Measuring Individual Preferences for Therapist Characteristics

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Abstract

A focus of the literature on psychotherapy efficacy has been the relationship between the therapist (professional providing counseling) and client (patient receiving counseling). Known as a therapeutic alliance, this relationship has been found to be significantly related to therapy outcomes. The literature examines client preferences for certain therapist characteristics and the match between client and therapist demographics, as well as the corresponding impact on therapeutic alliance. As so, there is a void in the literature related to the inconclusiveness of results from studies examining the significance of therapist characteristics. This study uses a web-based survey to collect insights regarding college students' and staffs' preferences for specific therapist's characteristics as a framework to provide a foundation to generalize to a more general population. In addition, the study employs the Rasch Model to evaluate the quality of the web-based survey used to measure these preferences. The revised survey is discussed, as well as the potential implications for the field of counseling.

Measuring Individual Preferences for Therapist Characteristics

Client preferences for specific therapist's characteristics can influence the therapist-client relationship; thus, in turn, influencing the outcomes of therapy ranging from termination of services to completion of therapy with positive change. The potential significance of client preferences for a therapist, also known as a counselor, with specific demographics and/or qualifications warrants investigation into *which* characteristics are most meaningful to or preferred by clients, or potential clients. Approaching the topics through survey research methods allows for the control of which characteristics are examined and subsequent inquiry into their counseling experiences. Analyzing the data and participants' tendencies to endorse items via a Rasch model provides insight into the quality of the measurement itself. Gathering qualitative data from open-ended questions in the survey permits the examination of additional and unanticipated preferences of, influences on, and information from the participants that can supplement quantitative findings and provide further support for the quality of the instrument.

This study began with a validation of the computer-based, online survey used to collect the data through Rasch measurement. Next, data from the survey that was transformed through Rasch measurement analyses was reviewed, with much attention given to the Likert-type scale and categorical responses. Results provide an early framework for potential therapist characteristics of interest, more specifically those that are preferred by the response frame. Finally, open-ended questions underwent content analysis for trends and feedback in regards to the survey itself. The methodological framework informs those interested in survey research methods and the results

Theoretical Framework

Therapeutic Variables and Related Impact

Much research has been devoted to examining the impact of the therapeutic alliance and relationship on client treatment outcomes. A large portion of the literature on psychotherapy efficacy has shown the relationship between the therapist and client, often referred to as the therapeutic alliance, to be significantly related to therapy outcomes (Ellis, 1999; Karpiak, & Benjamin, 2004; Trepka, Rees, Shapiro, Hardy, & Barkham, 2004). Closely related to the alliance among and relationship between clients and therapists are client and therapist characteristics. In the literature, therapist characteristics are often referred to as factors, variables, and attributes. Therapist characteristics have generally been studied as either therapy-specific variables or non-specific, 'extratherapy' variables (Beutler, Machado, & Neufeldt, 1994; Najavits & Weiss, 1994).

Therapy-specific characteristics include therapist variables such as relationship attitudes, perceptions and solicitations of patient involvement, credibility, interpersonal functioning (Luborsky, Crits-Christoph, & McLellan, 1986), purity of techniques, and behaviors of the therapist during session such as directiveness and support (Lafferty, Beutler, & Crago, 1989; Najavits & Weiss, 1994). Such therapy-specific variables have been shown to be positively associated with greater effectiveness at a more consistent rate than the non-treatment-specific variables in the literature. Extratherapy factors, on the other hand, are defined as generic attributes and include personality, emotional adjustment, theoretical orientation, values, and socio-demographic information (Najavits & Weiss, 1994). Lafferty, Beutler, and Crago (1989) have referred to such extratherapy variables as 'global variables' and claim such characteristics are developed independently of therapy and have less predictive power for outcomes than

variables developed in and specific to the therapeutic relationship. Nevertheless, client preferences for therapist characteristics have generally been shown to play an important role in the therapeutic alliance (Finney, 2004). For example, studying the preferences of Mexican Americans for counselors, López, López, and Fong (1991) observed client preferences for ethnically similar counselors. However, a problem lies in the literature on such preferences.

