



COMPUTERIZED ASSESSMENT OF SUBSTANCE ABUSE (CASA)

4 Continuing Education Credits

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ABOUT THE INSTRUCTOR

Dr. Robert A. Shearer is a retired professor of Criminal Justice, Sam Houston State University. He received his Ph.D. in Counseling and Psychology from Texas A & M University, Commerce. Prior to teaching Criminal Justice, he taught Educational Psychology at Mississippi State University on campus and in the extension program across rural Mississippi during the civil rights era.

He has been teaching, training, consulting and conducting research in the fields of Criminal Justice, human behavior, and addictions for over thirty-six years. He is the author of over sixty professional and refereed articles in Criminal Justice and behavior. He is also the author of *Interviewing: Theories, techniques, and practices*, 5th edition published by Prentice Hall. Dr. Shearer has also created over a dozen measurement, research, and assessment instruments in Criminal Justice and addictions.

He has been a psychotherapist in private practice and served as a consultant to dozens of local, state, and national agencies. His interests continue to be substance abuse program assessment and evaluation. He has taught courses in interviewing, human behavior, substance abuse counseling, drugs-crime-social policy, assessment and treatment planning, and educational psychology. He has also taught several university level psychology courses in the Texas Department of Criminal Justice Institutional Division, led group therapy in prison, trained group therapists, and served as an expert witness in various courts of law.

He has been the president of the International Association of Addictions and Offender Counseling and the editor of the *Journal of Addictions and Offender Counseling* as well as a member of many Criminal Justice, criminology, and counseling professional organizations prior to retirement.

The Evolution of Computerized Assessment in Substance Abuse Treatment

When the CASA instrument was developed and this course was written, computerized assessment represented a significant innovation. Today, technology-assisted screening and assessment are the norm in most healthcare settings, and the principles underlying computerized assessment, standardized administration, reduced clinician bias, and efficient data collection, have been validated across multiple populations and clinical contexts.

A 2023 randomized clinical trial published in JAMA Network Open evaluated an automated bilingual computerized screening and brief intervention tool for unhealthy alcohol use in emergency department settings. The study enrolled 840 Latino patients, randomizing 418 to the computerized tool and 422 to standard care, and found that the computerized intervention was associated with fewer binge drinking episodes at 12-month follow-up, 3.2 per month versus 4.0 in standard care. The researchers concluded that automated computerized screening overcomes known procedural barriers to substance use screening in busy clinical environments, including language barriers and clinician time constraints. The benefit was concentrated among participants older than 25, who showed roughly a 30 percent reduction in binge episodes, while participants 25 and younger did not benefit and if anything drank somewhat more, a reminder that a computerized tool validated in one age group cannot be assumed to work in another (Vaca et al., 2023).

This study validates a core premise of the CASA course: computerized assessment can produce reliable, actionable clinical data while reducing the practical barriers that limit face-to-face screening. The technology has advanced substantially since the CASA was developed, but the underlying rationale, that standardized, computer-administered instruments complement and strengthen clinical evaluation, remains sound.

Screening and Assessment in Criminal Justice Populations: Updated Evidence

The CASA was specifically developed for use with criminal justice populations, and recent research has continued to examine how substance use screening and assessment function within these settings.

The TCU Criminal Thinking Scales, a widely used assessment instrument in correctional settings, underwent psychometric reevaluation in 2022 using Item Response Theory methodology. The analysis confirmed good internal reliability across the scales, with criminal thinking scores correlating negatively with treatment motivation and psychosocial functioning. The researchers framed the stakes by noting that roughly 9 million people cycle through U.S. jails each year, many carrying substance use and criminal thinking patterns that valid assessment tools must capture accurately (Sease et al., 2022).

A 2022 cohort study of 4,207 prison clients with substance use disorders tracked recidivism over an average of 2.7 years. Sixty-eight percent returned to the criminal justice system, and the risk factors differed substantially depending on the category of crime: alcohol use correlated with violent recidivism, while age, heroin use, and injection drug use elevated property and drug crime risks. The authors concluded that crime-specific assessment approaches are essential for targeted rehabilitation planning

(Karlsson & Hakansson, 2022).

For clinicians using computerized assessment tools like the CASA, these findings reinforce the importance of multidimensional screening that captures not only substance use severity but also criminal thinking patterns, specific substance types, and the risk factors that predict different categories of reoffending. A single global severity score is insufficient for treatment planning in this population.

Workforce Readiness for Technology-Assisted Assessment

The adoption of computerized assessment tools requires competencies that older workforce frameworks did not fully anticipate. A 2022 analysis of substance use workforce training needs documented a surge in training and technical assistance events as offerings shifted to fully virtual during the COVID-19 pandemic, with increasing proportions of events focused on evidence-based practice and health equity. That analysis examined 258 training events reaching 10,143 substance use treatment professionals, and it found that the demand for technical assistance increased during the pandemic, with a prioritization of assistance focused on evidence-based practice and health equity (Scott et al., 2022). The shift to virtual and technology-mediated service delivery accelerated the need for clinicians competent not only in clinical interviewing but also in administering, scoring, and interpreting computer-based instruments.

For practitioners trained in the CASA methodology, this reinforces a point made throughout this course: the quality of assessment data depends on the competence of the clinician administering and interpreting it. Computerized instruments standardize administration, but clinical judgment remains essential for integrating assessment results with interview data, collateral information, and observation into a coherent treatment recommendation.

The Current Assessment Landscape

The assessment toolkit available to substance use disorder clinicians continues to expand, though significant gaps remain. Recent research has evaluated the psychometric quality of existing instruments, explored how recovery capital assessment informs treatment planning, and validated new measures for specific substance categories.

A 2023 systematic review of 73 brief self-report measures for substance use disorders found that only 14 of them, about 19 percent, achieved excellent psychometric ratings, while 27 (37 percent) were rated good and 32 (44 percent) adequate. The review identified persistent gaps for instruments targeting specific substances and treatment constructs, noting that most of the excellent instruments clustered in a single domain, screening for problematic use (Stewart et al., 2023). For practitioners using computerized instruments like the CASA, this reinforces the importance of understanding the psychometric properties of any tool before deployment, because an instrument that performs well in a research setting may not maintain its reliability with a different population or in a different clinical context.

A 2024 study examined the role of recovery capital assessment in predicting treatment completion among 69 men, comparing 39 who completed treatment with 30 who did not. Baseline recovery capital did not predict completion, since both groups entered with similarly limited resources, but the

accumulation of recovery capital during treatment was strongly linked to completion (Headid et al., 2024). This carries a direct implication for computerized assessment practice: an intake assessment captures only a snapshot, and repeated measurement over the course of treatment may provide more clinically useful information about a client's trajectory than baseline scores alone.

