METHODS

Grey Literature in Meta-Analyses

Vicki S. Conn ▼ Jeffrey C. Valentine
Harris M. Cooper ▼ Marilyn J. Rantz

- ***Background:*** In meta-analysis, researchers combine the results of individual studies to arrive at cumulative conclusions. Meta-analysts sometimes include "grey literature" in their evidential base, which includes unpublished studies and studies published outside widely available journals. Because grey literature is a source of data that might not employ peer review, critics have questioned the validity of its data and the results of meta-analyses that include it.
- ***Objective:*** To examine evidence regarding whether grey literature should be included in meta-analyses and strategies to manage grey literature in quantitative synthesis.
- ***Methods:*** This article reviews evidence on whether the results of studies published in peer-reviewed journals are representative of results from broader samplings of research on a topic as a rationale for inclusion of grey literature. Strategies to enhance access to grey literature are addressed.
- ***Results:*** The most consistent and robust difference between published and grey literature is that published research is more likely to contain results that are statistically significant. Effect size estimates of published research are about one-third larger than those of unpublished studies. Unfunded and small sample studies are less likely to be published. Yet, importantly, methodological rigor does not differ between published and grey literature.
- ***Conclusions:*** Meta-analyses that exclude grey literature likely (a) over-represent studies with statistically significant findings, (b) inflate effect size estimates, and (c) provide less precise effect size estimates than meta-analyses including grey literature. Meta-analyses should include grey literature to fully reflect the existing evidential base and should assess the impact of methodological variations through moderator analysis.
- ***Key Words:*** meta-analysis · research design

Meta-analysis is a powerful tool for summarizing research (Cooper & Hedges, 1994). It can provide a scientific evidence base for nursing practice and guide future nursing research (Conn & Armer, 1996). However, only the studies chosen for inclusion in a meta-analysis can determine its results.

Studies published in peer-reviewed scientific journals are the most widely accepted source of research but meta-analysts sometimes include so-called *grey literature*. Grey literature refers to studies with limited distribution (i.e., those not included in computerized bibliographic retrieval systems), unpublished reports, dissertations, articles in obscure journals, some online journals, conference abstracts, policy documents, reports to funding agencies, rejected or unsubmitted manuscripts, non-English language articles, and technical reports (Cook et al., 2001; Dickersin, 1994; Eysenbach, Tuische, & Diepgen, 2001; McAuley, Pham, Tugwell, & Moher, 2000). Serious concerns have been raised about the inclusion of grey literature. Although meta-analyses are increasingly common in nursing, the methodological issue of inclusion of grey literature has not been addressed in nursing journals. This article examines issues related to inclusion of grey literature and strategies for handling grey literature in meta-analyses.

Brief Overview of Meta-Analysis

Meta-analysis research analyzes the pooled results of several primary studies to provide a quantitative review of existing empirical evidence. Meta-analysts calculate an overall statistic to estimate the magnitude of association between the variables being studied. Subsequent moderator analysis examines differences in effect size associated with variations between studies. For example, a recent meta-

Vicki S. Conn, PhD, RN, is Professor and Associate Dean for Research, and Marilyn J. Rantz, PhD, RN, FAAN, is Professor, School of Nursing; Jeffrey C. Valentine, PhD, is Research Assistant Professor, and Harris M. Cooper, PhD, is Professor, Department of Psychological Sciences; University of Missouri-Columbia.

analysis reported the overall effect size of interventions to increase physical activity among aging adults and significantly larger effect sizes for studies with selected intervention components (e.g., self-monitoring) and for studies with particular subject characteristics (e.g., patients with specific chronic illnesses) (Conn, Valentine, & Cooper, 2002). Moderator analysis is especially useful for nursing intervention research where variations in interventions between studies are common. The selection of studies for the quantitative synthesis is significant for the accuracy of the overall effect size estimate and for ensuring sufficient variability for moderator analysis.

The immense potential benefits of meta-analyses can be realized only when appropriate methods are applied to the selection and management of primary studies. Most meta-analyses exclude grey literature and research reports published in languages other than English (Gregoire, Derderian, & Le Lorier, 1995; McAuley et al., 2000). Sometimes the exclusion is a deliberate a priori decision perhaps using publication in widely disseminated journals as a proxy measure for study quality. Often, grey literature is not retrieved because the researchers limit their search strategies to computerized databases (e.g., MEDLINE) that are unlikely to access more obscure research. The exclusion of grey literature raises questions about the similarity between grey literature and more widely accessible research reports.

