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Clinicians' perspectives of therapeutic alliance in face-to-face and telepractice speech–language pathology sessions

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Abstract

Purpose: To investigate the face validity of a measure of therapeutic alliance for paediatric speech–language pathology and to determine whether a difference exists in therapeutic alliance reported by speech–language pathologists (SLPs) conducting face-to-face sessions, compared with telepractice SLPs or in their ratings of confidence with technology.
Method: SLPs conducting telepractice ($n = 14$) or face-to-face therapy ($n = 18$) completed an online survey which included the Therapeutic Alliance Scales for Children – Revised (TASC-r) (Therapist Form) to rate clinicians' perceptions of rapport with up to three clients. Participants also reported their overall perception of rapport with each client and their comfort with technology.
Result: There was a strong correlation between TASC-r total scores and overall ratings of rapport, providing preliminary evidence of TASC-r face validity. There was no significant difference between TASC-r scores for telepractice and face-to-face therapy ($p = 0.961$), nor face-to-face and telepractice SLPs' confidence with familiar ($p = 0.414$) or unfamiliar technology ($p = 0.780$).
Conclusion: The TASC-r may be a promising tool for measuring therapeutic alliance in speech–language pathology. Telepractice does not appear to have a negative effect on rapport between SLPs and paediatric clients. Future research is required to identify how SLPs develop rapport in telepractice.

Keywords: *telehealth*; *clinician–client relationship*; *speech–language pathologist*

Introduction

Telepractice is an evolving service delivery model in speech–language pathology (Keck & Doarn, 2014). The American Speech-Language-Hearing Association (ASHA) defines telepractice as the: "application of telecommunications technology to the delivery of audiology and speech–language pathology professional services at a distance by linking clinician to client/patient or clinician to clinician for assessment, intervention and/or consultation" (ASHA, 2016). In this study, the term telepractice refers to the delivery of real-time speech–language pathology services via videoconferencing (Edwards, Stredler-Brown, & Houston, 2012).

There is a high, unmet demand for speech–language pathology services and critical workforce shortages in rural and remote communities in both Australia and internationally (Australian Senate, 2014; Edwards et al., 2012; Forducey, 2006; Gabel, Grogan-Johnson, Alvares, Bechstein, & Taylor, 2013). Verdon, Wilson, Smith-Tamaray, and McAllister (2011) found that in rural New South Wales and Victoria, Australia, only 1.7% of locations have a paediatric outpatient speech-language pathology service. In the USA, speech–language pathologists (SLPs) may travel large distances between schools to deliver services (Grogan-Johnson et al., 2013). Uptake of telepractice services is beginning to allow SLPs to service greater geographical areas and address service delivery shortages. Telepractice facilitates service provision to clients who live remotely, or who cannot physically attend face-to-face sessions (Edwards et al., 2012) and has the ability to decrease travel times for SLPs and their clients. This reduces fatigue, travel-related expenses and personal costs, as well as potentially increasing consistency and frequency of service (Verdon et al., 2011).

There is a growing body of evidence that paediatric speech–language pathology delivered via telepractice is feasible and highly acceptable to clients and carers (Lincoln, Hines, Fairweather, Ramsden, & Martinovich, 2014; Sicotte, Lehoux, Fortier-Blanc, & Leblanc, 2003; Theodoros, 2008, 2012; Valentine, 2014; Waite, Cahill, Theodoros, Busuttin, & Russell, 2006; Waite, Theodoros,

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Russell, & Cahill, 2010a, 2010b, 2012). There is increasing evidence that telepractice is as effective as face-to-face service delivery for both assessment and intervention (Bridgman, 2014; Grogan-Johnson et al., 2013; Waite et al., 2010b). However, to date, most research has focussed on structured assessment and treatment programmes such as the Lidcombe Program for childhood stuttering (Bridgman, 2014; Waite et al., 2010a, 2010b) rather than less structured, play-based intervention, commonly used by many SLPs. Despite this increasing evidence base, many SLPs are reluctant to use telepractice as a service delivery model.

