

Detection of Problematic Substance Use in the Child Welfare System: A Comparison of Self-Report and Caseworker Report

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Abstract

Using a national sample of American families investigated for child maltreatment, this article compares parental self-report on the Alcohol Use Disorders Identification Test and Drug Abuse Screening Test measures to caseworker report of problematic alcohol and drug use at investigation. Data in this article are from child welfare caseworkers and a subset of parents surveyed in the National Survey of Child and Adolescent Well-Being II—primary caregivers (most often the biological mother) whose child remained in the home following investigation ($n = 4,009$). Caseworkers identified problematic alcohol use in only 17.7% of the parents who self-reported problematic alcohol use and problematic drug use in 37.6% of the parents who self-reported problematic drug use. Sensitivity and specificity for the detection of problematic alcohol use were 21.5% and 94.8%, respectively, and 65.3% and 83.7% for problematic drug use, respectively. After controlling for the other variables in the model, an allegation of substance use reduced the odds of caseworker detection of problematic alcohol use being consistent with parent self-report (odds ratio [OR] = 0.45, $p < .01$) and the odds of caseworker detection of problematic drug use being consistent with parent self-report (OR = 0.13, $p < .001$).

Keywords

parents/adults, child welfare workers, assessment, treatment, substance use disorder

Highly prevalent among families involved with child protective services (CPS), parental problematic alcohol use, and problematic drug use are associated with numerous negative outcomes for children (Hill, Tessner, & McDermott, 2011; Seay & Kohl, 2013, 2015). The terms problematic drug use and problematic alcohol use indicate the use of drugs or alcohol, which results in problems fulfilling parenting responsibilities or which creates additional problems in the family. Problematic drug use and problematic alcohol use can be present in individuals who meet criteria for a substance use disorder (SUD), but it can also be present in individuals with subclinical levels of substance use where, regardless of clinical cutoffs, substance use is impacting family life. During the child welfare investigation process, parental substance use can be assessed in several ways including parental self-report, biological assessment, and professional report.

Self-Report of Substance Use

Self-report focuses on the use of valid and reliable screening questionnaires that are used to determine whether an individual meets clinical cutoffs for a SUD. For those who meet clinical cutoffs, screening should be followed up with a brief intervention, further assessment, or referral to treatment (Rose, Bronдино, & Barnack, 2009). Reports of the use of self-report

screeners within child welfare are less prevalent than reports of caseworker assessment. In a review of prevalence estimates in child welfare samples, only 1 of the 11 studies used parent self-report to determine prevalence estimates (Seay, 2015). However, some research indicates that the use of SUD screening within the child welfare population is a promising approach. One study, using a modified version of the rapid alcohol problems screen to assess for alcohol and drug use in numerous social service settings, found that over 3 years, 12.8% of the child welfare clients who were screened had a positive assessment indicating need for further evaluation or services (Rose et al., 2009). This study supports the ability of screening tools to identify at least a portion of child welfare parents with problematic substance use.

Self-report of substance use behavior is not a prominent method of assessment within the child welfare literature. This may be due to concerns about the validity of self-report within a mandated child welfare population compared to the validity

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of biological testing or professional assessments. Given the lack of studies on this in child welfare, it is important to consider research in other fields. Within research on treatment for SUDs, self-report is considered a valid method of assessing for SUD which has had high consistency with biological assessment of SUDs (Hilario et al., 2015; Schuler, Lechner, Carter, & Malcolm, 2009). Studies examining the characteristics of individuals who deny substance use when use is later confirmed have found some evidence that adolescents (Williams & Nowatzki, 2005), individuals who are employed (Myrick, Henderson, Dansky, Pelic, & Brady, 2002), and individuals who were recently arrested (Magura & Kang, 1997) are more likely to underreport substance use through self-report. However, other studies have found no demographic differences to be associated with denying substance use that is later confirmed through biological testing (Wilcox, Bogenschutz, Nakazawa, & Woody, 2013). Refuting the analysis indicating that adolescents are less likely to report use, another study found that self-report of marijuana, tobacco, and alcohol use has high concordance with toxicology reports among adolescents (Nichols et al., 2014). High concordance rates have also been seen in adult populations. A 95% accuracy rate was found for the self-report of amphetamine use among individuals with a history of heroin and cocaine use who were not currently in treatment (Napper, Fisher, Johnson, & Wood, 2010). Women had higher concordance rates (96%) than men (86%) in a sample of adults in outpatient treatment for cocaine dependence (Schuler et al., 2009). Overall, these studies indicate that self-report is one strategy used to assess for SUDs within the SUD treatment community and that high concordance has been reported among adults, with women having higher rates of concordance compared to men. However, when there is a lack of concordance, this is typically due to underreporting substance use rather than overreporting.

