Race Identification Across Multiple Respondent Types

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Abstract

This paper will examine discrepancies in reported race identification by multiple respondents within the National Survey of Child and Adolescent Well-being (NSCAW). This topic is of critical importance because race is commonly included as a predictor variable in published NSCAW analyses. For example, some studies have shown that child's race predicts aspects of mental health service use (McCrae, Chapman & Price, 2006) while others have not (Barth et al, 2007; James et al, 2006). The degree to which these findings are valid and reliable is largely dependent upon the reliability of race reports.

NSCAW is the first nationally representative longitudinal study of children and families involved in the child welfare system and the first to collect data directly from children and caregivers. The study has produced four waves of data collected from over 6,200 children and their caregivers, caseworkers, and teachers. Begun in October 1999, the sample was drawn from children who were reported to the child welfare system as being maltreated. The NSCAW study design is noteworthy in that many items, including race, were administered to three different respondents: children, their caregivers, and caseworkers.

This paper will examine the degree to which these three NSCAW respondents disagreed on the sampled child's race. It will also describe the racial categories that exhibit the greatest levels of disagreement. Preliminary analyses of NSCAW data showed considerable disagreement in race identification, especially between caseworkers and caregivers and between caseworkers and children. A particularly high level of disagreement was found among children identified as Native American. Although the results cannot address accuracy of race reporting, key disagreements that have policy implications will be discussed. Finally, the paper will examine explanatory factors that may be contributing to disagreement.

Key Words: Racial identification, sensitivity, positive predictive value

1. Introduction

Race is an important variable in social science and health research. Studies from the medical and social sciences routinely include participant racial designation as a demographic predictor or correlate of measured outcomes. Racial disparities have been reported for access to health and mental health services (Boscarino, Adams, Stuber & Galea, 2005; McCrae, Chapman & Christ, 2006; Garland, Lau, Yeh, McCabe, Hough & Landsverk, 2005; Kataoka, Zhang & Wells, 2002) as well as a variety of health and mental health outcomes (Adams & Boscarino, 2005; Department of Health and Human Services, 2000). The validity of these findings rests on the reliable reporting participant race; however, emerging research suggests that racial designations are not always reliable. Moreover, the issue of reliability of race reporting appears to be more salient for some racial categories than for others. These findings have held true for both adult and youth recipients of health services. The purpose of the current study is to examine reliability of reporting of child race in a large national survey of families who have come into contact with the Child Welfare system.

1.1 Reliability of racial designations in medical and social sciences research

In research on adults receiving healthcare, the reliability of racial reporting has been examined across independent reporters and across time. For example, high levels of disagreement have been found for Medicaid versus Medicare records (Pan, Glynn, Mogun, Choodnovskiy & Avom, 1999). Comparing self-report to administrative records, researchers have found that self-report of race tends to include more minority and multi-race designations (Boehmer et al, 2002; Kressin et al, 2003; Baumeister et al, 2000; Gomez et al, 2005; West et al, 2005). In these studies, administrative report was defined as hospital records, HMO records, or birth certificates. Based on their findings, most of these studies caution against relying on administrative report in lieu of self-report of race.

Research also reveals changes in racial designations over time, whether by self- or administrative-report. Looking at administrative records, Blustein (1994) found disparate reporting of race for the same case across multiple admissions. This was especially true for non-White and non-African American patients. Hahn et al (1992) found disagreement in racial designations on birth and death certificates of infants. Inconsistencies were greatest for Hispanic, non-White, and non-African American designations. These findings bring into further question the reliance on administrative records for racial designations in research.

Disagreement is more common for some races than for others. Generally, disagreement has been observed most often for non-White and non-African American races. In particular, disagreement appears to be rather high for American Indian designations. Comparing self-report to hospital administrative records, Kressin et al (2003) found that only 20% of records agreed on Native American racial designation. Comparing self-report to HMO records, Gomez et al (2005) found that, among patients self-identifying as American Indian, only 47% were classified as such by the HMO. Using an identical method to calculate agreement between self-report and VA records, Boehmer et al (2002) found only 5% agreement for American Indian racial designation. Finally, West et al (2005) found that self-report of American Indian race was identified in hospital records in only one of 18 cases.

Further evidence suggests that these rates of disagreement only grow higher when a designation of multiple race is taken into account (Gomez et al 2005). That is, when a person self designates as White and American Indian, for example, administrative records are very likely to report that person as being of single White race. Race as a predictor of disagreement has also been observed for adolescent self report. In one longitudinal study, multiracial adolescents were more likely than mono-racial adolescents to add or replace a racial category over time (Hitlin, Brown & Elder, 2006).

