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Facilitating the Parent/Child Bond: The Training, the Role, and the Perceived Self-Efficacy of Speech-Language Pathologists in the Neonatal Intensive Care Unit

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The Training, the Role, and the Perceived Self-Efficacy of Speech-Language Pathologists in the Neonatal Intensive Care Unit

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Abstract

The purpose of this study was to evaluate the facilitation of parent/child bonding through the roles, training, and perceived self-efficacy of speech-language pathologists working in the Neonatal Intensive Care Unit, as well as to investigate what changes could be made in speech pathology bonding education. Five certified speech-language pathologists currently working in the Neonatal Intensive Care Unit were contacted through an online questionnaire and asked to describe their preferences, beliefs, and practices. While results were variable, the respondents were unified in a belief that there is a connection between feeding disorders and disruption in parent/child bonding. They reported consistently using bonding facilitation techniques but were not unanimously sure that their techniques were effective. There was also an indication that the respondents learned most of what they know about bonding from pursuits outside their college speech pathology program, and that programs should explore bonding facilitation more in the classroom.

Facilitating the Parent/Child Bond: The Training, the Role, and the Perceived Self-Efficacy of Speech-Language Pathologists in the Neonatal Intensive Care Unit

Practicing clinical speech-language pathologists (SLPs) in the hospital setting have a wide range of responsibilities and an extensive variety of potential patients. Professionals working specifically with infants in the Neonatal Intensive Care Unit (NICU) have distinctly unique challenges, and it is important to have a clear, goal-directed strategy of treatment to ensure that the patients treated receive adequate medical care. However, another important process is simultaneously underway in the NICU, and that is the developing bond between parent (particularly mother) and child, something difficult to deny and even more difficult to define.

Research has suggested that the experiences surrounding a child's stay can be traumatic for new parents and result in many negative feelings regarding their own abilities and the staff (Swift & Scholten, 2010). It is notable that the American Speech-Language-Hearing Association (ASHA) declares that SLPs must display competency in providing support for parents in the NICU (2004). However, the literature seems to be lacking in specific ways to facilitate this, thus indicating possible variations in the ways that SLPs demonstrate counseling techniques in their everyday practice. As professionals working directly with the infant and family, speech pathologists have an opportunity to provide support and guidance due to their particular expertise that other hospital staff may not be able to utilize. Considering much of the research on facilitating bonding in the NICU for professionals in the medical field seems to be geared most specifically to nurses, it appears this may be an area in need of further illumination for the speech pathologist, who is a chief expert in communication and social connections.

Variability in the practices of SLPs promoting parent/child bonding in the NICU may result in fluctuating levels of perceived self-efficacy. Albert Bandura (2010) defines self-efficacy

as one's confidence that one has the capability of influencing one's life. It is important to understand the relationship between what the SLP feels is expected of him/her and what the SLP feels is personally accomplished. Bandura also notes that people high in self-efficacy are more likely to seek higher levels of achievement—something important for practicing clinicians and all who are affected by their practices. Speech pathologists who feel more effective may bring more motivation and creativity to the workplace and experience more success. Thus, it is important to understand not only how speech pathologists view bonding facilitation, but also how effective they feel when providing it.

Review of the Literature

Parent/Child Bonding

The concept of mother/infant bonding emerged in the 1970s after a publication by doctors Marshall Klaus and John Kennell (Altaweli & Roberts, 2010). According to a report Kennell produced with Susan McGrath in 2005, "a bond can be defined as a unique relationship between two people that is specific and endures through time" (p. 775). In their report, they continue to state that nearly a third of mothers do not report the beginnings of loving sentiment for their infant until well after the actual pregnancy and birth. They also suggest many ways to encourage the bonding process. These methods include promoting eye contact between mother and child, having continuous close proximity (including skin-to-skin contact), and immediate breastfeeding. These practices are reported to support the release of oxytocin, which they suppose to be the bonding hormone of the body.

Breastfeeding does seem to have benefits in bonding that have been investigated by others. A 2003 report by Else-Quest, Hyde, and Clark discusses studies showing that breastfeeding mothers spend more time touching their infant and more time in mutual gaze than

mothers who bottle feed. Breastfeeding also seems to combat stress for the mother, even though the respective study did not specify significant mood elevation (hence indicating that mothers feel less of the bad even if they do not necessarily feel more of the good). These findings give the impression that breastfeeding is something worth looking into for new mothers seeking intimacy with their infant, although bottle feeding did not have detrimental effects in homes that had other counterbalancing factors.