Biological Assessment of Substance Use

Biological assessment of substance use involves assessing for the presence of substance use through drug tests or breathalyzer tests. The National Center on Substance Abuse and Child Welfare's (NCSACW) guide, *Drug Testing in Child Welfare: Practice and Policy Considerations*, outlines important issues for child welfare systems involved in the assessment of substance use (Center for Substance Abuse Treatment, 2010). Although drug testing can serve as a tool to aid in the decision-making process, NCSACW cautions that drug tests alone do not indicate whether or not an individual has an SUD, provide enough information to decide whether a child has suffered maltreatment, or determine a case's disposition. Drug testing should be one piece of a comprehensive substance abuse assessment which obtains a history of a client's drug use patterns and areas of life impacted by substance use. Although drug testing can be performed on numerous samples (i.e., urine, oral fluid, sweat, hair, breath, blood, meconium), screening urine for the presence of drugs and breath for the presence of alcohol are currently the most cost-effective methods of screening. Supervised

collection methods are recommended to prevent possible contamination of the specimens (Center for Substance Abuse Treatment, 2010). Due to concerns for costs and the invasiveness of testing (Spencer, Muroff, & Delva, 2000), biological assessment is not used universally in the child welfare system indicating that a self-report screener may be a method of assessment that could be universally applied without these barriers.

When a child welfare agency does utilize drug screening, NCSACW provides guidelines for agency staff (Center for Substance Abuse Treatment, 2010). First, a caseworker should talk with the parent about the drug screen and provide him or her with an opportunity to disclose the misuse of illicit or prescription drugs. During this discussion, the caseworker should aim to engage the client and refrain from using pejorative terms. Second, the parent should be informed of the purpose for the drug screening, consequences of positive test results, how a refusal to test will be interpreted, and how results will impact assessments of child safety. These recommendations are consistent with those of the American Academy of Pediatrics (Patrick & Schiff, 2017). Finally, the parent must be provided with the logistics of the testing procedure including the location. When a client has a positive drug screen, NCSACW recommends that the child welfare worker discusses the positive screen with the parent promptly and allows them to explain the results, obtains an SUD assessment from a treatment professional or consult their current provider, and considers changing the frequency of drug screening for the parent. Drug screening can be used once during an initial assessment or multiple times over the course of an open CPS case.

Professional Report of Substance Use

Professional report involves taking the professional judgments of a provider (e.g., substance abuse counselor, child welfare caseworker) as a determination about the presence of an SUD. Professionals use information obtained from and about clients to determine whether or not a client has an SUD. This information may include self-report data obtained from screening tools or comprehensive SUD clinical assessments, biological assessments, or information reported from the client's family, friends, or other professionals. Professional report by a child welfare caseworker is one of the most common methods of determining the presence of an SUD in the child welfare population (Seay, 2015). In practice, CPS caseworker perceptions of problematic substance use frequently steer decision-making rather than parent self-report (Berger, Slack, Waldfogel, & Bruch, 2010). Yet it is unknown if CPS workers are able to detect problematic substance use in parents who self-report SUDs. If problematic substance use is not identified then appropriate services cannot be provided to parents.

Current Study

Given that the professional child welfare caseworker's assessment of the need for further SUD evaluations is often relied on

and that biological assessment is costly and sometimes invasive, further consideration of parental self-report of SUDs within child welfare is needed. This article uses a national sample of families investigated for child maltreatment to examine the ability of child welfare caseworkers to identify problematic alcohol and drug use in a sample of parents that also self-reported problematic alcohol and drug use. Biological assessment data are not available in the data set utilized. The following research questions were tested:

- (1) Comparing self-report and caseworker report, what are the sensitivity and specificity levels for detecting problematic alcohol use within a national child welfare sample?
- (2) Comparing self-report and caseworker report, what are the sensitivity and specificity levels for detecting problematic drug use within a national child welfare sample?
- (3) Do parent demographics, allegation type, and whether or not the original investigator was interviewed influence whether or not caseworker problematic alcohol use is consistent with parent self-report?
- (4) Do parent demographics, allegation type, and whether or not the original investigator was interviewed influence whether or not caseworker problematic drug use is consistent with parent self-report?

