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Survey Response Rates and Survey Administration in Counseling and Clinical Psychology

A Meta-Analysis

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This article reports results of a meta-analysis of survey response rates in published research in counseling and clinical psychology over a 20-year span and describes reported survey administration procedures in those fields. Results of 308 survey administrations showed a weighted average response rate of 49.6%. Among possible moderators, response rates differed only by population sampled, journal in which articles were published, sampling source and method, and use of follow-up. Researchers whose studies were included in this meta-analysis used follow-up but rarely used incentives, prenotification, or other response-facilitation methods to maximize response rates. Although the future of survey research in general may rely more heavily on Internet data collection, mail surveys dominate in this field.

Keywords: *counseling psychology; survey research; response rates; meta-analysis*

This article reports results of a meta-analysis of postal mail survey response rates in counseling and clinical psychology. Surveys are ubiquitous. They provide a highly flexible way to collect data to describe populations, relate variables, and assess the effects of treatments. Survey use seems to be increasing in general, in particular use of Web and e-mail surveys, but response rates are declining (Baruch, 1999; Porter & Umbach, 2001). Because low response rates lead to potential multiple problems, including less precision, less statistical power, potential bias

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of results, and less credible studies, concerns about low response rates have drawn attention to survey response facilitation. The decline in response rates has been found over the past decades. Dey (1997) documented a decline in mail survey responses to national longitudinal studies of college students from 58% in 1961 to 21% in 1991; Larson and Poist (2004) found a decline in mail survey responses of transportation and logistics professionals from approximately 32% in 1992 to about 23% in 2003. Curtin, Presser, and Singer (2005) found a steeper decline in response rates to telephone surveys from 1996 to 2003 than those from 1979 to 1996. Low response rates and a multiyear trend toward declining rates have made the use of optimal survey design and response-facilitation techniques increasingly important while spurring research into characteristics of nonrespondents and statistical techniques for weighting responses.

Recommendations for optimal survey design have been provided in detail by Dillman (1978, 2000) and others, with recommendations for appropriate item wording, item order, and survey formatting tailored to maximize survey response. Response-facilitation techniques, such as follow-up, incentives, prenotification, postage class, and sponsorship, have been studied extensively for mail surveys and have well-documented effects on response rates (e.g., Boser & Clark, 1996; Fox, Crask, & Kim, 1988; Greer, Chuchinprakarn, & Seshadri, 2000; Jobber & O'Reilly, 1998; Newby, Watson, & Woodliff, 2003). Follow-up and enclosed incentives, cash in particular, have been unambiguously found to increase response rates with all populations studied with generally large effect sizes (Church, 1993; Hopkins & Gullickson, 1992; Yammarino, Skinner, & Childers, 1991). Prenotification has also been found to be effective, but not uniformly. Jobber and O'Reilly found support for the effect of prenotification in telephone surveys but not for other survey forms. Higher class postage yielded higher response rates than did lower class postage or business reply mail, and university sponsorship yielded higher response rates than did sponsorship by research or commercial firms. As discussed variously by the authors cited in this paragraph, such techniques as personalization, deadline, colored paper, cover letter appeal, anonymity, survey length, and status of the sponsor have also been investigated with either mixed support for their effectiveness or evidence of small effect sizes. Whereas numerous narrative syntheses and meta-analyses of survey-response facilitation are available in the literature, less information was found to indicate whether the lessons learned by survey researchers have been communicated effectively to substantive researchers in content areas other than survey research, and no meta-analysis was found that addressed survey response specifically in psychology.

Survey research via mail is consistently reported to generate equal or higher response rates compared with Internet delivery (James, Chen, & Sheu, 2005; Leece et al., 2004; Ritter, Lorig, Laurent, & Matthews, 2004). With the improvement of technology, however, Web-based survey research promises important advantages over postal administration in terms of ease of administration, faster collection of responses,

lower costs, response confidentiality, and data management. However, researchers report problems associated with use of the Internet alone to conduct survey research (Eysenbach & Wyatt, 2002; Faught, Whitten, & Green, 2004; Kypri, Gallagher, & Cashell-Smith, 2004; McMahon et al., 2003; Scriven & Smith-Ferrier, 2003): sample bias as respondents must have access and confidence in using the Internet; browser incompatibilities or technical glitches; problems in obtaining informed consent; e-mail invitations to participate relegated to junk mailboxes or blocked by firewalls; changes in e-mail addresses; participants responding more than once with password sharing; and less inclination by respondents to participate as Internet surveys lose their novelty. As a consequence, survey researchers must often offer postal administration to respondents as an alternative format or use mail as a back-up delivery method to increase response rates (Leece et al., 2004; Rodriguez et al., 2006). In other words, even though Internet survey research portends the future of survey research in general, survey research via mail and the techniques used to increase response rates in that medium dominate current practice, in particular for some respondent populations (e.g., physicians).