Birth is not always a predictable process and sometimes mothers are not the ones who get to make the decisions regarding their baby's first moments, especially if the infant was born prior to 33-35 weeks (Swift & Scholten, 2010). In some instances when complications arise, the Neonatal Intensive Care Unit becomes the infant's nursery and the hospital staff the new main caretakers. Other conditions that can result in this necessary interruption are congenital heart defect, cerebral palsy (Rogers & Arvedson, 2005), and Down Syndrome (Lewis and Kritzinger, 2004). Generalized symptoms may also emerge as well in relation to feeding, including cessation of breathing, slowing of heart rate, fatigue, and ineffective suck/swallow (Comrie & Helm, 1997).

Breastfeeding may indeed be out of the question for the mother of a child in need of critical medical intervention, with the infant instead being fed via intravenous drip or a nasogastric tube (Swift & Scholten, 2010)—something that the mother has little influence upon and that does not encourage skin-to-skin contact. While the mother may still be able to spend the same amount of time with the infant, it is debatable whether this quantity necessarily signifies quality.

Speech-Language Pathologists and Training

In their policy documents, the American Speech-Language-Hearing Association *does* indeed address the need for the clinically competent SLP to have proficiency in counseling, of which parent/child bonding is a component. ASHA maintains that it is necessary for SLPs to be able to provide adequate support for families in their Knowledge and Skills (2004) document by stating that SLPs need knowledge of "counseling principles" (p. 5). The ASHA technical report for SLPs in the NICU (2004) states that it is important to incorporate parents into therapy and educate them about their child's condition. This particular document also states that entry-level training is *not* enough to work successfully in the NICU. However, it does not specify exactly how the individual ought to receive the necessary additional training. In fact, neither of the documents provide much situation-specific information or many techniques to accomplish bonding counseling in a practical work setting or go deeper than general policy statements. Lack of specificity in training may lead to variation in the ways that SLPs in the NICU practice their craft, especially when it comes to bonding.

Due to exceedingly negative sentiments that some parents report in relation to their experiences with a child in the Neonatal Intensive Care Unit (Lewis & Kritzinger, 2004), it seems SLPs may need to go above and beyond to assist in the effort to ensure that proper bonding and attachment occur in a transient environment that does not naturally lend itself to feelings of comfort or togetherness. While ASHA is certainly clear that these skills are necessary, they are not clear about how the SLP in training is supposed to optimally access the specific skills to provide the kind of emotional support that the professional standards demand, or how the SLP in practice is supposed to react when facing the variety of situations that may arise. Part of the responsibility of professionalism is an inherent ability to make appropriate and educated judgment calls when necessary in ambiguous situations, but it may be more difficult for

clinicians who do not have educational backgrounds in psychology and/or social work that they pursued separately.

Professional Roles in the Neonatal Intensive Care Unit

Many vocations may be involved in the assessment and treatment of infants in the NICU, especially when feeding problems are present. These professionals may include but are not limited to speech-language pathologists, physical therapists, occupational therapists, nurses, dietitians, respiratory therapists, and lactation specialists (Ashland, 2008); (Fletcher, 2008). Each person brings to the table their own area of expertise that must work in conjunction with the NICU team. For example, at the same time the occupational therapist may work with sensory processing, the physical therapist may work with musculoskeletal or neuromuscular insufficiency, and the dietitian may work with monitoring nutrition (Ashland, 2008).

The American Speech-Language Hearing Association (2004) provides specific outlines for the role of the speech-language pathologist in the NICU. People unfamiliar with the profession may initially not understand why a *speech* therapist would be involved with an infant in medical peril who obviously in even ideal conditions would be incapable of producing speech. It is important to understand that communication is dynamic and lifelong—with the foundations of communication beginning well before birth. Prelinguistic communication can be appraised by the SLP as well as neurodevelopment, especially in light of syndromes and conditions that are detectable at birth. SLPs also provide a variety of stimulation to the developing infants, including vestibular, auditory, and tactile.