Method

Participants and Data

This analysis utilized data from Wave 1 of the National Survey of Child and Adolescent Well-Being II (NSCAW II). The NSCAW II study was sponsored by the Administration for Children and Families and the U.S. Department of Health and Human Services with the goal of better understanding the needs, well-being, and functioning of children involved with the U.S. child welfare system. The NSCAW II is a national sample of children, 0–17.5 years of age, and their families who were investigated for child maltreatment between February 2008 and April 2009. The NSCAW II uses a two-stage stratified sampling procedure in which primary sampling units (PSUs) are within sampling strata. There are eight sampling strata. Seven of these strata are the seven states with the largest child welfare caseloads in the United States. The eighth stratum is the remaining participating states. A total of 81 PSUs were randomly selected from the eight sampling strata. PSUs typically corresponded with a CPS agency or a group of smaller CPS agencies. Within these PSUs, families were randomly selected from all families in the PSU with an investigation during the sampling time frame. Families were contacted for participation, and informed consent procedures were conducted. Further details about the NSCAW II survey methods are available through the National Data Archive on Child Abuse and Neglect (2010). This study received human subjects' approval by the author's institutional review board.

Table 1. Demographics of Total and In-Home Samples in NSCAW II.

Variable	Total NSCAW II Wave I	Families With Child In-Home at Wave I
	<i>n</i> (%) ^a	<i>n</i> (%) ^a
<i>N</i>	5,872	4,009
Age in years ^b	34.3 (32.0)	33.3 (32.0)
Gender		
Male	462 (9.4)	352 (9.2)
Female	5,316 (90.6)	3,657 (90.8)
Race		
White/Non-Hispanic	2,501 (48.9)	1,743 (48.8)
Black/Non-Hispanic	1,629 (20.3)	1,070 (20.0)
Hispanic	1,300 (24.5)	939 (24.8)
Other	336 (6.3)	249 (6.5)
Highest level of education		
Beyond high school degree	1,906 (28.0)	1,050 (27.3)
High school degree	2,479 (45.0)	1,776 (44.7)
Less than high school degree	1,385 (27.1)	1,177 (28.0)
Employment		
Part or full time	3,072 (52.2)	2,315 (52.7)
Not employed	2,701 (47.8)	1,691 (47.4)
Poverty		
Above poverty line	2,684 (42.9)	1,457 (40.5)
At or below poverty line	2,639 (57.1)	2,235 (59.6)
Marital status		
Married	2,025 (33.0)	1,056 (31.3)
Separated	569 (13.4)	476 (13.9)
Divorced	926 (18.8)	620 (18.8)
Widowed	169 (2.7)	79 (2.5)
Never married	2,080 (32.1)	1,770 (33.6)

Note. NSCAW = National Survey of Child and Adolescent Well-Being II.

^aValues reflect weighted row percentages. ^bValues reflect weighted mean (and median).

This study focuses on a subsample of NSCAW II cases, those in which the child remained in the home following the child welfare investigation that occurred between February 2008 and April 2009. Data used in this analysis were obtained through interviews of parents and their investigative caseworkers. The child's primary parent serving in the parenting role (biological mother if involved) was interviewed in person. This article focuses only on families in which the child remained in the home following the child welfare investigation because parents were only interviewed in this subset of the NSCAW II. Therefore, the self-reported substance use measures are not available in the rest of the NSCAW II sample. The study design for NSCAW II at Wave 1 involved interviewing the caseworker who investigated the given case. In 15.6% of the in-home sample that caseworker was unable to be interviewed (e.g., no longer employed with agency). In that situation, another caseworker or the supervisor used the child welfare case record to complete the interview. Table 1 compares demographics for the entire NSCAW II sample at

Wave 1 ($n = 5,872$) to families where the children remain in the home at Wave 1 ($n = 4,009$).

Measures for Sensitivity and Specificity Analyses

For the sensitivity and specificity analyses, caseworker report of problematic alcohol and drug use were compared to self-reported problematic alcohol and drug use.