In this study, the extent to which the literature on survey response-facilitation techniques was accessed and results used in counseling and clinical psychology research was reviewed. Only one empirical study located addressed survey use in psychology, specifically its use in counseling psychology. Prior meta-analyses of response rate have focused on business or general populations. Weathers, Furlong, and Solórzano (1993) surveyed 31 authors who published 34 research papers in the *Journal of Counseling Psychology* from 1980 to 1989 and used postal mail surveys in data collection. Participants were asked to describe their survey administration procedures. Weathers et al.'s (1993) results suggested that some form of personalization, university sponsorship, attention to the cover letter appeal, follow-up, first-class postage, and prenotification was used by approximately one half of the researchers they surveyed. Incentives, aside from an offer of study results, were used by only 2 of 31 researchers. The average number of response-facilitation techniques (e.g., incentives, prenotification, etc.) used in any study was 3.5, with 19 of 32 studies using 1 to 3 techniques. The median response rate reported in Weathers et al. was a respectable 63.7%. The current meta-analysis sought to expand Weathers et al.'s methodology by including studies from 1985 through 2005, totaling 308 survey administrations published in a variety of peer-reviewed journals addressing issues in counseling and clinical psychology. This time frame was selected to provide a sufficient length of time to detect change over time in response rate and potentially to allow any effect of Weathers et al.'s work to become visible.

A particular challenge to this meta-analysis was found in the reporting norms of survey researchers in counseling and clinical psychology. Publishing constraints and authors' preferences may bar the reporting of certain aspects and limitations of researchers' methodology, such as instrument score reliability and score validity, possible sources of bias, and the effect of instrument length. As a consequence,

such omissions preclude a complete picture of the survey process that includes examination of the effects of moderators on response rate. Add to that the less measurable moderators, such as salience of the topic or repeated sampling of particular populations, and the explanation of variance in response rates is further limited. Huang, Hubbard, and Mulvey (2003) found substantially different response rates in two studies they conducted using Dillman's (1978) Total Design Method in survey design and administration. They proposed that factors influencing the different rates may have been owing either to the researchers' understanding of the participant group or to participants' potential interest in the study. R. Lambert (personal communication, April 12, 2006) suggested that certain populations, such as training directors, are repeatedly surveyed, often on the same topics, and that response rates among these populations might be enhanced with the use of an annual survey administered by a professional organization, such as the American Psychological Association (APA), to which researchers submit selected items pertaining to their research. Because researchers in this study rarely cited the above factors of bias, salience, repeated sampling, instrument length, score reliability, and score validity in their discussions of study limitations, our analysis necessarily focused on consistently reported variables, such as response-facilitation techniques used.

Because only one accessed study, Weathers et al. (1993), addressed the state of survey use applicable to counseling and clinical psychology, this meta-analysis was undertaken to provide an overview of the state of survey research in those fields to reveal response rates associated with not only the types of populations sampled but also the range of topics surveyed, response-facilitation techniques used, sampling methods, administration procedures, survey length and quality, and effects associated with year and journal of publication and sampling sources. Meta-analysis was used in this study because primary interest was in reporting a numerical response rate aggregated across studies. The study's primary purpose was to (a) numerically assess response rates to surveys, (b) identify factors, termed *moderators* (Lipsey, 2003) in the meta-analysis literature, that affect response rates, (c) and examine variance across studies to assess the influence of possible moderators on the mean response rate. A secondary purpose was to summarize the survey administration procedures used in counseling and clinical psychology research and note areas of agreement with those procedures recommended by survey researchers that may be effective in increasing response rates. Surveys provide a valuable means of gathering data, yet their use in counseling and clinical psychology has not been comprehensively examined. Researchers in these fields may well benefit from such analysis either to amend their use of surveys to enhance response rates or to set reasonable expectations of likely response rates given such constraints as the populations sampled, sampling methods and sources, and response-facilitation techniques used. Finally, in light of the challenges posed by inconsistent reporting norms, counseling and clinical psychology researchers may also consider more carefully their own reporting of information to enhance the study of survey use in their fields.