A large portion of the SLP's efforts goes into feeding and swallowing evaluation and treatment. According to ASHA (2004), responsibilities include diagnosing feeding/swallowing disorders (as well as others that may hamper future communicative and feeding abilities) and

providing developmentally appropriate therapies. It is incredibly important that the SLP maintain diligence while working with swallowing disorders due to the potential for aspiration (foreign matter entering the respiratory system), which could have devastating effects and jeopardize the life of the patient in question.

In feeding intervention, an SLP must evaluate an infant's readiness to be fed orally. Nonnutritive sucking is an important indicator, showing that the infant is stimulable for feeding. ASHA (2004) also describes what is known as "Kangaroo mother care" (p. 26). This has been shown to aid low-birth weight infants in developing readiness for oral feeding and aid the parent in bonding with the child; however, it is also mentioned that some studies did not show significant positive effects.

Parents' Experiences and Professional Perceived Self-Efficacy

The Neonatal Intensive Care Unit is not a place with which the average person is familiar. Even if a couple has had a child before, they are not prepared for the rollercoaster ride that is in store for them if their newborn requires intensive medical care. Infants may be required to spend weeks or even months away from home. Because the birth of a child is a monumental time in any family's life, it follows logically that an infant's infirmity would be an emotionally charged experience. The happiest day of a parent's life may easily become the most terrifying. It is important for everyone in the NICU team to have sympathy for the parents of the infants they treat.

A 2004 study by Lewis and Kritzinger revealed some troubling information about what it feels like to be the parent of an infant with Down Syndrome in the NICU. The parents reported emotions that were overwhelmingly negative: "shock, concern, stress, anxiety, inadequacy, disappointment, anger, frustration, and grief" (p. 48). Many of these emotions persisted

throughout the entirety of the parents' dealings with their child's feeding disorder. While one may infer that these parents also experienced positive emotions along with the negative, the fact that such a variety of negative sentiments were expressed is concerning.

In their 2010 study, Swift and Scholten interviewed seven mothers and two fathers about their experiences with a premature child in the NICU. The overarching theme was that the parents viewed feeding times *not* as a time to develop intimacy, but as a clinical necessity that would hopefully lead to the infant's being allowed home. They reported feelings of inadequacy that not only resulted from having to face their child's condition, but also from the inconsistent and sometimes intrusive interactions with staff. Parents often seemed to feel like their baby was not their own and that they were simply visiting a baby that belonged to the medical staff. Fathers felt like they were out of place in the female-oriented NICU, and some fatigued mothers expressing milk reported feelings of degradation—equating themselves to cows. Couples felt strained as they had to deal with stresses that were very different and yet very much the same, and many of the couples brought these problems home.

SLPs have the opportunity to assuage some of these problems through their therapy techniques. Success in tasks creates a strong sense of perceived self-efficacy (Bandura, 2010). Therefore, it stands to reason that SLPs who feel highly effective in their facilitation of bonding may have high rates of success. In addition, people who feel effective set higher goals for themselves and have more motivation (Bandura, 2010). This may mean that SLPs who see success in their ability to facilitate bonding will continue to set high standards for their personal performance, further enhancing the experiences of parents. Consequently, it seems that understanding the perceived self-efficacy of SLPs would provide not only a window into how

well the families of children in the NICU are being counseled, but also whether the SLPs are performing at their highest personal level.

Summary and Questions of the Study

The literature suggests that SLPs provide a range of services to infants and their families in the NICU. These include direct services (feeding assessment/treatment) and preventative services (providing families with information about development). The unique services of the SLP require specialized training in this work setting. It is unclear from the literature how this is achieved (e.g. within training programs or through continuing education) and exactly what knowledge and skills are needed. The purpose of this study was to identify the ways that practicing speech-language pathologists in the Neonatal Intensive Care Unit view bonding facilitation, how effective they feel with it, how their education and training support this, and if there is a need for education change. This led to the following questions of this study.

1. How important is the role of speech-language pathologists in facilitating bonding?
2. How were the speech-language pathologists trained to succeed in this role?
3. How effective do they feel they are with this facilitation?
4. What would they like to see changed in professional preparation to service this population?