1.2 Factors that predict agreement on racial designation in research

In addition to these findings that racial reports across time and by multiple sources of data differ, some other factors have been identified that appear to impact agreement on racial designation. For example, the context in which a person is asked to report his or her race appears to make a difference. In a nationally representative study of adolescents, focused on health outcomes (the National Longitudinal Study of Adolescent Health), Harris and Sim (2002) found that more than 12 percent of adolescents gave different responses when asked about their race, when they were interviewed at home versus school.

Factors that have been positively correlated to agreement between self report and administrative records include being foreign-born versus native and number of inpatient hospital stays (Gomez et al, 2005; Kressin et al, 2002). Level of self-reported education has been negatively correlated with agreement between self- and administrative reports. Age and marital status have been positively related to agreement in some studies, and negatively related to agreement in other studies. These mixed findings may be related to the difference in types of report compared across studies: one study compared HMO records to self-report (Gomez et al, 2005); the second study compared VA data to self-report (Kressin et al, 2002). Research has yet to examine many important ecological variables that may impact racial designations, especially in the case of children where caregivers may designate the child's race.

To summarize findings on the reliability of racial designations and predictors of agreement in racial designations, self report is thought to be more reliable than administrative records, especially for multi-race designations. Agreement can vary based on who is reporting and the context in which the reporting takes place. Agreement can also vary over time when the same respondent is asked to provide a racial designation at multiple time points and in different settings. Agreement is highest for White and African American races, and is particularly low for American Indian. Some factors that may predict agreement include patient's or client's age, lower education, receipt of health services, being married, and being foreign-born versus native. More work is needed on ecological predictors of racial designations.

2. Study Aims and Purpose

The purpose of the current study was to examine data from a national survey of children and families involved with the child welfare system in order to assess agreement on child racial designation across three reporters: child, caregiver, and child welfare caseworker. In child health research, studies rely variously on these three sources for child race. However, the extent to which these sources agree has not been established. Rather than being driven by a

specific hypothesis, our aim was to provide descriptive data on agreement among these three sources of child race information. An additional aim of this study was to assess predictors of agreement among these reporters.

The specific aims of the study were twofold: (1) to assess disagreement in race designations across caregiver and caseworker report, and (2) to examine predictors of disagreement. This is the first study to examine disagreement in racial reporting within a public child service system. The findings may thus have implications for survey methodology and will inform social science research involving measurements of children's race.

## 2.1 The National Survey of Child and Adolescent Well-Being

The data for this paper are from the National Survey of Child and Adolescent Well-being (NSCAW). It is sponsored by the Administration for Children and Families and is the first nationally representative longitudinal study of children and families involved in the child welfare system and the first to collect data directly from children and caregivers having contact with that system. The study has produced five waves of data collected from over 6,200 children and their caregivers, caseworkers, and teachers. This paper uses data from the Child Protective Service sample of NSCAW (n=5,501), which was drawn from children who had contact with the child welfare system within a 15-month period starting in October 1999.

NSCAW is a good candidate for the current analyses. First, child's race was included as a standard demographic variable at every wave of data collection. Second, child's race was asked of both caregiver and caseworker. Third, NSCAW is a large, nationally representative study and thus is well-powered to examine agreement for all five races included in the U.S. census designations.

2.2 NSCAW Measurement of Race

The NSCAW race questions are patterned after the 2000 Census which for the first time allowed for multiple races to be selected by the respondent. For this paper, we chose to limit the analysis to the level of agreement between caregivers and caseworkers when reporting child's race for the following reasons:

- The method for acquiring responses on race differed for children versus caregivers and caseworkers. The caregivers and caseworkers were given a show card with the race categories listed and asked to pick one or more racial categories from the card. For the child version, children age six and older were asked the open-ended question, "What race are you?" and the interviewer was responsible for coding the appropriate race based on the child's response.

- Also related to methodology, as is done in the Census, the child's ethnicity was asked of caregivers and caseworkers prior to the question about the child's race, but the children were only asked the race question.