Method

Data Sources and Study Inclusion Criteria

Using in combination the keywords *survey*, *counseling psychology*, *clinical psychology*, and the limiter *scholarly (peer-reviewed)* where necessary, an electronic search of online databases yielded 284 full-text articles meeting the following inclusion criteria: (a) publication between 1985 and 2005, (b) distribution of surveys in the United States only, (c) content or publication in a journal pertaining directly to issues of counseling and clinical psychology, (d) postal administration of surveys, and (e) reported sample size and return rate.

Originally, e-mail and Internet survey administrations were included with the intent of using survey administration mode as a moderator variable, but most of the Internet and e-mail surveys reported sample sizes as incalculable and therefore failed to provide accurate response rates. It is surprising that the search yielded only eight usable administrations (with a mean response rate of 43%, standard deviation .24, ranging from 5.6% to 77.0%), all published since 1999. These articles were dropped from the analysis owing to this low number.

Among the 284 usable articles, the majority, 181, were accessed from APA PsychArticles Direct. Other databases accessed were Psychology: A SAGE Full-Text Collection, generating 23 usable articles, and the following databases in EBSCOhost: PsycARTICLES, PsycINFO, SocINDEX, SocINDEX with Full Text, Gender Studies Database, GLBT Life, GLBT Life With Full Text, and Academic Search Premier, yielding 80 articles. WilsonWeb OmniFile Full Text Mega, Jstor, and Web of Science: Social Science Citation Index returned duplicate or unusable results. Only 2 retrieved articles overlapped those used by Weathers et al. (1993).

In 18 studies, more than one survey was administered with independent sample sizes and reported response rates. This represents a violation of independence. Data were therefore analyzed with and without accounting for multiple independent samples used within a study. Results differed, if at all, at the third decimal place and so reported results are based on samples rather than separate studies. The 18 studies accounted for 42 samples, resulting in 308 survey administrations.

Codesheet

Based on recommendations by Dillman (2000) and Weathers et al. (1993) with regard to techniques of survey design and response facilitation, a codesheet was created for abstracting information from usable articles detailing source information, study description, survey characteristics and construction, sample composition, sampling methods, administration procedures, and response rate.

Initially, 20 articles were separately reviewed by two of the authors. After definitions of items and coding discrepancies were discussed, the codesheet was revised.

An additional review of 10 articles with uniform agreement resulted in a working codesheet. The remaining 254 articles were coded by the first author, and each article was fully reviewed at least twice to ensure that reported information was not overlooked.

Data were analyzed using both the *Meta-Dos* (Martinussen & Fjukstad, 1995) and the Comprehensive Meta-Analysis (CMA; Borenstein, Hedges, Higgins, & Rothstein, 2005) programs. Both meta-analysis programs were used because neither software produces all desirable estimates. The *Meta-Dos* program is based on the Hunter and Schmidt (2003) method, whereas the CMA uses Hedges and Olkin's (1985) method. *Meta-Dos* uses sample-size weighted means, and CMA uses the inverse of the variance of the effect size to weight calculations.

Reporting Norms

The data for this meta-analysis were dependent on the reporting norms of the survey researchers. Considering the influence of prolific survey researchers in counseling and clinical psychology, who are established and cited among their peers, coupled with the publication guidelines of respective journals, the inclusion criteria necessarily are a function of the reported information, but beyond sample size and response rate, administration form, and year of publication, information was reported inconsistently. Even basic information, such as return rate, was subject to differing reporting norms. For example, 59.1% of the survey researchers reported only a return rate, 20.1% reported only a usable return rate, and 20.8% reported both. A return rate was generally defined by authors as the number of returned surveys minus undeliverable mailings; a usable return rate, on the other hand, was defined by most researchers as the number analyzable for their respective studies, usually minus undeliverable and incomplete surveys. The reported response rate used for analysis in this meta-analysis depended on available reported information, and researchers did not uniformly define their use of terminology. Therefore, because return rate was reported for approximately 80% of the studies accessed, when given a choice between return rate and usable return rate, *return rate* was used.