Inconsistencies among and inconclusiveness in the results of studies on therapist characteristic preferences and the impact preferences have on therapy exist throughout the literature, specifically preferences concerning the demographic characteristics of therapists (Huppert, Bufka, Barlow, Gorman, Shear, & Woods, 2001; Vocisano, Klein, Arnow, Rivera, Blalock, Rothbaum, et al., 2004). Najavits and Weiss (1994) summarized research on therapist characteristics in regard to effectiveness as inconclusive and limited, even contradictory. Blatt and fellow researchers (1996) further assert therapist characteristics are a poorly understood group of variables and often neglected by efficacy and outcome studies, indicating a need for further investigation into client preferences.

Theoretical Framework

Crucial to analyzing participants' preferences for certain counselor characteristics is the quality of the instrument used to examine such preferences. Bond and Fox (2001) argue, "...interpretation of analyses can only be as good as the quality of the measures" (p. 26). Among other concerns, the traditional classical test theory approach to analyzing rating scale data creates dependence in the data, assumes each items contributes to the analyses equally and is measured on the same interval scale, and assumes each respondent's appropriate interpretation of the survey directions (Wright & Stone, 2004). Dependence in the data and the assumptions of classical test theory present several weaknesses, compromising instrument analyses. To better

ensure the quality of the measurement employed, as a secondary analysis, the study assessed the stability of the instrument in measuring participants' preferences for therapist characteristics by employing the Rasch model, a one-parameter item response theory model.

The Rasch model (Rasch, 1960) addresses the weaknesses of the classical test theory by observing the connection between respondents and items as probable occurrences, not certainties. According to Wright and Masters (as cited in Bradley & Sampson, 2005a), the resulting probabilistic version of the scalogram "indicates that persons endorsing a more extreme statement should also endorse all less extreme statements and that an easy-to-endorse item is always expected to be rated higher by any respondent" (p. 12). Therefore, "in contrast to classical test theory, parameters in the Rasch model are neither sample nor test dependent" (Bradley & Sampson, 2005b, p. 5), which releases dependence on person and item estimates from the sampling distribution and remedies the problematic nature of missing data. The Rasch model and its applications 1) enable researchers to identify possible respondent misinterpretations and items that may not measure the construct in question and 2) provide researchers with information regarding rating scale structure and degree to which each item contributes to the construct. In this study, data was analyzed through Rasch measurement techniques to assess the measurement instrument and produce a summary of the responses. Web-based Surveys

Surveys have long been a popular method for data collection in the human and consumer sciences. The advent of the Internet spun survey research onto the World Wide Web, an event which marked the next major update in the technologies used to gather information about participants' thoughts, interests, opinions, behaviors, and attitudes. Thus, the Internet has provided researchers with a new vehicle for data collection (Rezabek, 2000). The advances of

survey research onto the Internet have provided survey methods with several advantages compared to the more established ways of collecting data via surveys, namely paper-and-pencil questionnaires to be mailed-in or completed in a laboratory, as well as telephone or face-to-face interviews following a standard survey format (Lyons, Cude, Lawrence, Gutter, 2005; Wright, 2005).

One of the most frequently reported and investigated advantage is efficacy in terms of time and money (Lyons, et. al., 2005; Yun & Trumbo, 2000; Edmunds, 1999; Tourangeau, 2004; Skitka & Sargis, 2006). Collecting data online offers researchers a comparatively less timely and less expensive avenue for tapping into basic human attitudes, opinions and behaviors. The turn around time for Web-based surveys has been reported as two to three days by Yun and Trumbo (2000), with 80% of responses collected in the first three days, and most of which within the first 24 hours of access. Likewise, cost comparisons between traditional survey methods and online data collection revealed an estimated total cost for mailed surveys to be 11 times greater than costs for online surveys even after purchasing a Web-based software package (Ladner, Wingenbach, & Raven, 2002).

Method

This study is both exploratory and evaluative in nature. The overarching goals of the study were to (1) assess the utility and quality of the survey instrument and (2) better understand the degree to which participants preferred certain therapist characteristics as well as the context of client preferences.

