What does a family who is 'engaged' in early intervention look like? Perspectives of Australian speech-language pathologists.

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Abstract

Purpose: To build a description of what engagement in early speech-language pathology intervention looks like, by exploring speech-language pathologists (SLPs)' perceptions of 1) what characteristics best describe families who are "engaged" in early speech-language pathology intervention and 2) which characteristics are most important for engagement.

Method: Group concept mapping, a participatory mixed-methods research approach, was used to represent the perspectives of Australian SLPs working with children aged 0-8 years and their families in early intervention. Using Concept Systems^{TM} software, participants: 1) brainstormed responses to a focus question (n = 58); 2) grouped statements into categories (n=34); and 3) rated the importance of each statement (n = 29).

Result: SLPs identified 108 characteristics of engagement in early speech-language pathology intervention, which were grouped into seven key concepts: (1) the family is reliable and ready for therapy; (2) the family has an open, honest relationship with the SLP; (3) the family actively participates and takes initiative; (4) the family works in partnership to plan and set goals together; (5) the family sees and celebrates progress; (6) the family invests in intervention at home; and (7) the family understands intervention and advocates for their child. All aspects of engagement were considered important by participants, with the family-SLP relationship and families continuing to invest in intervention at home being rated most highly.

Conclusion: Results present a picture of engagement which has been informed by stakeholders, and which goes beyond aspects of engagement which have previously been identified in the literature. Families who are engaged in early speech-language pathology intervention are actively invested and involved in intervention in various ways, both inside and outside the clinic room.

What does a family who is 'engaged' in early intervention look like? Perspectives of Australian speech-language pathologists.

The engagement of families has been recognised as a key aspect of service delivery in a range of early childhood intervention settings, including speech-language pathology (e.g. Melvin, Meyer, & Scarinci, 2019); occupational therapy (e.g. D'Arrigo, Copley, Poulsen, & Ziviani, 2019); mental health (e.g. Haine-Schlagel & Walsh, 2015); and social services (e.g. Yatchmenoff, 2005). Family engagement (i.e. investment and active involvement) in early intervention is considered particularly important as families are the "first and primary educators of children" (Organisation for Economic Cooperation and Development, 2006, p. 148) and therefore play a central role in supporting children's early development in a range of environments. In Australia, there has been an increasing emphasis on engaging families and communities in early childhood development over the last decade, owing to the establishment of a National Early Childhood Development Strategy (Commonwealth of Australia, 2009). A definition of "early intervention" varies across different countries, and indeed, the age range for children who are eligible for early intervention services varies across different states and service settings in Australia (e.g. Children's Health Queensland Hospital and Health Service, 2019; Early Childhood Intervention Australia, 2016; National Disability Insurance Agency, 2019). However, the most commonly used definition of early intervention at the time of this study across Australian government and not-for-profit services referred to services delivered to children 0 – 8 years of age. Therefore, the term "early intervention" will herein refer to healthcare services provided to children aged 0 – 8 years, and their families.

As well as being emphasised by policymakers, engaging families in early intervention services is consistent with best practice models of family-centred care, which identify families as the "unit of attention" when delivering early intervention services to children (Epley, Summers, & Turnbull, 2010). In addition, engaging families in early intervention is thought to

have an impact on the effectiveness and efficiency of services (Arai, Stapley, & Roberts, 2014; Haine-Schlagel & Walsh, 2015). The evidence base in this area is still building, however, a number of studies have reported a link between parent engagement and enhanced early intervention outcomes. For example, a review and meta-analysis of 48 studies in paediatric psychology found that including parents in intervention added benefits beyond the outcomes achieved by interventions that focussed on the child alone (Dowell and Ogles, 2010). A better understanding of parent engagement may provide important insight into how therapy 'works', which has been identified as an important topic for research (Doss, 2006), and may therefore have important implications for supporting optimal early childhood development.

Despite the acknowledged importance of engagement in paediatric early intervention settings, the actual meaning of "engagement" has been poorly understood and inconsistently defined (D'Arrigo, Ziviani, Poulsen, Copley, & King, 2017), which has prevented the development of knowledge around how engagement can be effectively measured and facilitated in services. Traditionally, engagement has been defined in terms of static variables such as attendance and drop-out rates from services (Staudt, 2007). Recent literature across adult and paediatric intervention settings, however, has highlighted that engagement is a complex and multifaceted construct. Specifically, engagement has been recently defined as a co-constructed, relational process (Bright, Kayes, Worrall, & McPherson, 2015), which requires affective, cognitive, and behavioural involvement to bring about change in behaviour and/or achieve desired outcomes inside and outside of intervention sessions (e.g. D'Arrigo et al., 2017; King, Currie & Petersen, 2014). Viewing engagement in this way shifts the "responsibility to engage" from the family alone to the family and clinician together and emphasises the role of the clinician in facilitating engagement and creating an environment for change (King et al., 2014).

In early speech-language pathology intervention (i.e. intervention provided to children aged 0 – 8 with speech, language and communication difficulties), there is growing recognition of the importance of engaging families in services (e.g. Klatte, Harding, & Roulstone, 2019; Melvin et al., 2019), but engagement as a construct is still not well-understood. A recent review of existing literature in the field by Melvin et al. (2019) provided a first step towards understanding parent engagement in this context. In the review, parent engagement was described as a complex, multifaceted state where parents who are engaged are ready and empowered to take an active role in their child's intervention, both inside and outside early speech-language pathology intervention sessions. Importantly, it was identified that engagement was also a relational process – i.e. while some parents were engaged in intervention from the start, most parents "become engaged" over time when supported by speech-language pathologists (SLPs) to do so (Melvin et al., 2019). These findings are in line with previous research which has highlighted the dynamic nature of engagement in other settings (Bright et al., 2015), and suggest that facilitating families' overall engagement in early speech-language pathology intervention may be a necessary precursor to realizing families' active involvement inside and outside sessions. This is important considering that the value of involving parents in intervention has been increasingly highlighted across the paediatric literature (Sugden, Baker, Munro, Williams, & Trivette, 2018; Watts Pappas, McLeod, McAllister, & McKinnon, 2008). For example, a recent survey of 288 Australian SLPs working with children with speech sound disorders identified that 98.5% of participants agreed or strongly agreed that family involvement – primarily defined in the study by behavioural variables such as involvement in home practice – is essential for intervention to be effective (Sugden et al., 2018).