Method

Participants

Fifty practicing speech-language pathologists were sought from Arkansas and the surrounding states (Oklahoma, Texas, Louisiana, Tennessee, Mississippi, Missouri) as participants in this study. To be considered, the subjects were required to be certified by the American Speech-Language-Hearing Association and working in a Neonatal Intensive Care Unit environment.

Materials

An electronic questionnaire was constructed through Qualtrics Survey Software using the literature on bonding, the Neonatal Intensive Care Unit, and professional training in speech-language pathology.

Procedures

Hospitals in the targeted states were contacted through email and telephone and asked to distribute the questionnaire to the speech-language pathologists in their unit. Subjects were also identified through the American Speech-Language-Hearing Association's Find a Professional directory and sent the online questionnaire through email. Those candidates were selected based on state, age group specialty, and work setting. All SLPs contacted through email were issued the survey at least twice.

Analysis

Qualitative descriptions were used to interpret the data from the questionnaire due to the limited number of replies.

Results

Demographics

Over one hundred electronic questionnaires were distributed, and five were successfully completed (refer to Table 1). All respondents were female, and four reported working in the Neonatal Intensive Care Unit for ten to twenty years (with the other working five to ten years). They were all employed in different states including Missouri, Tennessee, Mississippi, Oklahoma, and Arkansas. Most of the respondents received their college speech-language pathology education in these states, with one receiving a degree from Wyoming and two

reporting an undergraduate degree in disciplines other than speech pathology. Four out of five of the speech pathologists were biological or legal parents.

Results of Question 1

Items 7 and 8 of the questionnaire were used to analyze how important the speech pathologists feel their role is in bonding facilitation in the Neonatal Intensive Care Unit (refer to Tables 2 and 3). The respondents were asked to indicate how much they agreed with certain statements, and the frequency that they participated in certain practices. All five of the subjects strongly agreed that feeding is an important aspect of parent/child bonding and that feeding problems after birth can affect parent/child bonding. These solid unanimous responses indicate that bonding facilitation is definitely a relevant issue of study pertinent to speech pathologists.

Even though all subjects decisively agreed that feeding problems and bonding are strongly related, the rest of their responses concerning the importance of bonding facilitation by speech-language pathologists were slightly more variable. Only four of the subjects agreed that bonding facilitation is part of their professional responsibility in the NICU, but all five agreed that it is part of their responsibility to counsel the families of the NICU patients. That one of the SLPs found a distinction between these two roles is notable. In addition, not all of the SLPs agreed upon whose job it really is to provide bonding facilitation. Three believed it was theirs, but two were not so sure. This means that one of the SLPs who believed it was part of her professional responsibility also believed other professions are really the ones who are supposed to be taking the lead. The lack of agreement concerning where the responsibility of bonding facilitation falls indicates that perhaps it is not a topic that is specifically designated to any particular group of professionals and may be overlooked.

Despite the fact that the subjects did not reach a consensus on their personal roles, all reported using bonding facilitation techniques in their practice, with many stating that they frequently use the basic few denoted in the questionnaire (i.e. breastfeeding whenever possible, skin-to-skin contact, and parent/child eye contact). The subjects also reported that most of them provide education about the infant's condition as a means of facilitating bonding. All the SLPs reported frequent interactions with the families of their infant patients, and all encouraged open communication about the feelings of the families. However, none of the subjects reported that they frequently make it a point to establish personal relationships with the families. Instead they reported as doing this often and sometimes, perhaps indicating a line of professionalism that is not always crossed. The subjects also reported variably on whether or not they discuss bonding facilitation techniques with coworkers, with two stating that they do it frequently and one stating that she never does.

Results of Question 2

Items 9 and 11 through 15 of the questionnaire were used to investigate how the speech pathologists were trained for their role as a bonding facilitator (refer to Table 4). All of the SLPs reported learning most of what they know about bonding from continuing education after graduation, with only one also citing required classes in her college speech pathology program. The SLPs also mentioned learning about bonding on the job and through personal research. All of the respondents reported a variety of educational preparation concerning psychology, counseling, and social work—disciplines that would likely address bonding between parents and children and other more social components of a speech pathologist's job. Three of the SLPs reported only being required to take one or two classes in these fields as undergraduates, but two of the SLPs reported being required to take three or more. The responses of the two SLPs who

took three or more can be explained by the fact that they also reported having undergraduate degrees in these fields. Therefore it can be inferred that the other three respondents reflect the fact that speech pathology undergraduate programs across their three states only require one or two classes in these fields.