Barriers to uptake of telepractice

In some areas, notably Australia, uptake to date has been slow (May & Erickson, 2014; O'Callaghan, McAllister, & Wilson, 2005; Theodoros, 2012). SLPs who use telepractice are differentiated from their colleagues who do not by their attitudes and perceptions of telepractice and also by organisational and policy barriers (May & Erickson, 2014). Clinicians (including medical, nursing and allied health professionals) with positive attitudes towards telepractice are more likely to continue to supply services to those who need them, even if demand is low or when there are external workforce pressures (Wade, Eliott, & Hiller, 2014). Clinician acceptance of telepractice drives workforce availability and promotes resourcing of services. Without positive clinician attitudes, telepractice services are unsustainable (Wade et al., 2014).

Negative clinician attitudes have been reported as a barrier to uptake of telepractice by SLPs and other health professionals (Hill & Miller, 2012; May & Erickson, 2014; Tucker, 2012b; Wade & Eliott, 2012; Wade et al., 2014). SLPs also report lack of comfort with and access to adequate technology (May & Erickson, 2014; Tucker, 2012b). Barriers to uptake include the use and implementation of technologies (Keck & Doarn, 2014; May & Erickson, 2014; Wade, Eliott, & Hiller, 2012), for example, include learning how to use new technologies, privacy of data and technology failure (Keck & Doarn, 2014).

Aside from these concerns, negative SLP attitudes to telepractice are often related to the potential adverse effect on the clinician–client relationship and the development of rapport (Mashima & Doarn, 2008; May & Erickson, 2014; Tucker, 2012b). Rapport is an important part of facilitating speech–language pathology services; however, there has been limited research dedicated to its measurement in speech pathology.

Therapeutic alliance

The ability to build quality therapeutic relationships, or rapport, has long been identified as important in speech-language pathology for therapy success (Duchan & Kovarsky, 2011; Leach, 2005; Nelson, 2011). The ability to "establish rapport and facilitate participation in speech pathology intervention" is listed as one of the Speech Pathology Australia (SPA) Competency Based Occupational Standards (Speech Pathology Australia [SPA], 2011, p. 10). Other terms often used synonymously with therapeutic alliance are rapport, working alliance, and therapeutic relationship.

Therapeutic alliance has been described as consisting of an affective bond between client and clinician, as well as client–clinician agreement and collaboration on therapeutic tasks, goals, methods and therapy intensity (Bordin, 1979). Agreement on "tasks" and "goals" is seen as concrete and explicit (Horowitz, 2013), whereas "bond" in therapeutic alliance includes emotional components (e.g. empathy, trust and respect). Therapeutic alliance is the basis for trust between the client and the clinician, allowing the client to feel safe enough to challenge themselves to achieve their goals (Horowitz, 2013; Simpson & Reid, 2014).

Plexico, Manning, and DiLollo (2010), in their qualitative study of therapeutic relationships in adult stuttering intervention, identified therapeutic alliance as a factor in intervention success. Research in other disciplines has also demonstrated that therapeutic alliance influences therapy outcomes (Anderson et al., 2012; Kazdin & Durbin, 2012; Morrison & Smith, 2013; Shirk, Karver, & Brown, 2011). In occupational therapy, Morrison and Smith (2013) suggested that a strong bond between the client and the clinician motivated the client to work towards their goals because they wanted to achieve for the other person. Both parties better engaged with therapy because of this bond, and learning followed, resulting in goal achievement. When goals were not clear, there were fewer feelings of accomplishment, and the alliance was perceived as weaker. This cycle of alliance and goal success may be similar in speech-language pathology (Plexico et al., 2010).

Therapeutic alliance may involve more parties than simply the client and their SLP. For instance, in therapeutic relationships that rely heavily on communication partner training (e.g. paediatric speech-language pathology and aphasia therapy) a relationship is built not only with the client but also their caregivers, who play a vital role in therapy (Anderson, Balandin, & Stancliffe, 2015; Simmons-Mackie, Raymer, & Cherney, 2016). The multiple relationships between client, caregivers and clinicians may be affected by different factors and influenced by different aspects of therapy and outcome for each party (Accurso, Hawley, & Garland, 2013).