Differences Between Grey Literature and Widely Disseminated Published Literature

If widely available literature were representative of all studies there would be little need to include grey literature. Unfortunately, evidence suggests that grey literature may differ in important ways from research published in well-known journals. The most consistent, noteworthy, and persistent difference between published and unpublished research is that published research is more likely to report findings that are statistically significant, commonly referred to as *bias against the null hypothesis* (Dickersin, Min, & Meinert, 1992; Easterbrook, Berlin, Gopalan, & Matthews, 1991; Hubbard & Armstrong, 1997; Sterling, Rosenbaum, & Weinkam, 1995). For example, Dickersin and Min (1993) reported an odds ratio (OR) for the association between significant results and publication of 6.15 (95% CI 2.24 to 16.92). Bias in favor of significant findings is present even when quality is controlled (Stern & Simes, 1997). Thus, even among randomized controlled trials, bias against the null hypothesis remained strong (OR = 8.92, 95% CI 1.96 to 40.65).

The immense potential benefits of meta-analyses can be realized only when appropriate methods are applied to the selection and management of primary studies.

In addition, studies with statistically significant findings are more likely published in English (*Tower of Babel bias*) (Begg & Berlin, 1989; Egger & Smith, 1998). Researchers are more likely to publish their statistically significant findings in English journals (Egger et al., 1997). Research reports with statistically significant findings are more likely to be published in (a) journals with high citation impact factors, (b) widely distributed journals, and (c) journals that are indexed in computerized databases (Begg & Berlin, 1989; Egger & Smith, 1998). Studies with statistically significant findings are more likely published repeatedly (*duplicate reporting bias*, Easterbrook, Berlin, Gopalan, & Matthews, 1991). All of these factors could lead to different results from studies that were retrieved and those that were not retrieved. *Publication bias* is a term often used to refer to bias against the null hypothesis as well as any other bias that makes the results of published research different from other research due to factors other than quality. For example, these biases include the tendency for authors to submit, and editors to accept for publication, research that is consistent with previously published findings (Cooper, DeNeve, & Charleton, 1997). Failure to include unpublished studies compromises the validity and reliability of meta-analysis when unpublished findings differ in some systematic way from published findings (Dickersin, 1997).

Unpublished and published research differs because investigators halt studies at preliminary stages when data do not favor the experimental treatment (Dickersin, Chan, Chalmers, Sacks, & Smith, 1987). Unpublished research is more likely to have small samples, which may reflect intriguing pilot projects, difficult-to-recruit subjects, or highly innovative interventions (Chalmers et al., 1990; Dickersin et al., 1987; Easterbrook et al., 1991; Thornton & Lee, 2000). Exclusion of these small studies from meta-analysis is particularly unfortunate since one of the method's advantages is its ability to summarize results across small samples.

Externally funded research is more likely to be published (Dickersin et al., 1992; Dickersin & Min, 1993; Stern & Simes, 1997). The importance of funding suggests that the loss of valuable grey literature may be especially severe in nursing, where limited resources are available to fund research. Unfortunately, none of the studies examining correlates of publication have focused on nursing science. Documented differences between grey literature and more easily retrieved studies have fueled the debate about whether grey literature should be included.

Debate Regarding Inclusion of Grey Literature in Meta-Analyses

Some researchers have questioned whether it is proper to include in meta-analyses studies that have not undergone peer review. The peer

review system is meant to assure that published articles meet widely accepted methodological standards. Hence, the central rationale for excluding grey literature is that unpublished articles either (a) have not passed peer review, and are of questionable scientific quality, or (b) have not undergone peer review at all, so their quality has not been assessed (Sacks, Reitman, Pagano, & Kupelnick, 1996). Indeed, journals often exclude all but peer-reviewed citations. Essentially, the strategy of excluding unpublished literature treats publication status as a proxy for study quality. Research suggests that published and unpublished research does not differ in scientific quality (Chalmers et al., 1990; Easterbrook et al., 1991). For instance, studies comparing published and unpublished research find random assignment to conditions unrelated to publication (Dickersin & Min, 1993). Not all unpublished studies are of poor quality, and not all published studies are of high quality. The quality of research, published or not, is distributed along overlapping continua. Other critics of grey literature have suggested that meta-analyses should not give unpublished literature the same weight as published studies (Sack et al., 1996). They suggest that meta-analysts consider publication status when they calculate average effect sizes.