Response Frame

The pilot study sampling procedure for the online survey portion was conducted with a nonprobability, specifically a purposive or judgmental, sampling design. The sample population

was one of convenience due to the proximity and accessibility of its recipients. The sample population was a homogeneous group of mostly Caucasian undergraduate and graduate students, faculty and administrators who subscribed to LISTSERVs for various programs housed by the College of Education at a MidWestern University. The LISTSERVs consisted of approximately 3,000 subscribers. The target number of responding participants was approximately 30, a response rate of 1% participating in the online survey. An actual response rate was nearly 2% (N=58). A purpose of utilizing only a small sample is to allow for the controlled selection of possible participants, thus leaving a large sample of students at the University for further study using the revised survey.

Instrumentation

The survey was created and posted on the internet using Perseus SurveySolutions ®/Express, a web survey software program. The survey consisted of 25 (closed-ended, interval-response Likert-type, and open-ended) questions regarding the participants' demographics, experiences in and impressions of counseling, preferences for certain therapist characteristics including therapists' counseling approaches and styles, level of education, training and experience in specialized areas, and demographic information. Throughout the survey, various questions included "Other" options, which allowed participants to type in their answers, as well as "No Opinion" or Does Not Matter" choices, which allowed participants the option of not indicating a personal preference. Additionally, at the end of the survey, open-ended questions solicited unanticipated characteristic preferences, words participants associate with counseling, and feedback from participants concerning the format, content, and administration of the survey.

Data Collection and Management

An email message was sent to LISTSERV members in January, 2006 including a statement of confidentiality, consent information, contact information, and a link to the online survey. To begin the survey, participants followed the provided link to the survey, accepting the given conditions of the study and thereby confirming their consent. Participants were then prompted to answer the survey questions and provide their comments to open-ended questions regarding their preferences for and opinions about certain therapist characteristics. After completing the online survey, participants submitted their answers electronically by clicking the button found at the end of the page. No further participation was solicited from the respondents. One month from posting the survey and requesting participation via email to the LISTSERVs, the survey was closed. All data from the submitted surveys was collected by the Perseus Survey Solutions Pro online program. The Perseus program software collected and managed the data in a secure, password-protected website, accessible only to the researcher.

Data Analysis

To determine the degree to which participants prefer certain therapist characteristics, data transformed into interval data through Rasch analysis will then be analyzed using fit statistics and probability curves yielded from the Winsteps, Windows-based software (Linacre, 2004, version 3.51). Each participant is represented by a person label which consists of coded information regarding his or her demographics and opinions of counseling. The survey items appropriate for Rasch analysis included 25 counselor characteristics that pertain to therapy-specific variables (e.g.: sympathetic, validating, trustworthiness, understanding, competent, good listener, collaborating, challenging, etc.). The responses to the items in question correspond to a rating scale in which 1=Strongly Disagree, 2=Disagree, 3=Agree, and 4=Strongly Agree.

Concerning the reliability of the measure in soliciting participant preferences for therapist characteristics, both item and person reliability is reported in Winsteps software output. Person reliability index is the equivalent of traditional test reliability and can be described as the replicability of the person ordering. Overall person reliability of the survey data is produced by two estimates in Winsteps: real (lower bound) and model (upper bound) person separation reliabilities. Real reliability values reflect reliability values at their worst while model reliability or adjusted reliability reflects reliability values at their best. True reliability values fall somewhere between the two estimates.