A 2024 validation of the Cannabis Use Disorders Identification Test-Revised reported good discriminative accuracy in young adults, with an area under the curve of 0.84 and, at a cutoff of 9, sensitivity of about 88 percent and specificity of about 70 percent (Coelho et al., 2024). The work addressed a real gap: while alcohol screening instruments such as the AUDIT are well established, cannabis-specific tools have been less thoroughly evaluated despite rising clinical demand as cannabis legalization expands. For clinicians administering computerized assessment batteries, the availability of validated substance-specific instruments allows for more targeted assessment that can identify patterns a global severity measure may miss.

How Accurate Is Self-Report? The Foundation the CASA Rests On

Every self-report instrument, computerized or not, rests on a single assumption that this course takes seriously through its attention to response bias: that what the client reports bears a dependable relationship to what the client has actually done. It is worth knowing how well that assumption holds, because the answer is more reassuring, and more conditional, than either the skeptic or the optimist expects.

The most comprehensive evidence comes from a 2023 systematic review and meta-analysis that pooled 207 studies comparing self-reported illicit drug use against biological samples such as urine, hair, and blood. Overall agreement between what people said and what the biological testing showed ranged from good to excellent, above 0.79, which means that under most conditions self-report is a genuinely usable source of clinical data rather than the unreliable guesswork it is sometimes assumed to be (Bharat et al., 2023). This is the empirical warrant for instruments like the CASA. People, on the whole, tell the truth about their substance use often enough that a well-designed self-report instrument yields meaningful information.

The same meta-analysis, however, identified a condition that sharply changes the picture and that has direct practical implications. Agreement between self-report and biological testing was substantially higher when participants had been informed that biological testing would occur, with a diagnostic odds ratio of 2.91 (95 percent confidence interval 1.25 to 6.78). In plain terms, people report their use more accurately when they believe it can be verified. This is not a reason to distrust self-report. It is a reason to understand the conditions that improve it, and it validates the CASA course's emphasis on measuring and accounting for response bias rather than pretending it does not exist. The client's belief about whether a report can be checked is itself part of the assessment context, and a clinician who understands this can structure the assessment, honestly and without deception, in ways that encourage accurate disclosure.

The practical takeaway for the counselor is a calibrated confidence. Self-report is good enough to build on, better when the client has reason to believe it matters and can be corroborated, and always strengthened by the collateral information, observation, and, where appropriate, biological confirmation that this course teaches clinicians to integrate. Treating a client's self-report as neither gospel nor fiction,

but as good evidence to be weighed alongside other evidence, is exactly the stance the data supports.

It also helps to understand why self-report goes wrong when it does, because the causes are not uniform and each points to a different remedy. Deliberate concealment, the client who minimizes to avoid a legal or custody consequence, is only one mechanism, and often not the most common. Honest forgetting accounts for a great deal of underreporting, especially for use that is frequent, distant in time, or occurred during intoxication that blurred the memory itself. Shame drives underreporting of the most stigmatized substances and behaviors even when no external consequence is at stake. And simple misunderstanding of a question, particularly one using clinical language a client does not share, produces error that looks like evasion but is really a failure of communication. A clinician who can tell these apart responds to each differently, corroborating where concealment is likely, anchoring recall to concrete events where memory is the issue, softening the interpersonal climate where shame is the barrier, and rewording where comprehension has failed.

This is where a computerized instrument and a skilled interview complement rather than compete with each other. The instrument delivers every question in the same words to every client, which removes the interviewer variability that can itself distort responses, while the follow-up conversation repairs the misunderstandings and probes the gaps that a fixed instrument cannot. The CASA course's insistence on measuring response bias rather than assuming its absence is, in this light, simply good science: it treats the accuracy of self-report as an empirical property to be assessed in each case rather than a constant to be taken for granted.

Computer Versus Clinician: Does the Mode of Administration Matter?

The central premise of the CASA is that a computer can administer a substance abuse assessment, and the natural question is whether computer administration produces different, or better, information than a clinician asking the same questions. Recent evidence suggests that for most substances the two methods agree closely, while for the most sensitive disclosures the computer may actually draw out more.

A 2024 study had 588 participants complete assessments of their substance use by two methods, a semi-structured interview with a clinician and a computerized self-administered questionnaire, allowing a direct within-person comparison. Agreement between the two methods was moderate to strong for most substances, with Cohen's kappa values of .70 to .88 for alcohol, .87 to .92 for cannabis, .81 to .89 for cocaine, and .90 to .92 for heroin. For nonmedical use of prescription painkillers, however, agreement was only weak to moderate, .55 to .71, and the computerized self-administered questionnaire captured a higher prevalence of use, a difference of 2.4 percentage points (Gorfinkel et al., 2024).

That pattern is clinically meaningful and fits a long-standing observation about self-administered assessment. For the most stigmatized behavior in the set, misuse of prescription opioids, respondents disclosed more to the computer than to a person sitting across from them. The computer's impersonality, sometimes seen as a limitation, becomes an advantage precisely where shame and social desirability most distort face-to-face disclosure. This is a direct empirical endorsement of the CASA's core design premise: a standardized, self-administered format does not merely save clinician time, it can elicit sensitive information that an interview suppresses.

The lesson is not that the computer replaces the clinician. The high agreement across most substances means the two methods are largely interchangeable for many purposes, and the interview retains advantages the computer cannot match in following up, clarifying, and observing. The lesson is that the mode of administration is itself a clinical variable. A counselor who understands that a self-administered instrument may surface disclosures an interview would miss can use both deliberately, letting the instrument open a door that the subsequent conversation walks through.

This has a concrete workflow implication that many settings get backwards. Where the sequence allows it, having the client complete a self-administered instrument before the clinical interview, rather than after or instead of it, tends to produce the fullest picture. The instrument captures the sensitive disclosures the client may be reluctant to volunteer face to face, and the clinician then enters the interview already knowing where to look, able to explore a positive item with curiosity rather than having to fish for it blind. The client who has already acknowledged prescription opioid misuse to the computer has, in effect, made the first admission easier, and the conversation can move directly to what the use means and what to do about it.

The mode of administration also interacts with the justice context in which the CASA is often used. A client who fears that anything said aloud to a clinician will travel further may disclose more readily to a standardized instrument whose handling and confidentiality feel more predictable, or, conversely, may trust a person more than a machine whose data trail he cannot see. Neither reaction is universal, which is exactly why the clinician should remain alert to how a given client responds to each mode rather than assuming that the computer is always more or always less disarming. The instrument is a tool whose effect on disclosure depends on the client's situation, and reading that interaction is part of the assessment itself.