Measurement of therapeutic alliance in allied health. Therapeutic relationships are complex and multifaceted; consequently, it is a challenge to

adequately and sensitively capture the important dimensions of this relationship with quantitative measurement tools (Horowitz, 2013). To date, measurement of therapeutic relationships generally falls into two forms; external observation of a relationship, and eliciting perspectives from the parties involved (Elvins & Green, 2008; Green, 2006). Observer rating scales have been used to measure therapeutic alliance in psychology; however, most research in both psychology and speech–language pathology has focussed on the perspectives of clients and clinicians (Horowitz, 2013; Leach, 2005; Plexico et al., 2010). Several different tools have been developed to measure therapeutic relationship, most of these for psychology. Shirk and Saiz (1992) developed the Therapeutic Alliance Scales for Children (TASC) specifically for use with children and their therapists, using the same theoretical underpinnings as the Working Alliance Index (Elvins & Green, 2008). It now consists of therapist, child and parent rating forms (Accurso et al., 2013).

The TASC was revised by Creed and Kendall (2005) to create the Therapeutic Alliance Scales for Children – Revised (TASC-r). The TASC-r (Creed & Kendall, 2005) is a 12-item tool that measures alliance across the three dimensions of task, bond and goals and covers both positive and negative aspects of therapeutic alliance. For instance, questions include "The child considers you to be an ally" and "The child feels that you spend too much time focussing on his/her problems". Each response is rated on a four point Likert scale (i.e. "not at all like my client" to "very much like my client"). It has been found to have adequate reliability and validity in psychology contexts (Creed & Kendall, 2005) and has become the most common measure of therapeutic alliance with children in psychology (Elvins & Green, 2008).

The TASC-r has been used in psychology to study whether alliance mediated outcome measures in cognitive behavioural therapy (Zandberg, Skriner, & Chu, 2015) and to compare therapist–client alliance across treatment types (Ormhaug, Jensen, Wentzel-Larsen, & Shirk, 2014). To date, there has been no measurement of therapeutic alliance in speech–language pathology using the TASC-r or any other tool, making it difficult to compare rapport across groups and conditions. Moreover, to our knowledge, there has been no measurement of therapeutic alliance in paediatric telepractice.

Telepractice and therapeutic alliance

Clinicians across disciplines have held concerns about the ability to build therapeutic alliance via telepractice (Simpson & Reid, 2014; Tucker, 2012a, 2012b). In contrast, little is known about parents'/carers' or children's perceptions of therapeutic alliance during telepractice (Anderson et al., 2015). The main concerns clinicians hold regarding development of therapeutic alliance via telepractice have related to "bond". This is the component of therapeutic alliance most dependent on communication, both verbal and non-verbal, during sessions. Bordin's (1979) components of task and goals appear to be less likely to be affected through use of telepractice (Simpson & Reid, 2014). It has been hypothesised that telepractice may interfere with bond because non-verbal cues are more difficult to detect due to the limited view (Zilliacus et al., 2010). As well, humour is often reported as a factor in the development of therapeutic relationships (Morrison & Smith, 2013), and delay in connection may make this difficult (Tucker, 2012b).

Tucker (2012b) also reported clinicians' concerns that technical problems, such as poor connections and dropouts, may affect session timing and lead to delays. SLPs have also reported concerns with the ability to manage behaviour remotely, as well as that technology may be distracting to children (Hines, Lincoln, Ramsden, Martinovich, & Fairweather, 2015; Lincoln et al., 2014; May & Erickson, 2014; Tucker, 2012b). Concerns about therapeutic alliance may lead to negative clinician attitudes about telepractice and thus limit service sustainability.