Self-reported problematic alcohol use. The Alcohol Use Disorders Identification Test (AUDIT) was used to assess self-reported problematic alcohol use by the primary parent (Saunders, Asland, Babor, De La Fuente, & Grant, 1993). The AUDIT assesses for the respondent's self-reported level of alcohol use in the past 12 months. The 10-item AUDIT was administered to parents using audio computer-assisted self-interviewing (ACASI) technology. The AUDIT contains three questions about alcohol consumption (i.e., how often, how many, how often more than six drinks), three about drinking behavior (i.e., stopping, expectations, morning drinking), and four about alcohol-related problems and adverse reactions (i.e., guilt, memory, injuries, others concerned about you). Each of the 10 items can receive 0–4 points, and responses are summed for a total possible score of 40 points. The higher the score on the AUDIT, the more hazardous the pattern of alcohol consumption for the individual (Babor, Higgins-Biddle, Saunders, Monteiro, & World Health Organization, 2001). The first question of the AUDIT asked how often the participant had a drink containing alcohol during the past 12 months. If the parent reported “never” then no further questions on the AUDIT were asked and these respondents had a total AUDIT score of 0. There were 2,006 participants with a total AUDIT score of 0.

Consistent with the literature, separate cutoff scores were used for males and females on the AUDIT (Bradley et al., 2003; Reinert & Allen, 2007). A score of eight or higher for males was used to indicate problematic alcohol use (Saunders et al., 1993). A lower cut point of five or higher was used for females due to the research indicating that a score of five typically detects between 73% and 82% of women with problematic alcohol use (Reinert & Allen, 2007). In an analysis of 18 studies conducted between 2002 and 2005, the median internal consistency reliability of the AUDIT was .83 with a range of .75 to .97 (Reinert & Allen, 2007).

Self-reported problematic drug use. Self-reported problematic drug use was assessed with the Drug Abuse Screening Test (DAST-20) for the primary parent (Skinner, 1982). ACASI technology was also used to collect these data. The DAST-20 includes 20 yes or no questions worth 0–1 point a piece. Total scores on the DAST-20 are created from summing the responses to the 20 items and can range from 0 to 20 with higher scores indicating higher levels of drug-related problems in the past 12 months (Skinner, 1982). The items on the DAST-20 include use of illicit drugs, abuse of prescription drugs, questions about the ability to stop (e.g., could you get through the week without using drugs), experiencing blackouts, guilt

due to drug use, conflict or problems due to use (e.g., trouble at work), withdrawal experiences, and experiences seeking treatment. Cutoff scores of six or higher on the DAST-20 are used to identify both adult males and females engaged in problematic drug use which would benefit from treatment (McCann, Simpson, Ries, & Roy-Byrne, 2000; Skinner, 1982; Staley & El-Guebaly, 1990). Coefficient α for the DAST-20 has been found to range from .74 to .95 (Yudko, Lozhkina, & Fouts, 2007).

Caseworker reported problematic alcohol use. Caseworker report of problematic alcohol use is assessed with an item in the risk assessment section of the CPS worker interview. In response to the question “At the time of the investigation was there active alcohol abuse by the primary caregiver?” the CPS worker responded yes, no, or don't know. “Don't know” responses and those who did not respond were excluded as missing. A set of sensitivity tests discussed later in this article further examine the “don't know” responses. The risk assessment in NSCAW II is a series of questions developed for the NSCAW II study but based on risk assessments forms and checklists used in Michigan, New York, Washington, Illinois, and Colorado. The risk assessment assists caseworkers in examining the level of risk to the child in a given case and gathers information about the presence of prior abuse or neglect, parental problematic substance use, domestic violence, parent mental health, poor parenting skills, excessive discipline, and other risk factors. Caseworkers were interviewed at their agencies and were able to refer to their notes, documentation, and case records during the interview. Caseworkers were experienced professionals with an average of over 7 years ($M = 7.1$, median = 5.0) of experience in child welfare and almost 47% had either a bachelor's degree in social work or a master's degree (Dolan et al., 2011). Information included in CPS records may include findings from drug or alcohol testing, documented interviews where the parent self-reported concerns with alcohol or drug use, and alcohol or drug assessments ordered by the court.

Caseworker reported problematic drug use. Caseworker report of problematic drug use is assessed with an item in the risk assessment section of the CPS worker interview. In response to the question “At the time of the investigation was there active drug abuse by the primary caregiver?” the CPS worker responded yes, no, or don't know.

Measures for Binomial Logistic Regression

Dependent variables. The dependent variables for the binomial logistic regressions are consistent problematic alcohol use and consistent problematic drug use. Consistent problematic alcohol use is a dichotomous variable in which “0” is cases in which caseworker report of problematic alcohol use do not match parent self-report of problematic alcohol use and “1” is cases in which caseworker report of problematic alcohol use match parent self-report of problematic alcohol use. Consistent problematic drug use was created in the same way as consistent problematic alcohol use.