Results

Survey Respondents

Counseling and clinical psychology researchers in this sample of studies surveyed the following populations: practitioners (26.6%), training or internship directors (21.4%), program or counseling center directors (9.7%), psychologists, a blend of academics and practitioners (16.2%), secondary, undergraduate, and graduate students (10.7%), graduates (3.2%), faculty (2.3%), miscellaneous others,

such as therapy clients or journal editors (8.8%), and mixtures of the above participants (1%).

Survey researchers were most interested in topics associated with psychologists' training (40% of the topics surveyed), and all respondent groups were asked about some feature of training, such as content, general training issues, or internship. Questions concerning therapists' ethics or therapy issues in general were the next most surveyed topics (31% of total), primarily targeting practitioners, psychologists, and groups in the *other* category into which therapy clients were categorized. Other topics that made up the top three topics for respective respondent groups were multicultural issues, professional concerns, and research concerns aimed at students, graduates, and faculty. The remaining topics of general field concerns, publication, practical work issues, counseling topics, student concerns, and other related issues were not among the top three topics of inquiry for any of the respondent groups.

Survey Administration

Survey researchers in this sample used APA member directories 60% of the time as sample sources, with 8% of researchers reportedly holding APA leadership positions at the time of publication; 19% used other national registries (e.g., the Association of Directors of Psychology Training Clinics) from which to draw samples; and 18% drew from regional, state, local, or university databases. Most (71%) chose survey methodology to describe a nationwide population; 13% described a local population; 9% administered surveys as a follow-up to a previous study; and 3% compared results with a similar study. Sampling methods were nearly evenly split between random (38%) and population description (39%), with the remaining 23% including either a mixture of those two methods or other methods.

Whereas the above information was reported consistently for the most part, information about the survey instrument itself was not, thereby precluding analysis of its effect on response rates. For example, whereas authors reported length of survey in 55% of the studies, they reported variously in terms of number of items, pages, or hours to complete. Based on reported data, 91% of the administrations included one instrument, and another 5% included two. Sixty-six percent of the instruments were constructed, and 16.6% were adapted; the remaining 14% used either existing or a mixture of measures. Format, such as rating scale, was reported in 67% of cases. In addition, reported score reliability (14%), score validity (9.4%), and bias assessment (23.4%) did not shed light on either the quality of the scores or effects on response rate.

With respect to response facilitation, survey researchers in this sample did not regularly use techniques beyond follow-up. Only 2.6% used incentives, evenly distributed among lotteries, gift certificates, money, other, or some mixture of forms. Incentives were used with practitioners, psychologists, students, and other participants

to the exclusion of the remaining academic participant groups. Prenotification in the forms of letters, postcards, telephone contacts, or third-party contacts was used in only 3.2% of the survey administrations. Confidentiality was explicitly addressed in 29.5% of the studies. Intermediaries, usually training or program directors, administered surveys in 7% of the studies. Some survey researchers (2.3%) noted attention to survey design, such as length or format, as an element of their response facilitation. Others (8%) reported adhering to Dillman's (1978, 2000) Total Design Method or to Weathers et al.'s (1993) recommendations in either designing or administering the survey. Thus, Weathers et al.'s work had some influence. In contrast to researchers' scant use of the above response-facilitation techniques, 53% used follow-up either once (34%) or twice or more (19%), most often in the form of remailed surveys (30.5%), followed by postcards or reminder letters (10%) or a mixture (11%).

A few researchers addressed their response rates by conducting follow-up surveys of nonresponders (1.3%) or by comparing their response rates to those of similar studies and sample populations (10.7%) to validate their returns based on the parity of the two studies' response rates or respondent characteristics. These efforts to analyze survey returns were not widely reported though, just as response-facilitation techniques were not consistently used.

Results of Meta-Analyses

The 308 survey administrations represented 168,645 survey respondents. *Meta-Dos* results showed a weighted mean response rate of 49.6% (95% credibility interval = .21 − .78; 54.8% unweighted mean, 54% median, 51% mode), with an observed standard deviation of .15 and response rates ranging from 14% to 91%. CMA results were identical (except that CMA does not report a credibility interval). The disparity between weighted and unweighted mean response rates suggests a relationship between sample size and response rate, which was, in fact, low but statistically significant at $r = -.22$, $p < .01$. The response rates and sample sizes were examined for the presence of outliers via histograms. The distribution of raw response rates was normal (skewness = .008, kurtosis = −.357). The distribution of sample size was severely skewed and peaked (skewness = 6.12, kurtosis = 52.99), with a median of 342 and a mean of 548 cases (minimum = 28, maximum = 9,073) and 90% of the samples falling below 1,000 cases.

