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Common factors in speech-language treatment: An exploratory study of effective clinicians

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Abstract

Research in related fields that employ behavioral interventions indicates that factors common to treatment programs may be more important to successful outcomes than specific components of a treatment. Applying this concept to speech-language pathology, we investigated one hypothesized "common factor," namely, the clinician who implements treatment. Data were collected from limited samples of speech-language clinicians in two surveys. In Study One, 79 participants responded to open-ended questions about the nature of effective clinicians. A thematic analysis of their responses resulted in three broad categories of characteristics: behaviors, traits, and acquisitions. These themes were incorporated into an online survey for Study Two, in which 158 clinicians rated the importance of 25 clinician qualities. Their ratings suggested that the clinician–client relationship may be particularly important to treatment outcomes. These preliminary findings provide a foundation for further research on the clinician's contribution to treatment efficacy.

Learning outcomes: Readers will be able to: (1) understand the concept of Common Factors; (2) describe the impact of clinicians on speech-language therapy outcomes as predicted by the Common Factors model; (3) list important characteristics of effective speech-language clinicians.

1. Introduction

As with other fields in education and health care, speech-language pathology has become increasingly concerned with demonstrating treatment effectiveness in recent years. As the influence of evidence-based practice (EBP) has grown, the field has faced mounting pressure to improve the quality and quantity of its treatment research (American Speech-Language-Hearing Association or ASHA, 2005). According to EBP, quality external evidence isolates the specific effects of a treatment by controlling for all factors that are not particular to the treatment under investigation (Dollaghan, 2007). However, it is possible that more general factors that are common across different speech or language treatments also contribute to positive outcomes. For example, the clinician's role is typically minimized or ignored in speech or language treatment studies, though evidence suggests that clinicians are an important factor in treatment outcomes in related fields. The purpose of this study was to begin a systematic exploration of features that may contribute to the relative effectiveness of speech-language pathologists. This was viewed as a first step towards

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characterizing one of many potential common factors in speech and language treatment. We begin with an introduction to the ''common factors model,'' then narrow our focus to unique contributions of clinicians within this broader model.

1.1. The common factors model

There is a long-standing debate in counseling psychology regarding which treatment components contribute most to positive behavioral outcomes (see Wampold, 2001 for discussion). On the one hand are ''specific ingredients,'' i.e. the theoretically motivated aspects of a particular treatment viewed by proponents as unique and essential. On the other hand there are incidental treatment aspects that are essential but not unique or theoretically central. These incidental or ''common factors'' are shared across treatments that otherwise differ in their proposed change mechanisms.

The common factors model has arisen in counseling psychology to explain what drives effective behavioral treatments. The model holds that common factors contribute more to the treatment outcome than specific ingredients (Messer & Wampold, 2002; Wampold & Bahti, 2004). Potential common factors in counseling psychology relate to the client (e.g., positive expectations), clinician (e.g., empathy), clinician–client relationship (e.g., construction of an alliance), change processes (e.g., rationale for treatment efficacy) and general treatment structure (e.g., duration and intensity) (Grencavage & Norcross, 1990).

When studies compare an active, bonafide treatment for depression or some other psychological disorder to no-treatment or to a bogus treatment, there is typically a large positive treatment effect (Wampold, 2001). This result occurs because both common and specific factors are active in the bonafide treatment but neither is present in the control treatment. In contrast, when studies compare two bonafide treatments to each other, both treatments tend to have similarly positive results, at least as averaged over time via meta-analysis (Messer & Wampold, 2002). In this case, it may be that common factors contribute the largest amount of variance to the efficacy of both treatments, with specific ingredients playing a relatively minor role. That is, the change caused by the specific ingredients in the two treatments is not great enough to cause large outcome differences. The positive change in both treatments may be attributed to factors common to the two approaches.

The relation between the relative contributions of specific ingredients and common factors may be similar in speech-language pathology. Meta-analyses, which combine different treatments for a disorder, have often indicated that speech-language treatment is generally effective across a wide variety of disorders (Law, Garrett, & Nye, 2004; Robey, 1998). Similarly, large-scale treatment studies that compare a speech-language treatment program to a no-treatment control group have shown significant effects in favor of the treatment (Jones et al., 2005). In other words, a comparison between a legitimate speech or language treatment that includes common factors (such as a rationale for the therapeutic approach and systematic engagement with a trained professional) and a placebo treatment that lacks these common factors typically has shown a treatment effect.

There is also some evidence that comparisons among multiple legitimate treatments for the same disorder yield similar results. Gillam and colleagues demonstrated that three experimental and one control condition all produced positive, comparable results in a randomized clinical trial of 6–9-year-old children with developmental language impairment (Gillam et al., 2008). This uniform efficacy of different treatments is referred to as the ''Dodo Bird effect'' in clinical psychology (Rosenzweig, 1936; see also Wampold, 2001). One explanation is that factors common across conditions were more powerful than those specific to conditions. To date, research investigations in speech-language pathology have not focused on common factors. Broadening our perspective to include the potential explanatory power of common factors in treatment outcomes may help clarify some otherwise puzzling or contradictory results.

Expanding our view to include the role of common factors in research studies also has face validity. Most speech-language clinicians seem to implicitly believe that factors such as the clinician–client relationship, the intensity of the treatment schedule, and the client's expectations of success have an impact on treatment outcome. These beliefs may form the implicit clinical core of seasoned professionals, yet speech and language treatment studies are not designed to capture these general factors. The danger of ignoring common factors in treatment efficacy studies is two-fold. First, ignoring these factors does not negate their effects and their unacknowledged presence may confound study results. Second, by ignoring the relevance of common factors we fail to identify and exploit information that could allow us to maximize treatment effects. The field of counseling psychology has identified a number of starting points relevant to the pursuit of common factors. Within the field of speech-language pathology, Bernstein Ratner (2006) hypothesized that common factors in general, and skilled clinicians, in particular, may contribute to therapy outcomes more than the therapies themselves. In their discussion of the characteristics of effective stuttering treatments, Herder, Howard, Nye,

and Vanryckeghem (2006) also mentioned clinician impact as a factor in treatment success. They further suggested that there may be other factors in common across effective stuttering treatment approaches. Despite these suggestions, the common factors perspective has not yet been investigated directly in speech-language pathology.

