

Reporting of Demographics, Methodology, and Ethical Procedures in Journals in Pediatric and Child Psychology

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Objective: To identify potential problems in methodology reporting that may limit research interpretations and generalization.

Methods: We examined the rates at which articles in four major journals publishing research in pediatric, clinical child, and child psychology report 18 important demographic, methodological, and ethical information variables, such as participants' gender, socioeconomic status, ethnicity, inclusion/exclusion criteria, and consent and assent procedures.

Results: Overall, participants' ages, genders, and ethnicity were reported at moderate to high rates, whereas socioeconomic status was reported less often. Reports of research methodology frequently did not include information on how and where participants were recruited, the participation/consent rates, or attrition rates. Consent and assent procedures were not frequently described.

Conclusions: There is wide variability in articles reporting key demographic, methodological, and ethical procedure information. Necessary information about characteristics of participation samples, important for drawing conclusions, is lacking in the flagship journals serving the child psychology field.

Key words: *methodology; generalization; ethics; demographics; journal content analyses.*

Among the hallmarks of the sciences, including the science of psychology, are an objective perspective and the ability to evaluate and replicate research methodology. Inherent in these is the comprehensive and accurate description of the research sample, the population from which it is drawn, and the methodology used to gather the data. In recognition of the communication requirements for science, the *Publication Manual of the American Psycho-*

logical Association (APA, 1994) states that, when the participants in a research study are human, certain information should be presented in the Method section of a manuscript considered for publication in a journal (see Section 1.09, pp. 12–15). This necessary information includes details regarding major demographic variables, the number of participants, method of selecting participants, assignment to groups, agreements made, payments made, and the number of participants who withdrew from the study and why. Additionally, this information may include, but is not limited to, ethnicity, level of educational attainment, and type of geographic area in which the participants reside.

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The APA *Publication Manual* has assumed a leading position in dictating publication standards, not only for the primary APA journals but also for the numerous other journals in psychology and related fields. As representative of agreed-upon standards, the *Publication Manual* presented the reasons for fully describing the research participants:

Appropriate identification of research participants and clientele is critical to the science and practice of psychology, particularly for assessing the results (making comparisons across groups), generalizing the findings, and making comparisons in replications, literature reviews, or secondary data analyses. The sample should be adequately described. (p. 13)

Furthermore, the precise reporting of methods and demographics is especially important when determining the generalizability of research findings with children and adolescents. This is particularly important because psychologically manifested differences as a result of gender, development, or other factors may be more prominent in children and adolescents. Lack of adequate information is a methodological weakness placing considerable constraints on interpretation and conclusions in pediatric and clinical child psychology.

The *Publication Manual* also states that, in order to be published in an APA journal, either the manuscript or a cover letter to the editor of the journal should indicate that the researchers followed all ethical standards set forth in the *APA Ethical Principles of Psychologists and Code of Conduct* (APA, 1992). These guidelines seek to ensure the protection of the interests of the participants, as well as providing important information to the consumers of the research.

Given the importance for published articles to present demographic, methodological, and ethics-related information, it is worthwhile to periodically examine psychology publications for compliance to these standards of scientific communication. A few previous reports have provided some information related to the completeness of research articles in describing the characteristics of the sample and the ethical procedures used in the study (e.g., Bernal & Enchautegui-de-Jesus, 1994; Betan, Roberts, & McCluskey-Fawcett, 1995; Graham, 1992; Park, Adams, & Lynch, 1998; Phares & Compas, 1992; Pontorotto, 1988). These reports indicate that there is considerable neglect of methodological information in published articles, with some discrepancy

depending on the variable and the specialty. The research methodology literature has long called for comprehensive description of research samples (e.g., Bordens & Abbott, 1996; Hersen & Bellack, 1984).

