



# Chinese Social Work Students' Attitudes toward Online Social Work Services: A Q Methodology Study

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## Abstract

During the COVID-19 pandemic in China, the emergence of online social work services has garnered the attention of scholars, particularly as social work students are the future practitioners who will be responsible for delivering these services. This Q methodology study aimed to explore the perceptions and attitudes of 39 Master of Social Work (MSW) students (76.92% female, 23.08% male, Age(mean)=22.14, SD=0.48) from Shanghai, China, towards online social work service delivery. Participants were asked to respond to 73 Q statements. Three distinct viewpoints emerged from the factor analysis. Viewpoint One is optimistic about the prospect, believing that online delivery mode will expand the coverage of social services. Viewpoint Two is cautious due to practical constraints, recognizing the challenges that social workers and clients may encounter when participating in online social work services. Viewpoint Three is wary of privacy and ethical risks related to online social work services. The findings suggest that more education and training may be necessary to increase students' confidence and promote online social work services, thus increasing accessibility to services for a wider population.

**Keywords** MSW students · Online social work · Perception · Q methodology

The use of online services in social work has received growing attention over recent years; particularly during the COVID-19 pandemic due to the enforced physical distancing measures. With the rapid development of Internet and Communication Technology (ICT), using online platforms to provide services seems inevitable in the near future. A growing body of literature highlights both the benefits and

potential risks of online services, which contain various contents, including online counseling services (one-on-one therapeutic sessions delivered through digital platforms), online mental health services (a broader range of resources and support for mental well-being provided online), and tele-mental health services (a wider array of remote mental health care options, including counseling, psychiatric evaluations, medication management, and consultation services). For instance, online counseling services may offer increased accessibility, particularly for individuals with limited mobility or transportation options and individuals who face scheduling constraints, such as caregivers and new parents (Chakrabarti, 2015; Cwikel & Friedmann, 2020; Rochlen et al., 2004). Online counseling services may also be advantageous over face-to-face counseling by providing a sense of anonymity and privacy, which can help participants reduce the stigma associated with seeking mental health support and encourage help-seeking behaviors (Renn et al., 2019). Additionally, from the practitioners' perspective, online counseling can contribute to cost savings and increased efficiency in service provision (Hilty et al., 2013).

Despite the benefits of online services in social work, there are some potential difficulties for social workers in

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adopting online service delivery. Some individuals may experience discomfort or difficulties in establishing a therapeutic relationship through online platforms, which may affect the quality of counseling services (Connolly et al., 2020). Additionally, there may be concerns about privacy and confidentiality in online counseling, particularly given the potential for data breaches and cyberattacks (Luxton et al., 2014). From the practitioners' perspective, online counseling services may require additional training and competencies to effectively navigate the unique challenges of providing therapy through digital platforms, such as managing technical issues and ensuring adequate security measures (Mallen et al., 2005). From a societal perspective, the digital divide and disparities in access to technology may exacerbate existing inequalities in access to mental health services, as not all individuals have access to reliable internet connections and appropriate devices for online counseling (Kiraly et al., 2020).

## The Chinese Context

The developmental stage of social work in China reflects a rapidly evolving field influenced by both internal and external factors. The Chinese authorities issued the documents of Opinions on Strengthening the Construction of Social Work Professional Talent Pool in 2011 and the Medium and Long-Term Planning for the Construction of Social Work Professionals (2011–2020) in 2013, which outlined ambitious plans to further develop the social work profession, including increasing the number of trained social workers and strengthening the regulation of the field (Zou & Lu, 2014). However, challenges persist in terms of standardized training, professional identity, and resource allocation (Liu & Chen, 2018).

The adoption of online social work services in China is still in its early stages, with more research needed to better understand the opportunities and challenges associated with this development. In China, social worker services encompass a range of content areas, such as casework, group work, and community work. Casework involves direct practice with individuals, couples, or families to cope with challenges that impair their social functioning (Zastrow, 2017); group work involves working with interest groups (groups of individuals who share common interests or experiences) and professional groups (consist of individuals who work in the same profession or field); and community work involves surveys, home visits, and other activities (Chan & Lei, 2017). Similarly, online social worker services can also incorporate various content areas and benefit from the online mode of delivery. Some studies have begun to explore the use of online platforms for mental health support and

counseling in China. For example, Wang et al. (2020) examined the feasibility and effectiveness of an internet-based cognitive-behavioral therapy program for individuals with depression, finding that the program significantly reduced depressive symptoms and improved treatment adherence. Another study by Liu et al. (2019) highlighted the potential of online mental health services to address the shortage of mental health professionals in China, particularly in rural and remote areas.

Online services also played an important role in China during the COVID-19 pandemic. For instance, since the outbreak of COVID-19, online mental health surveys, online mental health education programs, online psychological counseling services, and online self-help intervention systems have been widely utilized to deal with mental health issues during the pandemic (Liu et al., 2020). Internet-based healthcare platforms were also crucial to extending health services to a wider range of populations. As stated by He and colleagues (2020), online medical platforms in China have made “a substantial pool of 1,636,440 doctors to provide online care, resulting in approximately 1.685 billion consultations and 109 million remote consultations. (p.89)”.