1.2. The clinician as a common factor

Are some clinicians more successful at consistently achieving positive change in the clients with whom they work? According to studies in clinical psychology, the answer to this question is yes. Individual clinicians have the power to influence treatment outcomes for their clients independently of the treatment they are administering. Attempts to quantify the influence of clinicians on treatment outcome have produced impressive results. In counseling psychology, individual clinicians consistently account for 6–9% of the variance in treatment outcome (Messer & Wampold, 2002). Re-examination of data from the National Institutes of Mental Health's Treatment of Depression Collaborative Research Program revealed that contact with individual psychiatrists, whose only role was to distribute the antidepressant or a placebo, resulted in greater improvement among patients with depression than did the medication itself (McKay, Imel, & Wampold, 2005). For one outcome measure, medication accounted for just 3.4% of the outcome variance compared to 9.1% for individual psychiatrists. Clearly the human factor is potent and should not be summarily disregarded as extraneous to treatment efficacy.

In speech-language pathology, individual clinician effects have not been quantified and are rarely included in research publications. Instead, the effectiveness of individual clinicians is typically ignored; emphasis is placed on describing the clinician's actions as specified by the treatment protocol. One exception is the data presented by Rvachew and Nowak (2001). This study explored specific, theoretically motivated ingredients, in this case, the relative effectiveness of training early versus late acquired sounds in children with speech sound disorders. These researchers also reported treatment outcomes by clinician for each of the five clinicians involved in the study. Although no systematic difference between treatment groups was observed in clinician effectiveness, the effect did approach significance at $p = .07$ (Rvachew & Nowak, 2001). We used Rvachew and Nowak's published data to extend their analysis of clinician effectiveness. Our analysis of the differences among five clinicians within a single treatment group accounted for 20% of the variance in child outcomes. This observation suggested that some clinicians were more effective than others, independently of which treatment they administered.

If some clinicians are more effective than others at bringing about positive change in their clients, then it is logical to question what drives their effectiveness. In other words, when all external circumstances such as client characteristics and treatment method are held constant, what characteristics allow some clinicians to consistently help their clients reach higher performance levels? Within the field of speech-language pathology, personality characteristics have been proposed to affect clinician effectiveness. Crane and Cooper (1983) administered the Minnesota Multiphasic Personality Inventory (MMPI, Hathaway & McKinley, 1951) to graduate student clinicians. They reported that composite MMPI scores could predict the clinical effectiveness ratings made by the students' supervisors. However, no individual MMPI subscale could predict these ratings effectively. The methodology of this study has been called into question (Siviski & Siviski, 1984): the MMPI is designed for populations with psychiatric disorders and may not be appropriate for distinguishing personality traits in a normal population, presumably the population from which most graduate student clinicians are drawn.

Other potentially important characteristics of speech-language clinicians have sometimes been assumed. Although they appear logical, their impact on clinician effectiveness has not yet been investigated. For example, in addition to basic knowledge and acquired clinical skills, the Knowledge and Skills Acquisition summary form for certification in speech-language pathology indicates that successful student applicants must demonstrate effective communication and collaboration skills (ASHA, 2003). Another untested assumption is that racial and cultural mismatches between clinician and client are detrimental to treatment progress (McGregor, 2000).

1.3. The current study

The current study was framed within the common factors perspective. The a priori assumption was that clinician characteristics are potentially important contributors to treatment effectiveness in speech-language pathology. Our purpose was to begin to examine the clinician factor more systematically using qualitative and quantitative reports from clinicians. Given the lack of coherence in the existing information about effective clinicians, we took a broad,

open-ended approach to identifying potentially relevant clinician characteristics. Information about effective clinicians was gathered from speech-language pathologists and graduate students with clinical experience in a planned sequence of two survey studies. In Study One, responses to open-ended questions about the nature of treatment and effective clinicians were used to build a map of related clinician features. Study Two served to quantitatively validate and expand upon the first study using an online survey format. Given limitations in the breadth of the samples of survey respondents, the current study represented only a first step towards the broader goal of characterizing effective speech-language clinicians.

2. Study One: describing potential clinician themes

The purpose of Study One was to elicit and characterize the views of speech-language pathologists and graduate students about the nature of effective speech-language clinicians. Qualitative data were collected and analyzed in order to develop a comprehensive description of potentially important clinician features.

2.1. Method

2.1.1. Participants

A total of 79 adults with clinical speech-language pathology experience participated in the study. Forty-six participants (58%) were certified speech-language pathologists and three (4%) were clinical fellows. The speech-language pathologists and clinical fellows were attending continuing education events in San Diego, CA, and Albuquerque, NM. Thirty participants (38%) were graduate students completing their second year of professional training in speech-language pathology at the University of Minnesota; all participating students reported clinical experience. The inclusion of advanced graduate students as well as certified speech-language pathologists was consistent with the general aim of Study One: to generate an uncensored list of clinician characteristics related to treatment outcomes, from the perspectives of current and future professionals.

2.1.2. Procedure

Participants were given paper copies of the study questions and asked to respond anonymously. The survey asked three open-ended questions to elicit participants' views of treatment and effective clinicians. Demographic information about clinical experience was also collected. A copy of the survey questions is included as Appendix B.