In light of the importance of working with families in early intervention, and the fact that research from other areas of the literature suggests engagement may impact the

effectiveness and efficiency of early intervention services, further research is needed to better understand the nature of engagement in the context of early speech-language pathology intervention. In order for clinicians to effectively fulfil a role in helping family members to become engaged, a comprehensive understanding of a "state of engagement" must be established. In addition, the components that are most important for effective engagement in early speech pathology intervention must be identified. Therefore, this study aims to build a description of what engagement in early speech-language pathology intervention looks like by exploring SLPs' perceptions of (1) what characteristics best describe a family who is "engaged" in early speech-language pathology intervention and (2) which characteristics are most important for engagement.

Method

Research Design

Group concept mapping (Kane & Trochim, 2007; Trochim & Kane, 2005) was used to generate and analyse data in the present study. Group concept mapping is a participatory mixed-methods research approach which combines explorative qualitative methods (i.e. group brainstorming with stakeholders) with a number of multivariate statistical analyses (i.e. Multidimensional Scaling and Hierarchical Cluster Analysis) to 'map out' the ideas of a group of participants (Trochim & Kane, 2005). This methodology has been used in practice-based research across a range of healthcare contexts (e.g. public health; see van Bon-Martens, van de Goor, & van Oers, 2016). Specifically, it has been used as a tool for facilitating the participation of key stakeholders in the development of a framework or conceptualisation of a topic of interest (Trochim & Kane, 2005). In this study, the use of online concept mapping software, *Concept Systems Global MAX,* allowed the participation of Australian SLPs across large geographic distances over a period of 9 months in a time- and cost-effective way.

Participants

The perspectives of Australian SLPs working in early speech-language pathology intervention services were sought in this study. Participants were recruited primarily via an email advertisement which was circulated by Speech Pathology Australia, the national peak body for the profession, as well as distributed through public networks and forums, relevant social media outlets, and via professional contacts of the research team. Participants were included if they worked in a paediatric speech-language pathology service in Australia with families of children aged 0-8 years. This age range was chosen based on criteria used for early intervention service delivery in multiple Government services in Australian states and territories. It is also in line with definitions of "early childhood" adopted by a range of Australian not-for-profit organisations (e.g. Australian Research Alliance for Children and Youth, 2020) and private services. Exclusion criteria based on participants' caseloads within these services were not applied as the purpose of this study was to broadly explore how SLPs viewed the construct of engagement.

Procedure

Ethical clearance was obtained from The University of Queensland's Human Research Ethics Committee. Participants were provided with a link to access the project using online Concept Systems Global MAX software at a time and location convenient to them. Brief demographic data (e.g. years of experience, early intervention setting) was collected from participants via an online questionnaire integrated into the Concept Systems Global MAX software. The concept mapping process included four phases: (1) brainstorming, (2) sorting and rating, (3) data analysis, and (4) interpretation.

Brainstorming. Visual stimulus has previously been used in qualitative healthcare research to focus participants on a research question, encourage reflection, and prompt them

to think more diversely about a topic (e.g. Glaw, Inder, Kable, & Hazelton, 2017). Therefore, to stimulate the brainstorming activity in the first phase of the study, the research team consulted senior SLPs working at various early intervention services in South East Queensland to gain information about the variety of ways SLPs may work with families in early intervention services. Six cartoon pictures which represented some of these different contexts were developed by the research team in collaboration with a cartoonist (see Supplementary Material) and briefly presented to participants at the beginning of the study. After viewing the cartoon stimulus, participants were asked to reflect on how they worked with families in their setting and to generate statements in response to the following focus prompt: "I can tell that a family is engaged in early speech-language pathology intervention when…" Responses from participants remained anonymous. However, statements provided by previous participants were made visible and participants were encouraged to review the existing list of statements before contributing new ideas. It is noted that all participant statements were subsequently rated independently by participants, giving them an opportunity to indicate if any brainstormed statements were not relevant and/or important to them. The brainstorming portal was open for eight weeks (i.e. two months). Participants were given the opportunity to provide their email address if they would like to be contacted about further participation in the project.

To ensure that participants would receive a list of relevant, syntactically similar statements for the next step in the process, the research team completed a process of idea synthesis described by Kane and Trochim (2007) and reported in various other concept mapping studies (e.g. Poost-Foroosh, Jennings, Shaw, Meston, & Cheesman, 2011). In this process, unclear statements provided by participants were edited for clarity and grammatical accuracy, and redundant items were eliminated. Novel statements within participants' original responses were also separated out. Participants' original wording was retained in this editing

process, and all changes to participants' original statements were agreed upon by all members of the research team to ensure that the original meaning had not been changed. An example of an original participant statement from the brainstorming phase was: *"Parents have ideas about the intervention, and are active in identifying what strategies will and wont [sic] work for their child and their family."* After editing and idea synthesis, this response was presented to participants as two separate statements in the following format: *"Parents have ideas about the intervention"* and *"Parents are active in identifying what strategies will and won't work for their child and their family"*.

Sorting and rating of the statements. Similar to the brainstorming phase, participants accessed online Concept Systems Global MAX via a link, where they were provided with a list of statements generated by participants in the brainstorming phase. Participants were asked to sort these statements into groups based on their meaning or theme, in a way that made sense to them; and to name each group of statements accordingly. They were advised that: (a) there was no right or wrong way to group the statements, (b) they should not create groups according to priority or value, such as 'important' or 'hard to do', (c) a statement could be put in its own group if it was unrelated to the other statements, and (d) they should not create piles such as 'miscellaneous' or 'other'. While instructions stated that there was no specific number of statement groups required, participants were advised that 5 to 20 groups usually worked well for the number of statements generated in this project (Concept Systems Incorporated, 2017).