Proponents of the use of grey literature claim that, ideally, meta-analysts search out all studies that answer the question because narrow searches may generate studies that are not representative of the research as a whole (Jadad, Moher, & Klassen, 1998). While many voice support for inclusion of grey literature, most published meta-analyses do not include grey literature (McAuley et al., 2000). This exclusion may result from the difficulties in obtaining grey literature studies. The value of grey literature must be high to justify the increased costs of securing these difficult-to-locate studies.

Consequences of Excluding Grey Literature From Meta-Analyses

Excluding grey literature limits reviews to a portion of available evidence, which may introduce systematic error and thus threaten validity (Moher et al., 2000). Since publication bias is most clearly and consistently linked with the significance of findings, analyses that exclude unpublished results risk overestimating effect sizes (McAuley et al., 2000). Lipsey and Wilson (1993) found that, among 92 meta-analyses presenting separate effect size estimates for published and unpublished research, the estimates from published sources were about one-third larger than those from unpublished studies. Further, several studies have documented changes in overall conclusions when grey literature reports were included as primary studies (Gregoire et al., 1995; Simes, 1987; Sutton, Duval, Tweedie, Abrams, & Jones, 2000). Differences between findings when grey literature is included or excluded are not consistent with some studies finding no differences (Copas & Shi, 2001; Fergusson, Laupacis, Salmi, McAlister, & Huet, 2000; Juni, Holenstein, Sterne, Bartlett, & Egger, 2002). Meta-analyses that have compared results of English only to language inclusive reports have also yielded inconsistent findings (Gregoire et al., 1995; Juni et al., 2002; Moher et al., 2000). It is possible that these differences reflect varied impact of publication bias and language bias related to specific areas of science (Juni et al., 2002).

Meta-analysis research provides a quantitative review of existing empirical evidence

Excluding grey literature also can diminish the precision of meta-analytic results. A restricted search may yield wider confidence intervals surrounding estimates of effect size central tendency than if the grey literature were included. Researchers have examined the impact of excluding grey literature on overall effect size estimates. However, the most useful findings from meta-analysis often come from moderator analysis (e.g., whether effect sizes vary with intervention characteristics). Small pilot studies with difficult-to-recruit subjects may be especially important in moving science forward but are difficult to access. The absence of such studies from meta-analysis limits the usefulness of findings.

Discussion of Strategies to Manage the Grey Literature Challenge

Increasing Access to Diverse Primary Studies

Both individual scientists and dissemination systems must address the issue of making diverse research findings accessible. Although publication bias is a complex phenomenon, the problem includes both researchers' habits in submitting articles and editors' habits when evaluating them (Dickersin & Min, 1993; Dickersin, 1997; Mahoney, 1977; Stern & Simes, 1997). Cooper et al. (1997) found that the majority of studies with significant findings (74%) were submitted for publication, but only a small number of studies with nonsignificant findings (4%) were submitted. Suggested reasons for investigators' behavior include concern for one's scientific reputation, lack of interest in null results, and the belief that journals will not accept such manuscripts (Begg & Berlin, 1989; Boissel & Haugh, 1993). Editors and reviewers must make difficult decisions about which studies to publish because journal space is limited. Thornton and Lee (2000) suggested systematic publication of abstracts of studies without significant findings, which would enable interested readers to contact the investigators for further information. Online journals with fewer space constraints could allow dissemination of more studies without statistically significant results (Dickersin & Min, 1993).

Investigators' hesitancy to submit studies without significant findings is likely to continue. Research registries could render more studies easier to find, in part because registration of trials occurs before studies are completed (Egger & Smith, 1998). The Cochrane Collaboration has instituted registries for trials within its areas of synthesis. In Australia, all studies approved by ethics committees are enrolled in a prospective registry (Stern & Simes, 1997). However, voluntary registries cannot solve the problem because researchers may lack sufficient incentive to participate (Thornton & Lee, 2000). Funding agencies might demand full publication of findings (Dickersin & Min, 1993). The National Cancer Institute and the cancer research community might be the logical place to develop these strategies, given their experience with registries (Begg & Berlin, 1989).