Despite these promising findings, the integration of online technology into social work practice in China also faces challenges. These challenges may include limited access to technology, concerns about privacy and confidentiality, and the need for additional training and competencies for professionals working in an online environment (Zhou et al., 2020). Addressing these challenges and harnessing the potential of online technology will be crucial for ensuring accessible, high-quality services for individuals in need of support.

## Social Workers' Attitudes towards Online Services

The Technology Acceptance Model (TAM) has been widely utilized in recent literature to understand health and social care professionals' attitudes toward adopting online services and tele-counseling (e.g., Barrera-Algarin et al., 2023; Csiernik et al., 2006). TAM posits that the perceived ease of use and perceived usefulness of a technological system are crucial determinants of users' intention to adopt and use the technology (Davis, 1989). Perceived usefulness refers to the individual's belief that using technology will improve their performance, while perceived ease of use refers to the individual's belief that using technology will be easy and straightforward (Davis, 1989).

Several studies have applied the TAM framework to explore factors influencing the adoption of online services among mental health professionals. For instance, Parmanto et al. (2016) found that perceived usefulness, perceived ease of use, and social influence significantly predicted

therapists' intentions to use online services, with perceived usefulness being the strongest predictor. Similarly, Dopp et al. (2017) reported that perceived usefulness and perceived ease of use were significantly associated with clinicians' intentions to use tele-mental health services, with behavioral intentions serving as a mediator between these factors and actual usage. Another study by Magsamen-Conrad et al. (2020) examined the role of additional factors, such as self-efficacy and facilitating conditions, in the adoption of tele-mental health services among social workers. The findings revealed that self-efficacy and facilitating conditions, along with perceived usefulness and ease of use, played a significant role in predicting social workers' intentions to use tele-mental health services.

However, even though the TAM has been extensively used in research examining individuals' technology adoption, it has been criticized for its emphasis on individual beliefs and attitudes and its failure to consider broader contextual factors that may influence technology adoption (Ajibade, 2018; Malatji et al., 2020). To solve this issue, the Q methodology has been proposed as an alternative method for investigating subjective perspectives on technology adoption. It permits a more nuanced comprehension of the complex social and cultural factors that influence individuals' perspectives and attitudes toward technology (Goldman, 1999). A detailed description of the Q methodology can be found below.

### Studying Social Work Students

Social work students are the prospective practitioners who will be responsible for providing social work services to individuals, families, groups, and communities; therefore, their perspectives and viewpoints are essential to social work research (Meekosha et al., 2007). Education in social work equips students with the knowledge, skills, and values necessary to work effectively with diverse populations and address social problems (Howard et al., 2003). Understanding the perspectives, experiences, and needs of social work students is crucial for enhancing the quality of social work education and training and for enhancing the delivery of social work services (Scholar et al., 2014). In addition, social work students may have unique perspectives on the challenges and opportunities confronting the social work field, which can inform policy and practice (Morley, 2020). While existing studies have examined the application of online social work services to social workers (Boddy & Dominelli, 2017), and several studies have examined integrating social media with social work pedagogy (Hitchcock & Battista, 2013), there has been insufficient research focusing on the viewpoints of social work students regarding the implementation of online social work services in practice,

despite the fact that they are the future social work practitioners and proficient in utilizing technology.

### The Adoption of Q Methodology in the Current Study

The provision of effective social work services depends on the education and training of social work students. Therefore, it is crucial to comprehend their opinions on online social work services. The Q methodology provides a useful means of investigating the subjective perspectives of social work students regarding the use of technology in service delivery.

The Q methodology integrates both qualitative and quantitative approaches to analyzing data for describing different viewpoints on a topic, which makes it a useful approach for the systematic study of subjectivity (Watts & Stenner, 2012). The method entails the generation of a set of statements known as a "Q set" that reflects the spectrum of perspectives on a particular topic. The participants then sort the statements in a predetermined grid, typically using a forced-choice rating system that requires them to rank the statements based on their level of agreement (Ramlo, 2021). The sorted data is then analyzed using factor analysis, which identifies distinct groups of participants who share similar perspectives based on their sorting patterns (Ramlo, 2021).

As an exploratory research tool, Q methodology allows for the investigation of opinions and beliefs in a manner that respects the complexity of individual perspectives while also enabling the quantification and analysis of these perspectives systematically (Ramlo, 2021). Yet, in contrast to quantitative approaches, which often presuppose what is important by using predefined categories or scales, the Q methodology allows the categories of importance to emerge from the participants themselves (Watts & Stenner, 2012). Additionally, the Q methodology preserves minority voices, which may be overlooked in other data collection methods (Ho, 2017), such as surveys or interviews which tend to prioritize dominant perspectives or opinions due to various factors such as sampling biases or power dynamics within the research context. One advantage of using Q methodology over a traditional survey is that it allows for a more nuanced understanding of how people view a particular issue, it allows participants to rank and prioritize statements based on their perspectives, free from the constraints of predefined categories or predetermined responses (Ho, 2017). Compared with traditional qualitative methods, which can offer in-depth but often non-generalizable insights, the Q methodology allows researchers to elicit and analyze the nuanced viewpoints of individuals on a given subject matter (Brown, 1996). The rank-ordering process helps researchers capture the relative importance of different statements

for each participant, generating a more personalized and detailed understanding of individual attitudes (Stickl et al., 2019).