Participants were also asked to rate the importance of each statement on a 5-point Likert scale from 1 = not important for engagement to 5 = extremely important for engagement. Participants were advised that these tasks would take approximately 60 minutes to complete. To allow for participation of as many SLPs as possible, the sorting/rating phase was open for

an extended period of seven months, and a reminder email was circulated two months after initial recruitment emails were sent.

Data analysis. Results from the sorting/rating phase were entered into *Concept Systems Global MAX* software to produce a visual representation of how statements were conceptually grouped across all participants (i.e. a concept map). First, similarity matrices were constructed for each participant from the sorting/rating data entered. Then data from all participants was combined and analysed using Multidimensional Scaling to create a two-dimensional *point map* that represented the set of statements created during brainstorming (Kane & Trochim, 2007). Statements that were categorised together more frequently by participants were placed closer together on the map. Conversely, statements that were not frequently categorised together were placed further apart. Hierarchical Cluster Analysis was then applied to group statements represented on the *point map* into clusters of statements that reflect similar concepts to form a *concept map*. Multiple cluster maps could be generated using the software.

Interpretation. The research team followed an iterative review process as recommended by Kane and Trochim (2007) to determine the final number of clusters that best represented participant data. The research team reviewed models with two clusters through to eight clusters to identify which solution retained the most useful detail while merging clusters which thematically belonged together (Kane & Trochim, 2007). As well as reviewing each statement within the cluster for thematic cohesiveness, the team considered average bridging values (ranging from 0 to 1) calculated in the analysis process for each cluster. As a lower bridging value indicates that a statement is 'closer' to the meaning of the cluster it is located in, a lower average bridging value indicates that statements within that cluster were frequently sorted together. Therefore, a statement with a lower bridging value is a good reflection of the content represented in that area of the concept map (Kane & Trochim, 2007). Through

discussion, the team agreed that a seven-cluster solution best represented the participant data. As participants had provided labels for their statement groups in the sorting and rating phase, ten participant labels with the best fit were calculated for each cluster using *Concept Systems Global MAX* software. However, as individual participant groupings did not necessarily represent the breadth of content within the cluster, the research team reviewed the list of suggested labels, and together determined a label for each cluster which represented the content of the entire cluster. Where possible, participants' original wording was retained.

Importance ratings. Participant ratings were used to identify the importance of each statement for engagement. Ratings from all participants were combined and analysed using descriptive statistics to identify the total average rating of each statement. Ratings for each statement within the seven clusters were also combined to identify the average importance rating for each cluster.

Result

In total, 58 participants completed the brainstorming phase of this study, 34 participants completed the sorting phase, and 29 participants completed the rating phase. Participants worked in a range of service contexts across all states and territories of Australia, with the exception of the Northern Territory which may be due to the comparatively small number of SLPs employed in this region (Commonwealth of Australia, 2014). Although some participants did not provide full demographic data, various early intervention service settings were represented, including community health settings, disability services, early childhood education, private practice, hospitals, and non-governmental organisations (NGO). Participants reported having various levels of clinical experience as a SLP, from less than 5 years of experience to more than 15 years of experience. A summary of participant demographics is presented in Table I.

[Insert Table I about here]

In the initial brainstorming phase, SLPs generated 85 original statements. After editing and idea synthesis were completed, there was a final list of 108 novel statements which described engagement in early speech-language pathology intervention. After applying Multidimensional Scaling and Hierarchical Cluster Analysis in the second phase, 7 clusters of statements that represented similar concepts were identified: (1) the family is reliable and ready for therapy; (2) the family has an open, honest relationship with the SLP; (3) the family actively participates and takes initiative; (4) the family works in partnership to plan and set goals together; (5) the family sees and celebrates progress; (6) the family invests in intervention at home; and (7) the family understands intervention and advocates for their child. The final concept map is provided in Figure 1. A stress value of 0.3195 after 13 iterations was calculated for this solution, which indicated the model was within the range for a concept map with good fit (range 0.17 - 0.34, average = 0.28) (Rosas & Kane, 2012).

[Insert Figure 1 about here]

The number of statements in each cluster ranged from 9 to 23. Example statements from each cluster, average ratings, and bridging scores are presented in Table II (see Supplementary Material for a complete list of participant statements). The limited range of average importance ratings for clusters (i.e. ratings averaged across all statements in a cluster), from 3.73 to 4.06, suggested all identified characteristics of engagement were considered important by participants. A summary of each cluster is presented below.

[Insert Table II about here]

Cluster 1: The family is reliable and ready for therapy

Cluster 1 contained 12 statements which described engagement according to a range of practical factors such as families reliably attending appointments, being prepared for appointments and notifying the SLP of changes to their schedule ahead of time.

Cluster 2: The family has an open, honest relationship with the SLP

The second cluster contained 23 statements which described aspects of the therapeutic relationship between families and SLPs. This included interpersonal interaction and having open communication with each other. The importance of families being honest in expressing their views and expectations of intervention was also identified. This was the largest cluster on the map, and was given the highest average rating by participants in terms of importance for engagement.

Cluster 3: The family actively participates and takes initiative

The third cluster included 17 statements which described the active participation of families within intervention sessions as an indicator of engagement. As well as joining in with activities, statements in this cluster referred to families being proactive and taking initiative by coming up with new ways to support their child. This cluster was given the lowest average importance rating by participants.

Cluster 4: The family works in partnership to plan and set goals together

Cluster 4 contained 18 statements which described how engaged families work with SLPs as partners in the intervention process. The need for collaboration between families and SLPs was particularly emphasised by statements which described joint problem solving, joint intervention planning and joint goal-setting.

Cluster 5: The family sees and celebrates progress

Cluster 5 contained 9 statements which described how engaged families reflect on their child's progress in intervention and celebrate their child's achievements with the SLP. This was the smallest cluster on the map.