It appears that these negative attitudes, however, do not continue once telepractice is attempted. In Tucker's (2012a) study, 63% of SLPs did not believe that rapport with clients could be built as effectively via telepractice. A similar number of respondents (62%) did not believe therapy conducted via telepractice would be as effective as face-to-face therapy. However, very few of these participants (14/170) had experience conducting telepractice (Tucker, 2012a). In contrast, SLPs who use telepractice report that they are able to engage well with clients via technology, and are able to manage behaviour appropriately (Bridgman, Block, & O'Brian, 2015; Hines et al., 2015). Once SLPs have telepractice experience, they are more likely to see telepractice as a legitimate service delivery model, as they know it is possible to build rapport and engage successfully with clients (Hines et al., 2015; Horowitz, 2013; Simpson & Reid, 2014) and thus sustain telepractice services. Similarly, parents often report that telepractice facilitates children's engagement in therapy sessions (Fairweather, Lincoln, & Ramsden, 2016). Parents have reported that they feel satisfied with the services provided by telepractice in other disciplines such as genetic counselling (Hopper, Buckman, & Edwards, 2011). The fact that building rapport or managing behaviour via telepractice does not appear to be difficult, suggests that the therapeutic alliance built in telepractice may be similar to therapeutic alliance in face-to-face speech–language pathology.

Therapeutic alliance has not been systematically evaluated for speech–language pathology telepractice; however, it has been studied in psychology. Simpson and Reid (2014) reviewed the literature for

therapeutic alliance during videoconferencing in psychotherapy. They found that therapeutic alliance via videoconference was rated as highly as in face-to-face conditions, even when there was poor image or sound quality. They reported that clients and therapists often forgot that they were physically separated because they were "completely engrossed" (Simpson & Reid, 2014, p. 290) in the therapeutic process. Some clients also reported that the videoconference allowed them to have personal space and thus feel more at ease with their therapist, enhancing therapeutic alliance. Psychotherapists also reported making adjustments to their personal style to allow them to express empathy more clearly and actively over videoconference (Simpson & Reid, 2014). This qualitative evidence demonstrates that telepractice does not remove the ability to build therapeutic alliance, and it has been anecdotally reported that in some cases alliance may be increased (Simpson & Reid, 2014; Tucker, 2012b).

While concerns about rapport or therapeutic alliance are seen as major barriers to uptake of telepractice (May & Erickson, 2014; Tucker, 2012b), these concerns have not been supported in qualitative studies (Hill & Miller, 2012; Hines et al., 2015). To our knowledge, rapport has never been quantitatively studied in speech-language pathology, nor has therapeutic alliance in telepractice with children been investigated in any discipline. Therefore, there is little available evidence to guide SLPs' clinical decisions about telepractice and its potential impact on therapeutic alliance. In ASHA's position paper on telepractice (ASHA, 2015), it is stated that services provided via telepractice must be of equal quality to those provided face-to-face. However, it is difficult to determine with the current evidence whether the therapy provided via telepractice is equal to face-to-face therapy in terms of the quality of the therapeutic relationship. Therefore, the aims of this study were: (a) to investigate the face validity of a measure of therapeutic alliance for paediatric speech–language pathology; (b) to determine whether there is a difference between therapeutic alliance reported by SLPs conducting face-to-face sessions, compared with SLPs conducting telepractice; and (c) to determine whether there is a difference in the ratings of confidence with technology between telepractice and face-to-face SLPs.

Method

Participant recruitment

The study was granted ethical clearance from the University of Sydney Human Research Ethics committee (2015/015). Participants were recruited via Twitter and email advertisements to non-government organisations and private practices known to be undertaking telepractice. Participants were also recruited via the University of Sydney alumni email distribution list. All invitations contained an electronic link to the online survey and participation was anonymous. The participant information sheet was provided at the beginning of the survey, and participants were required to consent to continue with the questionnaire. There were no incentives given to SLPs who agreed to participate.

SLPs were eligible to participate if they were currently practising with a paediatric caseload. SLPs with experience in telepractice were only eligible to report on telepractice clients, and SLPs who only had experience in delivery of face-to-face therapy could only report on face-to-face clients. SLPs in the face-to-face group were included only if they had not previously attempted telepractice, to minimise potential respondent bias within each group.