Responses were transcribed verbatim and subjected to a thematic analysis (Braun & Clarke, 2006). Responses to the introductory question regarding the nature of treatment were not included in this analysis. The thematic analysis used an inductive approach with the goal of obtaining a rich description of the entire set of responses. The analysis considered themes to be semantic, or explicit, rather than latent (Braun & Clarke, 2006). The first step was to characterize the ideas present in the responses using a set of codes. The codes represent paraphrases of the original responses with minimal departure from the respondents' actual words. For example, many respondents mentioned the role of knowledge, using words such as ''increasing knowledge basis through trainings,'' ''knowledge of the presenting disorder,'' and ''increased training on the part of the clinician.'' Responses such as these were coded as ''Knowledge: Intervention program or disorder.''

The set of codes was then refined using iterative passes through the data set and developed into broader themes. We reviewed the codes for overlap and combined or clarified codes that represented similar ideas. The final step was to organize themes into a thematic map. This step involved reviewing the data for relationships among the ideas represented in the themes and subthemes. For example, there was a clear relationship among different types of experience cited by participants, including experience with a specific client, with a specific disorder and intervention program, and with a specific culture.

2.2. Results

2.2.1. Participant characteristics

Although nearly all practicing clinicians (98%) indicated that they currently work in an educational setting, they reported intervention experience with a variety of disorders. At least 60% of respondents had experience in seven of the disorder areas: articulation/phonology, autism, cognitive-communication disorders, fluency, language impairment,

motor speech disorders, and voice disorders. Between 40% and 50% of respondents had experience in three additional areas: aphasia, dysphagia, and hearing loss. Finally, 18% of respondents had experience in accent modification treatment. Treatment was a daily work activity for 84% of respondents.

2.2.2. Themes

A total of 39 codes were used to capture ideas during the initial phase of thematic analysis. The same set of codes was used for responses to Question 2 (more effective clinician characteristics) and Question 3 (less effective clinician characteristics) and they were combined into a single thematic analysis.

Two codes were used for responses that were eventually excluded from the thematic map. When a response could not be judged to refer to the clinician or to follow the instruction ''. . .given the same client and same intervention program,'' the response was coded as ''A: factors external to clinician.'' This code was used 28 times out of a total of 385 coding instances. Examples of such responses included, ''increased support of the teacher/parent,'' ''client home practice,'' and ''intensity of treatment.'' Such factors may be very important to treatment outcomes but they do not fit the research question here. The second code used for excluded responses was ''0: not enough information.'' This code was used when the response was ambiguous or generic which occurred 24 times. Responses that received this code included ''competence,'' ''pedagogy,'' ''training,'' and ''personality.'' Thus, a total of 13.5% of the data was judged to be ambiguous or not specific to the clinician and was excluded from the thematic map. All remaining responses received a code between 1 and 37 and an associated label. The complete set of codes is shown in Table 1.

The codes were then organized into a thematic map (Braun & Clarke, 2006). First, responses related to each code were reviewed to find links between individual codes. As this process was repeated, three broad themes and several subthemes emerged that appeared to capture the relationships among the codes. The final thematic map is depicted in Fig. 1.

The final thematic map indicates three categories of important clinician features: behaviors, traits, and acquisitions.

2.2.2.1. Behaviors. Behaviors were relatively specific to an intervention situation and respondents' language suggested these features could be operationalized and measured. For example, the *change practices* and *reassess status/progress* features appeared in the following response, which suggests definable actions for the clinician: ''Re-evaluating progress a couple of months into [treatment] to determine if [treatment] is effective. If it is not change the plan.''

The behaviors theme encompassed an important subtheme, collaboration and communication. Respondents frequently mentioned the importance of communicating well with the client, with his or her family, with other professionals working with the client, and with other SLPs who have specialized knowledge. Sample responses included, ''Ability to communicate and engage with students, parents and colleagues,'' and, ''Collaboration with all communicative partners (parents, teachers, peers).'' Additional examples of behaviors that emerged as central features included preparation, ongoing reassessment with changes to the treatment program as necessary, and providing a functional context for intervention.

Table 1
Codes used to characterize the data set in Study One.

0. Not enough information	10. Context for therapy	20. Knowledge: research/ literature	30. Educating
1.Knowledge: intervention program/disorder	11. Rapport	21: Evidence-based practice	31. Client involvement
2. Experience: intervention program/disorder	12. Workload	22: Response to intervention	32. Universal positive regard
3. Preparation	13 Therapist expectations	23: Communication: client	33. Tolerant
4. Reassess status/progress (data driven)	14. Environmental flexibility	24. Flexibility/change practice	34. Patience
5. Understanding: client	15. Creativity	25. Unbiased	35. Focus
6. Motivation	16. Getting help from colleagues	26: Advocacy	36. Viewpoint
7. Knowledge: culture/language	17. Empathy	27. Increase client's motivation	37. Self-confidence
8. Communication/collaboration: parents	18. Listening skills	28: Increasing practice opportunities	A: Factors external to clinician
9. Communication/collaboration: other providers	19. Observation skills	29. Counseling	