Cluster 6: The family invests in intervention at home

Cluster 6 contained 16 statements which described families who continue to have an active role in intervention outside of sessions. In particular, this included completing home practice tasks and implementing strategies from sessions within family routines and activities. This cluster was given the second highest importance rating by participants.

Cluster 7: The family understands intervention and advocates for their child

Cluster 7 contained 13 statements which described how engaged families understand intervention and take ownership of this process by becoming an advocate for their child's communication. This was particularly identified in statements which described the family being able to articulate what they had learned to other family members and key stakeholders. This cluster was given the second lowest average importance rating by participants.

Discussion

The current study aimed to describe the characteristics of families who are "engaged" in early speech-language pathology intervention from the perspective of SLPs and identify which characteristics SLPs consider to be most important for engagement. The seven characteristics of engagement identified by participants suggest that families who are engaged in early speech-language pathology intervention are reliable and ready for therapy; have an open, honest relationship with the SLP; actively participate and take initiative; work in partnership to plan and set goals together; see and celebrate progress; invest in intervention at home; and understand intervention and advocate for their child. Participants described both in-session and out-of-session aspects of engagement, with the two most highly rated aspects being the family-SLP relationship and families continuing to invest in intervention at home.

Results support Melvin and colleagues' (2019) recent conceptualisation of engagement in early speech-language pathology intervention as a multifaceted construct where families take an active role in intervention both inside and outside sessions. Other

studies which have investigated health professionals' perspectives of engagement in paediatric services have also identified that engagement is made up of multiple components (Bright et al., 2015; D'Arrigo et al., 2017; King et al., 2014; King et al., 2019). For example, in a study by King and colleagues (2019), Canadian service providers in paediatric rehabilitation (i.e. three occupational therapists, two physical therapists, two SLPs, one music therapist, and one nurse) described examples of parents' affective, cognitive, and behavioural aspects of engagement. Many aspects identified by service providers were similar to those brainstormed by SLPs in the current study – for example, both studies found that affective involvement may be demonstrated by families having open conversations, and showing positive and responsive body language in sessions. Examples of cognitive involvement in King et al. (2019) included parents being aware of their child's therapy plans, which was similarly described by SLPs in the current study when families *understand intervention and advocate for their child* (Cluster 7). Finally, descriptions of behavioural involvement in King and colleagues' (2019) study suggested that engaged parents join in on activities, identify goals, and let professionals know "what they can and cannot do". Similar descriptions were brainstormed by SLPs in the current study, with families *actively participating and taking initiative* (Cluster 3), and *working in partnership to plan and set goals together* (Cluster 4).

Across the clusters identified in the current study, participants described aspects of engagement in early speech-language pathology intervention which importantly occur both in-session and out-of-session, with four of the seven clusters being related to in-session engagement (see Table II). Within sessions, participants identified that engaged families have open, honest relationships with SLPs; see and celebrate progress; actively participate and take initiative in sessions; and work in partnership to plan and set goals together. In particular, the importance placed on statements in Cluster 2, *The family has an open, honest relationship with the SLP*, is consistent with existing literature that has identified therapeutic relationships

as a central component of engagement in both adult (e.g. Bright et al., 2015; Miciak, Mayan, Brown, Joyce, & Gross, 2018) and paediatric settings (e.g. D'Arrigo et al., 2017; Klatte et al., 2019). The fact that this cluster received the highest importance rating also reflects findings of a recent review of engagement in early speech-language pathology intervention which emphasised that trusting, honest relationships allowed parents and SLPs to move forward with intervention together (Melvin et al., 2019); as well as existing literature where positive family-professional relationships are considered a key element of family-centred care (e.g. Epley et al., 2010). Interestingly, some statements in Cluster 2 mentioned the involvement of family members other than parents, which stands in line with a principle of family-centred care that defines the *entire family* as the "unit of attention" in early intervention (Epley et al., 2010). This finding is important as the majority of studies to date have focussed on parent engagement (see Melvin et al., 2019), instead of considering how different family members may be engaged.

Seeing and celebrating progress was another aspect of families' in-session engagement identified by participants. Recognising progress may have implications for a family's cognitive engagement, especially given the importance of a family believing that therapy is needed and is working (King et al., 2014). It follows that families may continue to be engaged if they perceive intervention is effective (Solish and Perry, 2008). D'Arrigo and colleagues (2019) recently suggested that highlighting progress may support development of a family's self-efficacy, and promote their motivation for, and engagement with, intervention over time.

Families' active participation in sessions (Cluster 3) was represented in statements about joining in on activities, paying attention by putting away devices, and making eye contact "rather than sitting and watching or playing on their phone". Similar language was used by occupational therapists in D'Arrigo and colleagues' (2019) study, who felt parents were highly engaged when they interacted in sessions as opposed to "just observing" or

"standing back" (D'Arrigo et al., 2019, p. 7). Nonverbal signals have likewise been identified as indicators of engagement elsewhere (King et al., 2019).

According to other statements in Cluster 3, engaged families "understand they are being trained to be agents of change" and "show initiative to expand on what the SLP has discussed with them directly". Along with statements in Cluster 4 (e.g. "the family do not see the speech pathologist as the expert, but as a partner in therapy"), these statements contribute to a picture of an engaged family who takes ownership in intervention, and works collaboratively with SLPs. It has previously been identified that an outcome of parents collaborating with SLPs in a co-working model may be families embracing a role as "change agents" (Davies, Marshall, Brown, & Goldbart, 2019, p. 5). This way of working is increasingly supported by research evidence (e.g. Law, Garrett, & Nye, 2004) and espoused in policy documents (e.g. Early Childhood Intervention Australia, 2016). However, research suggests parents often enter early speech-language pathology intervention with a limited understanding of their role, and not all families feel comfortable being "equal partners" (Davies et al. 2017), which may provide insight into why Cluster 3 received the lowest importance rating from participants.