Reading the Numbers: Sensitivity, Specificity, and Base Rates

This course trains clinicians to use a specific instrument, but the deeper competence it points toward is the ability to judge any assessment tool on its merits. That judgment rests on a handful of concepts every practitioner who deploys a screening or assessment instrument should understand, because a tool used without understanding its operating characteristics can mislead as easily as it informs.

Sensitivity is the proportion of people who truly have the condition that the instrument correctly identifies, and specificity is the proportion of people who truly do not have it that the instrument correctly clears. The two trade off against each other: lowering a cutoff score to catch more true cases inevitably flags more false ones. A 2020 systematic review conducted for the US Preventive Services Task Force, pooling 99 studies with more than 84,000 participants, found that among adults the sensitivity of substance use screening tools ranged from 0.71 to 0.94 and specificity from 0.87 to 0.97 (Patnode et al., 2020). Those are respectable numbers, but the range itself is the point. No instrument is perfect, and the same tool performs differently across populations and cutoffs.

Instrument-level validation shows how these properties vary by substance within a single tool. A 2016 validation of a widely used brief screener in 2,000 primary care patients found sensitivity of 0.93 and specificity of 0.87 for tobacco, but sensitivity of only 0.74 for alcohol and 0.82 for marijuana at the same threshold (McNeely et al., 2016). A tool can be excellent for one substance and merely adequate for another, which is why a clinician needs to know an instrument's performance for the specific

substance in question rather than trusting a single overall reputation.

The concept that most often trips up practitioners is the effect of base rates on predictive value. When a condition is rare in the population being screened, even a very accurate test produces many false positives relative to true ones, because there are so many more people without the condition for the specificity error to act on. This is why a positive screen is a signal to assess further, not a diagnosis, and why the CASA and instruments like it are properly understood as the front end of an assessment process rather than its conclusion. The practitioner who grasps sensitivity, specificity, and base rates can interpret any instrument's output intelligently, neither overreacting to a positive screen nor dismissing a tool because it occasionally errs.

Two further properties deserve a place in the practitioner's working vocabulary because they translate the abstract numbers into what a given result actually means for the person in the room. Positive predictive value is the probability that a client who screens positive truly has the condition, and negative predictive value is the probability that a client who screens negative truly does not. Unlike sensitivity and specificity, which are properties of the instrument, these values shift with the base rate of the condition in the population being screened. The same instrument that yields a highly trustworthy positive result in a specialty addiction clinic, where the condition is common, will yield many more false positives when applied to a general population where the condition is rare. This is why a tool validated and useful in one setting can mislead in another, and why the CASA course's attention to the population an instrument was built for is not a technicality but a safeguard.

Reliability sits alongside validity as the other pillar of a trustworthy instrument. An instrument is reliable to the extent that it produces consistent results, across administrations, across items measuring the same construct, and across different people scoring it. A computerized instrument has a built-in advantage in one form of reliability, since it administers and scores identically every time, eliminating the drift and inconsistency that creep into hand-scored or interviewer-administered measures. But consistency is not the same as accuracy: an instrument can be perfectly reliable and still measure the wrong thing, or the right thing in the wrong population. The competent practitioner holds both ideas at once, asking not only whether an instrument gives stable results but whether those stable results actually correspond to the clinical reality they are taken to represent.

A further concept that helps a clinician reason past a single cutoff is the likelihood ratio, which expresses how much a given result should shift one's estimate of whether the condition is present. A positive likelihood ratio combines sensitivity and specificity into a single number describing how much more likely a positive result is in someone who has the condition than in someone who does not, and a negative likelihood ratio does the same for a negative result. The practical value of thinking this way is that it forces the clinician to combine the test result with what was already known about the client before the test, the pretest probability, rather than treating the screen in isolation. A positive screen in a client with an extensive history of use and obvious current impairment means something different from the identical positive screen in a client with no history and no other signs, and a clinician who reasons in terms of how much a result moves the probability, rather than treating a cutoff as a switch, will make better use of any instrument. This is the formal expression of a clinical intuition good assessors already have: a test result is evidence to be weighed against the rest of the picture, not a verdict that overrides it.

It is also worth distinguishing the two ways an instrument can be built and validated, because they answer different questions. A screening instrument is designed to be brief and highly sensitive, tuned to avoid missing cases even at the cost of some false positives, because its job is to decide who needs a

closer look. A diagnostic or severity instrument, of which the CASA is an example, is designed to characterize a problem already suspected, trading some brevity for the depth needed to guide a treatment plan. Confusing the two, using a screen as if it were a diagnosis, or expecting a diagnostic instrument to be as quick as a screen, is a common and consequential error. Knowing which kind of instrument is in hand, and therefore what question it can legitimately answer, is part of the basic competence this course cultivates.

Screening Is Not Assessment: The Limits of Brief Tools

One of the most important distinctions this course implicitly draws is between screening, a quick determination of whether a problem may be present, and assessment, the fuller evaluation of its nature and severity that guides treatment. Recent evidence has clarified both what brief approaches can accomplish and where they reach their limits, and the honest picture is more mixed than enthusiasm for universal screening sometimes admits.

For alcohol, the evidence supporting brief intervention is strong. A 2018 Cochrane review pooling 69 studies and more than 33,000 participants found that people who received a brief intervention in primary care consumed less alcohol a year later than those who received minimal or no intervention, a mean difference of about 20 grams per week (Kaner et al., 2018). Notably, extended intervention added little over the brief version, suggesting that a short, well-delivered contact captures most of the available benefit for alcohol.

For illicit and prescription drug use, the same approach has fared much worse in rigorous trials, a contrast every practitioner should know. A 2014 randomized trial of 528 primary care patients found that brief intervention did not reduce drug use at six months, whether delivered as a brief negotiated interview or a motivational adaptation, with the authors explicitly concluding that the results did not support widespread implementation of drug screening and brief intervention in that setting (Saitz et al., 2014). The referral-to-treatment component fares no better on its own. A 2015 meta-analysis of nine randomized trials found no evidence that brief alcohol intervention increased receipt of specialty services, with a pooled risk ratio of 1.08 that did not reach significance (Glass et al., 2015).

For a clinician working with a computerized assessment instrument, this literature carries a sobering and useful message. A tool can accurately identify a problem and still not, by itself, solve it. Identifying drug use through screening is only valuable if it connects to an assessment and a treatment response that actually work, and the weak link is often precisely the handoff from detection to care. This validates the CASA course's emphasis on assessment as the beginning of a clinical process rather than an end in itself, and it cautions against the assumption that simply screening more people will improve outcomes. The value of assessment is realized only when it feeds a treatment plan that the client actually receives.