Other strategies may foster the dissemination of more findings. For example, reducing the emphasis on significance testing may help. Publication bias possibly may be a reaction to the dichotomous nature of hypothesis testing that allows researchers to interpret only significant findings (Easterbrook et al., 1991). Researchers, human subjects committees, funding agencies and editors should accept responsibility for reducing the censoring of research results (Chalmers, 1990; Easterbrook et al., 1991). Underreporting of research results is far more likely to have adverse consequences for healthcare than publication of deliberately falsified data (Chalmers, 1990). Thus, wider and more consistent dissemination of all research is essential to ensure that the scientific community takes advantage of the cumulative power of research for the benefit of humanity.

Meta-Analytic Strategies to Address Grey Literature Challenges

Synthesists have long recognized that accessing diverse studies is a major challenge. Valuable search strategies include: (a) examination of multiple diverse computerized databases, (b) ancestry searches, (c) citation index searches, (d) examination of research registries, (e) journal hand searches, (f) contact with the invisible college, (g) examination of presentation abstracts, (h) Internet searches, and (i) contact with sources of synthesized information. Detailed information about the sensitivity and specificity of search strategies is beyond the scope of this paper and addressed elsewhere (Conn et al., 2003). Once grey literature has been located, decisions should be made about inclusion and management of the primary research.

Concerns about the quality of primary studies often form the justification for excluding grey literature. Indeed, a systematic approach to addressing study quality across all potential primary studies is consistent with the scientific process. Explicit a priori inclusion criteria are essential. Methodological rigor may be addressed through exclusion characteristics directly related to study quality (Lipsey & Wilson, 1993). Several strategies used by meta-analysts address the fact that studies eligible for inclusion vary in quality (Wortman, 1994). One strength of meta-analysis is the examination as an empirical question of the influence of methodological quality or individual attributes of study design (e.g., the use of random assignment to conditions) on effect size estimates. This allows conclusions about how design features are related to effect sizes to be based on direct evidence, rather then a questionable proxy measure (i.e., publication status).

Unfortunately, there is very little agreement in the research community about measuring research quality. Many scales measuring study quality exist, but the authors of these scales rarely provide a full demonstration of their construct validity. In addition, even though study quality is probably multidimensional, most quality scales either (a) ignore some dimensions of study quality or (b) combine the different dimensions of quality into a single score. As an example of the latter, a study quality scale may have questions pertaining to the internal and external validity of studies. According to some explicit or unstated algorithm, these answers then generate a single score to represent the study's quality. However, internal and external validity are theoretically independent and in practice probably modestly and negatively correlated, so the practice of combining measures of internal and external validity into a single study quality score is questionable. Emerging work developing scales with validated subscales to address differing dimensions of quality may ameliorate problems with existing scales. For example, the What Works Clearinghouse funded by the United States Department of Education is currently developing a set of standards for evaluating the validity of causal claims. Their instrument to assess methodological quality will possess subscales such as intervention construct validity, comparability of treatment groups, contamination, outcome measure construct validity, and statistical validity (www.w-w-c.org). These advances in measuring study quality will enhance meta-analysts' ability to use aspects of study quality for valid inclusion decisions, to weight effect size estimates by methodological feature scores, or to examine methodological quality as a moderator of effect size.

Despite extensive search strategies, it is impossible to locate all studies that address a particular research question. Meta-analysts have proposed numerous strategies to address difficulties resulting from problems in obtaining a representative sample of existing studies. One long-standing strategy is to calculate the fail-safe N, which identifies the number of hypothetical no-effect studies required to bring a significant overall p level to nonsignificance (Orwin & Cordray, 1985). However, this strategy has been replaced by more sophisticated techniques. Graphic presentation of funnel plots has been used extensively to determine if a biased sample has been obtained. A funnel graph plots the obtained effects sizes of the individual trials against sample size. Soeken and Sripusanapan (2003) provide an excellent overview of methods to detect publication bias. Generally, these strategies may suggest the presence of publication bias, but the nature of the bias remains unclear.