All respondents reported being required to take either none or one to two of the classes in their graduate studies as speech-language pathologists. Two reported never electing to take classes in these other fields on their own, with the other three reporting that they only elected to take one or two. Three reported having a minor in one of these areas, and two reported that they did not. The variability of their backgrounds in these fields may lend itself to explaining some of the variability in their beliefs about parent/child bonding.

Results of Question 3

Item 16 was used to analyze how effective the speech pathologists feel in bonding facilitation (refer to Table 5). The subjects were again asked to describe how much they agree with certain statements, except these addressed more of their personal experiences. When asked if they felt adequately trained by their college speech program to handle bonding facilitation, the responses ranged from strongly agreeing to strongly disagreeing. That even one felt the need to reply that she strongly disagrees indicates a notable hole in the way speech pathologists are prepared for their role, particularly in the NICU. This is also somewhat reflected in the fact that only three agreed that they felt their bonding facilitation technique use makes differences in the families they work with.

However, the SLPs felt much more confident in their ability to handle the families in facing their children's infirmity. All agreed that they felt properly trained to handle families' frustrations, fears, and grief. None of them felt unsure of how to act around emotional families. It

is important to note that there seems to be an emphasis in speech pathology training that lends itself more to preparing speech-language pathologists to handle families in crisis, and not as much to preparing them to use bonding facilitation techniques as a way to help assuage it.

The SLPs were variable as to whether or not they believed working with Neonatal Intensive Care Unit infants affects them emotionally. One strongly agreed while two disagreed. Three responded that they bring their work home with them, in that they continue to think about their patients after they have left their work setting. However, all of them reported that they did not have a problem communicating about their feelings related to their job, indicating that most of the speech pathologists seem to adequately handle the emotional component of their job and do not feel overwhelmed.

Only two of the respondents reported being able to spend as much time as they would like to with the families of their infant patients. Only two believed that their work setting provides the best possible atmosphere for parent/child bonding. Three of the respondents reported hearing the families make negative comments about their experience with the hospital staff, and only one reported that she had not. These answers provide troubling insight into the predicaments of parents in the NICU and show that bonding facilitation is not necessarily being reliably addressed by the SLPs themselves or the NICU environment.

Results of Question 4

Item 17 was used to explore what changes the speech pathologists would like to see in professional training (refer to Table 6). Only one of the five respondents believed that the general speech-language pathology graduate has adequate training in family counseling and bonding facilitation for work in the Neonatal Intensive Care Unit. Three of the respondents believed that parent/child bonding should be more explicitly explored in the training of clinicians. Three

believed that speech programs should require more coursework in family counseling, despite the fact that all of them reported being fairly confident in that area. Finally, three SLPs believed that an American Speech-Language-Hearing Association special interest group related to this topic would be beneficial to the profession. The fact that three out of five consistently responded with a need for more educational preparation and recognition indicates that the training given to speech pathologists in the educational setting does not necessarily meet with the demands of the job in the work setting.

Discussion

With speech-language pathologists providing services to families in the Neonatal Intensive Care Unit, it is important to understand the way they view parent/child bonding, how they were trained about it, how effective they feel with it, and what they would like to change in the training of future clinicians. Because parent/child bonding is not something that is often recognized as a speech pathologist's responsibility but is precisely linked with the realms in which speech-language pathologists practice, more research is needed to explore the ways they can optimally enhance the lives of the infants and families they interact with every day.

It seems that speech-language pathologists do recognize the connection between feeding disorders and an interruption in parent/child bonding, but there seems to be slightly less of a unified idea as to how SLPs are expected to address this and how close they are supposed to get to the families of their patients. The SLPs reported using bonding facilitation techniques whether or not they thought it was their responsibility to provide it, showing that perhaps some SLPs are not fully aware of how bonding facilitation interacts with their practice. With some confusion in where the responsibility of bonding facilitation lies, this indicates that there is some breakdown of the NICU team. While it is important to note that these techniques are still being used and

aiding families, there may be differences in their effectiveness if SLPs universally understood more about their use and benefits.