Out-of-session aspects of engagement identified by participants include families being engaged before sessions (Cluster 1), in-between, and after sessions (Clusters 6 and 7). The investment before sessions described in Cluster 1 may reflect "buy-in" from families, an emotional investment driven by expectations intervention will be beneficial (Staudt, 2007; Yatchmenoff, 2005). In terms of engagement in-between and after sessions, families' investment at home (Cluster 6) was rated the second most important aspect of engagement. Some statements reflected behaviours described in other SLP studies, such as completing home practice (Marshall, Aldelman, Kesten, Natale, & Elbaum, 2017; Watts Pappas, McAllister, & McLeod, 2016), while others described how engaged families demonstrate

independence in changing behaviours/routines and generalising strategies to novel situations. Some statements highlighted affective and cognitive aspects of engagement. For example, engaged families "enjoy doing homework". Cognitive involvement was also highlighted in Cluster 7, *The family understands intervention and advocates for their child*. Investment and advocacy outside sessions may reflect families becoming informed about intervention as they work with SLPs (Epley et al., 2010). Evidence also suggests that families who are engaged in intervention become effective at promoting learning and development at home (Keilty, 2017). However, many families find home practice challenging (Sugden et al., 2019), and not all families feel ready to become advocates (Conley Wright & Taylor, 2014).

Clinical implications

The findings of the current study challenge SLPs to think more broadly about what engagement looks like in early intervention. Families feeling "heard and understood" and communicating what *is* and *is not* working in an open and honest relationships with their SLP appears to be very important for engagement. As active and reflective listening are relational practices which build family trust and willingness to engage in a partnership with clinicians (Dunst & Espe-Sherwindt, 2016), results remind SLPs to listen well and create space (Meyer, Scarinci, & Hickson, 2019) for families to discuss challenges associated with intervention.

While families actively participating in intervention (Cluster 3) and working in partnership with SLPs to plan and set goals together (Cluster 4) were identified as aspects of their overall engagement, it is important to consider that not all families may be ready to take on the active roles described by participants in this study. However, as parents' conceptions of their role may be "open to change" (Davies, Marshall, Brown, & Goldbart, 2017, p. 179), SLPs may support families to be more actively involved by explicitly negotiating roles (Davies et al., 2017). Considering that families have autonomy to decide how they would like

to engage in intervention (Brassart, Prévost, Bétrisey, Lemieux, & Desmarais, 2017), the nature of families' active involvement and partnership should be jointly determined (MacKean, Thurston, & Scott, 2005), rather than instigated by SLPs based on pre-determined ideas of 'ideal' engagement (Brassart et al., 2017; Davies et al., 2019).

Finally, as families' investment at home was given high importance by participants, SLPs are encouraged to consider how they can support families to continue being invested and involved outside sessions. Participant statements suggest that supporting families to implement intervention within their existing routines and activities is particularly important, which has also been identified elsewhere (Melvin et al., 2019; McAllister et al., 2011). SLPs may consider helping families to identify a specific time for home practice – for example, while they are in the car (McAllister et al., 2011) – and adjusting activities to suit this context.

Methodological limitations

While various early speech-language pathology intervention settings across Australia were represented, we acknowledge that views of a limited sample of SLPs were included. Fifty-eight SLPs completed the brainstorming phase, but only half completed all three phases. Attrition is common in concept mapping studies (Rosas and Kane, 2012), however the number of participants was above the recommended range of 20-30 participants for reliable results (Rosas & Kane, 2012).

Another limitation of this study was that it aimed to define engagement from the perspective of SLPs only. SLPs' perceptions of engagement may have also been influenced by multiple factors. As service delivery varies across Australia, participants' responses may have reflected their specific location and caseload. For example, there was a high number of participants from Queensland services (n = 35), where engagement may look different than in Western Australia (n=1). There was also a higher number of participants in Community

Health (n = 17) and Disability Service settings (n = 18) than other settings. Service delivery may additionally be influenced by external factors such as the roll out of funding through the National Disability Insurance Scheme (National Disability Insurance Agency, 2019).

Finally, the current study included SLPs working with families of children aged 0-8 years. We acknowledge that there may be unique differences in how families engage with intervention based on the age of their child. Readers should be cognizant of these differences when considering the applicability of these findings to their practice contexts.

Future directions

The aspects of engagement identified in this study should be further investigated. As families often need time and support from SLPs to become engaged (Melvin et al., 2019), future research should consider how engagement is operationalised in sessions, and how it may change over time. Considering that engagement is co-constructed by SLPs and families together, there is a need for research which represents the views of families, particularly families from complex backgrounds and culturally and linguistically diverse backgrounds, as previous studies have identified that working with these families may require a different approach (Brassart et al., 2017; King, Desmarais, Lindsay, Piérart, & Tétreault, 2015).

The identification of out-of-session aspects of engagement in the current study raises questions about how engagement may be effectively supported before, between, and after sessions. For example, as missed appointments disrupt the effectiveness and efficiency of SLP services (Arai et al., 2014), research is needed to understand how SLPs could support families' preparation for, and attendance at, sessions. Questions about supporting family involvement in home practice and advocacy should be prioritised in research agendas.

Finally, further research is needed to determine which aspects of engagement are most important for outcomes. Future studies investigating the measurement of engagement in early

speech-language pathology intervention should consider the multifaceted and collaborative nature of engagement, instead of relying on static variables alone as indicators of engagement.

Conclusion

The results of the current study provide initial insight into the complex, multifaceted state of engagement in early speech-language pathology intervention. Participants' responses suggest that families may be 'engaged' in intervention in a variety of ways, both inside and outside sessions. Specifically, SLPs in this study considered that families are engaged in sessions when they build an open and honest therapeutic relationship with SLPs and work in partnership with them to plan, problem solve and set goals together. Engaged families were described as families who actively participate, take initiative, and see and celebrate their child's progress. In addition, participants identified that families who are engaged in intervention continue to be involved in intervention outside (i.e. before, in between, and after) sessions as they prepare for and reliably attend appointments, invest in intervention at home, and become advocates for their child in external contexts. Of these different aspects of engagement, participants considered open and honest relationships to be most important aspect for engagement, with families investing in intervention at home being rated second highest. Findings of this study can be used to inform future research that seeks to understand how engagement is operationalised in intervention sessions, and that identifies the role of the SLP in facilitating ongoing engagement of families, both inside and outside the clinic room.