The alcohol-versus-drug contrast in this evidence deserves a closer look, because it is easy to misread. That brief intervention reliably reduces drinking but has not shown the same effect on illicit and prescription drug use does not mean drug problems are untreatable. It means that a brief conversation, adequate to nudge a risky drinker toward moderation, is generally not enough to move an established drug problem, which more often reflects a substance use disorder requiring genuine treatment rather than a brief nudge. The clinical implication is one of matching intensity to severity, the same principle that governs treatment more broadly. A positive screen for hazardous drinking may

warrant a brief intervention delivered on the spot. A positive screen for drug use more often warrants a fuller assessment and a referral to treatment, precisely because the brief option that works for alcohol does not carry the same weight here.

That places extra importance on the step the evidence identifies as weakest, the referral itself. If brief intervention does not reliably move drug use and does not reliably increase entry into specialty care, then the burden of turning a positive screen into a real clinical benefit falls on the quality of the assessment and the strength of the connection to treatment that follows it. For the practitioner, this means treating the moment after a positive screen not as a box checked but as the beginning of the actual work: a careful assessment of severity and context, a specific and warm handoff rather than a phone number, and a follow-up that confirms the client actually arrived. Screening that is not backed by this downstream effort generates findings without benefit, which is worse than not screening at all because it creates the appearance of care without its substance.

There is a constructive reading of this evidence as well, one that points toward what a computerized assessment instrument can contribute even where a brief conversation falls short. The trials that found brief intervention wanting for drug use were testing a very light touch, a single short conversation, against established problems that need more. What the same body of evidence supports is a stepped approach in which the depth of the response is matched to what the assessment reveals: brief advice for the client whose screen suggests risky but not disordered use, a fuller assessment and structured treatment for the client whose screen and follow-up point to a disorder. A well-designed assessment instrument is precisely the tool that sorts clients into those tiers, distinguishing the person who needs a nudge from the person who needs a program. Used this way, assessment does not merely detect; it triages, and the value of accurate triage grows as resources tighten, because it directs the most intensive and expensive care toward the clients most likely to need and benefit from it.

This reframes the CASA course's emphasis on severity measurement as more than a technical nicety. Measuring how severe a problem is, rather than merely whether some problem exists, is what makes matched, stepped care possible in the first place. A binary answer to the question of whether a client uses drugs supports only a binary response, treatment or no treatment, whereas a graded measure of severity supports the graded response the evidence favors. The instrument that captures severity, and captures it reliably enough to trust, is doing the work that turns a screening result into a treatment decision, which is exactly the bridge from detection to care that the trials identify as the field's persistent weak point.

Assessment in the Justice System

Because the CASA was built for justice-involved populations, the state of assessment in correctional settings is directly relevant to its use. This is a population in which valid assessment is both especially important and especially difficult, important because the stakes for the individual and the public are high, difficult because the setting itself gives clients powerful reasons to shade their answers.

The most widely used substance screening instrument developed specifically for this population has been updated to reflect current diagnostic standards. A 2018 study evaluated the TCU Drug Screen 5 with 305 justice-involved adult men and 310 justice-involved juvenile men and found that the updated instrument performed comparably to its predecessor while conforming to DSM-5 criteria and adding

severity specifiers. The DSM-5 version detected significantly more cases of substance use disorder, the majority of which corresponded to mild disorder (Knight et al., 2018). The practical implication is that the diagnostic framework an instrument uses shapes who gets identified, and a shift toward broader DSM-5 criteria brings more people, particularly those with milder problems, into view, which has consequences for how a system allocates its limited treatment resources.

The broader purpose of assessment in this setting is to inform decisions that reduce reoffending, and a 2025 systematic review of psychosocial determinants of recidivism among justice-involved people with substance use histories synthesized 30 studies and framed recidivism as a fundamentally psychological and social problem rather than a purely individual failing, noting that co-occurring mental health conditions particularly impede reintegration (Syasyila et al., 2025). For assessment practice, this reinforces a theme running through the CASA course and this supplement: a substance abuse assessment in a justice setting cannot be a narrow measure of drug use alone. It must situate the substance use within the mental health, criminal thinking, and social context that together determine whether a person returns to custody, because a plan built on drug use severity alone addresses only one strand of an interwoven problem.

The justice setting also intensifies the response-bias challenge that sits at the heart of the CASA course. A client being assessed while incarcerated, on probation, or facing sentencing has concrete, rational incentives to shape the picture he presents, sometimes minimizing use to appear low-risk, sometimes exaggerating it to qualify for a diversion program that beats prison. This does not make assessment futile, but it does mean the clinician must hold the results with an awareness of the incentives operating on the client, corroborate where the stakes are high, and be explicit with the client about how the information will and will not be used. Paradoxically, honesty about the limits of confidentiality in a justice setting often improves the data, because a client who understands exactly what is at stake can make an informed choice to be truthful rather than guessing and hedging.

There is also a systems-level use of assessment that the justice context makes vivid. Because valid screening determines who is identified as needing treatment, the instrument and the cutoff a system adopts effectively set the size and composition of the population it will try to serve. A broader instrument that captures milder cases expands the treatment population and stretches scarce resources; a narrower one conserves resources but misses people who might have benefited from early intervention. These are not neutral technical choices but allocation decisions with real consequences for individuals and public safety, and they should be made with an understanding of the assessment science rather than by default or convenience. The counselor who understands what an instrument does is positioned to inform those decisions rather than simply inherit them.

Screening Across the Lifespan: Assessing Adolescents

Although the CASA was designed for adults, the principles of computerized, standardized assessment extend across the lifespan, and adolescent screening is an area where brief validated instruments have advanced considerably. Assessing young people carries its own demands, since the thresholds, substances, and developmental considerations differ from those in adults, and using an adult instrument with an adolescent can produce misleading results.

A 2023 study directly compared three brief adolescent screening tools in 798 adolescents with a

mean age of about 15, evaluating each against a diagnostic reference standard. All three performed well, with areas under the curve ranging from 0.89 to 1.00 for nicotine, alcohol, and cannabis use disorders, indicating that brief, even single-question, screening approaches can identify adolescent substance use disorders with high accuracy (Levy et al., 2023). This is an encouraging finding for busy clinical settings, since it means a valid screen need not be long.

A very large validation of another widely used adolescent screen underscores both the promise and the trade-offs. In a statewide sample of 132,555 adolescents, the standard version of the instrument identified heavy cannabis use with sensitivity of 82.0 percent and specificity of 83.7 percent, while a modified version raised sensitivity to 92.7 percent at the cost of lower specificity of 75.5 percent (Lee et al., 2021). That trade-off is the sensitivity-specificity balance from the earlier discussion made concrete: a program that would rather miss fewer users can adopt the more sensitive version, accepting that it will also flag more adolescents who turn out not to have a problem and who then require a follow-up assessment to sort out. Choosing where to set that balance is a clinical and programmatic decision, not a purely technical one, and it should be made deliberately rather than inherited by default.