Outfit and infit output tables from the Winsteps software illustrate the fit of item and person data with the model, thereby evaluating the coherence of the data collected (i.e.: unidimensionality, unidirectional, keyed as intended, possible coding errors, etc.). Infit and outfit output tables show greatest to least unidimensionality of the scaled items by statistically produced misfit ratings in relation to the model. Person and item infit and outfit mean-square values are examined to determine the extent to which participants and items fit the model and highlight persons/items that vary from the expected participant responses to items. The diagnosis of individual item misfit followed Linacre's (2004) two general rules: 1) investigate outfit before infit and 2) evaluate high values before low values. Person fit is examined prior to item fit because high outfit mean-squares may be due to random responses by low performing participants rather than a misfitting item (Linacre, 2004). The range of acceptable mean square infit and outfit values is 0 to 1.3 for samples sizes less than 500 (Bond & Fox, 2001). Items with values falling outside the given range are displayed in table format from Winsteps output table 10.1 (Table 1 in Results). Such items were viewed as misfitting items and potentially problematic and therefore in need of revision.

The rating scale structure was evaluated using the Rasch Model to determine if mean measures increased as the categories stepped up the scale in the 'more' direction. Using probability curves produced by Winsteps, Rasch analyses also examined the hierarchy of the items, specifically determining if the items fell in the hypothesized structure and spread evenly across the intended range against participants' level of willingness to endorse preferences for items. Furthermore, mean square values from misfitting individual items were reviewed using item distribution maps and item statistic tables produced by Winsteps to shed light onto which items may not have accurately measured participant preferences and possible reasons why.

Results

Specific to rating scale reliability estimates, results from Winsteps provided a real person separation reliability and a model person separation reliability for each rating scale question. To review, the real person separation reliability estimate indicates the rating scale's reliability at its worst as the model person separation reliability estimate indicates the rating scale's reliability at its best. The reliability estimates indicate the survey instrument's rating scale questions were a reliable measure of participants' preferences for therapist characteristics, as the real (lower bound) estimate was .79 and the model (upper bound) was 1.94.

Overall, participants seem to have agreed or strongly agreed to preferences for the therapist characteristics identified from the literature and included in the survey. This is not terribly surprising given the positive and therapeutic nature of the characteristics examined. Inclusion of negatively phrased and non-therapeutic characteristics or variables un-related to counselors' approach to the therapy session such as personality may have resulted in much different results.

Findings from Rasch analysis of the survey data provide evidence for revising the survey in order to better reflect participants' preferences. More specifically, Table 1 shows item statistics in a fit-order table produced by Winsteps. Items with infit mean square values outside the expected range (items 3 and 8) indicate 'off-variable noise' while items with outfit mean square values outside the given range (items 3, 14, 12, 8, and 5) indicate the presence of unexpected outliers.

Table 1

Item statistics in Order of Misfit [abbreviated version]

Item Description	Infit Mean-Square	Outfit Mean-Square
Is sympathetic.	1.82	1.89
Is comfortable talking about issues of diversity (race/ethnicity, sexual orientation, gender, age, etc.).	1.25	1.56
Validates my thoughts.	1.27	1.45
Uses humor.	1.44	1.41
Helps me stay focused.	1.27	1.33

Note. Items correspond to survey question 12: I would prefer to seek therapy with a counselor who... Items with mean-square values exceeding the given range of zero to 1.3 are highlighted. Data taken from Winsteps output table 10.1.

Figure 1 gives insight into the structure of the rating scale with the category probability curve produced by Winsteps and shows that participants are only utilizing very few of the categories on the rating scale, particularly endorsing only the Agree and Strongly Agree response options.

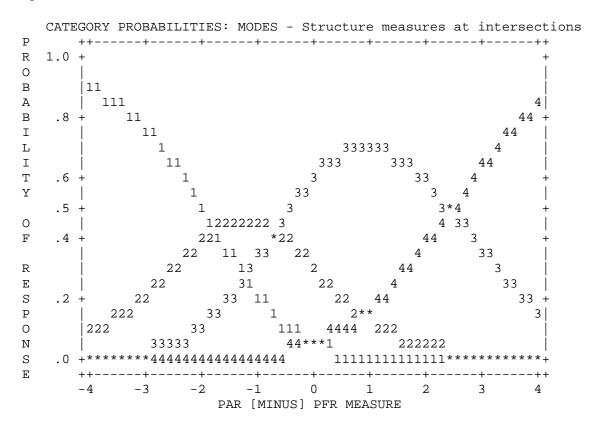


Figure 1. Category probability curve for responses given to survey question 12 as produced in Winsteps output table 21.1.