## Methods

This study employed the Q methodology to investigate the Master of Social Work (MSW) students' perceptions and viewpoints of delivering social work services online. The study was approved by the ethic committee of Shanghai Normal University. Informed consents were obtained from all the participants. This study follows the five steps of conducting a Q methodology by following the instructions proposed by Watts and Stenner (2012), including (1) Q sample development; (2) participant selection; (3) Q sorting; (4) Q factor analysis; and (5) factor interpretation.

### Step 1: Q Sample Development

Q samples are statements to be ranked by participants by forced normal distribution, which constitutes the data collection instrument. The process of constructing the Q sample begins with developing a concourse, which includes a preliminary set of all conceivable statements about the topic under investigation (Watts & Stenner, 2012). In this study, the concourse was developed from two main sources, including a literature search and qualitative interviews. We conducted a pilot qualitative interview with 7 MSW students at Shanghai Normal University in April 2022 to investigate students' exposure to online social work services and their understandings and perspectives of online social work services. We reviewed relevant literature about online social work services and consolidated around 88 statements. After further merging and removing duplicated statements and consulting with experts, 73 items were finalized as the Q sample.

### Step 2: Participant Selection

A Q Methodology study has fewer participants than statements, and the statement-to-participant ratio ranged from 3:1 to 2:1 (Webler et al., 2009). In total, 79 students were approached to participate in this study, 43 finished the rating process; 39 completed it without missing data, and 32 were identified as defining participants (see Table 1). Based on the manual of Q methodology, only cases without any missing data were included for analysis. The topic of the current study guided the selection of target participants using strategic sampling techniques. To achieve this strategic sampling, mass emails were sent to social work students (both MSW and bachelor of social work (BSW) students) at

the Department of Social Sciences, Shanghai Normal University, and posters were posted on campus, which included a link or QR code to a sign-up form on Wenjuanxing.com. After screening, consent forms with detailed information about the study procedure were provided, and all participants included in the study signed consent forms.

The inclusion criteria for participant selection in this study were as follows: (1) current social work students, (2) individuals who have heard or experienced online social work services, (3) Mandarin proficiency, and (4) have the ability to complete the Q methodology study via Zoom and the online platform. As a result of these criteria, undergraduate social work students who had not yet encountered online social work services were excluded from the study. Additionally, it is important to note that all participants were studying in Shanghai, a prominent urban area in China where social work services are more developed compared to rural areas (Xian, 2022). Shanghai is a fast-paced city in China where social work is being expanded at a swift speed (Chen & Han, 2016). Shanghai's urban development has led to advanced technology access and plentiful social work-related job opportunities (Zeng et al., 2020). This urban context provided participants with access to advanced technology, which may have influenced their perceptions and attitudes toward online social work services. This study was conducted on a voluntary basis, and no incentives or compensation were provided to participants.

### Step 3: Q Sorting Activities

Due to the COVID-19 pandemic lockdown in Shanghai and extremely strict prevention restrictions, Q sorting activities were completed utilizing Zoom in May 2022. During this period, all universities were forced to switch from face-to-face classrooms to online teaching in all universities in Shanghai, so all students had access to technology prior to the study and all the students in our sample had sufficient exposure to Zoom (Jiang et al., 2021). Moreover, using Zoom for the Q sorting can offer certain advantages that may enhance the research process. For instance, Zoom provides students with a convenient and accessible platform, eliminating potential logistical barriers that could impede their involvement (Boland et al., 2022). Additionally, the virtual environment created through Zoom can foster a sense of anonymity and comfort, encouraging MSW students to freely express their opinions without the potential influence of social dynamics or physical presence (Archibald et al., 2019). Research has supported the advantages of using online Q sort (Meehan et al., 2022). While we also acknowledge that the using of Zoom may introduce certain limitations, such as non-verbal cues and potential technical disruptions (Labinjo et al., 2021), we took several measures

to mitigate these concerns. These measures included providing clear instructions, ensuring adequate time for participants to express their viewpoints, and utilizing additional means of communication, such as using the WeChat platform to supplement the Q methodology process.

As depicted in Appendix Fig. 1, a quasi-normal and symmetrical distribution grid was designed. Before each Q sort, we briefed participants on the study design and objectives. The participants were then directed to the online platform easyHTMLQ (<https://github.com/shawnbanasick/easy-htmlq>) to complete the Q sorting procedure. After completing the Q sort grid, participants were asked to comment on the items with which they agreed or disagreed the most. A research assistant was available during the Q sorting activities to provide technical support for participants who were unable to complete the task due to a lack of proficiency with the electronic device.

#### Step 4: Factor Analysis

The empirical data from 39 participants was imported into KADE, a specialized Q analysis tool that conducts person-by-person factor analysis and data reduction techniques (Banasick, 2019). The investigatory use of Centroid factor analysis and Varimax rotation was used to condense the data and facilitate the selection of the most informative factor solution. Several criteria, including simplicity, clarity, distinctness, and stability, were used to determine the ultimate number of factors to be extracted (Webler et al., 2009). As guidelines, eigenvalues of  $> 1.00$ , explained variance, and at least two Q sorts per factor ( $p < 0.05$ ) were also used in statistical analyses (McKeown & Thomas, 2013).