Adolescent assessment carries developmental considerations that distinguish it from adult work in ways that matter for how a computerized instrument is used. Patterns of use that would signal an established disorder in an adult may reflect experimentation in an adolescent, and the same quantity of a substance affects a developing brain differently, so the meaning of a given score is not fixed across ages. At the same time, adolescence is the period when most substance use disorders begin, which makes early identification genuinely consequential and raises the cost of missing a case. A self-administered instrument can be especially valuable with adolescents, who may disclose to a screen behavior they would not admit to a parent in the next room or to a clinician who feels like an authority figure, but the same privacy concern means the clinician must attend carefully to the confidentiality of the administration and be clear with the young person about what will be shared with parents or the referring system.

The role of the family and the referral pathway also shapes adolescent assessment in a way it rarely does for adults. Young people are usually brought to assessment by someone else, a parent, a school, a court, and arrive with the ambivalence that external pressure produces. The clinician who treats the screen as the opening of a conversation the adolescent has a stake in, rather than as a verdict delivered to the adults in charge, is more likely to obtain honest answers and to convert a mandated contact into something the young person will engage with. The instrument identifies; the relationship determines whether the identification leads anywhere.

Fair Assessment: Cultural and Linguistic Validity

An assessment instrument is only as good as its validity for the specific person in front of the clinician, and an instrument validated on one population may not measure the same construct in the same way in another. This concern, captured in the technical idea of measurement invariance, has moved to the center of assessment science, and it matters greatly for a field that serves clients across many cultures, languages, and identities.

Encouragingly, the most rigorous recent work suggests that well-constructed instruments can perform equitably across diverse groups. A 2022 study of an alcohol symptom checklist administered to

11,464 primary care patients who had screened positive for high-risk drinking examined whether the instrument's items functioned differently across demographic groups. It found that differential item functioning, the technical signature of an item behaving unfairly across groups, had minimal impact on the measurement of alcohol use disorder severity, with differences attributable to it never exceeding a fraction of a single symptom (Hallgren et al., 2022). In other words, the instrument measured the same thing in the same way across age, sex, race, and ethnicity.

The point extends across languages as well. A 2023 study of the Alcohol Use Disorders Identification Test analyzed responses from 62,943 people across 21 countries and 14 languages and found that the instrument achieved high levels of measurement invariance across countries and languages, and meaningful invariance across genders and sexual orientations, supporting valid comparisons across these groups (Horvath et al., 2023). For the practitioner, these findings are reassuring but not a license for complacency. They show that fair measurement is achievable, and they also imply its opposite: that an instrument not tested for invariance across the groups a clinician serves cannot be assumed to be fair. The responsible use of any assessment tool, including a computerized one, includes knowing whether it has been validated for the populations it will be used with, and treating cultural and linguistic fit as a psychometric requirement rather than an afterthought.

Fair assessment extends beyond the statistical property of measurement invariance into the concrete circumstances of administration. A translated instrument is not automatically a valid one, because a phrase that carries a precise clinical meaning in one language may land differently in another, and a construct such as hazardous drinking is understood against cultural norms that vary widely in what counts as normal, heavy, or shameful. A client completing an instrument in a second language, or in a cultural frame the instrument did not anticipate, may answer accurately to the question as he understands it while the clinician reads the answer through a different lens entirely. The computerized format helps with consistency but does nothing on its own to bridge this gap, which remains the clinician's responsibility to notice and repair.

There is also an equity dimension to the digital format itself that the responsible practitioner cannot ignore. A computerized instrument assumes a baseline of comfort with the technology, adequate literacy, and, for remote administration, access to a device and a connection, and each of these assumptions fails for some of the clients most in need of assessment. An older client, a client with limited schooling, or a client without reliable technology may be disadvantaged by a format that serves others well, and treating everyone identically through the same computerized instrument can produce unequal results rather than equal ones. Genuine fairness sometimes requires offering an alternative mode, providing support with the technology, or allowing more time, so that the instrument measures the client's substance use rather than the client's fluency with a screen. Equity in assessment is not achieved by uniformity alone; it is achieved by ensuring that the method of measurement does not itself become a source of error that falls hardest on the already disadvantaged.

From Snapshot to Trajectory: Measurement-Based Care

Perhaps the most important shift in assessment thinking since the CASA was developed is the move from assessment as a one-time event to assessment as an ongoing process. The recovery capital finding cited earlier, that change during treatment predicted completion better than baseline status, points directly at this idea, and a larger body of evidence now supports it under the name measurement-based care: the routine, repeated administration of brief measures to track a client's progress and to feed that information back into treatment decisions.

The evidence that this repeated measurement improves outcomes is substantial, if drawn largely from the broader behavioral health field. A 2021 multilevel meta-analysis of 58 studies, encompassing 110 effect sizes and nearly 22,000 patients, found that giving clinicians progress feedback produced a small but reliable improvement in symptom reduction, with an effect size of 0.15, and a favorable effect on dropout, with an odds ratio of 1.19. The benefit was somewhat larger for clients who were not on track, precisely the clients a clinician most needs to catch (de Jong et al., 2021). The mechanism is intuitive: measurement makes deterioration visible while there is still time to respond, and it counters the well-documented tendency of clinicians to overestimate how well their struggling clients are doing.

Despite this evidence, measurement-based care remains strikingly underused. A 2019 review found that typically fewer than 20 percent of behavioral health practitioners integrate routine measurement into their practice (Lewis et al., 2019). For a field that has invested in developing validated assessment instruments, this is a notable gap between what is known and what is done. For the practitioner trained in a tool like the CASA, the implication is that the instrument's value multiplies when it is used repeatedly rather than once. An intake assessment establishes a baseline; the same measures readministered over the course of treatment turn assessment from a photograph into a film, showing not just where the client started but which way the client is moving and whether the treatment is working. That trajectory, far more than any single score, is what should drive clinical decisions.

Putting measurement-based care into practice requires a few deliberate choices that determine whether it helps or merely adds burden. The measures used for repeated administration must be brief enough to complete often without exhausting the client or the clinician, which is exactly where short validated instruments and computerized administration earn their value, since a tool that scores itself instantly and displays a trend removes most of the friction that causes clinicians to abandon routine measurement. The results have to be fed back promptly, to the clinician and often to the client, because feedback delivered weeks later cannot inform a decision that needed making today. And the whole practice has to be framed for the client as a shared tool for tracking his own progress rather than as surveillance or a test he can pass or fail, so that it strengthens the alliance rather than straining it.

