied to DBDM efforts in several domains within SSW. DBDM efforts have been connected to applications ranging from school climate (Hopson & Lawson, 2011), school based mental health (Kelly & Lueck, 2011), identifying risk on important indicators of youth mental health (Thompson et al., 2017), the use of evidence-based measures (Thompson et al., 2019) and as a method for practitioners to evaluate their practice (Rubin & von Sternberg, 2017). In each of these studies, SSW was explored through a DBDM lens. Across the continuum (national, state, district, school and individual practitioner) there is noted variability in knowledge and application of DBDM to initiate, guide and evaluate SSW practice. The application of an intentional framework to reduce this variability may serve systems and individuals well to increase their confidence and thus application of DBDM practices in SSW (Author, 2018); therefore, enhancing student outcomes.

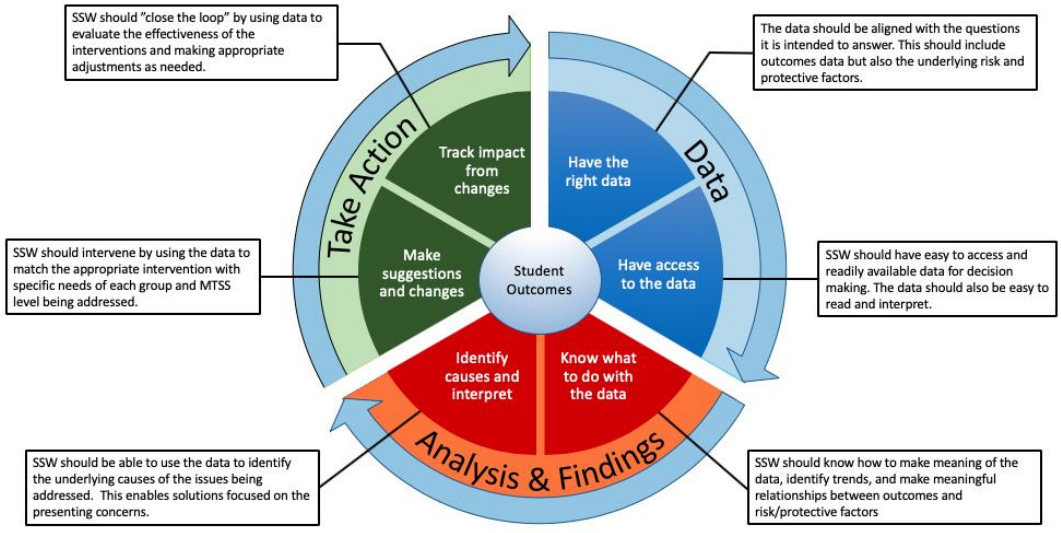
Data Engagement Framework

The data engagement framework identifies six elements necessary to engage teachers, student services personnel, administration, and staff in a focused effort to make evidence informed decisions that impact student outcomes, risk and protective factors (Author, 2018). The concept for this framework was borne out of work across several fields, including higher education, healthcare, and SSW, where data were available but were not used consistently in decision making.

Conversations among key stakeholders about challenges with identifying, implementing, and evaluating the impact of interventions led to the identification of six common themes that should be addressed in order to use data in decision making effectively.

This broad framework provides key components to consider when thinking about how to effectively leverage data in identifying risk/protective factors, selecting interventions, and tracking the impact of service delivery on student services. The components to consider are: (1) Data (having the right data and being able to access that data); (2) analysis & findings (knowing how to interpret and apply the data); (3) taking action (intervening and then evaluating the impact). Ultimately this framework is about working through a process which supports crafting a data story in order to solve critical issues at the universal (Tier 1), group (Tier 2), and individual (Tier 3) levels. While this framework is relevant to all school mental health professionals, this article will focus on the application to SSW (see Figure 1).