A map of persons and items produced by Winsteps is illustrated in Figure 2. The map displays a hierarchy of characteristics preferences as rated by the participants and indicates that persons clump together near the top of the scale while items clump together near the bottom of the scale. This suggests that participants' willingness to endorse items is generally very high and the difficulty to endorse the items is quite low overall. The characteristic to which participants most agreed was preferable in a counselor was *is a good listener*. The characteristics to which

participants least agreed were preferable in a counselor were is sympathetic, validates my thoughts, uses humor, and is comfortable talking about issues of diversity (race/ethnicity, sexual orientation, gender, age, etc.).

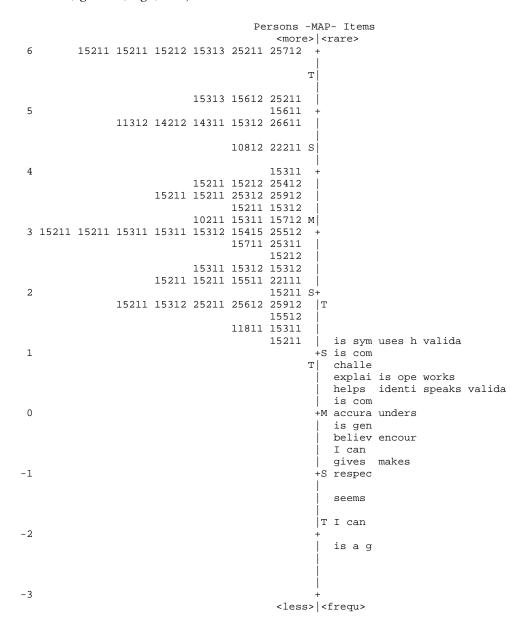


Figure 1. Map of persons and items for responses given to survey question 12 as produced in Winsteps output table 1.0.

Table 2 provides item statistics produced by Winsteps for the purpose of evaluating individual items. The data, produced in Winsteps output table 25.3, demonstrates that the given

items appear to be misfitting, having outfit mean square values that fall outside the acceptable range. Because the items' values are greater than 1.3, their mean squares indicate unexpected responses and may imply the item may belong to a different construct or are misunderstood by the participants.

Table 2

Item statistics in Order of Displacement [abbreviated version]

Item Description	Outfit Mean-Square
Is sympathetic.	2.3
Validates my thoughts.	2.1
Uses humor.	1.4
Is comfortable talking about issues of diversity (race/ethnicity, sexual orientation, gender, age, etc.).	2.6
Validates my feelings.	1.4
Helps me stay focused.	1.33
Speaks clearly.	1.6
Understands me.	1.4

Note. Items correspond to survey question 12: *I would prefer to seek therapy with a counselor who...* Items with mean-square values exceeding the given range of zero to 1.3 are highlighted.

Discussion

Results from the study seem to support the hypotheses that 1) the online survey is a valid method of assessing preferences for therapist characteristics and 2) participants prefer certain therapist characteristics. Reliability estimates suggest the survey to be a reasonably reliable

measure of client preferences for therapist characteristics. The necessity for revisions is indicated, however, as several items appeared to be misfitting.

Several items were shown to have infit and/or outfit mean-square values over 1.3, as displayed in Table 1 and Table 2. One possible explanation for misfitting and/or displaced items is the participants misunderstanding of such items. For example, in question 12 of the survey, *is comfortable talking about issues of diversity (race/ethnicity, sexual orientation, gender, age, etc.)* may have been misunderstood or too difficult for participants to answer. The problem could be due to the item's length and/or inclusion of multiple constructs. It is possible that student were forced to reflect on too many variables of diversity (i.e.: comfortable talking about race and talking about sexual orientation), leading to difficulty answering in a reliable manner. Other items may involve too much professional jargon, such as *validates my thoughts* and *uses humor*.