Done this way, repeated measurement changes the texture of the clinical relationship in a manner that suits the CASA course's philosophy. It makes progress visible and therefore reinforceable, giving a client concrete evidence of movement that motivation alone cannot supply, and it catches stagnation or deterioration early, while there is still room to change course. It also disciplines the clinician's own judgment against the natural optimism that leads us to see improvement where the data show none. The instrument, used once, answers the question of where a client stands at intake. Used repeatedly, it answers the more important question of whether what the clinician is doing is working, and that is the question on which outcomes ultimately turn.

Assessment at a Distance: Telehealth

The COVID-19 pandemic forced a rapid, field-wide experiment in delivering substance use services, including assessment, at a distance, and the question of whether remote assessment and treatment retain their validity and effectiveness moved from a niche concern to a central one almost overnight. The early evidence is broadly reassuring and worth knowing, because remote delivery is now a permanent part of the landscape rather than a temporary expedient.

A 2022 review of addiction treatment and telehealth identified eight studies comparing telehealth with in-person addiction treatment and found that seven of them showed telehealth to be as effective, though not more effective, than in-person care on measures of retention, therapeutic alliance, and substance use (Mark et al., 2022). For a computerized assessment instrument, whose administration was already partly decoupled from the physical presence of a clinician, this transition is a natural extension. An instrument designed to be self-administered on a computer is, in principle, well suited to remote deployment, and the broader telehealth evidence suggests that the therapeutic relationship and clinical outcomes need not suffer when services move online.

The applied caution is that remote administration introduces its own considerations that the responsible practitioner must manage: confirming the client's identity, ensuring privacy on the client's end where a family member or, in a justice context, an official may be within earshot, providing technical support so that a struggling client is not defeated by the technology rather than the questions, and preserving the human connection that keeps clients engaged. Handled well, remote assessment extends the reach of validated instruments to clients who could not easily attend in person, including many justice-involved and rural clients for whom access has always been a barrier. Handled carelessly, it can compromise both the validity of the data and the relationship on which treatment depends. The technology is a tool whose value still rests, as this course insists, on the competence and judgment of the clinician using it.

Remote administration also changes the response-bias calculus in ways worth anticipating. A client completing an assessment from home may be more candid in the comfort of familiar surroundings, freed from the self-consciousness of a clinic, or may be less candid because a partner, parent, or, in a supervised setting, an officer is present but unseen by the clinician. The clinician conducting a remote assessment cannot survey the room and so must ask directly about privacy, confirm that the client is free to answer honestly, and remain alert to the subtle signs, a lowered voice, a guarded answer, a glance off-camera, that someone else may be shaping the responses. These are the remote equivalents of the observational cues an in-person clinician reads automatically, and attending to them is part of preserving the validity of the data.

For justice-involved and rural clients in particular, remote assessment can be the difference between being assessed and being missed entirely, which is a substantial equity gain given how access barriers have always fallen hardest on these groups. The appropriate posture is therefore neither to resist remote assessment as inherently inferior nor to embrace it as costless, but to deploy it deliberately, with the safeguards that protect both the accuracy of the information and the relationship through which treatment happens. The evidence that telehealth can match in-person care is an invitation to extend the reach of good assessment, not a license to assume that moving a process online leaves everything else unchanged.

The Frontier: Machine Learning and Language Technology

If computerized assessment represented the frontier when the CASA was developed, the current frontier lies in machine learning and natural language processing, technologies that attempt not merely to administer a fixed instrument but to detect patterns in clinical data that a human reviewer might miss. This work is early, but it is advancing quickly, and it is worth understanding both for its promise and for the caution it demands.

A 2022 study applied natural language processing and machine learning to electronic health records to identify people who inject drugs, a population notoriously undercounted by standard diagnostic codes. The best machine learning model achieved an F-score of 0.905, with sensitivity of 92.6 percent and specificity of 95.4 percent, dramatically outperforming the best approach based on diagnostic codes, which reached an F-score of only 0.592 (Goodman-Meza et al., 2022). In other words, a model reading the free text of clinical notes identified a hidden population far more accurately than the structured codes clinicians routinely rely on. The implication for assessment is significant: much of what matters clinically is recorded in narrative rather than in checkboxes, and technologies that can read narrative may surface information that structured instruments alone would leave buried.

These tools are not a replacement for clinical assessment, and it would be a serious error to treat them as one. They are trained on existing records that carry their own biases, they can fail in ways that are hard to detect, and they raise real questions about privacy, consent, and accountability that the field has only begun to address. But they represent the same underlying trajectory the CASA embodies: the use of technology to make assessment more systematic, more efficient, and more capable of seeing what unaided human review misses. For the practitioner, the appropriate stance is informed engagement, neither uncritical enthusiasm nor reflexive dismissal, and an insistence that any such tool be judged by the same standards of validity, fairness, and transparency that this course applies to assessment instruments generally.

The specific hazards of these technologies follow directly from how they are built, and a practitioner does not need to be a data scientist to grasp them. A model learns from the records it is trained on, so any bias in those records, the historical under-identification of certain groups, the uneven documentation of certain behaviors, is learned and then reproduced at scale, wearing the appearance of objectivity. A model can also be confidently wrong in ways that are hard to detect, because unlike a validated questionnaire whose logic is transparent, a complex model's reasoning is often opaque even to its designers. And a system that ingests the free text of clinical notes raises questions of consent and privacy that the client, who wrote nothing and consented to nothing of the kind, never had a chance to weigh. None of this argues for refusing the technology, but all of it argues for holding it to a higher standard of scrutiny precisely because its authority is greater and its workings less visible.

The connecting thread from the CASA to these emerging tools is that automation raises the stakes of both accuracy and accountability. The more an instrument does on its own, and the more authoritative its output appears, the more important it becomes that a competent human remains responsible for interpreting it, questioning it, and answering for the decisions it informs. Technology has repeatedly made assessment more systematic and more efficient across the decades this course spans, and it will continue to. What it has never done, and cannot do, is relieve the clinician of the judgment that turns a measurement into a responsible clinical decision. That responsibility is exactly where the CASA course locates the work, and it does not move.

From Data to Decision: Integrating Assessment with Clinical Judgment

Across every topic in this supplement runs a single thread that the CASA course places at its center: an assessment instrument, however sophisticated, produces data, and data is not yet a decision. The gap between the two is bridged by clinical judgment, and the evidence assembled here defines what informed judgment requires rather than diminishing its importance.