Figure 1.
Data Engagement Framework



Present Study

The present study examined the application of the data engagement framework among one school district's SSW department. A previous review of the literature found few studies on how SSW use data in decision making (Author, 2020) and this study aimed to address this gap by examining how SSWers utilize data across

each step of the data engagement framework and, explores the confidence level of SSWers in identifying data as well as specific types of data being utilized in the school setting. In addition, we sought to identify what additional supports were seen as needed to make better use of data in decision making among SSWers. As data continues to become more of a driving force in SSW and the lives of students, thinking about supporting each of these steps becomes an even more critical task. Ultimately, it is easier to consider how to support each step up-front to make sure the right data are provided to make the best evidence informed decision possible. Spending time identifying current supports and what support is still needed is a worthwhile exercise in helping develop a culture of including data collection as a staple in the process of implementing evidence informed decision-making practices.

Methods

This study employed a cross-section design where the focus of the study was on how SSWers engaged in using data to inform decision making. The participants of this study included a SSW department in a school district in Florida. The SSW department took part in a training and presentation specifically on data engagement and use as it related to SSW. This district's SSW department was invited to participate in the study because they had been having ongoing conversations about data use and would be able to provide feedback as it relates to the data engagement framework. The selected district has over 80,000 students and 85 schools. These are spread across 50 elementary schools, 15 middle schools, 14 high schools and 3 educational centers and several charter schools. The SSWers in the county provide a range of services including attendance, mental health, assessments, truancy intervention, and other supports for student success. Following the presentation, an anonymous email invite was sent to all SSWers requesting participation in a follow-up survey. This study was approved by the university's Institutional Review Board and informed consent was obtained from all participants included in the study. There was no external funding for this project and the authors had no conflict of interest.

Sample

A total of 54 SSWers were sent the survey request and 39 completed the survey, for a response rate of 72.2%. Of those responding, the mean age was 40.6 (SD = 8.5) and they reported having an average of 6.4 (SD = 7.6) years of experience in SSW. The majority of the respondents were female (94.8%) and identified as white (87.1%), Hispanic (10.2%) and Black (2.5%).

Instrumentation and Data Collection

This pilot study employed a survey which included both descriptive and qualitative items around SSWer's confidence in identifying and using data, specific ways data are used, and additional resources that would improve their use of data.

Descriptive. SSW participants were asked to rate their confidence level on six items around applying the data engagement framework to decision making. These included (1) finding the right data, (2) access to data needed for evidence informed decision making, (3) the ability to interpret and make meaning of results, (4) identifying underlying causes and solutions, (5) the resources and ability to intervene, and (6) evaluating the impact of intervention and changes. Each item was rated on a scale of 1 (low confidence) to 3 (high confidence).

Qualitative. To provide more context on how SSWers identify and use data, participants were also asked to complete twelve open-ended items. These items complemented the descriptive items and asked participants to provide information related to data around student success, risk and protective factors. They were asked what the right kind of data are, data collection methods, how they access the data they collected, how they interpret results, how they decide which interventions to use, and how they monitor or evaluate implementation of interventions. For each item, SSWers were also asked to describe any additional supports, resources, or training that would help improve their skills, abilities, or usage.

Data Analysis

Quantitative data was analyzed using IBM SPSS version 25 for descriptive statistics, including means, frequencies, percentages, and ranges. For qualitative data, responses were downloaded and coded using an inductive coding approach. Members of the research team identified initial themes independently, then worked together to develop a thematic coding tree using MaxQDA version 12.3.3, which is a qualitative data analysis software. Each response was coded by 2 of the researchers and discussed to develop consensus. Overall, inter-rater reliability was calculated at 92.7% for the entire sample using Cohen's Kappa. SSWers may have mentioned more than one theme during a response, which was separated into the appropriate theme during the coding process.

Results

Descriptive

SSWers were asked to rank their confidence in each of the areas of the data engagement framework, as low confidence, medium confidence, and high confidence. When asked about finding the right data 31.5% (N = 12) said they had high confidence. Similarly, 34.2% said they had high confidence when it came to accessing data needed to make evidence-informed decisions and interpreting results. Over half of respondents said they were able to use data to identify underlying causes and solutions (52.6%; N = 20) and having the ability to select the appropriate intervention and intervene (50.0%; N = 19). Finally, 39.4% reported they were able to evaluate the impact of their changes. See Table 1 for complete results.