Exhibit 1: Children Responding "Don't Know" to Race: Percent by Age
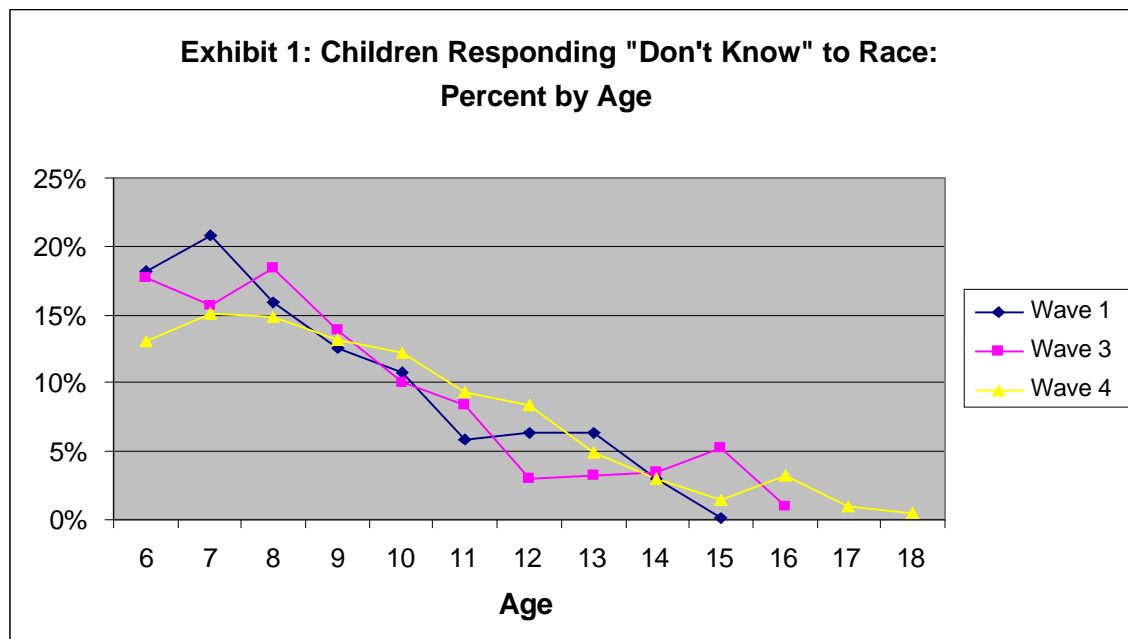
- Many children were unable to identify their own race. Almost one-third of the children responded "Don't know" to the race question while less than one percent of caregivers and caseworkers did not know the child's race. Moreover, the younger the child, the more likely they were to respond "Don't Know" to the race question (Exhibit 1).

To facilitate the interpretation of our findings when compared to the findings from the literature on racial reporting agreement, our analysis uses the caregiver reported race as a proxy for the self-reported (child) race and the caseworker reported race as a proxy for the race obtained from administrative records.

3. Methods and Results

We first examined the distribution of child's race for the caregivers and caseworkers. As Exhibit 2 shows, the highest percentages for both caregivers and caseworkers are the White and Black races with much lower percentages for the Asian, Native Hawaiian/Pacific Islander, American Indian, Other and Multiple races. (Note that all of the exhibits in this paper report weighted percentages.)

Exhibit 2: Child's Race: Percent Reported by Caregivers and Caseworkers
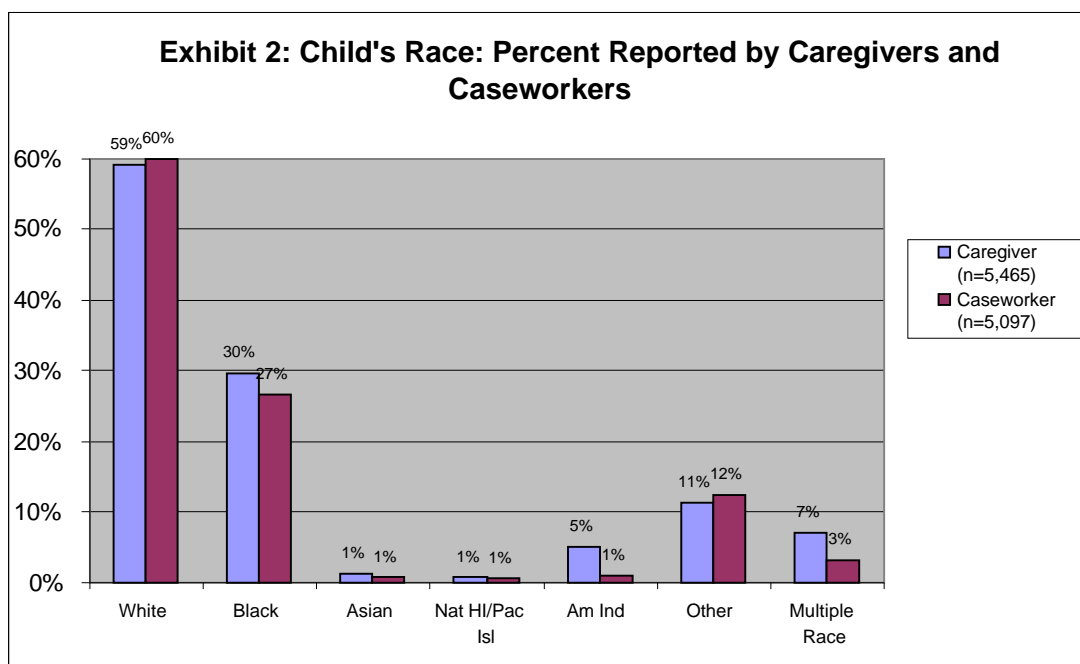
When comparing the percentages for each race between caregivers and caseworkers, the largest differences are for the American Indian and Multiple Race categories. When compared to caseworker report, five times as many caregivers reported the child as being American Indian and more than twice as many caregivers reported multiple races for the child.