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Declaration of Interest

The authors report no declarations of interest.

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Table I Summary of participant demographics

Participant Question	**Brainstorming Phase (n = 58)**	**Sorting Phase (n = 34)**	**Rating Phase (n = 29)**
Years of Experience			
0 – 5: *n* (%)	*26* (44.83)	*5* (14.71)	*5* (17.24)
5 – 10: *n* (%)	*12* (20.69)	*6* (17.65)	*4* (13.79)
10 – 15: *n* (%)	*12* (20.69)	*3* (8.82)	*3* (10.34)
15 – 20: *n* (%)	*8* (13.79)	*8* (23.53)	*5* (17.24)
Did not respond: *n* (%)	*0* (0.0)	*12* (35.29)	*12* (41.38)
Service Location			
Queensland: *n* (%)	*35* (60.34)	*6* (17.65)	*6* (20.69)
New South Wales: *n* (%)	*9* (15.52)	*9* (26.47)	*8* (23.53)
Australian Capital Territory: *n* (%)	*2* (3.45)	*0* (0.0)	*0* (0.0)
Victoria: *n* (%)	*4* (6.90)	*2* (5.88)	*1* (3.45)
Tasmania: *n* (%)	*2* (3.45)	*1* (1.72)	*0* (0.0)
South Australia: *n* (%)	*2* (3.45)	*1* (1.72)	*0* (0.0)
Western Australia: *n* (%)	*1* (1.72)	*3* (8.82)	*2* (6.90)
Northern Territory: *n* (%)	*0* (0.0)	*0* (0.0)	*0* (0.0)
Did not respond: *n* (%)	*3* (5.17)	*12* (35.29)	*12* (41.38)
Service Setting			
Hospital: *n* (%)	*3* (5.17)	*0* (0.0)	*0* (0.0)
Community Health: *n* (%)	*17* (29.31)	*0* (0.0)	*0* (0.0)
Early Childhood Education: *n* (%)	*6* (10.34)	*1* (2.94)	*1* (3.45)
Disability Services: *n* (%)	*18* (31.03)	*0* (0.0)	*0* (0.0)
Private Practice: *n* (%)	*6* (10.34)	*19* (55.88)	*14* (48.28)
Other: *n* (%)	*7* (12.07)	*2* (5.88)	*2* (6.90)
Did not respond: *n* (%)	*1* (1.72)	*12* (35.29)	*12* (41.38)

Table II Seven statement clusters related to engagement in early speech-language pathology intervention with an example statement, bridging score and average rating for each cluster

Cluster	Number of statements in cluster	Example statement in cluster (*statement number*)	Bridging Score		Importance Rating	
			Mean	Standard Deviation	Mean	Standard Deviation
Out-of-session aspects of engagement (before sessions)						
1. The family is reliable and ready for intervention.	12	The family calls in advance to notify the speech-language pathologist of any appointment cancellations rather than just missing the appointment (*45*)	0.81	0.13	3.982	0.298
In-session aspects of engagement						
2. The family has an open, honest relationship with the speech-language pathologist.	23	The family is honest in saying what they find hard (*57*)	0.32	0.12	4.061	0.575
3. The family actively participates and takes initiative.	17	The family shows initiative to expand on what the speech-language pathologist has discussed with them directly (*97*)	0.40	0.19	3.731	0.417

4. The family works in partnership to plan and set goals together	18	The family does not see the speech-language pathologist as the expert but as a partner in therapy for their child (*9*)	0.40	0.19	3.931	0.393
5. The family sees and celebrates progress	9	Parents celebrate small achievements as much as the speech-language pathologist does, demonstrating their understanding of what is taking place (*8*)	0.47	0.11	3.946	0.312
Out-of-session aspects of engagement (after and between sessions)						
6. The family invests in intervention at home	16	Therapy is easily implemented within family routines and activities (*84*)	0.29	0.16	4.048	0.357
7. The family understands intervention and advocates for their child.	13	Parents use similar vocabulary to the speech-language pathologist when talking about how they work with their child (*63*)	0.12	0.06	3.843	0.342