Table 1.
Descriptive Survey Results

	Low Confidence	Medium Confidence	High Confidence
Have the right data	20.5% (n = 8)	48.7% (n = 19)	30.7% (n = 12)
Have access to the data needed	28.2% (n = 11)	38.4% (n = 15)	33.3% (n = 13)
Ability to interpret & make meaning of data	20.5% (n = 8)	46.1 % (n = 18)	33.3% (n = 13)
Ability to identify underlying causes and solutions	12.8% (n = 5)	35.8% (n = 14)	51.2% (n = 20)
Resources, knowledge & ability to intervene	10.2% (n = 4)	41.0% (n = 16)	48.7% (n = 19)
Evaluate the impact of interventions	23.0% (n = 9)	38.4% (n = 15)	38.4% (n = 15)

Qualitative

The coding and analysis of the qualitative data indicated six major themes, including the type of data obtained, describing how data are accessed, understanding how SSWers interpret results, selecting interventions, monitoring

effectiveness, and learning new interventions. We share further details about the six codes we identified in the sections that follow and examine subthemes within each major code. A full breakdown of the thematic codes can be found in Table 2.

Table 2.
Thematic Codes

Theme & Subtheme	N Responses	% Respondents
Right Data		
Standard Student Outcomes Data	23	58.9%
Biopsychosocial Assessment	10	25.6%
Risk and Protective Factors	9	23.1%
Other	27	69.2%
Access to Data		
District Specific Software	20	51.3%
School Specific Software	10	25.6%
Social Worker Specific Software and Tools	10	25.6%
Interpret Results		
Existing Processes	13	33.33%
Change or Growth	8	20.5%
Practice Experience	6	15.3%
Benchmarking	5	12.8%
Decide Interventions		
Existing Processes	12	30.7%
Change or Growth	8	20.5%
Don’t use data to decide	8	20.5%
Monitor & Evaluate Implementation		
Change or Growth	16	41.0%
Processes	9	23.1%
Learn About Interventions		
Peer or Staff	11	28.2%
Trainings	10	25.6%
Research	7	17.9%

What are the right data? When asked about what the right data was, SSWers described three main areas. These included standard student outcomes

(58.9%), biopsychosocial assessments (25.6%), and risk & protective factors (23.1%). When speaking about "the right data", one SSW wrote, "we know that poverty, homelessness, family illness and other things are risk factors for trauma, but we do not rate these risks unless they are explored in a social history." This sentiment was echoed by several SSWs who noted they don't feel like they have any standardized instruments available to capture the risk and protective factors students face.

Standard Student Outcomes. One of the main sources of what SSW considered the right data related to readily accessible student outcomes. These included attendance and absences, grades, discipline referrals and standardized test results. One participant who used primarily standard student outcomes stated "I usually look at grades and discipline referral data in order to evaluate student success" while another noted that "*My Student* database for [our county] allows you to see the number of days absent/tardy by date, week, month, or quarter."

Biopsychosocial Assessments. Another aspect of having the right data was through using biopsychosocial assessments. These were gathered during school meetings, meetings with families, and interviews with staff and students. These were noted as including many areas such as family risk factors, trauma history, and even family's current living situation. One SSWer said, "we look at basic needs, like if the family has access to safe housing, the ability to provide for nutritional needs, and access to community supports and resources."

Risk and Protective Factors. The other main area identified as the "right data" were risk and protective factors. These were seen as engagement data, family participation, and rating scales for mental health, risk, and suicide. While there was a broad range of ideas of what these risk and protective factors were, there was a clear sentiment that they "do not have any kind of standardized scale looking at risk and protective factors that our students face" and were not "screening for mental health risk factors or protective factors [consistently]."

Other data. This area was seen as a mix of different data types that were perceived as useful but not currently implemented. In this area, SSWers mentioned the need for universal screenings as well as mental or physical health data. Most often, it was mentioned that these were needs, but they were not being used or were unavailable.

Access to Data. In response to how SSWers access the data, participants noted district-specific approaches which were used most of the time (51.3%), followed by school-specific (25.6%) and finally their own homebuilt tools and processes (25.6%). One SSWer stated they "access academic, disciplinary and attendance data via a district computer-based system [early warning systems]." While another reported they "collect raw data from teacher through the form of frequency charts, behavior charts, and forms."