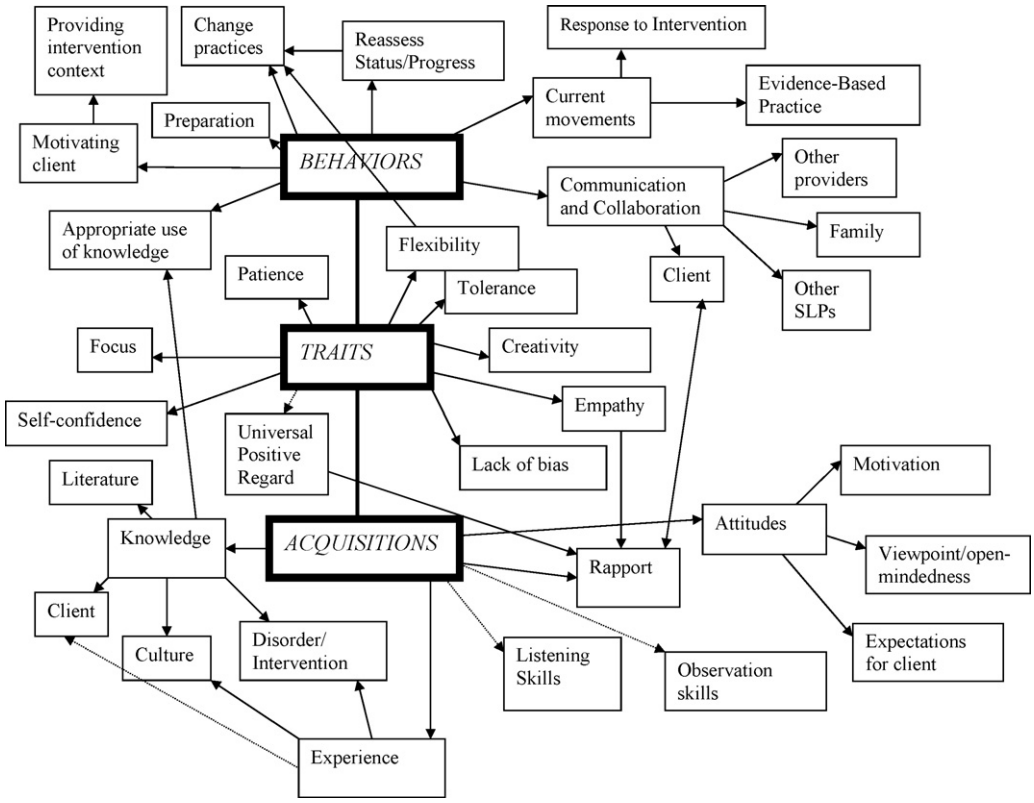

Fig. 1. Thematic map of qualitative responses from Study One. *Note*: the three major themes are indicated in bold boxes. Arrows indicate the connections among the three major themes and their component subthemes, as well as related subthemes that cross the three major thematic categories.

2.2.2.2. Traits. In contrast to behaviors, traits were typically expressed in words suggesting general internal or personal characteristics. Traits that were important to respondents included creativity, empathy, tolerance, patience, flexibility, and an unbiased perspective. For example, one participant listed several traits: ‘‘Patience, creativity, flexibility, . . .’’.

2.2.2.3. Acquisitions. A third class of responses emerged that could be acquired by time or effort. Three major subthemes fell under this category: knowledge, experience, and attitudes. Several types of knowledge were repeatedly mentioned in the responses, including knowledge of the client, of the client’s disorder and the intervention approach, of the literature in general, and of the client’s culture. Example statements included, ‘‘knowledge of culture and language,’’ ‘‘familiarity with/willingness to apply current research,’’ and ‘‘↑ training on specific intervention program.’’ Similarly, experience with the disorder and intervention, the client, and the culture were considered important.

Finally, three main aspects of the clinician’s attitude were grouped into the acquisitions theme. Attitudes were viewed as changeable and specific to a given intervention situation, in contrast to traits, and were therefore considered acquisitions. The facets of the clinician’s attitude that emerged were professional motivation, expectations for the client’s success in treatment, and open-mindedness or viewpoint about the client.

2.2.2.4. Interthematic connections. An additional aspect of the thematic map is the connections across the three major themes, which are represented by arrows in Fig. 1. For example, while knowledge is an acquisition, appropriate use of that knowledge is a behavior. The trait of flexibility would lead a clinician to the behavior of changing approaches when needed. Finally, acquiring rapport would depend upon appropriate communication with the client as well as empathy for him or her.

2.3. Discussion

The purpose of Study One was to generate a list of potential effective and ineffective clinician traits and subject this list to qualitative analysis. The resulting thematic map integrates common themes from the complex and diverse array of responses to the questions. In this phase of the study, participants consistently perceived ''more effective'' and ''less effective'' clinician features to be opposite dimensions of a unitary construct. Therefore a single thematic map could capture clinician features that could help treatment progress or–if lacking in the clinician–hinder it. This map shows three main themes. These themes are not completely dissociable (for example, attitude has elements of both traits and acquisitions); however, the differences among them may prove instructive to examine in future investigations.

A limitation of the first study was the restricted range in employment settings. Nearly all of the professional participants were employed in educational settings because they were the target audience of the continuing education events at which data were collected. The limited diversity in employment settings may have restricted the breadth of ideas in the responses. To partially offset this weakness, we attempted to enhance participant diversity in other ways. Our participants tended to have experience with many speech-language disorders, and they represented three distinct geographic areas. We also included graduate student clinicians to represent a different perspective; although graduate students have less clinical experience than practicing clinicians, their current exposure to coursework and clinical practicum may give them different and potentially valuable ideas about effective clinicians. Because the focus of this investigation was to incorporate as many ideas as possible into the thematic map, soliciting ideas from clinicians with varying experience levels was deemed reasonable. Future investigations should incorporate the perspectives of clinicians employed in a broader range of settings into the thematic map.

3. Study Two: validating and ranking clinician features

The second study was an online survey, designed to collect quantitative data about several potentially important clinician features. The survey's purpose was to determine how practicing clinicians viewed the relative importance of the clinician characteristics identified in Study One.

3.1. Method

3.1.1. Survey development

The survey for Study Two was developed from the thematic analysis results of Study One. The first survey iteration listed 31 potentially important clinician features. This trial version was piloted with 10 certified speech-language pathologists. Six of these 10 clinicians were also doctoral students. Pilot testing was completed to identify any problems with the survey before it was more widely distributed. Feedback on the pilot version resulted in the rewording of several features as well as reduction in the number of features included. The final list included 25 features; 21 of these were developed directly from the thematic analysis in Study One. Three of the remaining four items were foils. These foils were included to prevent a pattern of positive bias in responses. The fourth item was judged to be a potentially important idea that did not arise in Study One responses.

The 25 features were used as potential responses for each of three key questions. First, respondents were asked to rate the importance of each feature for treatment outcomes. Next, they were asked to select three features with the greatest power to positively influence treatment outcomes. Finally, respondents selected three features with the greatest power to negatively influence treatment outcomes. Information about professional experience was collected in the final survey section. The full survey text appears in Appendix C.