#### Step 5: Q Factor Interpretation

All Q sorts that loaded substantially on the same factor were merged into a single idealized Q sort, commonly referred to

as a factor array, through a weighted averaging procedure. In order to interpret these factor arrays, an abductive and iterative process was used, beginning with a within-factor analysis and supported by the demographic data and post-sorting responses of the participants, which are typically used to affirm, explain, or expand upon the obtained results (Watts & Stenner, 2012). To support an across-factor interpretation of the differences between the two factors, distinguishing statements, consensus statements, and the highest- and lowest-ranking statements were examined (Watts & Stenner, 2005, 2012).

The interpretation of the factors was based on distinguishing statements, which were evaluated by p-value, Q-sort value, and the Z-score (Yang, 2016). The p-value is a statistical measure that assesses the significance of the correlation between the Q sort responses and the identified factors or viewpoints. It helps determine whether the observed association between the statements and the factors is statistically significant or due to chance (Yang, 2016). A smaller p-value suggests a significant correlation, indicating that the Q sort responses are reliably associated with the identified factors. The Q sort value represents the ranking or sorting of the statements by participants according to their subjective viewpoints (Yang, 2016). The Q sort value indicates the position of each statement within the sorting range, reflecting the participant's subjective perspective or attitude towards the statement. Meanwhile, the Z-score is a normalized weighted factor score (z-score) on each item for each factor (McKeown & Thomas, 2013). It measures the degree of agreement or disagreement among participants regarding a particular statement. A positive Z score indicates that the statement is ranked higher than the average position, suggesting agreement or preference, while a negative Z score indicates a lower-than-average ranking, suggesting disagreement or less preference.

## Results

The Q methodology data collected from the 39 participants was entered for analysis. Students of master of social work, coming from different cities in China but all spent at least a year in Shanghai joined this study, among which 76.92% were female, and 23.08% were male, with an average age of 22.14 years old ( $SD = 0.48$ ). After the principal factor analysis and rotation, three distinct characteristics of viewpoints were identified. Table 1 shows the overview of the factor weights and the characteristics of participants. There were 10 MSW students who fell into Viewpoint One and 13 and 9 MSW students fell into Viewpoint Two and Three, respectively. The average relative coefficient of the three factors were all 0.8 and the composite reliability ranged from 0.973

**Table 1** Factor weights and characteristics of participants

	View-point 1	View-point 2	View-point 3
No. of defining Participants#	10	13	9
Average relative coefficient of the factor scores	0.8	0.8	0.8
Composite reliability	0.976	0.981	0.973
Standard error of factor Z-scores	0.155	0.138	0.164

*Notes* #In total, 39 participants completed the study without missing values. No. of defining participants indicates the number of participants who fell in each viewpoint. Defining participants are individuals who represent distinct viewpoints or perspectives on the research topic. A total of 32 (10 + 13 + 9) defining participants offered unique perspectives that contributed to the identification of different Q factors or viewpoints. Seven participants' cases were deleted due to the factor loading less than 0.4

to 0.981. The standard error of the factor Z-scores ranged from 0.138 to 0.164.

MSW students holding Viewpoint One were “optimistic about the prospect” because they advocated for the use of online social work services and believed that the new technology could help more individuals gain access to social work services. MSW students holding Viewpoint Two were “cautious due to practical constraints” because they believed that social workers and clients may both encounter problems, such as distractions and a lack of sufficient knowledge and skills when participating in online social work services. In addition, this group of students believes it may be difficult to implement online social work services in rural China due to the digital divide. MSW students holding Viewpoint Three were “wary of privacy and ethical risks,” as they recognized some benefits of using online social work services, such as time and cost savings, but were also concerned about issues related to online services, such as privacy and ethical concerns.

### Viewpoint One: Optimistic about the Prospect

MSW students holding Viewpoint One were positive that online social work services can help the social work profession reach out to a broader range of services and populations and therefore can be an important extension of current social work services. Table 2 shows the distinguishing statements that this viewpoint agreed on and disagreed more with than the other two viewpoints. In summary, compared to the other two viewpoints, participants holding this viewpoint were more optimistic about the promising benefits of online social work services to society and less concerned about the potential harms and limitations of online social work services. Specifically, they agreed the most with the statements including “online social work services can help promote social work and allow more people to understand social work” ( $Z = 1.81$ ) and “the online social work service mode is a very important form of social work services.” ( $Z = 1.64$ ), “social workers can deliver a variety of services online, such as referral and linkage to resources, community

**Table 2** List of Q-sort statements for Viewpoint One

Advocate	Statement No.	Statement	p-value*	Q sort value <sup>+</sup>	Z	
Distinguishing statements more agreed than other two groups <sup>#</sup>	48	Online social work services help promote social work services and allow more people to understand social work.	<0.0001	6	1.81	
	38	The online social work service mode is a very important form of social work services.	<0.01	5	1.64	
	46	Social workers can deliver a variety of services online, such as referral and linkage to resources, community development, etc.	<0.2	4	1.51	
	39	Online social work services should be vigorously developed.	<0.0005	5	1.47	
	40	Online social work services help to promote social equity.	<0.0005	4	1.3	
	43	Online social work services can make up for the shortage of social workers in society.	<0.0001	2	1.1	
	49	Online social work services can be used for community building.	<0.0001	3	1.1	
	66	Online social work services online are worth promoting and expanding.	<0.001	0	0.39	
	Distinguishing statements more disagreed than other two groups <sup>^</sup>	12	The current social work ethics guidelines are not sufficient to regulate online social work services.	<0.05	-3	-0.19
		29	Online social work services may cause social workers to overlook the body language of clients.	<0.05	0	-0.28
56		Only qualified social workers (with certification) can provide online social work services.	<0.2	0	-0.42	
15		Online social work services are only suitable for large cities in China.	<0.0001	-2	-0.67	
11		As a social worker, if using online services, I worry my clients may record our work without permission via audio/video/screen recording.	<0.0005	-2	-0.68	
	73	Online social work services may lead to a large loss of clients and cause them to prematurely terminate services and lose contact.	<0.01	-4	-1.08	
	30	Only young clients will use online social work services.	<0.001	-4	-1.69	