District-specific. Early warning systems and the student information system were most often cited as the way in which SSW practitioners accessed data. This included attendance, grades, behaviors, and student demographic information. It was noted by several respondents that the district level software was often difficult to manage, hard to access, and was developed without their input. One SSW practitioner marked that their early warning system was developed one day without any input from student services. Another stated they are "able to access attendance data from our database (although it's much easier to get full day data than trends in partial day data). [We] also can look at grades this way."

School specific. Within schools, there was also a system of data collection that included teacher-collected data, school records, and staff contacts. This might be within the school and could be in electronic or paper formats. This could vary by the different teams at each school [School Leadership, School Intervention, or even positive behavioral interventions and supports (PBIS)], the make-up of the team members or even the level of engagement of the administration. It was interesting that this could also vary across different schools that employed itinerant social workers. There was also a sense of not knowing how to access all data; one SSWer expressed "logging into the programs that I DO know how to use and analyzing that data." School specific data were also described by participants as "asking staff specific questions about certain students" or reviewing data collected from specific charts and forms.

SSW specific. The final major way that SSWers reported they collected and accessed data were through their own means, either personally or within their department. This included self-collected data on clients, the use of excel to track interventions, or interviews with parents, teachers, and staff. This type of data might involve "using resources available in the community, [their] own research online, or asking other SSW practitioners." Others discussed bringing resources with them from previous districts and as previously mentioned, collecting their own data.

Interpret Results. SSWers interpreted results of data to make evidence-informed decisions using existing processes and procedures (33.3%), change or growth in student outcomes (20.5%), practice experience (15.3%) and benchmarking against a standard (12.8%). Overall, the approach to interpreting results was summed up by one SSW participant who reported they might bring data to the team where they "print it out and then bring it to our school level data meetings and together collectively we look at trends and figure out barriers and try to find solution." In another case, it was stated by a SSW practitioner that they review data through "School Based Intervention Teams [SBIT] to bring all info together – but this is only on the select few who are brought to SBIT."

Processes and procedures in place. SSWers reported relying on already established processes, such as either specific systems and decision trees or even school/district-based teams. These teams included problem solving, teacher meetings, and staff discussions. Unfortunately, these processes could vary greatly across different schools and even by individual SSWers. Some reported interpreting results with their school-based teams by printing the data and bringing them to the school level data meetings and "together collectively [looking] at trends and figure out barriers and try to find solutions." Others reported working on their own or by "asking other staff and other SSWers."

Change and/or growth. Another way SSWers discussed interpreting the data were to look at changes in grades, referrals, and whether students are promoted to the next grade. This involved reviewing data before and after the intervention to see if there was a change. Generally, SSW noted the data they were looking at were the broad outcomes (GPA, attendance, and discipline) and not risk or protective factors. They might look for a decline in referrals, promotion to the next grade, improvement in attendance or more specifically, the intervention by "reviewing progress monitoring tools to determine success/responses to interventions."

Practice experience. The skills and experience of SSWers were also used to determine the meaning of the results. This was described by some as trial and error and others said they often relied on anecdotal evidence to make decisions. Another important item mentioned several times was that some of the data focused on the school's choice and not always driven by data. Knowledge might be based on previous experience from a former district or it might involve using "anecdotal and interview data to determine risk or protective factors in and outside of school." One SSWer described this process as learning "by trial and error the pieces of data that each of school choose to focus on, and then [trying] to incorporate that into the data identified as important from the district."

Benchmarking. Finally, within the area of interpreting the data results, benchmarking was used to identify a comparison to other students or a set standard. This was seen in terms of ranking students within a school or even looking at extreme levels (high and low) to identify outliers. Some SSW explained this as setting a threshold and using that as a marker of above or below. While another said they look "at the data and note where there are deficits or low areas of achievement. If there are large gaps in the data that would usually be investigated further."