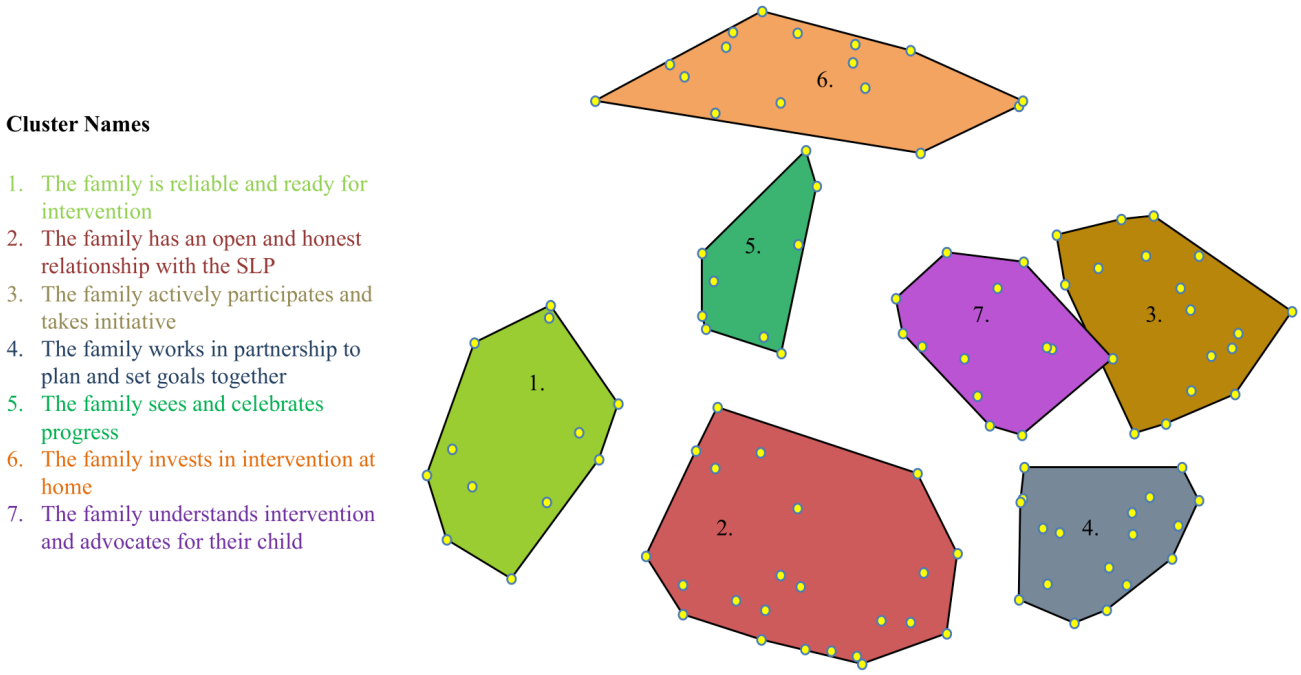
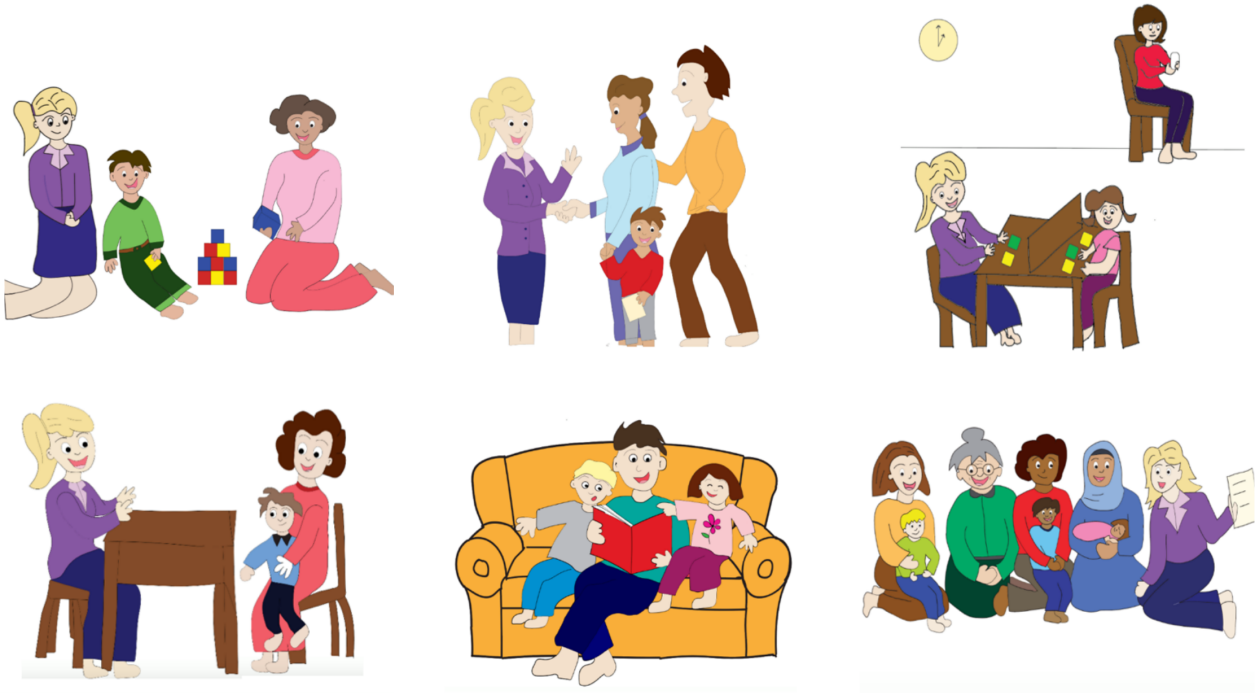


Figure 1. Concept map depicting seven clusters and their names. Dots within each cluster represent a statement generated during the brainstorming task.



Supplementary Material. Cartoon stimulus presented to participants in brainstorming phase.

Supplementary material. All statements generated by participants.

Cluster Name	Number of statements in cluster	Statements in cluster (*statement number*)
Out-of-session aspects of engagement (before sessions)		
1. The family is reliable and ready for intervention.	12	The family keeps appointments (*16*) The family is able to be contacted (*19*) The family interacts with their child (36) The family calls in advance to notify the speech-language pathologist of any appointment cancellations rather than just missing the appointment (*45*) The family comes prepared to sessions (e.g. with AAC) (*70*) The family initiates contact for appointments *(71)* Their child is happy to come to therapy *(77)* Their child is happy to engage with the therapist *(78)* The family recognises and celebrates their child's achievements – great or small *(80)* The family lets the speech-language pathologist know ahead of time if they cannot attend a session *(90)* The family takes their turn in a therapy game *(98)* The family share achievements and milestones in their child's life (e.g. "he made his first friend today") *(100)*
In-session aspects of engagement		
2. The family has an open, honest relationship with the speech-language pathologist.	23	The parent and child are 'switched on' during activities *(1)* The family is honest with the speech-language pathologist about their capacity. For example, "I know what we're doing with communication is really important but I

	just want to focus on (walking, fine motor etc.) right now. Once we've mastered that I'd love to come back and work on this again." *(5)*
	The family tells the speech-language pathologist how strategies work or do not work for them *(25)*
	Parents know the speech-language pathologist *(38)*
	Parents frequently communicate with the speech-language pathologist *(39)*
	A range of family members engage with the intervention process *(47)*
	The family is open about successes and challenges *(5*1)
	The family forms a productive partnership with the speech-language pathologist *(52)*
	The family is honest in saying what they find hard *(57)*
	Parents tell the speech-language pathologist what they want from their service *(58)*
	Parents don't have to be asked to sit down at the table or on the floor with their child during therapy *(62)*
	The family contacts speech-language pathologists between sessions with ideas and questions about their child's intervention *(72)*
	The family feel they have been heard and understood *(79)*
	Therapy goals are important to the family *(83)*
	There is open and honest communication between speech-language pathologist and family *(85)*
	The family and speech-language pathologist respect each other's expertise in relation to the child. *(88)*