Items with mean-square values need reviewed to determine possible causes for misfit or displacement and revised accordingly. For the example of *is comfortable talking about issues of diversity (race/ethnicity, sexual orientation, gender, age, etc.)*, the item may be shortened to *is comfortable talking about diversity*. For items *validates my thoughts* and *uses humor*, the items can be reworded as *confirms my reactions* and *has a good sense of humor* to better convey the therapist characteristic in question.

The category probability curve in Figure 1 demonstrates that participants were not utilizing the full range of the survey rating scale. Specifically, participants generally endorsed Agree or Strongly Agree to individual items. This result is not surprising due to the positive nature of each item's therapist characteristic. However, the probability curve suggests problems with the structure, to which a possible solution may be to include less positive items in the rating scale, leading to participant endorsement of Disagree and Strongly Disagree. For example the

survey may be revised to include negative therapist qualities such as *judgmental* or *critical*, which participants likely will not find desirable in a therapist and therefore endorse Disagree or Strongly Disagree.

On the whole, the characteristic to which participants most agreed was preferable in a counselor was *is a good listener*. As many lay people seek therapy to discuss their personal concerns, this result seems intuitive. However, the importance of being a good listener is stressed by the results of this study due to its placement at the top of the item hierarchy (Figure 2). Similarly, the characteristics to which participants least agreed were preferable in a counselor were *is sympathetic*, *validates my thoughts*, *uses humor*, and *is comfortable talking about issues of diversity (race/ethnicity, sexual orientation, gender, age, etc.)*. The placement of these items at the bottom of the person-item map may be due to their apparent misfit with the other items and model itself. Different 'least preferred' characteristics may be yielded after revisions are made to the survey and misfitting items are reworded for better participant comprehension of the constructs. More insight for the purpose of such revisions can be gathered from the qualitative data collected from participants' open-ended responses.

An overall trend from the qualitative data suggests that participants associated words such as "helpful" and "helper" with counseling and therapists, indicating a generally positive perspective, a finding which validated quantitative ratings elicited from questions given earlier in survey. Therefore, the qualitative data collected by the survey seems to supplement the findings from Rasch analysis, further validating the ability of the instrument to produce reliable data. Results from this study are anticipated to be replicated through word-associations and open-response questions in further studies using a revised version of the Web-based survey.

The results of the study are pertinent to college campus counseling centers because they provide implications which may be helpful in recruitment or hiring of clinicians. Additionally, campus counseling center may use the results to help guide the training experiences of their student counselors. The findings could also be utilized in decision making about and planning public relations or advertising campaigns. Understanding which therapist characteristics students prefer in a counselor may help counseling centers target certain populations and better serve student clientele. However, before implications can be inferred and implemented by campus counseling centers and counselors, several limitations of the study should be addressed.

Along with the advantages of using online or Web-based methods for survey research, limitations arise and may pose a threat to the reliability and validity of Web-based measurements. Overall, surveys tend to have strong reliability and weak validity estimates (Nardi, 2003). One of the most important limitations applies to response rates for Web-based methods of data collection. As reported, the response rate for participants in this study was nearly 2%, which initially seems low but is to be expected when the context of the sampling frame is considered. In fact, several studies using undergraduate university students as the sampling population have yielded similar response rates, with an average response rate of 14.16% but others also as low as 2.07% (Morrell, Cohen, Bacchi, & West, 2005).

Conclusion

Preferences for certain characteristics, as well as the match between client and therapist characteristics, have been shown to play an important role in the therapeutic alliance. However, the literature on therapist variables, preferences for certain therapist characteristics, and their impact on the therapeutic process is limited by its inconsistencies and inconclusive results. This study intended to validate the use of a Web-based measure for client preferences of therapist

characteristics by employing Rasch analyses. The purpose of the instrument was to provide a better method of understanding of such preferences for therapist characteristics.