Informed judgment means holding a client's self-report as good but conditional evidence, strengthened by collateral information and, where appropriate, biological confirmation, and understood in light of the conditions that make disclosure more or less accurate. It means knowing an instrument's sensitivity, specificity, and validated populations well enough to weigh its output appropriately, treating a positive screen as a prompt to look further rather than as a verdict. It means recognizing that identifying a problem is only the first step, and that the value of the finding depends on connecting it to an assessment and a treatment response that actually work. It means reading assessment as a trajectory rather than a snapshot, so that the direction of change informs the plan. And it means situating substance use within the mental health, criminal thinking, cultural, and social context that determine what the number actually means for this person.

None of this is a retreat from the standardized, technology-assisted assessment the CASA represents. It is the fulfillment of it. Standardized instruments exist precisely so that clinical judgment can operate on reliable, comparable information rather than on impression alone, and the counselor who understands both the power and the limits of the instrument is the one who turns its output into sound clinical decisions. The instrument gathers the evidence; the clinician weighs it, integrates it, and acts.

A useful way to hold this balance is to think of an assessment instrument as one witness among several rather than as the judge. A single instrument, however well validated, offers one view of the client taken at one moment through one method, and like any single witness it can be accurate, incomplete, or occasionally misleading. The client's own account across the interview, the observations of the clinician, the collateral report of family or referral source, the client's history, and where available biological confirmation are other witnesses, and the clinician's task is to weigh their testimony together rather than to defer automatically to whichever one produced a number. When the witnesses agree, confidence is warranted. When they conflict, the disagreement is itself information, a signal to look more closely rather than to pick the most convenient answer, and often the discrepancy points directly at what matters most in the case.

This is also the safeguard against the particular danger of a precise-looking result, which is that its very precision invites the clinician to stop thinking. A score carried to a decimal place can feel more authoritative than a client's hesitant account, even when the account is the more accurate of the two, and the discipline of treating the instrument as one input rather than the conclusion is what keeps the number in its proper place. The CASA course's framing of assessment as the servant of clinical judgment, not its replacement, is precisely the habit of mind that lets a clinician use a powerful instrument without being used by it.

The Ethics and Competence of Assessment

Finally, the growing power of assessment technology raises the stakes of the ethical and professional obligations this course treats as foundational. A tool that produces a precise-looking number invites a false confidence, and the more automated and authoritative an instrument appears, the more important it becomes that the clinician using it understands what it can and cannot support.

Competence, in this light, is not optional expertise but an ethical requirement. A clinician who administers an instrument without understanding its operating characteristics, its validated populations, and its limits can do real harm, misclassifying a client, misdirecting treatment, or lending unwarranted authority to a flawed result. The evidence in this supplement, that instruments vary widely in quality, that they perform differently across substances and populations, that screening does not guarantee effective referral, and that even accurate detection must connect to effective care, is a sustained argument that the person matters more than the tool. The instrument is only as good as the judgment guiding its use.

Alongside competence sit the enduring obligations of informed consent, honesty about how assessment information will be used, particularly in justice settings where the results may inform decisions with serious consequences for the client, and respect for the client as a person rather than a data point. A computerized assessment can make a client feel processed rather than seen, and part of the clinician's work is to ensure that the efficiency of the instrument does not crowd out the human encounter in which trust, and therefore honest disclosure, is built. The CASA course's insistence that assessment serves the client, and that the clinician remains responsible for how the instrument is used, is not a dated sentiment. In an era of increasingly powerful assessment technology, it is more essential than ever.

The justice context in which the CASA is frequently used sharpens each of these obligations. When an assessment result may inform decisions about sentencing, diversion, custody, or supervision, the stakes of an error rise well beyond the clinical, and the client's interest in how the information will be used becomes acute. Honesty about the purpose and destination of the assessment is not merely courteous but ethically required, because a client who is misled about what an assessment is for cannot meaningfully consent to it, and because the appearance of a therapeutic encounter that is in fact an evaluation for the court can corrode the trust on which any future treatment depends. The competent clinician in this setting is explicit about the dual role, careful not to let the efficiency of a computerized instrument substitute for the candor the situation demands, and mindful that a number entered into a justice record can follow a person for years.

Underlying all of these obligations is a stance toward the client as a person rather than a source of data, and it is a stance the technology can quietly erode if the clinician lets it. An instrument that produces a clean profile can tempt a busy clinician to treat the profile as the client, to respond to the scores rather than to the human being who produced them. Resisting that drift, using the instrument to inform the encounter rather than to replace it, and ensuring that the client leaves the assessment feeling understood rather than merely processed, is not a soft addition to the technical work. It is part of what makes the technical work valid, because the trust that produces honest disclosure is built in exactly that human encounter. The most sophisticated assessment technology in the world still depends, in the end, on a client willing to tell the truth to someone he believes is genuinely there to help, and creating the conditions for that willingness remains the clinician's irreducible responsibility.

—————**Research Report**—————
**The Computerized Assessment of Substance Abuse
(CASA):Results from the Demonstration Project**

This report is also available in French. Ce rapport est également disponible en français. Veuillez vous adresser à la Direction de la recherche, Service correctionnel du Canada, 340, avenue Laurier ouest, Ottawa (Ontario) K1A 0P9. Should additional copies be required they can be obtained from the Research Branch, Correctional Service of Canada, 340 Laurier Ave., West, Ottawa, Ontario, K1A 0P9.

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The Computerized Assessment of Substance Abuse (CASA):

Results from the Demonstration Project

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Executive Summary

Ensuring offenders receive the most effective treatment for their substance abuse problems is a major challenge for the Correctional Service Canada (CSC). To address this challenge, CSC includes standardized assessments in its service delivery process to ensure efficiency, consistency and a common language among service providers and clients. In addition, information from well-informed assessment is valuable for policy development and program refinement. This approach is consistent with recommendations from best practices literature.

In 1999, after consultations with operational staff and an international accreditation panel of experts, the Reintegration Programs Branch of CSC commenced development of a new assessment system to replace the cumbersome, lengthy and outdated Computerized Lifestyle Assessment Instrument (CLAI). The new instrument, called the Computerized Assessment of Substance Abuse (CASA), was developed, field tested and refined by the Addictions Research Centre. The 288-item, bilingual, audio-enhanced CASA was implemented in 2002 as a demonstration project at two regional intake units: Springhill and Millhaven Institutions.

The CASA was completed by 907 male offenders, admitted to federal custody between May 2002 and January 2004. The CASA assesses substance abuse in seven domains: 1) alcohol and 2) drug abuse severity, 3) patterns of use, 4) link to criminal behaviour, 5) parental substance abuse, 6) previous program participation; and 7) treatment readiness.