Independent variables. The independent variables for the binomial logistic regression are parent demographics, allegation type, and whether or not the original investigator was interviewed. Parent demographics in the model are race/ethnicity (White/non-Hispanic, Black/non-Hispanic, Hispanic, other race/ethnicity), age in years (continuous), education (less than high school, high school degree, greater than high school), employed (no, yes), poverty (above poverty line, at or below poverty line), gender (male, female), and marital status (married, separate/divorced/widowed, never married). Allegation type is a dichotomous variable in which any case with an allegation of either “substance exposure” or “substance-abusing parent” was coded as 1 and all cases without one of these allegations was coded as 0. A dichotomous variable was created for whether or not the caseworker who originally investigated the child welfare report was the person interviewed about the caseworker report of problematic alcohol or drug use in the NSCAW II Wave 1 interview.

Statistical Analyses

An analysis was conducted to compare parent self-report on the AUDIT and DAST-20 measures to the caseworker report of problematic alcohol and drug use at the time of the investigation. Sensitivity and specificity were calculated for both the detection of problematic alcohol use and the detection of problematic drug use as described by Lalkhen and McCluskey (2008). Parents’ self-report of problematic substance use was used as the standard of comparison for problematic substance use, and the caseworker report was considered the test for problematic substance use.

Two binomial logistic regressions were conducted to predict consistent detection of problematic alcohol use and problematic drug use with parent demographics, allegation type, and whether or not the original investigative caseworker was interviewed. Data management was conducted in SAS Version 9.4. Analyses were conducted in StataSE Version 13.1. Descriptive statistics, *t* tests, and the binomial logistic regressions used weights and the Stata survey procedures. Due to the smaller subgroup comparisons, sensitivity and specificity were calculated with unweighted frequencies.

Results

Of the 3,939 parents who completed the AUDIT, 326 parents screened positive (8.27% weighted) and 3,613 were negative (91.73% weighted). For the DAST-20, 196 parents (2.66% weighted) screened positive and 3491 (97.34% weighted) screened negative. Caseworkers reported that 223 parents (3.73% weighted) were engaged in active alcohol abuse at the time of the investigation and 3,114 parents (96.27% weighted) were not. Caseworker responses of “don’t know” were coded as missing. Caseworkers reported that 624 parents (8.11% weighted) were engaged in active drug abuse at the time of the investigation and 2,747 parents (91.89% weighted) were not.

A *t* test ($F = 15.85, p = .0002$) comparing the mean self-reported AUDIT scores for the parent by whether or not the caseworker reported that the parent engaged in problematic alcohol use indicated that there were higher mean AUDIT scores in parents that caseworkers identified as engaging in problematic alcohol use ($M = 4.45, SD = 0.74$) compared to parents that caseworkers did not identify ($M = 1.45, SD = 0.08$). A *t* test ($F = 34.78, p < .0001$) comparing the mean DAST-20 scores by whether or not the caseworker reported problematic drug use found higher mean scores on the DAST-20 ($M = 2.30, SD = 0.26$) when caseworkers reported problematic drug use compared to when they did not ($M = 0.76, SD = 0.05$).

Of parents who self-reported problematic alcohol use on the AUDIT, caseworkers reported problematic alcohol use in only 17.7% of these parents and did not report problematic alcohol use in 82.3%. Of the parents whose score on the AUDIT did not indicate problematic alcohol use, caseworkers reported problematic alcohol use for 2.3% of these parents. Among parents that were identified as engaging in problematic alcohol use by the caseworker, 57.8% self-reported problematic alcohol use and 42.3% did not report problematic alcohol use by the caseworker. Of parents who were not identified as engaging in problematic alcohol use by the caseworker, only 7.4% self-reported problematic alcohol use. Sensitivity for the detection of problematic alcohol use was calculated to be 21.5%. Specificity for the detection of problematic alcohol use was calculated to be 94.8%.

Caseworkers reported problematic drug use for 37.6% of the parents who self-reported problematic drug use. However, they did not detect problematic drug use for 62.4% of the parents who self-reported problematic drug use. Only 7.5% of the parents who did not self-report problematic drug use were identified as engaging in problematic drug use by caseworkers. Consistent with problematic alcohol use, when caseworkers did not report problematic drug use, parents rarely self-reported problematic drug use (2.0%). However, caseworker report of problematic drug use did not align well with parent self-report of problematic drug use. Of the 591 cases where a caseworker reported problematic drug use, only 13.0% of these parents self-report problematic drug use on the DAST-20. Sensitivity for the detection of problematic drug use was calculated to be 65.3%. Specificity for the detection of problematic drug use was calculated to be 83.7%.