3.1.2. Survey distribution

A cover letter, along with an online link to the survey, was emailed to members of the Minnesota Speech-Language-Hearing Association (MSHA) on May 6, 2008. The cover letter and a link to the survey were also placed on the MSHA website the same day. No further email prompts were sent. The link was removed from the MSHA website on June 16, 2008.

A total of 168 responses were received during the 6-week period of data collection. Of these, 160 surveys were completed, indicating that 95% of those who followed the survey link completed the entire survey. Only results from

completed surveys were included in the analyses. Most respondents (152 or 95%) were certified speech-language pathologists. An additional six respondents were clinical fellows and two were speech-language pathology students. The student data was eliminated from analyses in Study 2.

3.2. Results

3.2.1. Respondents

All survey respondents were speech-language pathologists in the state of Minnesota. The majority of respondents (71.6%) worked in educational settings although a substantial minority (22.6%) worked in medical settings. The remaining 5.8% selected ''other'' for work setting. Respondents reported working with clients in a variety of age ranges. Nearly all participants (95.5%) reported that treatment was a standard part of their professional duties.

Participants' experience across disorders was similar to the results of Study One. At least 60% of survey respondents had experience in six of the disorder areas: articulation/phonology, autism, cognitive-communication disorders, fluency, language impairment, and motor speech disorders. In four of the remaining disorder areas (aphasia, dysphagia, hearing loss, and voice), 15–40% of respondents reported experience. Only 1% of participants reported some experience with accent modification.

3.2.2. Clinician features

For each feature that was rated in Question 1, a median value was calculated. Three features had median values of 5, meaning at least half of participants considered them to have a ''very large impact on treatment outcome''. These three features were *how well the clinician places therapy in a functional context*, *the clinician's rapport with the client*, and *the communication between the clinician and the client*. The lowest median value, 2, was received by a single feature: *the amount of time clinician spends filling out supporting paperwork*. The median values and quartile cutoffs for each of the 25 features are shown in Table 2.

Table 2
Median ratings and quartile cutoffs for 25 features listed in the online survey.

Feature	Median rating	1st quartile cutoff	3rd quartile cutoff
The amount of time clinician spends filling out supporting paperwork.	2	2	3
The number of years of experience the clinician has in treating clients with the disorder.	3	3	4
The degree to which the clinician looks professional.	3	2	3
The clinician's punctuality.	3	3	4
The amount of time the clinician has spent preparing for the session.	3	3	4
The amount of motivation the clinician has for treating this particular client.	4	4	5
The clinician's patience.	4	4	5
The clinician's willingness to change intervention goals and activities.	4	4	5
The clinician's ability to avoid personal or cultural biases about the client.	4	4	5
The clinician's theoretical framework for understanding the disorder.	4	4	5
The amount of progress the clinician expects the client to make.	4	4	4
The strength of the clinician's belief in the chosen treatment approach.	4	4	5
The extent of communication between the clinician and the client's family.	4	4	5
The clinician's proficiency in the client's language.	4	3	5
The clinician's knowledge regarding the cultural and linguistic background of the client.	4	3	5
The degree to which the clinician follows the principles of evidence-based practice.	4	3	4
How often the clinician reconsiders the client's progress or status.	4	4	5
The clinician's consistency in following the chosen treatment approach.	4	3	4
The degree of empathy the clinician feels for the client.	4	3	4
The clinician's creativity.	4	3	5
Communication between the clinician and other service providers.	4	4	4.75
The clinician's knowledge of the literature.	4	3	4
The clinician's rapport with the client.	5	4	5
The communication between the clinician and the client.	5	4	5
How well the clinician places therapy in a functional context.	5	4	5

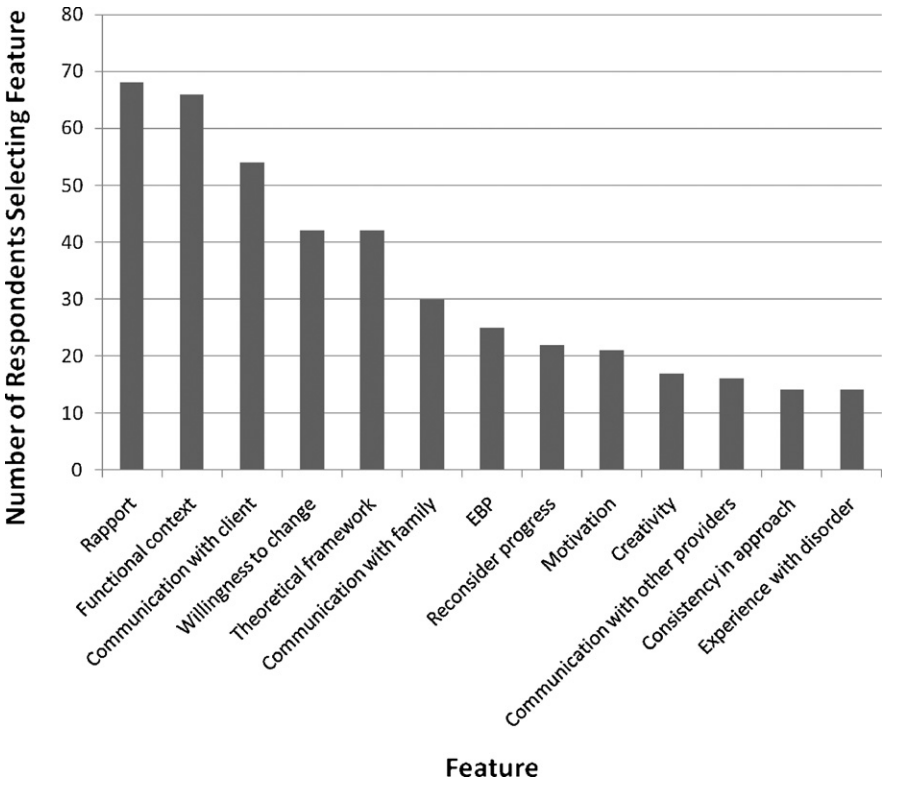

Fig. 2. Features selected by more than 15 participants to be among the 3 most powerful for positively affecting treatment outcomes. *Note*: 15 participants constituted 10% of the sample.