The proportion of observed variance accounted for by sampling error was only 1.86%, indicating substantial unexplained variation among study response rates. This variation (a) supports the potential for moderator variables and (b) indicates the appropriateness of a random effects or mixed effects analysis model (Lipsey & Wilson, 2001). Effects can be treated as fixed or random in a meta-analysis. In a fixed-effects model, observed effects are taken as estimators of the population effect size, with variation in effect sizes attributed to sampling error. A random-effects model assumes that differences in effects are due to sampling error but also

Table 1
Response Rates, Confidence Intervals, and *Q*-Statistics With and Without Outliers

Response Rate	All Cases ($k = 308$)	Outliers: Residual > 3.0 ($k = 304$)	Outliers: Residual > 2.0 ($k = 280$)
Fixed-effects model			
Point estimate	.496	.498	.508
95% CI: Lower limit	.493	.495	.506
95% CI: Upper limit	.498	.500	.511
Random-effects model			
Point estimate	.547	.547	.543
95% CI: Lower limit	.530	.531	.528
95% CI: Upper limit	.563	.563	.558
Q	13354.72	12479.62	9609.17
	$p < .001$	$p < .001$	$p < .001$

to other randomly distributed sources of variation. A mixed-effects model assumes that sampling error is random and that further sources of variation are both random and systematic (e.g., due to moderators). CMA was used to generate results for fixed- and random-effects models, with results reported here for both models.

Table 1 provides the point estimates, 95% confidence intervals, and *Q*-statistic (homogeneity of variance test) for data under both fixed- and random-effects models, along with results when outliers of different magnitudes were removed. In an effort to identify moderators, data were disaggregated by variables suggested in prior research (e.g., Green & Hutchinson, 1996) or found in preliminary analysis of these data to affect response rate. These variables were population sampled, sample source, sampling method, and number of follow-up contacts. All distributions were examined for normality and only two groupings showed evidence of nonnormality (*graduates* as a participant group and *mixture* as a sampling method). In no case was variation in response rate in any subgroup homogeneous; thus, a random effects model was used to calculate the weighted mean response rate. A random effects model is appropriate when the variability in the outcome variable exceeds that attributable to sampling error alone. Table 2 provides the weighted average response rate and the 95% confidence interval for both fixed- and random-effects models, the *Q*-statistic for all subgroups, and minimum and maximum raw response rates.

Using a random effects model, the following statistically significant differences in response rates were identified via nonoverlapping confidence intervals set around point estimates of response rate for each subcategory: (a) Response rate differed according to the population that was sampled. Response rates tended to be lower for less selectively targeted groups, such as practitioners, psychologists, and students. Response rates were highest for populations of faculty and program

Table 2
Weighted Mean, Minimum, and Maximum Raw Response Rates, 95% Confidence Intervals for Fixed- and Random-Effects Models, and *Q*-Statistic for Subgroups

Variable	Group	*K*	Fixed/ Random	Weighted Mean	Lower Limit	Upper Limit	*Q*	Min	Max
Participant description	practitioners	82	fixed	.48	.48	.49	4486.21*	.17	.77
			random	.49	.46	.51			
	training directors	66	fixed	.53	.52	.51	1454.82	.20	.89
			random	.58	.54	.62			
	psychologists—APA	50	fixed	.49	.48	.49	2873.80	.23	.90
			random	.53	.50	.57			
	students	33	fixed	.47	.46	.47	1782.84	.27	.86
			random	.54	.49	.57			
	graduates[a]	10	fixed	.55	.53	.56	176.53	.40	.94
			random	.60	.54	.67			
	program directors	30	fixed	.55	.53	.56	613.32	.18	.88
			random	.61	.54	.68			
	faculty	7	fixed	.62	.60	.65	150.68	.39	.91
			random	.68	.54	.79			
	other	27	fixed	.51	.50	.52	1437.99	.14	.86
			random	.60	.51	.68			
	mixture	3	fixed	.50	.46	.53	13.12	.44	.58
			random	.50	.41	.60			
Sample source	APA	186	fixed	.49	.49	.50	7441.98	.20	.91
			random	.55	.53	.57			
	non-APA registry	58	fixed	.53	.52	.54	2692.12	.17	.88
			random	.54	.49	.58			
	state-region	35	fixed	.47	.46	.48	918.27	.25	.77
			random	.53	.49	.57			
	other	29	fixed	.48	.47	.48	2115.58	.14	.94
			random	.60	.51	.47			
Sampling method	random	116	fixed	.48	.48	.49	6357.44	.14	.86
			random	.50	.47	.53			
	population	121	fixed	.49	.48	.49	4187.26	.18	.94
			random	.59	.56	.62			
	other	47	fixed	.60	.59	.60	1001.18	.25	.86
			random	.58	.55	.62			
	mixture[a]	24	fixed	.44	.43	.45	551.11	.33	.90
			random	.49	.45	.53			
Follow-up	none	144	fixed	.45	.45	.45	5674.26	.14	.94
			random	.49	.47	.52			
	one	105	fixed	.50	.49	.50	3681.25	.25	.91
			random	.56	.53	.59			
	two	38	fixed	.60	.59	.61	1307.04	.40	.88
			random	.65	.60	.69			
	three +	21	fixed	.65	.64	.66	171.42	.48	.83
			random	.66	.62	.69			