Since no entirely satisfactory statistical methods are available to address missing studies in meta-analysis, inclusion of at least some grey literature is essential to allow meta-analysts to compare effect sizes or other study attributes to determine if they

systematically differ based on publication or distribution status. Although some grey literature is difficult to access, other sources of unpublished studies require few resources. For example, dissertations may be a rich source of studies in some areas of science. A recent meta-analysis included 10 dissertations in a project with 43 primary studies (Conn et al., 2002). Obtaining major funding for meta-analysis research will allow searches to retrieve grey literature.

Meta-analyses are increasingly forming the scientific foundation for nursing practice and helping to set its future research agenda. Results obtained with this method are more precise than narrative reviews. However, results of meta-analyses must be interpreted within the context of the limitations of their primary studies. Publication bias, realized though the exclusion of grey literature, can be a powerful limitation on the validity and value of meta-analytic results. The goal of meta-analysis—to systematically review all evidence—requires that as many primary studies as possible be identified and included in the quantitative synthesis.▼

Accepted for publication March 24, 2003.

Financial support provided by a grant from the NIH NINR (RO1NR07870) to Vicki Conn, principal investigator.

Corresponding author: Vicki S. Conn, PhD, RN, S317 School of Nursing-MU, Columbia, MO 65211 (e-mail: conn@missouri.edu)

References

Begg, C. B., & Berlin, J. A. (1989). Publication bias and dissemination of clinical research. *Journal of the National Cancer Institute, 81*, 107-115.

Boissel, J. P., & Haugh, M. C. (1993). The iceberg phenomenon and publication bias: The editors' fault? *Clinical Trials & Meta-Analysis, 28,* 309-315.

Chalmers, I. (1990). Underreporting research is scientific misconduct. *Journal of the American Medical Association, 263,* 1405-1408.

Chalmers, I., Adams, M., Dickersin, K., Hetherington, J., Tarnow-Mordi, W., Meinert, C., et al. (1990). A cohort study of summary reports of controlled trials. *Journal of the American Medical Association, 263,* 1401-1405.

Conn, V. S., & Armer, J. M. (1996). Meta-analysis and public policy: Opportunity for nursing impact. *Nursing Outlook, 44*, 267-271.

Conn, V., Isamaralai, S., Rath, S., Jantarakupt, P., Wadhawan, R., & Dash, Y. (2003). Beyond MEDLINE for literature searches. *Journal of Nursing Scholarship, 35*, 177-182.

Conn, V., Valentine, J., & Cooper, H. (2002). Interventions to increase physical activity among aging adults: A meta-analysis. *Annals of Behavioral Medicine, 24,* 190-200.

Cook, A. M., Finlay, I. G., Edwards, A. G. K., Hood, K., Higginson, I. J., Goodwin, D. M., et al. (2001). Efficiency of searching the grey literature in palliative care. *Journal of Pain & Symptom Management, 22*, 797-801.

Cooper, H., DeNeve, K., & Charlton, K. (1997). Finding the missing science: The fate of studies submitted for review by a human subjects committee. *Psychological Methods, 2,* 447-452.

Cooper, H., & Hedges, L. (Eds.) (1994). *The handbook of research synthesis*. New York: Russell Sage Foundation.

Copas, J., & Shi, J. (2001). A sensitivity analysis for publication bias in systematic reviews. *Statistical Methods in Medical Research, 10*, 251-265.

Dickersin, K. (1997). How important is publication bias? A synthesis of available data. *AIDS Education & Prevention, 9(Supp Al),* 15-21.

Dickersin, K. (1994). Research registers. In H. Cooper & L. Hedges (Eds.), *The handbook of research synthesis* (pp. 71-83). New York: Russell Sage Foundation.

Dickersin, K., Chan, S., Chalmers, T. C., Sacks, H. S., & Smith, H., Jr. (1987). Publication bias and clinical trials. *Controlled Clinical Trials, 8,* 343-353.

Dickersin, K., & Min, Y. I. (1993). NIH clinical trials and publication bias. *Online Journal of Current Clinical Trials, Doc. No. 50.*_

Dickersin, K., Min, Y. I., & Meinert, C. L. (1992). Factors influencing publication of research results. Follow-up of applications submitted to two institutional review boards. *Journal of the American Medical Association, 267,* 374-378.

Easterbrook, P. J., Berlin, J. A., Gopalan, R., & Matthews, D. R. (1991). Publication bias in clinical research. *Lancet, 337,* 867-872.

Egger, M., & Smith, G. D. (1998). Bias in location and selection of studies. *British Medical Journal, 316,* 61-66.