There also seems to be a relatively small amount of emphasis placed on learning about bonding in college speech programs, judging by the amount of classes the SLPs took and the fact that all of the SLPs reported learning most of what they know about bonding in continued education after graduation. While it is important to note that continuing education provides another route for SLPs to take when there are gaps in their college education programs, it seems that programs could do more for all speech pathologists who attain degrees. Parent/child bonding is particularly important in the Neonatal Intensive Care Unit, but any SLP who works with children could benefit from learning more about creating social cohesion in families.

There is also some variability in the ways that the speech pathologists seem to feel about their role with bonding in the NICU. Many of them seem very comfortable handling the negative sides of family togetherness but seem a little unsure about helping families build healthy relationships at birth. The fact that the SLPs did not consistently report a strong sense of self-efficacy in bonding facilitation suggests that some are most likely not achieving their full potential in this arena and may find even more personal satisfaction in their work with a little more training (Bandura, 2010). In addition, there also appears to be room for improvement in the NICU environment (Swift & Scholten, 2010) that could increase the ease with which SLPs practice bonding facilitation and families cope with their situations.

The fact that the majority of the SLPs reported that the average speech pathology graduate is not prepared for bonding facilitation in the NICU (as ASHA also acknowledged in the 2004 technical report for SLPs in the NICU), and that it should be more explicitly explored in their education indicates that there is certainly room for improvement in the way that speech

pathologists are educated. It is understandable that with the wide range of possibilities for graduating SLPs, they cannot be prepared for everything they will be faced with in the workplace. However, education about how to facilitate bonding between parents and children with disorders could stand to benefit many graduates. Those who choose to go into schools, other early intervention programs, hospitals, and clinics that see children could all incorporate this knowledge into their practice. In fact, those in the study who reported having another undergraduate degree in psychology, counseling, or social work also selected more polarized answers, strongly agreeing to their role as a bonding facilitator and frequently using bonding techniques in their practice. This suggests that there is a connection between the amount of education an SLP has in these social disciplines and their relationship with bonding facilitation in the workplace.

These results suggest that parent/child bonding is a grey area that speech pathologists are not reliably trained to understand or facilitate, even though they and the American Speech-Language-Hearing Association recognize its importance. It also seems that perhaps the limited amount of replies to the questionnaire compared to the amount that were distributed may reflect a level of discomfort concerning this topic. It is possible that many of the speech pathologists contacted were unsure what their stances on bonding facilitation were, or even thought that it does not apply to them professionally. In addition, none of 85 SLPs contacted through ASHA's Find a Professional directory responded, indicating that the directory is possibly out of date. It is impossible to know why there was such a low response rate, but perhaps this also speaks volumes about the way bonding facilitation is handled in NICUs in the south central United States.

Limitations

More speech-language pathologists are needed to truly understand the way that bonding facilitation affects the profession. Additional participants could be reached by expanding the target states to a national scale and providing a paper version of the questionnaire at hospital speech pathology departments. It may also be beneficial to gather information not just about which states the SLPs received their educations, but what specific programs they attended.

The questionnaire could also be expanded upon, exploring bonding facilitation techniques and training at a deeper level. While this questionnaire served to test the waters, there is much more to learn about this topic. An open-ended questionnaire may provide a more clear idea of exactly what SLPs are thinking and feeling.

Future Directions

Much more research is needed to understand the ways that speech-language pathologists can provide more well-rounded services in the Neonatal Intensive Care Unit. While it would serve the profession to better understand how SLPs view their role as bonding facilitators, it would perhaps serve the profession more to uncover additional ways early bonding can be explored from a social, communicative perspective. A larger study could also make more comparisons between the characteristics of the respondents and how they view bonding, such as if being an actual parent themselves affects their views and practices. Perhaps the way the respondents were taught about bonding (through continuing education or personal research) may affect their stances on bonding as well.

It would also be beneficial to investigate if families that have bonding facilitation emphasized in their infants' care develop healthier communication styles with their infants in the future. If solid communication and bonding seeds are sewn in the NICU, this may result in less future need for communication intervention due to more parent involvement in the home,

especially for infants that have permanent conditions that often require speech pathology services throughout their lifetime (such as cerebral palsy or Down syndrome).