Content analyses of journals help discern patterns in the development of a field or subdiscipline and provide objective "snapshots" useful in evaluating its science (Elkins & Roberts, 1988; Peterson, 1996; Roberts, McNeal, Randall, & Roberts, 1996). They provide the field with an additional tool for assessing its past and current status. This examination is important because it allows for self-correction when oversights are detected, as well as the opportunity to set new directions. Consequently, we applied the technique of journal content analysis to determine the presence of and utility of comprehensive information reported in four publication outlets in pediatric and clinical child psychology. This study focused on the rates at which articles reported key demographic, methodological, and ethical variables such as number of participants, age, gender, ethnicity, socioeconomic status (SES), location of participants, rewards given to participants, exclusion and inclusion criteria, attrition, and consent and assent procedures.

Method

Database

The database included all empirical research articles published during 1997 in *Journal of Pediatric Psychology* (JPP, 58 articles), *Journal of Clinical Child Psychology* (JCCP, 52 articles), *Child Development* (CD, 94 articles), and *Journal of Abnormal Child Psychology* (JACP, 56 articles). Review articles, editorial articles, addresses, case studies, and studies that did not include human participants were excluded from this review. In total, 260 articles were coded and included in this study.

Coding Procedure

The coding procedure was based on the procedure used by previous content analyses (Betan et al., 1995; Elkins & Roberts, 1988; Roberts, 1992). For articles containing more than one study, the studies were coded separately. Four graduate students read and coded all the articles. Interrater reliability was calculated on over 10% of the articles. Each article

Table 1. Frequency and Percentages of Articles Reporting Demographic, Methodological, and Ethical Information

	<i>JPP</i> (58 articles) <i>n</i> (%)	<i>JCCP</i> (52 articles) <i>n</i> (%)	<i>CD</i> (94 articles) <i>n</i> (%)	<i>JACP</i> (56 articles) <i>n</i> (%)	Total ^a (260 articles) <i>n</i> (%)
Ages	57 (98.3)	51 (98.1)	94 (100)	56 (100)	258 (99.2)
Gender	48 (82.8)	51 (98.1)	80 (85.1)	45 (80.4)	224 (86.2)
Ethnicity	37 (63.8)	44 (84.6)	49 (52.1)	34 (60.7)	164 (63.1)
SES	30 (51.7)	24 (46.2)	41 (43.6)	26 (46.4)	121 (46.5)
Identification/selection	53 (91.4)	45 (86.5)	60 (63.8)	49 (87.5)	207 (79.6)
Population	58 (100)	52 (100)	90 (95.7)	56 (100)	256 (98.5)
Setting	56 (96.6)	48 (92.3)	71 (75.6)	51 (91.1)	226 (86.9)
Contacting participants	40 (69.0)	29 (55.8)	34 (37.8)	24 (42.9)	127 (48.8)
Contacts requested	30 (51.7)	31 (59.6)	75 (79.8)	31 (55.4)	167 (64.2)
Total contact time	14 (24.1)	7 (13.5)	38 (40.4)	12 (21.4)	71 (27.3)
Exclusion/inclusion	41 (70.7)	25 (48.1)	49 (52.1)	30 (53.6)	145 (55.8)
Attrition	21 (36.2)	11 (21.2)	30 (31.9)	11 (19.6)	73 (28.1)
Reliability	31 (53.4)	27 (51.9)	57 (60.6)	29 (51.8)	144 (55.4)
No. of participants	58 (100)	52 (100)	94 (100)	56 (100)	260 (100)
Location	18 (31.0)	22 (42.3)	40 (42.6)	23 (41.1)	103 (39.6)
Reward	15 (25.9)	7 (13.5)	14 (14.9)	10 (17.9)	46 (17.7)
Parent consent	34 (58.6)	24 (46.2)	26 (27.7)	24 (42.9)	108 (41.5)
Child assent	14 (24.1)	18 (34.6)	8 (8.5)	9 (16.1)	49 (18.8)

^aThe percentage entry for this column represents the mean of the percentages averaged across the four journals.