Egger, M., Zellweger-Zahner, T., Schneider, M., Junker, C., Lengeler, C., & Antes, G. (1997). Language bias in randomised controlled trials published in English and German. *Lancet, 350*, 326-329.

Eysenbach, G., Tuische, J., & Diepgen, T. L. (2001). Evaluation of the usefulness of Internet searches to identify unpublished clinical trials for systematic reviews. *Medical Informatics & the Internet in Medicine, 26*, 203-218.

Fergusson, D., Laupacis, A., Salmi, L., McAlister, F., & Huet, C. (2000). What should be included in meta-analyses? An exploration of methodological issues using the ISPOT meta-analyses. *International Journal of Technology Assessment in Health Care, 16,* 1109-1119.

Gregoire, G., Derderian, F., & Le Lorier, J. (1995). Selecting the language of the publications included in a meta-analysis: Is there a Tower of Babel bias? *Journal of Clinical Epidemiology, 48*, 159-163.

Hubbard, R., & Armstrong, J. S. (1997). Publication bias against null results. *Psychological Reports, 80*, 337-338.

Jadad, A. R., Moher, D., & Klassen, T. P. (1998). Guides for reading and interpreting systematic reviews: II. How did the authors find the studies and assess their quality? *Archives of Pediatrics & Adolescent Medicine, 152,* 812-817.

Juni, P., Holenstein, F., Sterne, J., Bartlett, C., & Egger, M. (2002). Direction and impact of language bias in meta-analyses of controlled trials. *International Journal of Epidemiology, 31*, 115-123.

Lipsey, M. W., & Wilson, D. B. (1993). The efficacy of psychological, educational, and behavioral treatment. Confirmation from meta-analysis. *American Psychologist, 48,* 1181-1209.

Mahoney, M.J. (1977). An experimental study of confirmatory bias in the peer review system. *Cognitive Therapy and Research, 1,* 161-175.

McAuley, L., Pham, B., Tugwell, P., & Moher, D. (2000). Does the inclusion of grey literature influence estimates of intervention effectiveness reported in meta-analyses? *Lancet, 356* (9237), 1228-1231.

Moher, D., Cook, D. J., Eastwood, S., Olkin, I., Rennie, D., & Stroup, D. F. (2000). Improving the quality of reports of meta-analyses of randomised controlled trials: The QUOROM statement. QUOROM Group. *British Journal of Surgery, 87,* 1448-1454.

Orwin, R. G., & Cordray, D. S. (1985). Effects of deficient reporting on meta-analysis: a conceptual framework and reanalysis. *Psychological Bulletin, 97,* 134-147.

Sacks, H. S., Reitman, D., Pagano, D., & Kupelnick, B. (1996). Meta-analysis: An update. *Mount Sinai Journal of Medicine, 63,* 216-224.

Simes, R. J. (1987). Confronting publication bias: A cohort design for meta-analysis. *Statistics in Medicine, 6,* 11-29.

Soeken, K., & Sripusanapan, A. (2003). Assessing publication bias in meta-analysis. *Nursing Research, 52*, 57-60.

Sterling, T., Rosenbaum, W., & Weinkam, J. (1995). Publication decisions revisited: The effect of the outcome of statistical tests on the decision to publish and vice versa. *American Statistician, 49*, 108-112.

Stern, J. M., & Simes, R. J. (1997). Publication bias: Evidence of delayed publication in a cohort study of clinical research projects. *British Medical Journal, 315,* 640-645.

Sutton, A. J., Duval, S. J., Tweedie, R. L., Abrams, K. R., & Jones, D. R. (2000). Empirical assessment of effect of publication bias on meta-analyses. *British Medical Journal, 320,* 1574-1577.

Sutton, A. J., Song, F., Gilbody, S. M., & Abrams, K. R. (2000). Modelling publication bias in meta-analysis: A review. *Statistical Methods in Medical Research, 9,* 421-445.

Thornton, A., & Lee, P. (2000). Publication bias in meta-analysis: Its causes and consequences. *Journal of Clinical Epidemiology, 53,* 207-216.

Wortman, P. M. (1994). Judging research quality. In H. Cooper & L. V. Hedges (Eds.), *The handbook of research synthesis* (pp. 97-109). New York: Russell Sage Foundation.