Future studies could also investigate the effectiveness of introducing bonding facilitation education into SLP programs. It could be beneficial to see if SLPs who are taught more about bonding in college have higher feelings of self-efficacy in their workplace. Bonding education could be easily introduced into coursework that is already universal in speech pathology programs and would not necessarily require a separate course. A foundation laid in college programs may provide the inspiration to continue to seek more information about the topic in continuing education programs that seem to be the primary source of information now.

While there is limited information about bonding facilitation and its application to speech pathology, the subject merits investigation and may have powerful implications for early intervention programs in the NICU and beyond.

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APPENDIX A

Tables of the Study

Table 1

Demographics of Respondents

	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5
Male/Female	Female	Female	Female	Female	Female
Certified by ASHA	Yes	Yes	Yes	Yes	Yes
State received undergraduate degree in speech pathology	Missouri	No undergraduate speech pathology degree	Mississippi	Oklahoma	Arkansas
State received masters degree in speech pathology	Missouri	Tennessee	Mississippi	Oklahoma	Wyoming
State received doctorate degree in speech pathology	N/A	N/A	N/A	N/A	Oklahoma
State currently employed	Missouri	Tennessee	Mississippi	Oklahoma	Arkansas
Years in NICU	Ten to Twenty	Ten to Twenty	Ten to Twenty	Five to Ten	Ten to Twenty
Biological or legal parent	Yes	Yes	Yes	No	Yes

Table 2

Beliefs of the Respondents about Bonding Facilitation

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I believe feeding is an important aspect of parent/child bonding.	5	0	0	0	0
I believe that feeding problems after birth can affect parent/child bonding.	5	0	0	0	0
I feel it is part of my professional responsibility to facilitate bonding in the Neonatal Intensive Care Unit.	3	1	1	0	0
I feel it is part of my professional responsibility to provide counseling and support to families in the Neonatal Intensive Care Unit.	4	1	0	0	0
It is more the professional responsibility of other medical staff to facilitate bonding and provide counseling to families, not mine.	0	1	1	2	1

Table 3

How Frequently the Respondents Engage in Bonding Facilitation

	Frequently	Often	Sometimes	Seldom	Never
I interact directly with the families of infant patients.	4	1	0	0	0
I actively encourage families to communicate their feelings with me.	5	0	0	0	0
I advocate breastfeeding when possible as a means of parent/child bonding.	4	0	1	0	0
I advocate parent/child skin-to-skin contact when possible as a means of parent/child bonding.	4	1	0	0	0
I advocate parent/child eye contact when possible as a means of parent/child bonding.	3	1	1	0	0
I feel education for families about the infant's condition facilitates parent/child bonding.	3	1	1	0	0
I make it a point to develop personal relationships with the mothers of my patients.	0	3	2	0	0
I make it a point to develop personal relationships with the fathers of my patients.	0	3	2	0	0
I discuss bonding facilitation techniques with my coworkers.	2	1	0	1	1

Table 4

Number of Classes Respondents Had in Psychology, Counseling, or Social Work

	None	One or Two	Three or More	Do not Remember
Undergraduate required classes	0	3	2	0
Graduate required classes	3	2	0	0
Elected classes	2	3	0	0

Table 5

How Respondents Feel about their Role in the NICU

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I feel I received adequate training to handle bonding facilitation in my college speech program.	1	1	0	2	1
I feel properly trained to handle families' frustrations, fears, grief, etc.	0	5	0	0	0
I feel that I am able to make quantifiable differences with the bonding facilitation techniques that I use.	1	2	2	0	0
I feel that working with this population affects me emotionally.	1	1	1	2	0
I "bring work home"—i.e. think about my patients and their families after I leave my work setting.	2	1	2	0	0
I find it difficult to discuss feelings related to my role with this population with others who are not my coworkers.	0	0	0	5	0
I feel like I "just don't know what to say" when families become emotional.	0	0	0	5	0
I am able to spend as much time as I would like with each patient and family.	0	2	0	3	0
I believe my work setting provides the best possible atmosphere for parent/child bonding.	0	2	2	1	0
I have heard families make negative comments about their experiences with the staff.	0	3	1	1	0

Table 6

What the Respondents Would Like to See Changed

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I feel the general speech-language pathology graduate has adequate training in family counseling and bonding facilitation for work in the Neonatal Intensive Care Unit.	0	1	1	2	1
I feel parent/child bonding should be more explicitly explored in my training and the training of other clinicians.	0	3	2	0	0
I feel college speech programs should require more coursework in family counseling and related areas.	1	2	1	1	0
I feel an American Speech-Language-Hearing Association special interest group related to this topic would be beneficial to the profession.	2	1	1	0	1

APPENDIX B

Facilitating the Parent/Child Bond Questionnaire

Q1 Are you male or female?
- Male
- Female
- Prefer not to say

Q2 Do you currently have a Certificate of Clinical Competence from the American Speech-Language-Hearing Association?
- Yes
- No

Q3 In what US state did you receive your undergraduate degree?