Among families whose child remained in the home following the child welfare investigation, sensitivity and specificity were examined within different subsets to further examine the relationship between parent self-report and caseworker report of problematic substance use. These sensitivity analyses involved examining allegation type, the provision of family preservation services, the role of the reporting caseworker, and how uncertain responses (i.e., don’t know) impacted sensitivity and specificity (Table 2). A detailed example of how to interpret these comparisons is presented for allegation type.

Cases in which an allegation of either “substance exposure” or “substance-abusing parent” was reported to CPS (17.6%)

Table 2. Comparison of Sensitivity and Specificity by Subgroups.

Subgroup		Problematic Alcohol Use		Problematic Drug Use	
		Sensitivity ^a (%)	Specificity ^a (%)	Sensitivity ^a (%)	Specificity ^a (%)
Total in-home sample ^b		21.5	94.8	65.3	83.7
Report alleged substance use? ^b	Yes	24.1	89.0	80.6	52.7
	No	20.6	96.5	43.3	92.6
Received family preservation services? ^b	Yes	33.3	94.5	74.2	78.1
	No	17.2	96.0	53.4	88.4
Reporting caseworker investigated case? ^b	Yes	22.6	95.0	62.1	84.3
	No	15.0	93.9	81.5	80.7
Caseworker report of substance use with "don't knows" coded as yes		24.8	90.0	66.5	80.3
Caseworker report of substance use with "don't knows" coded as no		20.6	95.0	63.0	84.3

^aValues reflect calculations using unweighted frequencies. ^bDon't know coded as missing.

were compared to cases in which this was not one of the allegations (82.4%). The sensitivity to detect problematic alcohol use increased slightly from 21.5% to 24.1% and the specificity decreased from 94.8% to 89.0% among cases where substance use was alleged (see Table 2). For cases where substance use was not alleged, the sensitivity to detect problematic alcohol use decreased slightly from 21.5% to 20.6% and the specificity increased slightly from 94.8% to 96.5%. Among cases in which substance use was alleged, the sensitivity to detect problematic drug use increased from 65.3% to 80.6% and the specificity decreased from 83.7% to 52.7%. For cases where substance use was not alleged, the sensitivity to detect problematic drug use decreased from 65.3% to 43.3% and the specificity increased from 83.7% to 92.6%. Sensitivity was highest when the report alleged any type of substance use, but these increases in sensitivity were accompanied by decreases in specificity.

The majority of families where children remained in the home did not receive family preservation services (83.1%). Sensitivity and specificity in families who received family preservation services were compared to families who did not receive these services. Compared to the combined sample, sensitivity to detect both problematic alcohol use and problematic drug use was highest among families who later received family preservation services (see Table 2).

In 15.6% of the in-home sample, the caseworker who investigated the case could not be interviewed. To compare the responses of the investigative caseworkers reporting about substance use to other caseworkers reporting this information based upon the case record, cases in which investigative caseworkers were interviewed were compared to cases in which another caseworker was interviewed. Compared to the total sample, sensitivity and specificity in detecting problematic drug and alcohol use remained close to the same among cases in which the investigative caseworker was able to be interviewed. However, a different pattern was seen among cases in which the investigative caseworker could not be interviewed. When another caseworker or supervisor reported information on the case, the sensitivity to detect problematic alcohol use decreased but the sensitivity to detect problematic drug use increased (see Table 2). To determine caseworker report of

Table 3. Binomial Logistic Regressions.

Variable	Consistent Alcohol		Consistent Drug	
	OR	95% CI	OR	95% CI
Race/ethnicity ^a				
Black/Non-Hispanic	1.59	[0.89, 2.84]	1.00	[0.47, 2.09]
Hispanic	1.23	[0.62, 2.41]	1.31	[0.58, 2.98]
Other	0.30**	[0.13, 0.70]	0.58	[0.26, 1.31]
Age	1.00	[0.97, 1.03]	1.03	[1.00, 1.06]
Education ^b				
High school degree	1.23	[0.73, 2.07]	1.54	[0.94, 2.53]
Greater than high school	1.32	[0.69, 2.55]	1.11	[0.59, 2.10]
Employed	1.24	[0.68, 2.27]	2.13*	[1.16, 3.91]
At or below poverty line	1.08	[0.65, 1.79]	1.08	[0.56, 2.07]
Female	1.06	[0.41, 2.71]	0.55	[0.27, 1.14]
Marital status ^c				
Separated/divorced/widowed	0.50	[0.23, 1.09]	0.96	[0.52, 1.75]
Never married	0.56	[0.28, 1.11]	0.98	[0.56, 1.70]
Substance use allegation	0.45**	[0.27, 0.77]	0.13***	[0.07, 0.22]
Investigator interviewed	0.83	[0.45, 1.55]	0.84	[0.42, 1.68]

Note. CI = confidence interval; OR = odds ratio.