Notes <sup>#</sup>Statements with the p-value greater than 0.2 and a Z score greater than 0 were selected for this category

<sup>^</sup>Statements with the p-value greater than 0.2 and a Z score below 0 were selected for this category

\*The p-value is the statistical measure that assesses the significance of the correlation between the Q sort responses and the identified viewpoints

<sup>+</sup>The Q sort value indicates the common patterns of the statements in this factor of viewpoint

development, etc.” ( $Z = 1.51$ ), and “online social services should be vigorously developed” ( $Z = 1.47$ ).

### Viewpoint Two: Cautious due to Practical Constraints

Table 3 shows the distinguishing statements that Viewpoint Two agreed with and disagreed with more than the other two viewpoints. MSW students holding this viewpoint were more concerned with the practical issues and potential harms of online social work service delivery, such as service access for those who are not at ease using online services ( $Z = 1.68$ ), as well as the potential influence of online services on professional counseling, including the loss of concentration ( $Z = 1.33$ ) and the inability to fully utilize their profession ( $Z = 1.27$ ). There are also disadvantages to online services compared with face-to-face services ( $Z = 1.01$ ), and there is no appropriate legal guidance for online services

( $Z = 1.20$ ). But this viewpoint also agrees with the notion that the usage of new media among social workers is beneficial for online social work services ( $Z = 1.45$ ). Specifically, this viewpoint was more concerned with the low quality of current online social work services. Compared to the other two viewpoints, MSW students holding this viewpoint were the least motivated to work in online social work services themselves or recommend them to others since they were less convinced about the quality, benefits, and even importance of online social work services. On the other hand, it is worthy of attention that though MSW students holding Viewpoint Two held a relatively conservative opinion over the development of online social work services, they showed their belief in the social work profession by stating that online social workers shall be trusted by clients ( $Z = -1.66$ ).

**Table 3** List of Q-sort statements for Viewpoint Two

Opponents	Statement No.	Statement	p-value*	Q sort value+	Z	
Distinguishing statements more agreed than other two groups#	33	Online social work services may cause inconvenience for clients who cannot easily get access to the Internet.	<0.0001	5	1.68	
	59	The online social work services need to address the issue of protecting the privacy of clients.	<0.005	6	1.42	
	6	As a social worker, I am concerned that clients may have difficulty adjusting to online social work services.	<0.01	5	1.36	
	34	Online social work services may cause both social workers and clients to easily get distracted.	<0.001	5	1.33	
	35	Limited to online services, social workers may not be able to fully demonstrate their abilities.	<0.0001	5	1.27	
	24	Social work services on the network are very limited and the content is very singular.	<0.0001	2	0.75	
	32	Online social work services may overlook the small progress of clients.	<0.0001	2	0.69	
	70	If there is an option, clients may still prefer offline social work services.	<0.0001	1	0.51	
	22	The quality of online social work services is worrying.	<0.0001	1	0.48	
	23	The overall effect of online social work services is not good.	<0.15	1	0.16	
	Distinguishing statements more disagreed than other two groups^	2	I have received online social work services (as a client).	<0.0001	-1	-0.08
		38	The online social work service mode is a very important form of social work services.	<0.0001	-1	-0.10
		53	Online social work services have the potential to enhance fairness and justice in society.	<0.2	-2	-0.24
3		I would recommend those in need to use online social work services.	<0.0001	-1	-0.38	
52		The development of social media brings social workers and clients closer.	<0.0005	-3	-0.98	
42		Online social work services make social work easier to deliver services.	<0.0001	-4	-1.45	
	69	Online social work services primarily rely on tools such as the internet and computer technology.	<0.05	-5	-1.60	
	7	If I were a client, I would not trust the social workers delivering online social work services.	<0.001	-4	-1.66	

Notes #Statements with the p-value greater than 0.2 and a Z score greater than 0 were selected for this category

^Statements with the p-value greater than 0.2 and a Z score below 0 were selected for this category

\*The p-value is the statistical measure that assesses the significance of the correlation between the Q sort responses and the identified viewpoints

^The Q sort value indicates the common patterns of the statements in this factor of viewpoint

### Viewpoint Three: Wary of Privacy and Ethical Risks

MSW students holding this viewpoint showed unfamiliarity with online social work ( $Z = 1.12$ ) and were wary about promoting it via formal training and education. Though they acknowledge the advantage of social media in bringing the social worker and the client closer ( $Z = 1.47$ ), they also have concerns over the potential risks of online social work service delivery, including privacy issues for both clients ( $Z = 1.59$ ) and social work professionals ( $Z = 1.44$ ). Table 4 shows the distinguishing statements that this viewpoint agreed on and disagreed more with than the other two viewpoints.