We then calculated a measure of respondent disagreement for the child's race replicating methods used from prior studies. Specifically, we followed the method from studies by Gomez and colleagues (2005) and West and colleagues (2005), where disagreement was calculated as *sensitivity* and *positive predictive value*.

- *Sensitivity*: Among the caregivers reporting 'yes' to a race, sensitivity is the percent of caseworkers who also reported 'yes' to that race. In this study, sensitivity thus indicates how sensitive caseworkers are to what the caregiver reports the child's race to be.

- *Positive Predictive Value*: Among the caseworkers reporting 'yes' to a race, positive predictive value is the percent of caregivers who also reported 'yes' to that race. In this study, positive predictive value thus indicates how well what the caseworker reports as the child's race predicts what the caregiver says.

Exhibit 3: Child Race Agreement between Caregivers and Caseworkers
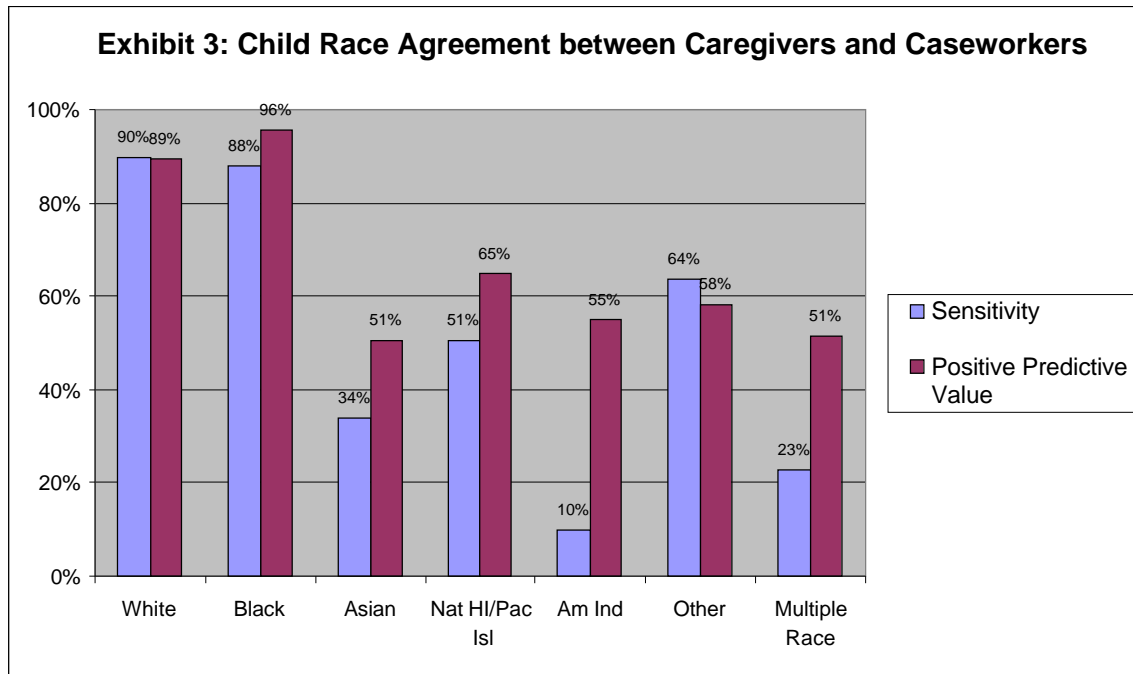
Using these methods, past research has identified the racial categories for which adult self-report and administrative records have the highest and lowest levels of agreement. These methods have also been used to derive dependent variables for analyzing what predicts agreement on racial reporting. These methods have not been applied to reports of child's race, but by using an established method, the results of the current study will be directly interpretable within the context of these prior findings.