^aReference category was White/Non-Hispanic. ^bReference category was greater than a high school degree. ^cReference category was married.

* $p < .05$. ** $p < .01$. *** $p < .001$.

problematic alcohol or drug use, caseworkers were asked "At the time of the investigation was there active drug [or alcohol] abuse by the primary caregiver?" In the primary analysis, responses were coded as missing when caseworkers responded "don't know." To determine how these "don't know" responses might impact the analysis, three sets of comparisons were conducted ("don't know" coded as missing, "don't know" coded as no, and "don't know" coded as yes) for each substance use variable. Regardless of how "don't know" responses were coded (missing, yes, or no), sensitivity and specificity remained close to the same (see Table 2).

Table 3 shows the results of the binomial logistic regression models. After controlling for parent demographics and whether or not the investigator was interviewed, an allegation of

substance use reduced the odds of caseworker alcohol detection that is consistent with self-report ($OR = 0.45, p < .01$) and the odds of caseworker drug detection that is consistent with self-report ($OR = 0.13, p < .001$). For the alcohol model, after controlling for other variables in the model, a parent being identifying as a race other than White, Black, or Hispanic decreased the odds ($OR = 0.30, p < .01$) of caseworker alcohol detection compared to a parent being White. For the drug model, after controlling for the other variables in the model, a parent being employed more than doubled the odds ($OR = 2.13, p < .05$) of a caseworker detection compared to a parent being unemployed.

Discussion

The analysis comparing caseworker perception of parent problematic use to parent self-report of behavior indicates that caseworkers are identifying problematic substance use in less than 40% of the parents who self-report engaging in problematic alcohol (17.7%) and drug use (37.6%). These results indicate a Type II error rate in detection at 82.3% for alcohol and 62.4% for drugs. Some of the inconsistency between caseworker and self-report may be due to measurement differences, further discussed in the Limitations section. However, when focusing on caseworkers who do not observe problematic substance use within a sample of parents who self-report, the low level of agreement is concerning and supports the need for standardized drug and alcohol assessments within the child welfare population. The known error rate for caseworker detection is easier to arrive at than the percentage of parents who are not reporting their problematic substance use.

Although the Type II error rate can be calculated, the Type I error rate is unknown within the sample because it is uncertain what percentage of parents are concealing an existing problem with substances. Research supports the validity of self-report (Napper et al., 2010; Schuler et al., 2009), but little is known about self-report of substance use behaviors within the child welfare population. A possible bias within the parent sample to not report problematic substance use creates uncertainty about whether or not parent problematic use is present when parents do not self-report it. ACASI techniques used in the NSCAW II survey procedures likely increased the self-reported response rate for SUD beyond what would typically be seen in a child welfare setting. However, these results indicate that there are potentially missed opportunities to provide treatment services to a small group of parents who meet clinical cutoffs, are ready for treatment, and are willing to self-report their substance use. For these parents who are ready for change, a screener might have allowed them to seek help sooner.

When a child welfare caseworker suspects a parent has an SUD but the parent does not self-report one, child welfare caseworkers can refer parents for further substance use assessments and continue to evaluate for potential risk or safety concerns for the child. However, not all substance use is associated with child maltreatment and this is viewed differently depending on state statutes, the severity of use, and other

protective and risk factors in the home. The results of this article indicate that an individual caseworker's perception of problematic substance use could be biased by whether or not substance use was alleged in the report. These results indicate that a more comprehensive SUD assessment of the individual and family risk factors is warranted to determine the presence of an SUD, to fully understand the impact of an SUD on the family, and to determine the best-case management strategies to support the family.