Materials

An online survey was chosen for ease of use, cost-effectiveness and to allow greatest distribution. The survey was designed and administered through SurveyMonkey®. Each participant was asked 10 questions about demographic details, four questions on telepractice caseload and technology used (for telepractice SLPs only), two questions about comfort with familiar and unfamiliar technology, and one question on their perception of how well the TASC-r fitted their understanding of rapport.

SLPs reported on their perceptions of rapport with up to three clients aged between 5–12. The children had to have completed three to five sessions with that SLP. Measuring therapeutic alliance after three to five sessions is a common feature of research using the TASC-r (Abrishami & Warren, 2013; Accurso et al., 2013; Shirk, Gudmundsen, Kaplinski, & McMakin, 2008; Zandberg et al., 2015) to control for potential variations in therapeutic alliance over time. For each child reported on, SLPs completed the TASC-r as well as one question on their perception of overall rapport with that client (measured on a four-point Likert scale).

The TASC-r therapists' form (Shirk et al., 2011; Shirk & Saiz, 1992) was adapted for use in speech-language pathology. As has been done in other studies (Accurso et al., 2013), TASC-r wording was altered slightly (e.g. "patient" changed to "client" and "problems" changed to "speech and communication difficulties") to ensure suitability for a speech–language pathology context. The TASC-r has previously been adapted for other disciplines and for other languages without affecting its validity (Kronmüller et al., 2003; Ormhaug et al., 2014). The modified TASC-r in this study demonstrated high levels of internal consistency (Cronbach's alpha = 0.887).

The survey took between three and 15 min to complete, depending on the number of clients reported on and was completed in one sitting. Prior to distribution, the survey design was piloted

to ensure survey progression was logical and easy to follow.

Analysis

Survey responses were entered into a secure Microsoft Excel® spreadsheet. TASC-r items were scored from 1–4, with items 2, 5, 7, 8 and 11 reverse scored according to author instructions (Accurso, personal communication, May 20, 2015), yielding a total score (maximum 48, minimum 12) drawn from the sum of the 12 items. Data were analysed using IBM SPSS® (Version 21). Demographic information was analysed using frequency counts and compared between service delivery models (telepractice and face-to-face conditions). Non-identified data collected from SLPs about their clients precluded analysis on TASC-r scores by age, diagnosis or location. To investigate the face validity of the TASC-r for speech–language pathology, Kendall's tau-b correlations between total TASC–r scores and respondents' overall ratings of rapport with each client were calculated. TASC-r scores were compared across service delivery types and analysed using the Mann–Whitney U-test.

Results

The online survey was attempted by 37 participants and completed by 86.5% ($n = 32$). Data from participants who did not fully complete the survey were excluded ($n = 5$). The total TASC-r scores and overall perception of rapport results were plotted on a scatterplot and one obvious outlier was identified. This participant achieved a total TASC-r score of 38 (indicating "good" therapeutic alliance), however, rated overall rapport with this client as "very poor". Of all responses, this outlier had the lowest correlation between these two measures. All other TASC-r scores from this participant were also excluded as it was not clear whether the participant understood the measure or rating system. The remaining data from a total of 31 SLPs contributed information on therapeutic alliance with 55 children. Demographic information on participating SLPs and their clients can be found in Table I.

The 31 survey respondents worked with diverse populations in a variety of workplaces (Table I). The most common workplace overall was non-government organisations (45.2%, $n = 14$); this was also the most common workplace for telepractice SLPs. This may have been influenced by recruitment strategies, as recruitment directly targeted organisations known to the researchers. Face-to-face SLPs most commonly provided services to metropolitan areas (population >100,000), (45.2%, $n = 14$) and telepractice SLPs most commonly provided services to rural centres (71.4%, $n = 10$). The majority of SLPs had caseloads that included children with speech delay/disorder (93.5%, $n = 29$). This was similar for both the telepractice and face-to-face groups. SLPs using telepractice had broader caseloads overall, with more telepractice SLPs providing services to adults than face-to-face SLPs (Table I). In this study, however, they only reported on rapport with their paediatric clients.

Table I. Participant demographics by service delivery method.