The limitations of this study include the restrictions placed on the sample population, inherent to the use of online measurement. Participation requires participants to have access to the internet and be inclined to participate. Additionally, generalization can only be made to groups of mostly university students. However, the purpose of the study was to pilot the survey before using the Web-based instrument with a very similar population – undergraduate students attending the same institution. The sampling frame for the larger study to follow is characterized as university students who are provided email addresses by the institution and given free access to the Internet at various campus locations. Therefore, concerns regarding representation and generalization are not particularly relevant for this study. Furthermore, the advantages of using a Web-based survey instrument outnumber its limitations

The relatively small amount of time required to complete surveys online may have helped in participant willingness and availability to complete the survey despite tighter schedules found during the academic semester. An additional strength of the design was the capacity to reach a large number of people who had additional insight into improving the survey's structure and content for further administrations. Also, the anonymous and convenient nature of online administrations may have persuaded members to complete the survey and may likewise persuade students to participate in further administrations of the survey.

The findings from the survey responses as well as the analysis of the instrument itself have helped determine the direction of revisions for the survey. Most remarkably, results represented a foundation of support and necessary revisions for the use of the survey in further research on client preferences. Overall, the survey instrument was shown to be a quality measure

of participant preferences as well as a reliable method for collecting such attitudinal data. The information collected and analyzed in the study contributes to the base of knowledge and provides further evidence as to the preferences of clients for certain therapist characteristics.

References

- Beutler, L. E., Machado, P. P., & Neufeldt, S. (1994). Therapist variables. In A. E. Bergin and S. L. Garfield (Eds.), *Handbook of psychotherapy and behavior change* (4th ed., pp. 229-269). New York: John Wiley & Sons.
- Blatt, S. J., Sanislow, C. A., Zuroff, D. C., & Pilkonis, P. A. (1996). Characteristics of effective therapist: Further analyses of data from the National Institute of Mental Health Treatment of Depression Collaborative Research Program. *Journal of Consulting and Clinical Psychology*, 64(6), 1276-1284.
- Bond, T. & Fox, C. (2001). Applying the Rasch model: Fundamental measurement in the human sciences. New Jersey: Lawrence Erlbaum Associates.
- Bradley, K. D. & Sampson, S. (Spring, 2005a). A case for using a Rasch model to assess the quality of measurement in survey research. *The Respondent*, 12-13.
- Bradley, K. D. & Sampson, S. (2005b). *Quality control in survey design: Evaluating a rating scale of educators' attitudes toward differentiated Compensation*. Paper presented at the American Educational Research Association Annual Research Conference. Montreal, Canada.
- Edmunds, H. (1999). *The Focus Group Research Handbook*. Lincolnwood, IL: NTC Business Books/Contemporary Publishing.
- Ellis, A. (1999). The main change agent in effective psychotherapy is specific technique and skill. In C. Feltham (Ed.), *Controversies in Psychotherapy and Counseling* (pp. 86-94). London: Sage Publications Ltd.

- Finney, J. W. (2004, August). *Assessing treatment and treatment processes*. Retrieved November 1, 2005, from the National Institute on Alcohol Abuse and Alcoholism. Available at: http://pubs.niaaa.nih.gov/publications/Assesing%20Alcohol/finney.pdf
- Huppert, J. D., Bufka, L. F., Barlow, D. H., Gorman, J. M., Shear, M. K., & Woods, S. W.
 (2001). Therapist, therapist variables, and cognitive-behavioral therapy outcome in a multicenter trail for panic disorder. *Journal of Counseling and Clinical Psychology*, 9(5), 747-755.
- Karpiak, C. P., & Benjamin, L., S. (2004). Therapist affirmation and the process and outcome of psychotherapy: Two sequential analytic studies. *Journal of Clinical Psychology*, 60(6), 659-676.
- Ladner, M. D., Wingenbach, G. J., & Raven, M. R. (2002). Internet and paper based data collection methods in agricultural education research. *Journal of Southern Agricultural Education Research*, 52(1), 40-51.
- Lafferty, P., Beutler, L. E., & Crago M. (1989). Differences between more and less effective psychotherapists: A study of select therapist variables. *Journal of Consulting and Clinical Psychology*, 57(1), 76-80.
- Linacre, J. (2004). A User's Guide to Winsteps Rasch-Model Computer Programs. Chicago, IL: MESA Press.
- Linacre, J. (2004). *Winsteps* (Version 3.51) [Computer software]. Retrieved September 16, 2005, from www.winsteps.com
- López S. R., López A. A., and Fong K. T. (1991). Mexican Americans' initial preferences for counselors: The role of ethnic factors. *Journal of Counseling Psychology*, 38(4), 487-496.