Caseworkers did not report problematic substance use for the majority of parents who self-reported problems with alcohol or drugs. With detection rates consistent with self-reported use at 17.7% for problematic alcohol use and 37.6% for problematic drug use, it was more difficult for caseworkers to detect problematic alcohol use. In practice, caseworker perception of problematic alcohol or drug use should be corroborated with some form of biological assessment and parents should be given screeners to aid in self-reporting. This will support referrals to substance abuse treatment agencies for assessments and treatment. The majority of parents identified by caseworkers as engaging in problematic alcohol use and problematic drug use did not self-report problematic alcohol or drug use. Further analysis is needed to determine whether these parents are engaging in subclinical levels of use or whether caseworkers are misidentifying other factors as problematic alcohol or drug use in this population.

The results of the binomial logistic regression indicate that, after controlling for the other variables in the model, an allegation of substance use reduced the odds of caseworker alcohol detection ($OR = 0.45, p < .01$) and caseworker drug detection ($OR = 0.13, p < .001$) that is consistent with parent self-report. These results were consistent even when different control variables in the models were removed. This result may seem puzzling, given that sensitivity increased for both problematic alcohol and drug use. Despite sensitivity increasing, accuracy to detect problematic substance use is a function of both sensitivity and specificity, and specificity decreased. This result may indicate that caseworkers overgeneralize the presence of problematic substance use when presented with an allegation of substance use. When a caseworker receives an allegation of substance use, they may be more likely to look for indicators of substance use in the parent. This can result in greater identification of parents who self-report a problem with substances (i.e., increasing sensitivity), but it can also result in the greater identification of parents who do not meet criteria for an SUD (i.e., decreasing specificity).

There are several limitations to the study. First, it is acknowledged that sensitivity and specificity calculations could be impacted by the bias of some parents to not self-report problematic substance use due to their involvement with CPS. Next, it is a limitation that this article only examines families in which the children remained in the home following the child welfare investigation. Since the AUDIT and DAST-20 were only administered to this population in NSCAW II, it was not possible to look at families where the children were removed from the home. It is possible that caseworker report

would be more consistent with self-report within a population of families where the risk and safety concerns resulted in the child being removed from the home. Further examination of substance use within that population is warranted. Another limitation to the study is that the time frames for the caseworker report of problematic substance use and the parent self-report measure are different time frames that overlap. The parent is reporting on substance use in the 12 months preceding the interview and was interviewed an average of 4 months after the end of their investigations. For all parents, the investigation time period falls within the 12 months preceding the interview. Caseworkers were interviewed about active drug or alcohol use during the time of the investigation. Given these time frames, parent self-report would include substance use during the time of the investigation, but it would also include use prior to and following the investigation. Therefore, it is possible that a parent may have reported alcohol or drug use that occurred at some point during the past 12 months but that the behaviors were not occurring during the investigation time frame. Investigative caseworkers were asked to report the presence or absence of active alcohol or drug abuse at the time of the investigation. Although investigative caseworkers would likely have the most accurate information on the investigation, a family preservation caseworker might have had more detailed information on parental substance use for those families who received services. However, this study examines the assessment of substance use at the time of the investigation because this is a critical time point for decision-making around services for families. Despite these limitations, the data set provides one of the first opportunities to compare two SUD assessment methods within a child welfare sample.

The NSCAW II study does not have information about whether or not an SUD screening tool was used during the investigation or whether there were other methods (e.g., assessments) used to assess for substance use. This data would have allowed for a more in-depth inspection on whether or not caseworkers fail to identify problematic use due to insufficient information. Caseworker training on the signs and symptoms of SUDs is another good option that could enhance caseworker assessment of SUDs. Additional analyses could examine caseworker characteristics, such as cultural or personal factors, that increase caseworker detection that is consistent with the parent's self-report of problematic substance use.

The vast majority of the sample (90.8%) were women and almost 90% of those women were of childbearing age at the time of the survey. Women who experience SUDs are a unique population from men and are more likely to have experienced trauma or prior victimization (Brady & Randall, 1999). In addition, treatment receipt is more complex for women with children (Brown, Vartivarian, & Alderks, 2011; McMahon, Winkel, Suchman, & Luthar, 2002; Neger & Prinz, 2015; Seay, Iachini, DeHart, Browne, & Clone, 2017). Early and accurate diagnosis is especially important among women who are concurrently parenting and experiencing an SUD.

These results indicate a need to better train CPS caseworkers about parental problematic use and its identification. A

particular focus on problematic alcohol use is warranted due to its higher prevalence and lower detection rates. The punitive nature of engagement in CPS services limits the ability of parents to voluntarily seek the help from CPS that they may already know they need. Other strategies to identify problematic use and provide voluntary drug or alcohol treatment to low-income parents at risk of negative parenting strategies should be explored in research and policy.

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