was coded using a checklist with 18 items regarding characteristics of the study and its participants. Kappa interrater reliability coefficients are presented, as well as the percent agreement between rates for each coded variable: (1) ages (1.0; 100%), (2) gender (.47; 92%), (3) ethnic distribution (.92, 96%), (4) SES (.55; 77%), (5) identification/selection of sample (e.g., requested, teacher recommended, records: .38, 81%), (6) population (e.g., general/school children, physical disability: 1.0; 100%), (7) setting of sample (e.g., school, psychological clinic, hospital: .29; 77%), (8) method of contacting participants (e.g., via mail, information sent via child: .57; 81%), (9) number of contacts requested (.36; 77%), (10) total contact time (.77; 89%), (11) exclusion/inclusion criteria (.34; 69%), (12) attrition (.35; 81%), (13) reliability of dependent measures used in study (.43; 73%), (14) number of participants (1.0; 100%), (15) location (geographically where sample was recruited: .58; 85%), (16) reward offered for participation or time/expense (1.0; 100%), (17) consent rate (after solicitation, participants who agreed to study versus those who did not: (.74; 88%), and (18) child assent(.47; 92%). Lower kappa coefficients were observed on a number of variables in part due to the lack of variability observed within some variables. (A copy of the decision rules for coding can be obtained from Michael Roberts.)

Results

The frequency and percentage of articles reporting the variables were calculated for each journal individually, as well as for the journals overall (see Table 1). As can be seen in the total column, some variables tend to get reported at a fairly high rate across journals. The number of participants is reported in all the journals at a 100% level. The participants' ages are included very close to that perfect mark, as are the types of population from which the sample is drawn. Also reported at a high rate are setting of the research, the gender of the participants, and the methods of identifying and selecting participants. At the middle levels of reporting overall are characteristics such as participants' ethnicity, SES, exclusion/inclusion criteria used, reliability reporting, number of contacts requested, and methods of contacting participants. Low rates of reporting were found overall for child assent, parent consent, attrition rates, whether rewards were used, the location of the research project, and total contact time.

Within these overall trends, the journals varied as to whether each included or omitted some of the information components. One-sample *t* tests were conducted for each journal to determine if the frequency with which each reported study variable

differed significantly from the other journals. The mean of the four journals on each variable was used as the test value (all analyses used two-tailed levels of significance). Based on these analyses, *JPP* reported identification/selection methods ($t [57] = -3.061, p = .003$), setting of the sample ($t [57] = -3.952, p < .001$), method of contacting participants ($t [57] = -3.258, p = .002$), exclusion/inclusion criteria ($t [57] = -2.475, p = .016$), and parental consent ($t [57] = -2.548, p = .014$) significantly more frequently than the other journals. *JCCP* reported gender ($t [51] = -6.202, p < .001$), ethnicity ($t [51] = -4.263, p < .001$), and child assent procedures ($t [51] = -2.356, p = .022$) significantly more frequently than the other journals, whereas it reported significantly less frequently information on total contact time ($t [51] = 2.833, p = .007$). *CD* reported the number of contacts requested ($t [93] = -3.791, p < .001$) and total contact time ($t [93] = -2.638, p = .010$) significantly more frequently than the other journals, whereas it reported information less frequently than the other journals on ethnicity ($t [93] = 2.114, p = .037$), identification/selection methods ($t [93] = 3.245, p = .002$), setting of the sample ($t [93] = 2.573, p = .012$), method of contacting participants ($t [93] = 2.575, p = .012$), parental consent ($t [93] = 3.092, p = .003$), and child assent procedures ($t [93] = 3.597, p = .001$). The rates of reporting variables in *JACP* did not differ significantly from the other journals.

A basic demographic description of the participants' gender ranged from a low of 80.4% (*JACP*) to a high of 98.1% (*JCCP*). The percentage of articles that described the ethnic distribution of the participants varied greatly from a low 52.1% (*CD*) to a high of 84.6% (*JCCP*). *CD* reported the low of 43.6% of the participants' SES while *JPP* reported the high of 51.7%. The rate at which articles in this study indicated the geographic location of the sample ranged from the low 31% of *JPP* to a high of 42.6% of *CD*. The percentage of studies reporting whether a reward was offered was small and varied from 13.5% (*JCCP*) to 25.9% (*JPP*). The percentage of articles reporting consent rate differed from the low of 27.7% (*CD*) to 58.6% (*JPP*). The rate of reporting child assent also was low and significantly varied 8.5% (*CD*) to 34.6% (*JCCP*). Although just over half of the articles reported inclusion/exclusion criteria, the rate varied significantly from 48.1% (*JCCP*) to 70.7% (*JPP*). Across journals, just over a fourth of the articles reported causes for attrition, although rates differed from 19.6% (*JACP*) to 36.2% (*JPP*).