Participant demographics	Telepractice *n* (%)*	Face-to-face *n* (%)*
SLPs	14 (45.4)	17 (54.9)
Clients reported on	21 (38.2)	34 (61.8)
Country of practice		
Australia	13 (41.9)	12 (38.7)
Hong-Kong	4 (12.9)	1 (3.2)
Canada	1 (3.2)	0
Workplace**		
Private practice	4 (12.9)	7 (22.6)
NGO	9 (29.0)	5 (16.1)
Hospital	1 (3.2)	1 (3.2)
Community health centre	1 (3.2)	1 (3.2)
Government organisation	0	1 (3.2)
Public school	0	5 (16.1)
Private school	0	1 (3.2)
Other	2 (6.5)	4 (12.9)
Gender		
Female	11 (35.4)	13 (41.9)
Male	1 (3.2)	6 (19.4)
Caseload***		
Paediatric		
Speech	13 (41.9)	16 (51.6)
Language	13 (41.9)	15 (48.4)
Fluency	6 (19.4)	11 (35.5)
Disability/AAC	5 (16.1)	8 (25.8)
Voice	4 (12.9)	7 (22.6)
Swallowing	1 (3.2)	1 (3.2)
Adult		
Speech	7 (22.6)	3 (9.7)
Language	2 (6.5)	1 (3.2)
Fluency	2 (6.5)	3 (9.7)
Disability/AAC	2 (6.5)	2 (6.5)
Voice	3 (9.7)	3 (9.7)
Swallowing	3 (9.7)	3 (9.7)
	Range	M (SD)
Age (years)	23 - 64	33.1 (9.9)
Years practicing	1 - 42	9.6 (10.6)

*% of entire cohort.
**Total >100% as some participants reported multiple workplaces.
***Total >100% as most participants reported multiple areas of practice on their caseload.

There was a broad range of videoconferencing technologies used by SLPs providing services via telepractice. By far the most commonly used technology was Skype™ (64.3%, $n = 9$), followed by GoToMeeting™ (42.9%, $n = 6$) and Adobe Connect™ (35.7%, $n = 5$). Most SLPs undertaking telepractice used two or more technologies to provide services to clients (71.4%, $n = 10$).

Face validity of TASC-r

A significant, strong positive relationship was found between participants' total TASC-r scores and their overall ratings of rapport with each child ($r = 0.601$, $p < 0.01$). Overall, 83.9% of SLPs ($n = 26$) agreed that the TASC-r fit with their understanding of rapport.

Twelve SLPs answered an open-ended question regarding their perception of the TASC-r, and these also indicated a strong relationship between SLPs' understanding of rapport and the TASC-r. Six clinicians were positive in their comments. One SLP commented "I saw the words 'ally' and questions relating to the client's attitude towards working with the clinician in solving their everyday speech/communication issues as fitting well with my understanding of the 'therapeutic alliance'". Another SLP commented that they agreed with the TASC-r but wanted more questions relating to the child's perseverance with difficult tasks. Three SLPs commented that they thought the questions excluded the idea of rapport with parents/carers as a team, and they believed this was an important aspect of the therapy process. Interestingly, all of these SLPs were conducting telepractice, and two noted that they provided more "coaching" to families for complex communication for disability, and thus, in these contexts, the most important feature of rapport was between themselves and the family. One SLP commented that they did not feel they understood the term, and another thought the concept of therapeutic alliance was "less friendly" than the idea of rapport.

Therapeutic alliance in face-to-face and telepractice conditions

The telepractice group reported on a median of one client (SD = 0.8) and the face-to-face group reported on a median of two clients (SD = 0.9). The difference in number of clients reported on between the two groups was not significant ($p = 0.118$).

The average TASC-r score over both groups was 38.9 from a possible total of 48. This indicates a high level of overall rapport, as denoted by scores in the top quartile (i.e. 37–48) (Zandberg et al. 2015). There was no significant difference in the TASC-r scores for telepractice and face-to-face conditions ($p = 0.961$) (Table II).