Viewpoints Two and Three both revealed some negative attitudes towards online social work services. To explore the differences between these two viewpoints, we further checked the Z-score differences between the two viewpoints in each item. Appendix Table 1 shows that the most obvious difference between Viewpoint Two and Three was in their prior knowledge of online social work; Viewpoint Two had a significantly higher level of exposure to online social services than Viewpoint Three. In addition, Viewpoint Two has more concerns over the negative outcomes, especially

from a professional and practical perspective, such as low quality, ignorance of clients' progress, distraction of online social work services, inconvenience, and equity issues, while Viewpoint Three's concerns are more focused on ethics issues such as privacy and trust, and they tend to have more confidence about the benefits, such as helping more people, making social work practice easier, and shortening the distance between clients and social workers.

### Consensus Views on Perceptions of Online Social Work Services

As shown in Table 5, there is consensus among the three main viewpoints regarding online social work services. While they all have a certain level of agreement that online social work services would reduce the cost (Average Z-score = 0.804), participants also believe that "online social work services pose higher requirements and challenges to the comprehensive abilities of social workers" (Average Z-score = 1.585). All three viewpoints have concerns over the reliability of online social work (Average Z-score = -1.356), and they agreed that the development of online social work services needs to increase social workers'

**Table 4** List of Q-sort statements for Viewpoint Three

Neutralist	State- ment No.	Statement	p-value*	Q sort value+	Z	
Distinguish- ing state- ments more agreed than other two groups#	5	If I were a client, I would be concerned that online social work services may break confidentiality.	<0.0001	6	1.59	
	52	The development of social media brings social workers and clients closer.	<0.05	0	1.47	
	11	As a social worker, if using online services, I worry my clients may record our work without permission via audio/video/screen recording.	<0.0001	5	1.44	
	9	I have never heard of online social work services.	<0.0001	3	1.12	
	10	The social work knowledge I have learned is insufficient to support me in conducting online social work services.	<0.0001	4	0.88	
	33	Online social work services may cause inconvenience for clients who cannot easily get access to the Internet.	<0.1	1	0.67	
	13	Online social work services face challenges related to inadequate legal frameworks and insufficient oversight and regulation.	<0.05	4	0.66	
	Distinguish- ing state- ments more disagreed than other two groups^	50	Online social work services can provide assistance to families and individuals.	<0.001	0	-0.05
		42	Online social work services make social work easier to deliver services.	<0.0001	-4	-0.08
		62	The pros and cons of online social work services need more relevant empirical research.	<0.0001	-3	-0.23
		63	Incorporating online social work service content in social work education is very necessary.	<0.005	-4	-1.22
		58	The development of online social work services also requires relevant training and education for clients.	<0.0001	-5	-1.39
	65	It is essential to incorporate the content of online social work services into social work education.	<0.0001	-4	-1.22	
66	Online social work services are worth promoting and expanding.	<0.005	-4	-1.73		

Notes #Statements with the p-value greater than 0.2 and a Z score greater than 0 were selected for this category

^Statements with the p-value greater than 0.2 and a Z score below 0 were selected for this category

\*The p-value is the statistical measure that assesses the significance of the correlation between the Q sort responses and the identified viewpoints

†The Q sort value indicates the common patterns of the statements in this factor of viewpoint



**Table 5** Three viewpoints have some consensus towards online social work services

State- ment No.	Statement	View- point One	View- point Two	View- point Three	Aver- age Z
20	Social work services are only applicable to certain groups of people (such as people with low-income, live in rural and remote areas, or being long-term patients, etc.).	-1.58	-2	-1.55	-1.710
26	Online social work services are just a waste of time and cannot achieve goals.	-1.25	-1.622	-1.74	-1.537
68	Online social work services are reliable.	-1.235	-1.312	-1.521	-1.356
16	Current online social work services require financial resources from clients.	-1.129	-1.147	-0.857	-1.044
41	Online social work services can reduce the workload of social workers.	-0.879	-1.067	-0.664	-0.870
67	Online social work services are helpful for evidence-based social work research.	-0.165	-0.532	-0.326	-0.341
63	Incorporating online social work service content in social work education is very necessary.	0.16	-0.208	-0.31	-0.119
53	Online social work services can promote social equity and justice.	0.23	-0.24	-0.27	-0.093
64	The development of social media requires social workers to rethink the boundaries of privacy, confidentiality, and professionalism.	0.021	0.204	-0.006	0.073
18	Online social work services cannot coordinate with community social work agencies, which may affect work efficiency.	-0.13	0.36	0.184	0.138
61	Online social work services require support from government infrastructure.	0.49	0.316	-0.02	0.262
57	The development of online social work services requires the vigorous development of social workers' technical skills and communication skills.	0.7	0.65	0.24	0.530
44	Online social work services can reduce service costs.	1.07	0.59	0.752	0.804
37	Online social work services pose higher requirements and challenges to the comprehensive abilities of social workers (such as social work skills, social work ethics, and technical skills).	1.31	1.84	1.604	1.585

literacy in technology, infrastructure investment from the government, reducing service costs, and also social workers' professionalism. By referring to the need for increased professionalism, we were addressing the viewpoints of certain participants who held reservations or skepticism about the effectiveness and credibility of online social work services. In our research, some participants expressed concerns about the professionalism of online services compared to in-person services. These participants highlighted factors such as limited non-verbal communication, potential challenges in establishing rapport, and concerns about confidentiality in the online context.