Decide on Intervention. When answering about how they decide which interventions to implement based on the data, SSWers mentioned existing processes (30.7%), followed by change or student growth (20.5%), and not using data for various reasons (20.5%). While there are many ways SSWers decide which interventions to use, one SSWer reported that their school team "begins by

looking at school wide data which is often broken down by grade level and then begin looking at grades, attendance, and discipline," or inconsistent as noted by one SSW practitioner who said, "it feels very haphazard at the moment dependent on direction from school administration."

Existing processes. Much like how SSWers interpret data, when deciding on interventions respondents mentioned team meetings as the primary process for deciding which interventions to implement. School based teams were used to review data and then decide on the best intervention. It should be noted, there were no standard makeup or role of the team, as they could be School Based Intervention Teams, Teacher Based Intervention Teams, or even Multi-Tiered System of Support Teams. Additionally, the influence of the SSWer on the teams varied by respondent from participant to leader. When processes were used, this was summarized as:

> It's a team decision. We typically start with our school wide data - often broken down by grade level. And then begin looking at grades, attendance, and/or discipline for teachers across a particular subject. Based on our review and interpretation of that data, we would then look at a particular student. I work in a high school, so interventions are a challenge - regardless of the tier.

Change or Student Growth. When referring to change of growth, SSWers mentioned looking at trends over time and changes in student outcomes. It was often mentioned as looking at discipline or academic outcomes. This could be accomplished working with a team or individually by the SSWer depending on the school or problem being addressed. When working with a team deciding which interventions to implement were decided by the team and then the "team meets to assess how the student responded to the intervention. If not well, then either change the intervention or increase the intensity and frequency."

Don't use. Several SSWers mentioned that they don't always use data to make decisions on which interventions to implement. The reasons for this were varied and included using practice experience and professional judgement or even the haphazard direction provided by school administrators. They also noted that the level of data usage for deciding interventions varied across each of their schools. Not systematically using data to inform intervention selection was not identified as a purposeful intervention, but rather explained as using "professional judgement including building relationships with and problem solving with at-risk students."

Monitor Implementation. SSWers monitoring the implementation of interventions consisted of change and growth processes (41.0%) within the school or their own systems were used, followed by current monitoring processes (23.1%). While a few SSWers responded they don't monitor "because it is

cumbersome and overwhelming and it is done anecdotally," a majority mentioned using a variety of systems or processes. It should be noted the quality of the approaches was quite varied from well-developed systems including early warning and school wide screenings to more basic individual data kept in spread sheets by the SSWer.

Change or growth. Following a student's response to interventions was seen as another way of monitoring the implementation of interventions. This might involve reviewing increases or decreases in outcomes by looking at graphs, pre/post intervention, following disciplinary or academic data in the early warning system, or even talking to those who work closely with the student. Across respondents a variety of methods to track implementation were mentioned and there were no clear uses of specific data across all participants. One SSWer said they complete a graph comparing pre/post data using "a self-developed grade tracker students use and developed a low-tech graph to monitor behavior goals / success," while another school social worker looks for "improved attendance or feedback from teachers."

Processes. SSWers noted they preferred low-tech processes to monitor interventions. While they often cited collaborating with case managers and teachers, SSWers also noted they preferred processes that required minimal assistance from others as these can end up slowing up or making access difficult. They also noted that sometimes monitoring processes were not tied to the tiers or interventions specifically. A few mentioned that other professions, such as school psychologists or case managers took a more active role in progress monitoring. SSWers generally used basic, low-tech approaches, and preferred "hands on approaches that the students complete with minimal assistance from adults and then are reviewed together [with the school social worker] and plan forward based on what we see from the graphs."

Learn about interventions. SSWers noted they learned about interventions through peers or staff (28.2%), conferences and trainings (25.6%) or research (17.9%).

Peers or Staff. When discussing learning interventions through peers or staff, SSWers discussed this as a generally informal process. They might get information from shadowing experts, team meetings, other student services disciplines or even from colleague recommendations. One SSWer noted that they "asked questions from a mentor when [they] first started."

Conferences and Trainings. The mention of conferences and trainings was more often limited to local trainings or those provided internally by the school district. This limitation might be overcome by paying out of pocket, but the overarching sentiment was that only school districts provided trainings were used. This idea was highlighted by a SSWer who stated, "Currently I do not participate in training unless provided by the district in staff meetings or other forum."