Exhibit 3 shows the sensitivity and positive predictive value percentages for all races. As was found in the literature, the highest agreement is for the White and Black races while the least agreement is for American Indian and multiple races, especially for the sensitivity percentages where the caregiver is the referent (i.e., caseworker is in agreement with the caregiver report of the child's race). In addition, with the exception of the White and Other races, the agreement percentages are consistently lower for the sensitivity percentages where the caregiver is the referent.

Exhibit 4: Race Combinations of American Indian Race
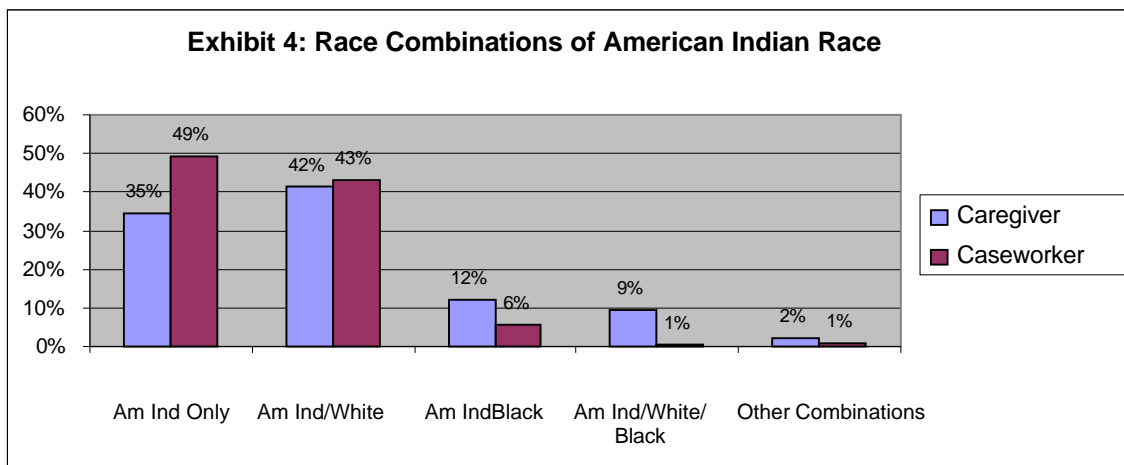
Since the American Indian race had such a low level of sensitivity, or caseworkers agreeing with caregivers, we examined the combinations of race for caregivers and caseworkers where the American Indian race was reported. As Exhibit 4 indicates, over ninety percent of caseworkers who reported the child as American Indian either reported them as only being American Indian or American Indian in combination with White. Caregivers, on the other hand, were more likely to report the child as being American Indian in combinations with other races.

**Exhibit 5: Caseworker Reported Race
Combinations for Caregivers Reporting American
Indian Race**

Caregiver Reported Race	Percent
White Only	49.3%
Black Only	14.4%
Other Race	14.6%
American Indian Only	5.9%
American Indian and White	3.6%
Don't Know/Refused	5.3%
Other Combinations	2.8%

Since far more caregivers reported the child as being American Indian, we examined the caseworker reported race where the caregivers reported American Indian as the child's race. As Exhibit 5 shows, almost half of the caseworkers reported those children as being White only while another thirty percent reported them as African American only or some other race. The ten percent of the caseworkers who agreed with the caregivers that the child was American Indian (the "Sensitivity" for American Indian from Exhibit 4) are represented in the "American Indian Only" and "American Indian and White" percentages of Exhibit 5.

Finally, we built two binary logistic regression models that examined potential factors that may predict disagreement in the race reports between the caregivers and caseworkers (Exhibit 6). These models were constructed using SUDAAN release 9.0.1.