- Luborsky, L., Crits-Christoph, P., & McLellan, A. (1986). Do therapists vary much in their success? Findings from our outcome studies. *American Journal of Orthopsychiatry*, 56, 501-512.
- Lyons, A. C., Cude, B., Lawrence, F. C., & Gutter, M. (2005). Conducting research online:

 Challenges facing researchers in family and consumer sciences. *Family and Consumer Sciences Research Journal*, *33*(4), 341-356.
- Morrell, H. E., Cohen, L. M., Bacchi, D., West, J. (2005). Predictors of smoking and smokeless tobacco use in college students: A preliminary study using Web-based survey methodology. *Journal of American College Health*, *54*(2), 108-117.
- Najavits, L. M., & Weiss, R. D. (1994). Variations in therapist effectiveness in the treatment of patients with substance use disorders: An empirical review. *Addiction*, 89, 679-688.
- Nardi, P. M. (2003). *Doing survey research: A guide to quantitative methods*. New York: Pearson Education, Inc.
- Rasch, G. (1960). Probabilistic models for some intelligence and achievement tests..Copenhagen: Danish Institute for Educational Research (Expanded edition, 1980.Chicago: University of Chicago Press).
- Rezabek, R. J. (2000, January). Online focus groups: Electronic discussions for research. *Forum: Qualitative Social Research*, 1(1). Retrieved October, 26, 2005, from http://qualitative-research.net/fgs
- Skitka, L. J., & Sargis, E. G. (2006). The Internet as psychological laboratory. *Annual Review of Psychology*, *57*, 529-555.

- Tourangeau, R. (2004). Survey research and societal change. *Annual Review of Psychology*, *55*, 775-801.
- Trepka, C., Rees, A., Shapiro, D. A., Hardy, G. E., & Barkham, M. (2004). Therapist competence and outcome of cognitive therapy for depression. *Cognitive Therapy* & *Research*, 28(2), 143-158.
- Vocisano, C., Klein, D. N., Arnow, B., Rivera, C., Blalock, J. A., Rothbaum, B., Vivian, D.,
 Markowitz, J. C., Kocsis, J. H., Manber, R., Castonguay, L., Rush, J. A., Borian, F. E.,
 McCullough, J. P., Kornstein, S. G., Riso, L. P., & Thase, M. E. (2004). Therapist
 variables that predict symptom change in psychotherapy with chronically depressed
 outpatients. *Psychotherapy: Theory, Research, Practice, Training*, 41(3), 255-265.
- Watt, J. H. (1999). Internet systems for evaluation research. In G. Gay and T.L. Bennington (Eds.), *Information Technologies in Evaluation: Social, Moral, Epistemological, and Practical Implications* (pp. 23-44). San Francisco: Jossey-Bass.
- Wright, K. B. (2005) Researching Internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and Web survey services. *Journal of Computer-Mediated Communication*, 10(3). Retrieved February 5, 2006, from http://jcmc.indiana.edu/vol10/issue3/wright.html.
- Wright, B. D., & Masters, G. N. (1982). Rating scale analysis. Chicago, IL: MESA Press.
- Wright, B. D., & Mok, M. M. C. (2004). An overview of the family of Rasch measurement models. In E.V. Smith & R.M. Smith (Eds.), *Introduction to rasch measurement* (pp. 1-24). Chicago: JAM Press.
- Wright, B.D., & Stone, M.H. (2004). *Making Measures*. Chicago: The Phaneron Press.

Yun, G. W., & Trumbo, C. W. (2000, September). Comparative response to a survey executed by post, e-mail, and Web form. *Journal of Computer-Mediated Communication*, 6(1).

Retrieved February 6, 2006, from http://jcmc.indiana.edu/vol6/issue1/yun.html