Note: All *Q*-statistics are statistically significant at $p = .001$. APA = American Psychological Association.
a. Distribution of raw response rates positively skewed (skewness > 1.0).

directors. Statistically significant differences were found between practitioners and training/program directors, practitioners and faculty, and practitioners and graduates. No other statistically significant differences were found among those groups. (b) The weighted average response rates did not differ statistically significantly by sample source and were highly variable. (c) The weighted average response rates as a function of sampling method were lower for random samples and higher for samples intended to describe populations; rates were also higher for the category *other*, which included nonrandom sampling strategies other than population. Statistically significant differences were found between mixed and other populations and between random and other populations. (d) The weighted average response rate as a function of the number of follow-up notices used to elicit responses increased statistically significantly from none to one to two follow-up contacts and increased nonsignificantly with additional contacts. (Please contact the first author for figures displaying confidence intervals for each subcategory for each variable.)

The above moderators were statistically significantly associated with each other, and their effects do not cumulate. For example, practitioners were more often participants in studies with a state or regional focus, whereas program directors were drawn from non-APA national registries. Sampling methods other than random sampling or population description and repeated follow-ups were used more often with state or regional and university sample sources. Practitioners and psychologists were more often enlisted using random sampling, whereas training and program directors were the focus of population description studies.

Response rate was moderately statistically significantly related to year of publication ($r = -.41$, $p < .01$), suggesting a decline in survey participation over the 20-year period. When analysis was limited to studies published since 1995, the correlation between year and response rate was low but still statistically significant at $r = -.29$, $p < .01$, $n = 133$. Response rate was not statistically significantly related to length of the survey ($r = .06$, $p = .56$, length in items; $r = -.13$, $p = .37$, length in pages). Response rate also differed based on the journal in which the study was published. Response rates were the highest for studies published in the *Journal of Counseling Psychology* ($k = 26$, 61%), *The Counseling Psychologist* ($k = 27$, 61%), and *American Psychologist* ($k = 31$, 60%). Response rates were somewhat lower for studies published in *Professional Psychology* ($k = 167$, 53%), and the *Journal of Counseling and Development* ($k = 11$, 54%). Fewer than five studies were abstracted from each of the other journals from which usable studies were accessed (e.g., four studies from the *Journal of Consulting and Clinical Psychology*, four from *Counselor Education and Supervision*, three from the *Journal of Clinical Psychology*, and three from *Teaching of Psychology*).

A major purpose of many of the studies abstracted was to sample a population, such as all training directors in APA-approved programs. Studies intended to describe a population were isolated and analyzed separately. As noted in Table 2, the weighted mean response rate for studies intending to describe a population was

.487. More than one half (59.5%) of studies of this type were published in *Professional Psychology*, and participants were primarily training directors (50.4%) or program directors (15.7%). Sample sources were dominated by APA lists (62.8%) or non-APA national registries (24.8%). Confidentiality was not addressed (71.1%), incentives were not used at all, prenotification was used in only 3.3% of cases, and at least one follow-up contact was used in the majority of cases (62.0%).

Discussion

This meta-analysis provides an overview of the state of postal survey research in the published literature in counseling and clinical psychology from 1985 to 2005, revealing not only the types of populations sampled, approximately divided between practitioners and training/program/counseling center directors, but also the types of survey topics (most often with regard to either training or therapy), methods and sources of sampling, and effects associated with year and journal of publication.