Each of the three foils received a median rating of 3 or lower. Only two of the remaining 21 features received median ratings in the same range. This result lends validity to the survey features generated in Study 1.

Survey Question 2 asked participants to select three features with the greatest power to positively impact treatment outcomes. There was considerable overlap in responses to Questions 1 and 2; the three features most commonly

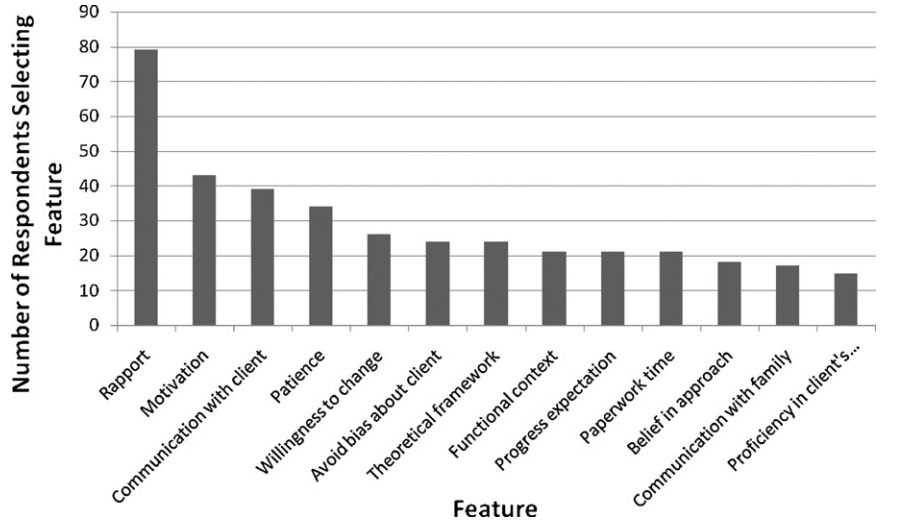

Fig. 3. Features selected by more than 15 participants to be among the 3 most powerful for negatively affecting treatment outcomes. *Note*: 15 participants constituted 10% of the sample.

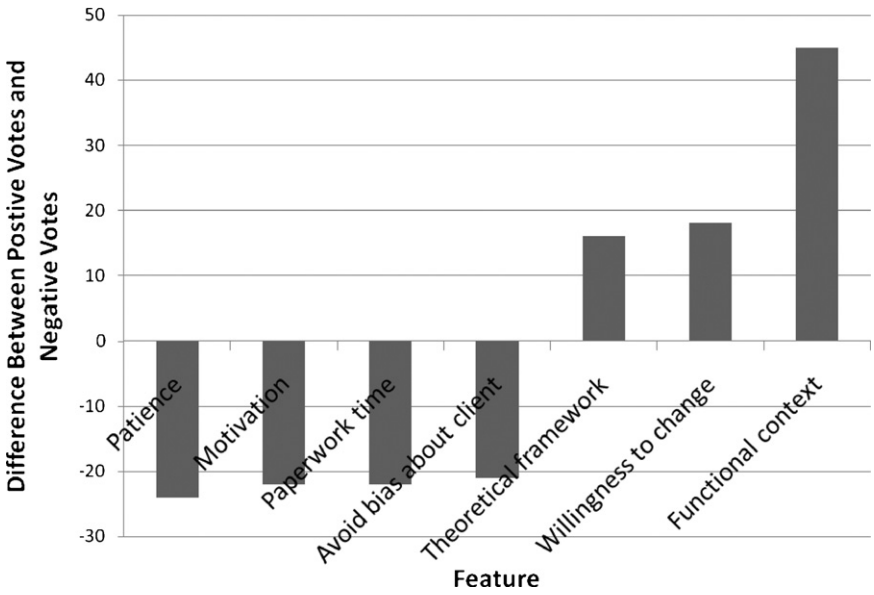

Fig. 4. Features with the greatest difference between positive and negative impact. *Note*: only those features with a difference of at least 15 participants are depicted. 15 participants constituted 10% of the sample.

selected by participants in Question 2 were identical to the three features with the highest median value in Question 1. Fig. 2 shows those clinician features that were selected by more than 15 participants to positively affect treatment outcomes. Fifteen respondents represented approximately 10% of the sample and was selected as the cutoff for features considered most important to our participants.

Finally, Question 3 asked respondents to select three features with the greatest ability to negatively impact treatment outcomes. Results from this question differed slightly from the previous two questions. Fig. 3 shows those clinician features that were selected by more than 15 participants to negatively impact treatment outcomes.

As illustrated in Figs. 2 and 3, participants perceived differences between features with the greatest potential to positively influence treatment outcomes and those with the greatest potential to negatively influence treatment outcomes. As such, differences in response patterns between Questions 2 and 3 were also analyzed. For each feature, we calculated the difference between the number of participants that selected the feature in Question 2 and the number that selected it in Question 3. Seven features had differences of greater than 15 (again 10% of the sample) on this measure. These features and the difference values are depicted in Fig. 4.

3.3. Discussion

The data in Study Two provided both validation of the features generated in Study One and a measure of their relative significance, at least from the perspective of survey respondents. Nineteen of the features generated in Study One received median ratings indicating more than half of participants felt the features had a ‘‘very large impact on treatment outcome’’ or between a ‘‘very large impact’’ and ‘‘some impact’’.