All three viewpoints disagree that "social work services are only applicable to certain groups of people (such as people with low income, who live in rural and remote areas, or who are long-term patients, etc.)," "Online social work services are just a waste of time and cannot achieve goals," "Current online social work services require financial resources from clients," and so forth. It shows that all three viewpoints agree on the potential of online social work in helping diverse people, despite the uncertainty of the quality. Moreover, they agree that to achieve such benefits, a higher level of social workers' professionalism,

including counseling skills, ethics, and technology, should be equipped. Here, social work professionalism refers to the standards, values, and behaviors that guide the practice of social work. It encompasses the knowledge, skills, ethical principles, and commitment to social justice that social workers uphold in their interactions with clients, communities, and the broader social work profession.

## Discussion

This study is among the first to examine the attitudes of future social work professionals. Based on the technology acceptance model (TAM), this exploratory study implies difficulties and concerns among MSW students in China in adopting technology in their professional practice. It is pertinent to examine this topic because attitudes can influence behaviors, and the perceived ease of use and perceived usefulness of a technological system are crucial determinants of individuals' intentions to adopt and use the technology (Davis, 1989).

The present study identified three viewpoints of social work students in terms of their attitudes toward providing

services via online platforms. MSW students holding Viewpoint One had the highest level of perceived usefulness and ease of use for online social services. They were positive about the potential benefits of online social work, in increasing the accessibility of social work services to more people and the expansion of social work practice, while showing less concern about the potential practical challenges and risks than the other two viewpoints. MSW students holding Viewpoint Two are more concerned with practical challenges in online service delivery than the other two viewpoints. While not fully recognizing the usefulness or ease of use of the online mode of delivering social work services, they were more concerned that online social work may have compromised quality and equity for the clients, and they are less motivated to practice online or recommend online services to others. The major concern of online practice is the quality of the services provided. Central to treatment outcomes and social work practice is therapeutic alliance (Earle & Freddolino, 2022). Studies have found social work practitioners are concerned about the potential de-personalization of worker-client relationships and the loss and misinterpretation of non-verbal communications (Graybeal, 2007).

MSW students holding Viewpoint Three have the most limited prior exposure to online social work; therefore, they are wary of its application and potential risks. While they are uncertain about their capability of conducting online services, MSW students are mostly concerned about privacy issues and trust between clients and social workers via online services. While online services provide numerous advantages, such as increased accessibility, convenience, and efficiency, they also raise concerns regarding the confidentiality and security of client information. MSW students are aware of these dangers and are hesitant to use online social work services without adequate privacy protections. They stress the significance of ensuring that online social work services are safe, encrypted, and compliant with privacy laws and ethical standards. In addition, MSW students recognize the importance of client consent and informed decision-making in online social work service delivery. Therefore, they prioritize the need for appropriate training and education on the responsible and ethical use of online social work practice in order to respect and safeguard the privacy and confidentiality of clients.

Despite differences, three viewpoints agree that online social work services would reduce the service cost, but it requires a higher level of social workers' skills and ethics as well as technological development. There is a consensus that social workers are not currently equipped to achieve the usefulness of online practice. A recent study in the US found that MSW students in general hold more positive attitudes toward continuing to adopt online social work services

after the pandemic and also have more confidence in building good therapeutic alliances (Earle & Freddolino, 2022). It may reflect the differences in social work education and development between the US and mainland China. In the US, clients may have higher digital literacy when using technology, and the social work profession may have more prompt responses and standards regulating online practices, which may make future social workers feel more at ease (Reder, 2015). This echoes our finding of practical concerns over the quality of online service delivery from Viewpoint Two.

While MSW students holding Viewpoint One are more excited about online services that can compensate those disadvantaged groups, MSW students holding Viewpoints Two and Three are cautious about the potential risks and challenges of online services, leaving those with limited digital access and literacy behind. Both sides of the viewpoint have received support from previous literature. On the one hand, online social work services have the potential to reach disadvantaged groups that may have limited access to traditional face-to-face services. For example, older adults and those living in remote areas may face barriers to accessing care due to mobility or transportation issues. Online social work services offer a convenient option for these individuals to receive care from the comfort of their homes (Carpenter & Webb, 2012; O'Callaghan, 2014). Other beneficiaries can also include caregivers for patients with chronic illnesses and new parents who have a tight schedule and caregiving responsibilities. Online social work services can also reduce the stigma associated with seeking mental health care, and clients may feel more comfortable seeking care online as they can remain anonymous and avoid the potential stigma associated with visiting a physical office or clinic. The online format may also be particularly suitable for social work services with teenagers (Cwikel & Friedmann, 2020).

On the other hand, studies have warned about the potential risks of technology widening health inequality. Based on the concept of the "digital divide", different population groups may have varying accessibility, skills, and literacy levels, as well as the capacity to benefit from the usage of technology (Van Dijk & Hacker, 2003). The explosion of online services during the pandemic may further exclude those with access and sufficient literacy to benefit from telehealth utilization (Zhu & Andersen, 2021).