Q4 In what US state did you receive your undergraduate degree?

Q5 How many years have you worked in the Neonatal Intensive Care Unit?
- Less than one year
- One year to five years
- Five years to ten years
- Ten years to twenty years
- More than twenty years

Q6 Are you or have you ever been a biological or legal parent?
- Yes
- No
- Pending
- Prefer not to say

Q7 Please select the answer that best reflects your personal and professional beliefs and attitudes.

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

- I believe feeding is an important aspect of parent/child bonding.
- I believe feeding problems after birth can affect parent/child bonding.
- I feel it is part of my professional responsibility to facilitate bonding in the Neonatal Intensive Care Unit.
- I feel it is part of my professional responsibility to provide counseling and support to families in the Neonatal Intensive Care Unit.

It is more the professional responsibility of other hospital medical staff to facilitate bonding, not mine.

Q8 Please select the answer that best reflects your personal and professional practices.

	Frequently	Often	Sometimes	Seldom	Never
I interact directly with the families of infant patients.					
I actively encourage families to communicate their feelings with me.					
I advocate breastfeeding when possible as a means of parent/child bonding.					
I advocate parent/child skin-to-skin contact when possible as a means of parent/child bonding.					
I advocate parent/child eye contact when possible as a means of parent/child bonding.					
I feel education for families about the infant's condition facilitates parent/child bonding.					
I make it a point to develop personal relationships with the mothers of my patients.					
I make it a point to develop personal relationships with the fathers of my patients.					
I discuss bonding facilitation techniques with my coworkers.					

Q9 Where did you learn most of what you know about bonding? Select all that apply.

Required classes in college speech-language pathology program
Elected classes in college
Continuing education after graduation
Personal research
On the job
Popular culture
Other

Q10 In what US state are you currently employed?

Q11 In your undergraduate program, how many classes were you required to take that dealt specifically with psychology, counseling, or social work?

None
One or Two
Three or more
Do not remember

Q12 In your graduate program, how many classes were you required to take that dealt specifically with psychology, counseling, or social work?

None
One or Two
Three or more
Do not remember

Q13 How many college classes related to these areas did you elect to take on your own?

None
One or two
Three or more
Do not remember

Q14 Do you have a minor, separate undergraduate degree, or separate graduate degree related to these areas?

No
Separate Minor
Separate Undergraduate Degree
Separate Graduate Degree

Q15 Have you had any continuing education related to these areas?

Yes
No
Have wanted to but found topic unavailable

Q16 Please select the answer that best reflects your personal and professional beliefs and attitudes.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

I feel I received adequate training to handle bonding facilitation in my college speech program.
I feel properly trained to handle families' frustrations, fears, grief, etc.
I feel that I am able to make quantifiable differences with the counseling techniques that I use.
I feel that working with this population affects me emotionally.
I "bring work home"—i.e. think about my patients and their families after I leave the work setting.
I find it difficult to discuss feelings related to my role with this population with others who are not my coworkers.
I feel like I "just don't know what to say" when families become emotional.
I am able to spend as much time as I would like with each patient and family.
I believe my work setting provides the best possible atmosphere for parent/child bonding.
I have heard families make negative comments about their experience with the staff.

Q17 Please select the answer that best reflects your personal and professional attitudes and beliefs.

Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree

I feel the general speech-language pathology graduate has adequate training in family counseling and bonding facilitation for work in the Neonatal Intensive Care Unit.
I feel parent/child bonding should be more explicitly explored in my training and the training of other clinicians.

I feel college speech programs should require more coursework in family counseling and related areas.

I feel an American Speech-Language-Hearing Association special interest group related to counseling in speech pathology be beneficial to the profession.