Study Two data also indicated which features were perceived by participants to be more important to therapy outcomes than others. In response to Question 1, three features shared the highest median rating; two of these features, ‘‘rapport’’ and ‘‘communication between client and clinician,’’ are associated with the clinician–client relationship. The third feature was ‘‘the clinician’s ability to put therapy in a functional context’’. The same three features were selected most often in Question 2, suggesting that participants placed a high value on the clinician–client relationship. In the counseling psychology literature, the relationship between clinician and client is considered to be a separate common factor, termed *alliance* (Wampold, 2001). Meta-analyses of the role of alliance in treatment outcomes have consistently yielded moderate-sized effects for alliance (Martin, Garske, & Davis, 2000). Our survey data suggested that relational factors between clinician and client may also be pivotal in the treatment of speech and language disorders.

3.3.1. Positive and negative features

Survey results revealed some differences between clinician features believed to exert a positive influence on treatment and those believed to negatively affect treatment outcomes. For example, the clinician's motivation for treating the client ranked as the second most powerful feature for negatively influencing treatment outcome but only as the ninth most powerful feature for positively influencing treatment outcome. We speculate that many participants felt that extra motivation on the part of the clinician would not necessarily help the client though a poorly motivated clinician could impair client progress. Similarly, a clinician's ability to avoid personal or cultural biases about the client, the amount of time he or she spends filling out paperwork, and his or her patience were considered to have more power to hinder outcome than to help it. Conversely, the clinician's ability to place treatment in a functional context was selected much more often as a positive feature than as a negative one. That is, participants seemed to feel that a lack of functional context would not significantly hinder treatment outcomes but that a clinician skilled in making treatment relevant to real-life could achieve exceptional outcomes.

3.3.2. Limitations

Data collected in Study Two were limited geographically. We are not aware of any systematic geographic differences in the clinical practice of nationally certified speech-language pathologists that may affect responses to survey questions. At the same time, the present findings should be interpreted with caution due to the relatively limited sample. We also did not collect information on the length of the respondents' clinical experience. Without this information, we were unable to separate responses of more seasoned professionals from those with less experience.

4. Summary and discussion

Consistent with a common factors model as well as research from counseling psychology, the starting premise for this investigation was that clinician characteristics contribute essential variance to treatment outcomes. In essence, the ''clinician factor'' recognizes that some clinicians are more effective than others in promoting or detracting from positive change in clients, given comparable treatment approaches, client characteristics and external resources. This tacit understanding forms part of the clinical core for many seasoned professionals yet it has not been systematically considered in speech or language treatment studies. Treatment studies have focused exclusively on theoretically motivated specific ingredients that distinguish one treatment from another, such as the nature of the stimuli (e.g., real or nonsense words, natural or acoustically manipulated speech, modeling or recasts). In contrast to strict advocates of the common factors approach in other disciplines, we appreciate the importance of investigations into specific, theoretically motivated aspects of speech-language treatments. At the same time, we believe that understanding general factors that contribute to treatment outcomes is a critical complement to investigations of specific ingredients. An understanding of general factors is needed to inform clinical training programs, increase treatment efficacy in professional settings, and resolve puzzling or inconsistent results in the growing speech and language treatment literature.

Our motivation with this exploratory study was to illuminate the clinician factor, one of many potential common factors that may affect outcomes in complex behavioral treatments. We used a two-phase survey approach to gather professional perceptions regarding key characteristics of effective speech-language clinicians. Study One results provided a broad list of potentially important features as well as central themes. Study Two results extended these qualitative findings with complementary quantitative information regarding the relative importance of different clinician characteristics in producing either positive or negative treatment outcomes. A prominent theme in both sets of responses was not a quality inherent to the clinician per se, but rather the clinician–client relationship. This between-person relationship is most often referred to as *alliance* in the counseling literature and as *rapport* within the field of clinical speech-language pathology. Although our methods did not allow us to further dissect the complex notion of rapport, it may be partially attributed to other highly rated responses including flexibility or willingness to change goals in response to client needs, communication with client's family, and clinician motivation (Fig. 2). In addition, a clinician's inability to avoid personal or cultural biases about the client may present challenges to clinician–client rapport (Fig. 3). Future studies could investigate this variable more directly, as a separate common factor.

Clinician knowledge, an acquired characteristic, was also viewed as an important attribute in Study One. This result is consistent with that of Leon, Martinovich, Lutz, and Lyons (2005) who found that a clinician's experience in counseling psychology was relevant to clinical outcomes when that experience was with similar patients. Recall, however, that 38% of participants in Study 1 were preprofessional, advanced graduate students rather than certified

professionals. In contrast, relatively few of the professional respondents in Study Two believed that experience with a disorder would affect treatment outcomes. Divergent findings may reflect differences in methodology or clinical work between the disciplines. It may also be the case that if professionals with expertise in a particular disorder area were asked this series of questions ''experience'' may rise to the top. Our data did not include information on the length of experience respondents had with particular disorders and thus we are unable to examine this possibility.

4.1. Limitations and implications for future research

Data from the current study represent only one side of the clinical equation. Professional perspectives on key features of effective or ineffective clinicians were considered; the clients' perspectives on these same issues were not. Study participants were also restricted in terms of geographic region, and the number of participants was modest. We also did not directly measure clients' behavioral responses to different clinicians within the treatment setting. Despite these obvious limitations in this new area of research, study methods and findings provide clear direction for future investigations into what we consider a fundamentally important area for speech-language pathology.

We hypothesized that individuals with clinical speech-language pathology experience may have developed insight into factors that drive successful treatment. The hypothesis is supported by the current EBP framework for speech-language pathology (ASHA, 2004), which cites clinician expertise as one of the three sources of evidence. However, it is possible that the clinicians we surveyed were mistaken about the features that drive successful treatment or that a different sample of clinicians might produce a different list of important features. The clinician characteristics that emerged in this study can be further investigated through direct experimental manipulations to address this issue.