## Limitations and Suggestions

This study carries some limitations. First, findings from the Q methodology reflect the characteristics of the sampled individuals, which cannot be generalized to a wider population, especially since all participants involved in this study were Han Chinese. As this study was conducted in Shanghai,

where social work developed very well, the results of the study may not be extended to other areas where students have limited exposure to online social work services and this study did not include voices from participants from other ethnic groups. In addition, we acknowledged that the initial construction of the Q-sort statements may be influenced by the dominant culture or groups. Though we have made efforts to engage updated literature and interview students and experts in the field, it is important to be mindful of this limitation and strive to incorporate diverse perspectives during the design and development phase of the Q-sort statements, as well as being cautious in the interpretation of the results. Yet, it is important to note that our primary goal was to gain an in-depth understanding of students' perceptions rather than aiming to generalize findings to a larger population. Moreover, despite the contextual limitations mentioned above, we have observed certain similarities between our findings and results from studies conducted using different methods in other countries (e.g., Amos et al., 2020; Mendes-Santos et al., 2020). While the specific circumstances may differ, the core themes and challenges identified in our research align with broader trends and issues discussed in the literature on online social work services. This suggests that some of the insights gained from our study may have relevance and applicability beyond the Shanghai context.

Second, this study did not explore the demographic differences and factors influencing the formation of different types of attitudes. Third, there are generally two types of online social services: relatively conventional forms such as counseling via teleconferencing. The latter is as contrasting as the previous, and in this study, we did not differentiate the two types of "online services", and may overlook the potential differences in the participants' attitudes. Moreover, as the topic of Artificial Intelligence (AI) is a whole different topic, we did not address the possible use of AI in this study. Fourth, without qualitative comments on the ranking of the statements, we could not further comprehend the rationales behind participants' choices.

### Implications for Social Work Practice in China

Despite the limitations, the present study offers invaluable insights for future social work practice in China. Social work is a relatively new profession in China, and the sudden proliferation of technology has posed both challenges and opportunities for this young profession. First, the findings of this study call for promoting the digital literacy of social work students (Zgoda & Shane, 2018). It requires integrating digital training into the social work curriculum, not only technology-assisted therapy but also more advanced algorithmic technology, such as AI (Hodgson et al., 2022).

In addition, it is critical to provide two standards for technology use in social work practice: one for technical competence and one for ethical use (Chan & Holosko, 2016). While such standards have been tried in several Western countries, such as the Standards for Technology and Social Work Practice in the US, it is essential for the field of Chinese social work to set up such guidelines to increase social workers' digital literacy and also reduce the chance of ethical violations (Barsky, 2017).

To promote the application of online social work services, two major standards of applying technology in social work practices, namely technical competence and ethical use (Chan & Holosko, 2016) shall be considered (NASW, ASWB, CSWE, and CSWA). Regarding technical competence, social workers need to gain familiarity with online service applications and platforms, develop the ability to utilize the functions of the technology tools, acquire the knowledge of data security measures to best protect the confidentiality in online services, and develop the continuous learning skills to stay updated with emerging technologies and their implications for social work practice (Chan & Holosko, 2016). Regarding ethical use, social workers need to make sure proper consents are obtained from clients regarding the potential benefits and risks of online social work services, protect the confidentiality of the clients, and uphold professional boundaries. Last but not least, despite all the benefits of online services, social workers need to be aware of the limitations of online social worker services (Chan & Holosko, 2016).

### Implications on Issues of Justice, Equity, Diversity, and Inclusion

This Q-methodology study on social work students' attitudes toward online social work services has the potential to address issues of justice, equity, diversity, and inclusion in several ways. In terms of social work education, examining students' attitudes towards online social work services helps ensure a fair and just approach to incorporating online social work services into education. By understanding their perspectives, educators can address potential barriers or biases that may hinder equal access and opportunities for all students. Moreover, MSW students' attitudes may provide insights into the equitable provision of online social work services. By understanding their concerns, preferences, and needs, educators can design inclusive educational experiences that address potential disparities and ensure equitable access to online resources and tools. Meanwhile, MSW students' attitudes may reflect the diverse perspectives within social work education. By considering their varied viewpoints, educators can create a curriculum that embraces diversity, promotes cultural competence, and fosters an

inclusive learning environment for students from different backgrounds. Furthermore, after understanding students' attitudes, educators may promote an inclusive approach to incorporating online social work services. By actively engaging students and valuing their perspectives, educators can create an inclusive educational environment that acknowledges and respects the diverse needs and preferences of all MSW students.

In the future, with the development of online social work services, more clients, particularly those who are disadvantaged, can have access to quality social work services. This may help to bridge the urban-rural welfare gap by reducing the cost and expanding the reach of services, making them more cost-effective and accessible to a wider population. Online platforms enable greater coverage, allowing individuals who are geographically distant, such as individuals with mobility limitations or those in rural areas, to receive social work support. By reducing costs, social work services can reach more marginalized populations, overcoming budget limitations and ensuring that underserved individuals have access to the support they need. Overall, this study contributes to promoting justice, equity, diversity, and inclusion by utilizing online social work services to extend educational opportunities, broaden service coverage, and improve the accessibility and effectiveness of social work interventions.

In conclusion, this exploratory study offers insights into the perception of online social work services among future social work practitioners. It presents a multiplicity of beliefs and attitudes towards one of the future directions in social work service mode. The study highlights the importance of social work training and education in facilitating (future) social workers' digital literacy and calls for more standardized guidelines on ethical concerns.

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## Declarations

**Conflict of Interest** All authors declare no conflict of interest.

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