Research. When discussing the idea of using research as a basis for learning new interventions, this might include reading about the interventions in journals, but SSWers equally used reading books, researching online, or CEU's when updating their licensure requirements. While some "do their own research" others "read when [they] have time and attend training to keep up [their] LCSW license."

Additional Training and Support. There were several comments about additional information and training that respondents would find helpful. The most frequent areas mentioned were supporting SSWers in interpreting results (51.3%), getting a better understanding of where to get the right data (48.7%), learning where to find appropriate rating scales (41.0%), and access to evidence-based practices (28.2%).

Limitations

While this study is one of the few to address data-based decision making, specifically in SSW, there are several limitations that can be addressed in future studies. Primarily, even though the response rates were high, the information for this study was gathered from one district. Future studies should consider gathering data across different districts, state-wide, or even at the national level. This would include the perception of SSWers from different areas of the country while increasing the sample size of respondents. It is also important for future studies to consider ways to recruit SSWers from more diverse ethnic, racial, and cultural backgrounds to incorporate their unique perspectives.

The data were also collected immediately following a training on data informed decision making. Collecting data outside of trainings could lead to social workers over-estimating their ability to access and utilize data if they do not have a clearly defined understanding of how to use data in decision making.

Another area to address for future research is using additional ways to gather SSWers' perspectives on how and why they use certain data collection methods. Using various other methodologies, such as in-depth interviews or measures of how SSWers specifically use their data, would provide more insight into identifying skills, knowledge, and usage. This would enable the creation of specific trainings and information around gaps which would help SSWers use data in a more focused way.

Discussion and Implications for Research and Practice

The results of this study suggest several implications for SSW practice and research and represent one of the first empirical studies of how SSWers are implementing data in their day-to-day practice. One of the most significant implications of this study was the identified need for training across the district

for SSWers in developing more confidence and skill utilizing data; a concern that has been raised in several other recent studies where SSW report struggling to find useful ongoing training resources to help them with their practice (Patak-Pietrefesa et al., 2019; Phillipo et al., 2017). Nearly half the participants stressed the need for further training in the proper utilization of current data along with data interpretation. Only a third of the participants indicated high confidence in having the *right* data, access to data, and the ability to interpret the data. This study also shows that while SSWers do not have high confidence in the data, they are using the right data, and they are confident in selecting the right intervention. This suggests that SSWers are making decisions about their practice based on experience or something other than data, a keystone of "authority-based practice" that can often prove to be ineffective over time without having the ability to find and access evidence-based practices based on data (Gambrill, 2001; Kelly et al., 2010).

Additionally, SSWers stated the desire for education on selecting and using reliable rating scales. This district did not appear to use standardized scales across schools, and it appears the district has a pattern of implementing trending models of services, something that is familiar from previous explorations of SSW struggles to figure out how to best respond to changing demands of the school district (Phillipo et al., 2017). Consequently, the frequent change of models appeared to impact SSW confidence in their ability to use the scales. This district would benefit from a systematic process, protocol, and instruments used by all SSWers, and the extant frameworks offered through a typical MTSS approach would seem to make that possible, though districts need to make sure that SSWers are aware of how to use these scales and to apply them to each of the three tiers in the MTSS framework (Avant & Swerdlik, 2016; Avant & Lindsey, 2015; Thompson et al., 2019).

While the measures might vary across each tier, a systematic plan implemented with ongoing training and support would provide the needed resources and tools noted in the study, and future SSW research is needed to test the feasibility and effectiveness of such plans. Several of the participants also emphasized the need for physical resources such as time allotted to become proficient in finding and utilizing the correct data, and this will necessarily need to be balanced with the significant demands already made on their workload (Kelly & Whitmore, 2019). Another area indicated from these findings involve the need for administration and district support, including involving SSWers themselves in the development and beta-testing of the tools and procedures that are being adopted. This would include things such as the implementation of standardized scales, ongoing training, and physical resources.