It is also clear that the complexity of the clinician–client interaction and its contribution to change processes in speech-language treatment could not be fully captured by this broad, exploratory survey approach. We viewed our studies as a first pass at examining the clinician factor within the broader common factors perspective. Our intent here was to highlight the issues and begin to apply some methods to a fairly unwieldy concept. It is possible that important clinician characteristics are highly disorder-specific or even situation-specific. However, our sample of clinicians was limited and we were not able to isolate the responses of those clinicians with the most experience in each disorder area. These experts may have the best insight into common factors within their area of expertise.

In summary, there is ample evidence from related fields that clinicians may represent one of the common factors that help determine treatment outcomes. The discussion and data presented here are intended to provide a useful starting point for further investigation of the impact of key clinician features in speech-language pathology.

Appendix A. Continuing education questions

1. According to the common factors model, an empirical comparison between two bonafide behavioral treatments will likely result in:
   (a) Equal, positive outcomes for both treatments, because both treatments contain powerful common factors.
   (b) Equal, null outcomes for both treatments, because neither treatment contains powerful common factors.
   (c) A better result for one treatment because it contains more common factors.
   (d) Outcome cannot be predicted.
2. Which of the following statements about past research on characteristics of effective clinicians is FALSE?
   (a) Personality characteristics have been proposed to affect clinician effectiveness.
   (b) Effective communication skills may enhance clinician effectiveness, but we do not yet have evidence to prove it.
   (c) Racial and gender mismatches between clinician and client are inherently detrimental to treatment progress.
   (d) We have to make assumptions about characteristics of effective speech-language clinicians because there have been few research studies in this area.
3. In Study 1:
   (a) All participants were from Minnesota.
   (b) Qualitative data was analyzed using thematic analysis.
   (c) Results indicated 5 major themes in the responses.
   (d) Themes that fell into the ''behaviors'' category were usually general internal or personal characteristics.
4. Which of the following statements about Study 2 is FALSE?
   (a) Survey data was collected through a combination of electronic and paper surveys.

(b) Most of the features on the Study 2 survey were developed from the results of Study 1.
(c) Three features received median ratings of 5.
(d) Participants perceived differences between features with the greatest potential to positively influence therapy outcomes and those with the greatest potential to negatively influence therapy outcomes.

5. Which of the following statements is supported by the results of this study?
(a) There should be no research into specific, theoretically motivated aspects of speech-language treatments.
(b) The clinician–client relationship may be particularly important to therapy outcomes.
(c) It is clear that surveying a different group of clinicians would produce identical results to those found in this study.
(d) Data analyses indicated significant differences in results between clinicians working with different disorders.

Appendix B. Full survey text from Study One

We are interested in understanding how speech-language pathologists (SLPs) view selected professional roles and activities. All questions refer to the clinical practice of speech-language pathology. Please note that we consider ''treatment'', ''therapy'', and ''intervention'' to be synonyms, and we use these terms interchangeably.

B.1. Section A

1. What is treatment?
2. What factors related to the SLP may result in more effective treatment, given the same client and the same intervention program?
3. What factors related to the SLP may result in less effective treatment, given the same client and the same intervention program?

B.2. Section B professional experience

1. I am a:
___ Student ___Clinical Fellow ___Speech-Language Pathologist
(Students: Please skip to Question #5)
2. My primary work setting is:
___Educational ___Medical ____Other
3. I work with the following age ranges (check all that apply):
___0-5 ___6-13 ___14-18
___young adults ___middle-age or older adults

4. My professional time is devoted to the following activities (check all that apply):
___Assessment ___Treatment ___Training ___Other

5. I have provided speech-language intervention services in the following areas (check all that apply):

___Accent Modification ___Articulation/Phonological Disorders ___Aphasia

___Autism/PDD ___Cognitive-Communication Disorders ___Dysphagia

___Fluency Disorders ___Hearing Disorders ___Language Impairment

___Motor Speech Disorders ___Voice/Resonance

Appendix C. Full survey text from Study Two

We are interested in finding out more about the factors that affect therapy outcomes in speech-language pathology. The following questions address factors related to clinicians.

C.1. Part A

For each question, please assume the client, disorder, intervention approach, and therapy setting stay the same, and rate the importance that the clinician factor would have on therapy outcome. For example, you could picture a "typical" client in your work setting, and assume that an effective therapy program is underway for this client. How much would differences in the factors listed below affect the client's therapy progress?

Rating scale:

1 Negligible impact on therapy outcome
2
3 Some impact on therapy outcome
4
5 Very large impact on therapy outcome

The degree of empathy the clinician feels for the client.
The amount of time the clinician has spent preparing for the session.
The clinician's willingness to change intervention goals and activities.
The amount of time clinician spends filling out supporting paperwork.
The strength of the clinician's belief in the chosen treatment approach.
The communication between the clinician and the client.
How often the clinician reconsiders the client's progress or status.
The clinician's creativity.
The clinician's proficiency in the client's language.
The clinician's patience.
How well the clinician places therapy in a functional context.
The clinician's rapport with the client.
The degree to which the clinician looks professional.
The clinician's knowledge of the literature.
The amount of progress the clinician expects the client to make.
The extent of communication between the clinician and the client's family.
The number of years of experience the clinician has in treating clients with the disorder.
Communication between the clinician and other service providers.
The clinician's punctuality.
The clinician's knowledge regarding the cultural and linguistic background of the client.
The clinician's ability to avoid personal or cultural biases about the client.
The degree to which the clinician follows the principles of evidence-based practice.
The amount of motivation the clinician has for treating this particular client.
The clinician's theoretical framework for understanding the disorder.

C.2. Part B

1. Of the 25 factors listed in Part A, please choose 3 that you think have the greatest power to *positively* influence therapy outcomes.
2. Of the 25 factors listed in Part A,, please choose 3 that you think have the greatest power to *negatively* influence therapy outcomes. In other words, which 3 factors would be most likely to impede therapy progress, if there were a problem with them?

C.3. Section C demographic information

The content of this section was identical to the Professional Experience section of Appendix B and is not repeated here.

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