**Exhibit 6: Predictors of Disagreement
Excluding White and Black Races**

	Sensitivity (n=219)		Positive Predictive Value (n=94)	
	β	SE	β	SE
Services	1.43*	0.59	-0.01	0.48
Child out of home	-0.38	0.98	1.32	1.14
CG relationship (a)				
Kin	0.05	1.05	2.36	1.40
Foster	1.08	1.17	-0.76	1.56
Child gender	-0.38	0.46	-0.70	0.64
At/below poverty line	-0.30	0.60	-0.34	0.92
CG age	0.43	0.45	1.76*	0.79
Child age (b)				
0-5	0.37	0.69	-0.37	1.07
6-10	-0.49	0.68	-0.36	0.97
CG Education	-0.32	0.56	-0.96	0.76

*$p<.05$; (a) Referent = Bio/Adopt/Step parent; (b) Referent = 11+

The first model uses the sensitivity measure of agreement as the dependent variable. We excluded the White and Black races because of their high level of agreement, which accounts for the small number of cases in the model. As the model shows, one significant predictor emerged. Specifically, in cases where a child's family received child welfare services, sensitivity was higher. This finding indicates that a child in a family that has received services is more likely to have a caseworker agree with the child's caregiver about a non-White and non-Black racial identification.

For the second model, the dependent variable is the positive predictive value agreement calculation. In this model, only the age of the caregiver was significant. Older caregivers (age 35 and older) were more likely to agree with the caseworker reported race of the child.

4. Conclusions

By analyzing the child race questions in NSCAW, this study identified a number of findings that add to our understanding of race reporting in surveys from multiple respondent types. First, young children had difficulty reporting their own race. Second, caregivers were more likely than caseworkers to report that a child was multiracial. Third, caregivers were more likely than caseworkers to report that a child was of American Indian descent. Fourth, caregivers and caseworkers were more likely to agree on child non-white and non-Black race when a child and family received services from the child welfare system than when a child and family did not receive services. Finally, caseworkers were more likely to agree with older caregivers about the child's race.

We suspect that the finding that caseworkers were more likely to agree with older caregivers about child race may have been a cohort effect. That is, caregivers over the age of 35 are more likely to have been socialized to choose the single race designation that fits best even though multi-race designations are now accepted (or acceptable). Further research is needed to test this hypothesis. Findings that caregivers were better able than caseworkers to identify children as multi-racial and American Indian are consistent with prior research showing that self report of race is more reliable than administrative records (Boehmer, Kressin, Berlowitz, Christiansen, Kazis & Jones, 2002; Kressin, Bei-Hung, Hendricks & Kazis, 2003; Baumeister, Marchi, Pearl, Williams & Braveman, 2000; Gomez, Kelsey, Glaser, Lee & Sidney, 2005; West et al, 2005). It stands to reason that a child's caregiver would know more about the child's racial heritage than would a caseworker in the child welfare system. The fact that caseworkers agreed with caregivers more often when the child received services adds credibility to this contention, suggesting that greater familiarity with the child contributes to more reliable and inclusive racial designations.

These findings have implications for both survey researchers and the child welfare system. For survey research, the age at which a child is "qualified" to answer questions about race and ethnicity are important considerations when developing survey instruments. More research needs to be conducted to establish an appropriate age at which children are able to identify their own racial classification and appropriate question formats for doing so. Another implication for survey researchers pertains to the use of race data that come from administrative records. Our findings support prior research that concluded minority races, especially American Indian and multi-racial, are under-reported in administrative data.

For the child welfare system, agencies should consider how the child's race is obtained. Prior research suggests that individuals rely primarily on skin color to determine the race or ethnicity of a stranger (Brown, Dane & Durham 1998). However, if professionals who collect information on children's racial background for the development of treatment plans rely on this strategy, the result may be significant under-reporting of some groups, most notably American Indian and multi-racial children. The current findings suggest that explicit requests for this information from the child's caregiver would minimize this under-representation and result in more accurate information on child race.

5. Areas of Further Study

This study analyzed agreement of child race reporting between caregiver and caseworker data. Further research is needed to better understand the age at which children are able to reliably report their own race, and to examine consistency of child self-report of race over time. Second, analytic methods should be developed that would allow for children's self-reported race data to be compared directly with caregiver and caseworker data. Third, consistency of the caregiver report of child's race should be analyzed over time. Fourth, the "Other" race category should be explored more thoroughly, especially in relation to ethnicity. Finally, the logistic regression model that examined the factors that predict agreement should be expanded to include other non-demographic variables.

The findings of this study serve as a reminder that race, when measured as a variable in social science, should be given careful consideration. Researchers must take care to ensure that instrumentation and methods for assessing race are valid and reliable. As this study shows, these issues are as particularly important in research with children.

Children may not be reliable reporters of their own race which necessitates reliance on other sources of report such as caregivers and/or service providers. Above all, researchers must justify the measurement of race as an explanatory variable, as with all types of demographic data (Canadian Medical Association, 2000; Coons, 2006).

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