Discussion

In general, the results of this study suggest wide variability in the percentage of articles that reported key demographic, methodological, and ethical procedure items. This variability was observed across journals and across variables. The conclusion seems clear that, in general, articles published in flagship journals serving the pediatric and child psychology field do not provide needed information about characteristics of their participation samples. These journals ostensibly adhere to the *APA Publication Manual* for manuscript preparation, which calls for authors to include this detailed information.

The participants' ages and gender tend to be reported at a fairly high rate. This rate for age is higher than for "adult" research journals such as *Health Psychology* (Park et al., 1998) likely because these four journals have more of a developmental focus. Ethnicity information, although left out of many articles, seems to be higher than found in previous content analyses and in other specialties in psychology. Ethnicity description is likely present in these later reports because of the many efforts to enhance recognition of diversity issues in psychology research (e.g., Iijima Hall, 1998). Of course, the overall percentage of 63.1% indicates only that this information was reported in some form, even if only a general statement of predominant ethnicity, not specific breakdowns. Such global information does not indicate anything about the ethnic representativeness of the sample to the larger population, degree of acculturation, or other aspects, for example. Similarly, the SES information was provided in about half of the studies. Age, gender, ethnicity, and SES are demographic characteristics important to most of the psychological variables under study in these research articles. The omission of even this basic or minimal information restricts the research consumers' ability to draw proper conclusions.

How to report ethnicity and cultural variables for research publications requires further clarification by the field, given the complexities inherent in these phenomena. Our analyses indicated only whether some information was presented, not the precision with which the information was reported. When ethnicity of the participants was indicated in the articles we analyzed, what typically was included was a general statement about race (i.e., African American, Asian American, Hispanic American, Native American, Caucasian, or Euro-American). Unfortunately, the majority of the articles did not

describe elements usually included in the concept of ethnicity, such as language, religion, degree of acculturation, and nation of origin. Overall, the field likely would need a minimal standard of reporting ethnicity and culture established by a consensus or editorial degree. When ethnicity might be conceived as a major influence or related to other psychological variables under study, then more elaborate conceptualizations would be needed. Psychologists might benefit from conceptualizations arising from controversies on ethnicity and culture in anthropology and sociology (Jenkins, 1997; Malik, 1996; Solomos & Back, 1996).

Knowing the rates of consent/participation helps us to discern the representativeness of the sample from the overall population and to draw generalizable conclusions. A low rate of participation may or may not be a problem, depending on the circumstances of recruitment and the psychological variables under study. Too few research articles included this information, which is needed to form any consensus for acceptable ranges of participation.

The attrition rates were significantly underreported. This information is important in determining the representativeness of the sample. Attrition may indicate whether the procedures biased the results, for example, because participants could not complete all aspects of an experiment or data gathering through fatigue, lack of interest, or alienation. Knowledge of attrition is also critical for evaluating clinical interventions. Essentially, differential attrition can bias results and invalidate research findings or mislead consumers of the research.

Reporting of parental permission/consent and child assent procedures as ethical information remains relatively low, despite the fact that two of the journals (*JPP* and *JCCP*) have instructions to include these procedures. Some information on how consent/assent procedures were handled may have been conveyed in a submission letter to the editor, and for two of the journals, authors of manuscripts accepted for publication sign an ethics compliance form indicating all procedures comply with the APA ethical code. In no way do we want to imply that these investigators were unethical in their research practices by omitting reports of consent and/or assent (Roberts & Buckloh, 1995), and much of the research in the United States has been reviewed by institutional review boards. We can conclude only that the authors did not report this information. Certainly, in the case where journals report research with infants (e.g., *CD*), child assent would be inap-

propriate. Even though avowal of proper use of consent is required to be published in these journals, reporting consent/assent procedures explicitly models ethical practices in research for fellow scientists and symbolizes adherence to ethical practices in research. Furthermore, perhaps more than the presence of a consent/assent form should be reported. Perhaps researchers should include relevant information such as the power differential between researcher and participant or the information the participant was actually given about the study.