Confidence and comfort with technology

There was no significant difference between either face-to-face or telepractice SLPs confidence with everyday software and technology ($p = 0.414$) or their comfort with unfamiliar software and technology ($p = 0.780$). In both service delivery models, the majority of SLPs felt confident with familiar technology (95.6%, $n = 29$) and comfortable with unfamiliar technology (87.1%, $n = 27$).

Table II. Results from the Therapeutic Alliance Scales for Children – Revised (TASC-r) by service delivery method.

	TASC-r* M (SD)	TASC-r* median	TASC-r* range
Telepractice ($n = 21$)	38.4 (7.8)	40	20–48
Face-to-face ($n = 3$)	39.2 (5.9)	40	21–48

*TASC-r summed score, possible range 12–48.

Discussion

In this study, we aimed to validate a quantitative measure of therapeutic alliance for speech–language pathology as well as determine whether there was a difference in reported therapeutic alliance between telepractice and traditional, face-to-face service delivery with paediatric clients. SLPs' comfort with technology was also investigated to determine whether this differed between models of service delivery. Findings indicated that there was no significant difference in TASC-r scores, and thus therapeutic alliance, between SLPs, regardless of their service delivery model. There was also no significant difference in SLPs' comfort with technology, in either face-to-face or telepractice settings.

The high, significant correlation between TASC-r scores and SLPs' overall measures of rapport indicates that the modified TASC-r may have potential for use in speech–language pathology. The close correlation between SLPs' overall opinions of rapport with their clients and the TASC-r total scores demonstrate that the tool aligns closely with SLPs' views of rapport and alliance. SLPs reported that they were comfortable with the tool, the items used and with what it measured.

The two groups of SLPs studied were heterogeneous in caseload and setting, yet were very similar in scores for both therapeutic alliance and comfort with technology. This indicates that high levels of therapeutic alliance can be developed regardless of caseload, setting and mode of service delivery. This finding is consistent with the experience of other health professionals, such as psychologists (Simpson & Reid, 2014).

Although this study is a preliminary investigation of rapport in speech–language pathology, these findings may help to reassure SLPs about telepractice and concerns about its impact on rapport (Hill & Miller, 2012; May & Erickson, 2014; Simpson & Reid, 2014). This study provides direct evidence that relationships developed online via videoconferencing are similar to those developed face-to-face. The lack of significant difference between service delivery models also demonstrates equivalence of care in relation to rapport. Equivalence to standard care has been noted by ASHA and SPA as important for telepractice (ASHA, 2016; SPA, 2014).

Open-ended comments from participants indicated that some SLPs view rapport and therapeutic alliance as being more than a simple, two-way relationship between the SLP and their client. Some SLPs noted that families and school

environments also play a big role in the facilitation of therapy, and thus, development of a therapeutic alliance with these parties is essential. This factor was especially highlighted by SLPs who managed children with complex communication needs via telepractice, as they reported that it is the family that provides the therapy to the client. Further research is required to determine how factors such as clinician, caregiver and child relationships work together to form an overall therapeutic alliance in both face-to-face and telepractice settings. This may be particularly important in telepractice where clinicians may work more actively with carers to coach them in implementation of therapy strategies (Hines et al., 2015).

In the assessment of therapeutic alliance, it is important to investigate the perspectives of a range of stakeholders, for example, the child and their family. Alongside the TASC-r child and therapist forms, there are other variations such as the TASCP for parents and caregivers (Accurso et al., 2013) and the TASCA for adolescents (Zandberg et al., 2015). These, when used in combination, would allow further investigation into the multiple factors that affect therapeutic alliance development in speech–language pathology. In addition, therapeutic alliance literature often describes the "bond" element as having a greater relation than the "task" and "goal" elements to outcome (Horowitz, 2013; Morrison & Smith, 2013; Simpson & Reid, 2014). The specifics of how therapeutic alliance is formed and maintained in speech–language pathology are areas for future research.