		The family asks other key people (e.g. teachers, therapists, other family members) for feedback on their child's areas of difficulty and progress. *(8*9)
		The family communicates openly with the speech-language pathologist *(91)*
		The family puts away their devices and do not answer phone calls *(99)*
		The family tell me about their week - the highs and lows *(101)*
		The family tell me when they are not happy with an aspect of therapy (rather than just not attend or cancel their therapy) *(102)*
		Parents ask to sit in on therapy session (rather than sit in waiting room) *(103)*
		The family makes eye contact *(104)*
3. The family actively participates and takes initiative.	17	The family participates in intervention sessions *(14)*
		The family understands that they are being trained to be agents of change *(15)*
		The speech-language pathologist can sit back and watch the parent work with their child and just coach as needed *(2*2)
		Parents identify things that could be improved *(28)*
		The family problem solve difficulties they have in trying to implement strategies when at home *(30)*
		The family joins in on therapy activities *(43)*
		The family participates in providing therapy to their child *(44)*
		Parents bring along materials or resources they think will be helpful without instruction *(48)*
		Parents are active during intervention sessions without being prompted by the speech-language pathologist. *(60)*

		Parents are able to modify the support they provide their child in sessions, without being prompted by the speech-language pathologist *(61)*
		The family continues to change what they do as the child changes/progresses *(64)*
		The family can describe strategies in their own words *(67)*
		The family identifies new ways to support their child's development *(75)*
		The family is an active part of the session (rather than just sitting and watching/playing on their phone) *(94)*
		The family shows initiative to expand on what the speech-language pathologist has discussed with them directly *(97)*
		Parents can generate novel ways to support their child's difficulties *(107)*
		Parents participate in therapy tasks within the session *(108)*
4. The family works in partnership to plan and set goals together	18	The family engages in joint problem solving *(7)*
		The family does not see the speech-language pathologist as the expert but as a partner in therapy for their child *(9*)
		Individual sessions flow naturally without being overly clinician-led *(1*0)
		Parents have ideas about the intervention *(12)*
		Parents are active in identifying what strategies will and will not work for their child and their family *(13)*
		The family asks questions *(17)*
		The family tells the speech-language pathologist how strategies work or do not work for their child *(24)*
		The family initiates discussions regarding intervention options *(31)*

		Parents make suggestions *(32)*
		The family comes to the speech-language pathologist with their own ideas *(33)*
		A range of family members collaborate during the intervention process *(46)*
		The family is an active collaborator with the intervention process *(49)*
		The family asks relevant questions *(50)*
		The family is able to problem solve with the speech-language pathologist *(74)*
		The family sets goals together with the speech-language pathologist that are meaningful *(86)*
		The family sets goals together with the speech-language pathologist that are functional *(87)*
		The family suggests goals and areas they would like to work on *(92)*
		Parents discuss and troubleshoot their child's progress *(105)*
5. The family sees and celebrates progress	9	Parents celebrate small achievements as much as the speech-language pathologist does, demonstrating their understanding of what is taking place. *(8)*
		The family discuss difficulties they have in trying to implement strategies when at home *(29)*
		The family gives the speech-language pathologist unprompted feedback about how the home tasks went *(42)*
		The family tells the speech-language pathologist they see progress *(54)*
		The family gives feedback on how strategies did or did not work for them *(56)*
		The family talks about/describes how they followed-up outside of sessions *(69)*
		The family reflects on their child's progress in order to set new goals *(76)*

		The family understands that communication is more than just talking *(81)* The family can identify and appreciate small improvements in the child's abilities *(93)*
Out-of-session aspects of engagement (before sessions)		
6. The family invests in intervention at home	16	The parent and child understand their homework *(2)* The parent and child enjoy doing homework *(3)* The parent and child show the speech-language pathologist their homework progress each session. *(4)* Home practice is completed regularly *(6)* Parents implement recommended strategies outside of therapy sessions *(11)* The family practices during the week *(18)* The family is actively working to implement intervention independently in the home environment *(20)* The family can generalise strategies they have been taught to other situations and routines *(21)* The family implements strategies they have been shown/modelled *(23)* Parents implement strategies at home *(34)* The family completes homework tasks *(40)* The family reports completing home practice *(41)* I am teaching parents to implement the intervention at home *(53)* The family tries out strategies at home *(55)*

		The family changes their behaviour or routines to support intervention *(66)*
		Therapy is easily implemented within family routines and activities *(84)*
7. The family understands intervention and advocates for their child.	13	Parents reflect on their own behaviours *(26)*
		Parents identify things that were successful *(27)*
		The family watches carefully *(35)*
		Parents are aware of their child's therapy plans *(37)*
		The family asks questions that are relevant to their child *(59)*
		The family is able to articulate what they have learned *(65)*
		The family participates in sessions with minimal external motivation *(68)*
		The family is able to communicate key messages from therapy to other family members and other stakeholders (e.g. childcare, school) *(73)*
		The family becomes an advocate for their child's communication rights. *(82)*
		The family makes relevant comments *(95)*
		The family asks appropriate questions *(96)*
		Parents have an understanding of their child's strengths and weaknesses *(106)*
		Parents use similar vocabulary to the speech-language pathologist when talking about how they work with their child *(63)*