Researchers experience the “judgment calls” of editors and reviewers (and usually make such calls themselves when roles are reversed) when manuscripts are reviewed for acceptance/rejection. Such judgments may include decisions about whether a participant sample is adequate from which to draw conclusions. Missing data about a sample, however, may not be caught in the editorial review and, as evidenced here, articles will be published without important pieces of information. Of course, including some information about the sample may affect submission/publication because aspects of the report sample seemingly fall short of some ill-defined criteria (e.g., about what constitutes a currently acceptable return rate of participation or about what is a necessary ethnic distribution of participants). At this time, there is currently not enough information in the literature on which to make this type of judgment.

In the interest of fairness in the publication process, but more important, for the advancement of the science in pediatric and child psychology, we suggest that all manuscripts be held to a standard of comprehensive reporting. If this happens, the field eventually will have a more complete picture from which to draw conclusions about psychological phenomena.

Commentary on the rates at which articles within a journal report the variables explored in this study is not meant to be a judgment of the quality of the research, journal, or editor. Although not reporting the variables considered in this study does restrict the reader's ability to evaluate articles, justification for these omissions may be reasonable. For example, the researchers may believe that some variables were not crucial to understanding their study. Nonetheless, if a standard of comprehensive reporting were used, then consumers of research would be able to judge for themselves the value of these variables. Furthermore, the journals' submission requirements or editorial review might not encourage the reporting of such variables. On the

other hand, the researchers may believe that the editor's or the consumer's perception of the worth of their study may be negatively affected by reporting demographic characteristics that are not consistent with those found in the population of interest or by describing less than ideal methodological variables. These variables may then be submerged or obfuscated through global statements.

A couple of examples may illustrate best the deficiencies of reporting even basic information. One coded article on the psychometric development of a screening instrument for young children failed to report anything on the variables of gender, ethnicity, SES, location, identification/selection of the sample, consent rates, attrition, or reliability. This article passed the editorial review, but we question the use of the measure when the consumer has no knowledge about the group on which it was normed. An article on cross-cultural comparison of a widely used behavior problem checklist failed to indicate the ethnicity of the sample and provided no information on location, SES, attrition, and inclusion/exclusion criteria. As the results indicate, we could describe many articles in which critical information was lacking. Although these articles seem particularly egregious, there may be some benign omissions of information. However, an article author may not know how future researchers and clinicians might use the research findings since they will lack critical aspects of a study. Interpretation of findings is limited by this lack of information.

A primary consequence of research articles failing to report demographic and methodological variables is that consumers are not able to estimate whether the sample is representative of the population of interest or if procedures were adequate. As suggested by Betan et al. (1995), the more representative a sample is of the population being studied, the more likely the findings will generalize to the desired population. We were interested here in determining generally whether information on these characteristics is being reported; therefore, dichotomous coding of presence or absence of information was used in this study, not assessing the level of detail or meticulousness. Based on these overall results, greater precision could be employed in future

work to consider the actual degree of representativeness for one or more of the variables in particular lines of research.

Based on our findings, like others before us, we suggest that journal editors and reviewers require, and researchers follow through by including, more demographic and methodological information in their articles. Describing this information in journal publications would enhance the scientific development of the field and the clinical applicability of the research. We hope that, in the future, the reporting of this demographic and methodological information will attain a 100% level for reporting the key variables needed for conclusions and interpretation in pediatric and child psychology research. The "gold standard" of reporting all these variables in all journal articles is a lofty goal and would necessitate changes in common writing and reviewing processes. As certain issues are highlighted in contemporary research, needs for reporting information may change over time. For example, the recent trend toward ensuring explicit accountability in ethical procedures provides pressure to report practices that might not have been the focus of such attention in the past. Similarly, issues of culture and ethnicity in research seem to assume greater emphasis more recently. Such a higher standard of reporting would require effort on the part of researchers to include such information and diligence on the part of reviewers and editors to ensure such information is included. This time and effort seems small in comparison to other resources invested in the research enterprise, yet it has such potential for advancing scientific rigor within research in pediatric and child psychology.

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