The study found inconsistent implementation of data collection methods and the use of data amongst the SSWers included in this study and across their

districts, something that school mental health researchers have long noted is a primary barrier to the adoption and implementation of evidence-based practices (Kelly et al., 2010; Lyon & Bruns, 2019). School administrators have the flexibility to operate their schools in a variety of ways, but SSWers have limited authority without administrative and district buy-in. For example, it was noted in these findings that there are varied approaches to interpreting results to determine the most effective evidence-based interventions. While some SSWers utilized a School-Based Team Approach to review and identify the appropriate interventions, other SSWers determined "what works" on their own, further examples of the informal and ad hoc ways practice decisions are often made in SSW practice (Phillippo et al., 2017). A few participants stated they do not use data in the decision-making process; instead, they rely on experience and professional judgment. These facts further emphasize the need for fidelity across the district and align clearly with recent SSW literature on how practitioners are using data tools and intervention research to inform their practice (Patak-Pietrefesa et al., 2019; Phillippo et al., 2017; Shayman, 2018).

Additionally, in the study, when it came to monitoring and evaluating interventions, the SSWers reported various approaches across the district. Over half of SSWers reported utilizing the in-district change and growth process. However, some SSWers reported they do not monitor "because it is too cumbersome and overwhelming." A clear evaluation plan is essential in determining the effectiveness of interventions for students. If there is not a formal evaluation process, the SSWers have limited feedback on the value of the interventions. Similar to the data review process, there were inconsistencies in the process for each school and SSWer. A persistent theme in the study was the need for consistency related to the use of data, training, and resources. By implementing a systematic process and physical supports, SSWers have the needed resources to utilize the data and evaluate the effectiveness of outcomes. These findings again are reflected in both the calls from researchers for SSWers to be more data-driven and the reports on various barriers experienced, systematically and confidently (Kelly et al., 2015; Thompson et al., 2017). Further research is needed to better understand and identify the key levels of implementing effective plans in busy and often overwhelmed districts that are striving to help their SSW be more data-driven and evidence-informed.

Overall, some SSWers were addressing pieces of the Data Engagement Framework. It is encouraging that about one-third of social works at a minimum reported coincidence across each area. The responses confirm in different spaces each phase of the framework is being implemented, however the need additional training was a consistent note across all phases. Future studies should consider examining the overall model and what helps social workers feel more comfortable engaging in data utilization. The context of data engagement should also be

considered in the context of the broader system of each school and it's unique culture. For instance, understanding the structural supports (e.g., data tools and data teams), school culture (e.g., focus on data, willingness to explore underlying reasons), time to do the work (e.g., purposeful, strategic, and allotted), and the level of sophistication and planning that exists in telling data stories (Lucio, 2020). The individual components of the Data Engagement Framework exist within the context of the broader systems which also shape how SSWers think about data collectively and the stories it can tell about students and SSWers work. This aligns with the recent work of Stalnecker and colleagues (2022) who reported that school administrators who reported that SSWers often report only attendance data and in informal settings. Gathering more information about how SSWers develop and share data stories would also shed light on how the information is utilized to impact student outcomes.

Themes of additional training and support were consistent across all phases of the Data Engagement Framework. These ranged from simple requests such as being able to access information and programs to more complex requests around how to interpret and utilize data. The results show the variations in familiarity and comfort with data goes from little knowledge to a complete mastery of how to utilize data. This also suggests that approaching how to provide support will vary but might benefit from a tiered approach as well, starting at a broad level to working with individual SSWers in how to best use their data. The lack of consistent systems across schools might also contribute to the variations in the application of data-informed decision-making processes.

Conclusion

This study is one of the first to look specifically at how SSWers perceive the data they collect, the interventions they select, and what they base their decisions on in terms of engaging in a data-driven decision-making process. These findings show that SSWers are interested in utilizing standardized measures, progress monitoring tools, and evidence-based interventions, but struggle to do so in school contexts that don't provide ongoing and coherent support for them to develop these skills and apply them in their day-to-day practice. While additional research is necessary to understand which programs and training plans are beneficial to the service delivery of SSWers, these findings help provide an initial look into training needs and what future SSW researchers can do to target training interventions to support the practice of SSW.

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