Response rates found in this meta-analysis were lower than the median reported by Weathers et al. (1993) by 14%. This decrease may be attributed both to use of a broader database than that used by Weathers et al. and to documented decreases in survey participation over time. The weighted average response rate of 49.6% found in this study was typically based on one to two mailings with no prenotification and no incentives used. The unweighted mean of 54.7 is close to that reported by Baruch (1999; 55.6%) for a sample of 175 academic studies. Whereas this response rate is certainly higher than that expected from nonprofessional and other professional populations (e.g., 44% reported for business samples; Green & Boser, 2001), it is unclear whether responses from approximately half of a sampled group provide an accurate description of the population sampled. In addition, statistically significant heterogeneity in response rates still existed when subgroups were differentiated, indicating that the weighted mean response rate identified is unlikely to be a good estimate of the response that might be found in a future study. In addition, this review used response rates from studies in the published literature. It is possible and even likely that response rates in the unpublished literature are lower. Further work might continue exploration of variables that influence response rate, such as the frequency of requests for survey participation and salience of the survey for the population sampled. Further research also is needed to address effects of multiple moderators simultaneously, as moderators are often not independent.

Other than follow-up, response-facilitation techniques recommended by survey methodologists were generally not used, a result consistent with findings by Weathers et al. (1993). For example, incentives were rarely used or not used at all with most of the participant groups, such as training directors. The ethical propriety of using

incentives in research with human participants has been debated in the literature (Fisher, 2003; Grant & Sugarman, 2004), as have the effects of incentive use on participants' responses and future research cooperation (Singer, Groves, & Corning, 1999). It was concluded that use of incentives to elicit participation in research is generally innocuous, except when undue influence or coercion results from their use, and little evidence of negative effects has been found with regard to incentive use on responses or attitudes toward surveys. However, incentives, in particular monetary incentives, may be less appropriate when conducting surveys of certain professional groups, such as counseling or clinical psychology training, internship, or program directors. Counseling and clinical psychologists may consider the use of incentives ethically problematic, overtly manipulative, or simply historically counter to their professional culture. However, incentives have been shown to be effective in increasing response rates in numerous general populations (e.g., Hopkins & Gullickson, 1992). Further research is needed to determine whether incentives would be effective in encouraging response from groups such as training/program/internship directors versus a more generally defined population. In light of declining response rates, however, consideration might be given to using nonmonetary token incentives (e.g., bookmarks or pens) or contributions to charities. In light of the lower response rate found in this review compared with Weathers et al. (1993), researchers in counseling and clinical psychology may need to consider using additional response-facilitation techniques shown to be generally effective if they are to raise their survey response rates.

Finally, if moderators affecting response rates in psychological survey research are to be studied methodically, reporting standards need to be developed consistently to provide indicators for study (e.g., report length of each instrument in number of items). The survey researchers sampled in this meta-analysis inconsistently reported response rates, use of response-facilitation techniques, and information concerning instrumentation. Whereas some of this inconsistency can be attributed to limitations set by journals, succinct inclusion of vital information into the research literature will allow more thorough evaluation of the effects of moderators on survey response rates. To date, such professional organizations as APA, appealing to counseling and clinical psychologists, have not adopted survey-reporting guidelines on reporting response rate (see American Association for Public Opinion Research, 2006), much less more general reporting guidelines for survey research. Until psychological survey researchers belonging to professional organizations mandate such guidelines, reporting likely will remain sporadic.

Survey research continues to evolve with the advent and improvement of Internet technology. Postal administration, however, continues to be used as a primary or necessary alternative or back-up measure, which most often raises response rates. In addition, for survey researchers in counseling and clinical psychology, the body of literature currently reports primarily on mail survey research. It reveals that researchers have not been using response-facilitation techniques beyond follow-up, techniques whose success in raising response rates is well documented. For Internet

researchers, this finding is especially important, as Internet response rates are consistently lower than mail survey rates, and facilitation techniques, such as those recommended by Dillman (2000), will have to be incorporated into survey designs to garner more satisfactory response rates.

Given declining survey response rates and a brief history of even lower response rates from surveys conducted via the Internet, researchers employing surveys as a mode of data collection are advised to contemplate which response-facilitation methods might work for them. Precontact, incentives, confidentiality, cover letter appeals, and other techniques could be considered, but follow-up is probably indicated in all or nearly all research endeavors.

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