Further psychometric analysis is needed to confirm the validity of the TASC-r in speech-language pathology. As yet, there are no normative scores for the TASC-r in any discipline. Normative data in speech-language pathology would allow the TASC-r to be used to evaluate quality of rapport across a greater range of variables, such as client age, technology platforms used and therapy settings. Further study using the TASC-r in telepractice may be useful to investigate the role of the family and the suitability of particular client groups for telepractice. For example, children with autism spectrum disorder may be able to build better rapport via telepractice, as they can remain in a familiar environment, and the technology may increase engagement (Boisvert, 2012).

To our knowledge, this is the first time that the TASC-r has been used to investigate therapeutic alliance in a telepractice setting for any discipline. As a result, our preliminary findings may help provide a baseline set of comparative data for telepractice. Concerns about therapeutic alliance and uptake of telepractice are not unique to speech–language pathology (Simpson & Reid, 2014), and thus, the TASC-r may have potential to support evaluations of telepractice services across disciplines.

Although our results indicated that therapeutic alliance, as measured by the TASC-r, is similar across face-to-face and telepractice modes of delivery, it is likely that it is developed differently across these settings. Researchers have found that there are likely qualitative differences in therapeutic alliance in telepractice, for example adaptations to body language to compensate for a head and shoulders view (Hines et al., 2015; Horowitz, 2013; Simpson & Reid, 2014). Similarly, SLPs in Hines et al.'s (2015) study reported that SLPs planned and managed their sessions differently in order to develop rapport via telepractice. Further research could investigate what strategies are used by SLPs to foster and develop strong therapeutic alliance in various settings and with varied client types, both face-to-face and via telepractice. Analysis of therapeutic discourse, for example, may be useful in providing a detailed investigation of telepractice sessions (Leahy, 2004) and may help to determine whether clinician perspectives of rapport are mirrored in online interactions. Such information would help to ensure that SLPs are adequately prepared for telepractice and could inform development of training packages.

Telepractice and face-to-face SLPs did not differ in their levels of comfort and confidence with technology. This may be due to SLPs' high levels of confidence with technology generally, as use of software such as Skype® becomes more prevalent in everyday society. However, it is also possible that SLPs who only engage in face-to-face practice are less aware of the boundaries of their technological knowledge. Conversely, telepractice SLPs may downplay their comfort and confidence with technology, as they are more aware of their limitations.

Despite these caveats, our results suggest that comfort and confidence with technology is not a major factor impacting on SLPs' willingness to adopt telepractice. Uptake of telepractice may not be facilitated simply because a SLP is a technology-focussed person. Rather, Hines et al. (2015) found that it was through clinicians attempting telepractice and learning how to use their existing skills in a new environment that supported change in attitudes to telepractice. Changes in education mean that increasingly, allied health students have direct experience with information and communication technology as opportunities for online learning expand. However, even though students may report strong knowledge of, and skills with using technology, they still require support to transfer these skills to professional contexts (Lam et al., 2016). Therefore, education aimed at supporting SLPs transitioning to telepractice should not focus solely on technology, but the ability to transfer clinical skills from the face-to-face setting to an online environment (Hines et al., 2015).

Limitations

There were some limitations to this study. Overall, the sample size was small. SLPs were able to choose which clients they rated their therapeutic alliance. Therefore, it is possible that some may have deliberately chosen clients with whom they believed they had stronger or weaker rapport. We attempted to minimise this bias through the comparative design, but bias from this source could not be completely eliminated. Another limitation is that this study did not elicit information about the therapy setting for each client. Our study did not investigate factors that may facilitate or hinder rapport, for example conducting telepractice in a quiet as opposed to a noisy office. We were also unable to analyse TASC-r information by client group, for example the age, diagnosis and location of clients, and how this may have affected their therapeutic alliance scores. These may be areas for future research.

Conclusions

This study provides preliminary evidence of the face validity of the TASC-r for use in investigating therapeutic alliance in speech–language pathology. It also demonstrated no significant difference between clinician-reported therapeutic alliance developed via telepractice and in face-to-face settings. Our findings suggest that concerns regarding therapeutic alliance in telepractice may be unsubstantiated. Our results also demonstrated that SLPs delivering telepractice and face-to-face therapy sessions report similar levels of comfort with technology. Future research is required to identify how speech pathologists develop rapport within telepractice.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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