Substance abuse severity is assessed using standardized instruments, which include the Alcohol Dependence Scale (ADS), the Drug Abuse Screening Test (DAST), the Problems Related to Drinking Scale (PRD), the Severity of Dependence Scale (SDS) and the Michigan Alcoholism Screening Test (MAST). The ADS, DAST and PRD are currently used to determine what level of treatment intensity the offender should be assigned to. The SDS and MAST are being used for experimental purposes to

determine if they can improve on the quality of assessment. The Paulhus Deception Scales (PDS) is also incorporated into the CASA to measure the reliability of responding.

From the standardized assessment instruments used in the CASA it was determined that, of the offenders who completed the CASA, 31% had no substance abuse problems, 32% had a low level problem, 15% had a moderate problem, 16% had a substantial problem and 5% of this sample was assessed as having a severe substance abuse problem. The drugs used most often by the offenders during the 12-months before their arrest for the current offences included cannabinoids (52%), cocaine (26%), and opioids (13%). All other drugs accounted for less than 10% of the sample.

The results suggest that CASA accurately differentiates cases for referral to substance abuse programs. Offenders with increasing overall substance abuse severity levels as assessed by the CASA had more criminogenic need indicators identified in the Offender Intake Assessment (OIA), had more involved criminal histories as evidenced by higher static factor (risk) scores and were rated more likely to re-offend by the SIR-R Scale (Statistical Information on Recidivism Scale – Revised – an actuarial measure of risk to re-offend).

With respect to current offending, higher severity levels on the ADS and DAST were strongly associated with substance use and impairment at the time of offence, and an increased likelihood of offence-related cognitive impairment than offenders with lower severity levels. Exacerbated offence-related aggression was closely associated with alcohol impairment, but not drug impairment. It is not surprising then that violent offences were more closely linked to alcohol impairment than drug impairment. Property offences, on the other hand, were more closely associated with drug impairment.

Results from this research indicate that, while the majority of offenders responded reliably to the assessment questions, approximately 36% may have underestimated

their drug and alcohol problems as was evidenced by lower ratings on overall substance abuse severity for the offenders who produced PDS profiles suggesting a pattern of unreliable responding. Including a measure of response bias can serve to alert operational staff to this potential so that guided adjustments can be made to the results when necessary. When questionable results are indicated, it is recommended that staff rely on multi-method assessment approaches (e.g., reviewing collateral sources of information) to ensure assessment accuracy.

Lastly, offenders were generally positive in their evaluation of the CASA. They found the software simple to use and the content easy to understand. Of the 20% that listened to the computer read the questions and response choices, the majority better understood the content because of the audio delivery.

Additional research is needed to examine the utility of using the results from the PDS to make adjustments to the CASA results when there is evidence of unreliable responding, and to assess the impact of fully integrating the results from the Severity of Dependence Scale (SDS) and the Michigan Alcoholism Screening Test (MAST) in the program referral matrix. Other analyses involving the linking of substance abuse assessment results with other indicators, such as in-custody substance use and program engagement, will build on current knowledge concerning the determinants of post-release outcome. Lastly, future research on a national scale will be required to realize the potential benefits of fully integrating the CASA in the Service's correctional planning and treatment activities.

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Introduction

Assessment

Assessment has long been considered an important activity in the day-to-day management of offenders (Bonta, 2000). Over the last 20 years, it has evolved from a clinically-based, subjective process to one that involves a rigorous, evidence-based approach, designed to systematically identify factors which contribute to criminal behaviour (Andrews & Bonta, 1998). Once identified, these criminogenic needs can be addressed through relevant correctional programming.

Early assessment approaches emphasized a reliance on professional judgment, which was guided by informal, non-observable criteria. The decisions that were borne out of these first generation approaches were subjective and intuitive in nature, driven by feelings about a particular case rather than by empirically validated assessment methods. Second generation approaches relied on results from actuarial assessments that specifically targeted an offender's historical or static factors (i.e., criminal history). While an improvement over clinical judgment, these assessments failed to include other known correlates of criminal behaviour that are dynamic or changeable in nature (e.g., antisocial peer group, substance abuse, community functioning) (Andrews & Bonta, 1998).

With the introduction of third generation approaches, criminal justice systems began to recognize the utility of incorporating comprehensive, multi-dimensional, standardized assessments into their program delivery and decision making processes. These third generation assessments specifically examine the static (historical) and dynamic (need) factors associated with criminal behaviour for the purposes of matching an offender's static and dynamic needs to appropriate levels of programming. This systematic identification of criminogenic need is consistent with the principles of effective correctional treatment, which argue that

offenders who present with higher needs that are associated with criminal behaviour should be matched to more intensive and extensive services so that the probability of re-offence is diminished; low needs offenders require minimal to no treatment (Andrews & Bonta, 1998).

The emergence of best practices literature concerning the treatment of alcohol and illicit drug users has further strengthened the argument for standardized assessment (Cross & Sibley-Bowers, 2001; McMurrin, 2001; Miller & Rollnick, 1991). There is now general agreement in the field of addictions that a standardized assessment approach builds efficiency in the system, since only information that is required for programming decisions is gathered for each client. Standardized assessment approaches also ensure consistency or a common language among decision makers and stakeholders across the service delivery continuum. Clients and clinicians alike consider formal, empirically-based tools credible for program planning purposes. The sharing of assessment results also provides useful feedback to the client and enhances treatment-seeking behaviour by building motivation and a commitment to change in the client. Lastly, from a policy perspective, a database of standardized assessment results provides a means of informing best practices policy because this information can be readily transformed into knowledge about the population's characteristics, such as trends, profiles and outcomes.

Computerized Assessment

Recent advancements in computer technology, such as audio enhancement, have created additional opportunities for innovations in standardized assessment. The introduction of automated assessments has capitalized on the efficiencies and dynamic capabilities of the computer (Turner, Ku, Rogers, Lindberg, Pleck & Sonenstein, 1998). Computerized assessments are event driven and rely on an automated, computer-controlled flow of questions to deliver complex questionnaires within a simplified process. Respondents choose an answer on the computer screen (the event), which in turn automates a complex

(hidden) branching procedure that is responsible for sequencing subsequent relevant questions. Respondents only see or hear the relevant questions; all other questions are obscured from view. This is a marked improvement over pencil-and-paper questionnaires, which rely on conditional statements, additional instructions and branching statements that are often onerous, even for the literate respondent.

Moreover, research in this area has suggested that efficient, computerized assessment models have the added benefit of increasing the candidness of self-reported responses given by the subject because of a number of unique properties (Del Boca & Noll, 2000; Feigelson & Dwight, 2000). First, assessment items are answered with little or no assistance from the administrator, which greatly reduces the potential for interviewer influence. Second, as the respondent progresses through the assessment, questions and related response choices appear only as needed. In this way, responses are obscured from view and from the scrutiny of others during the assessment. Third, computer scoring and analysis algorithms create an impartial, non-judgmental evaluative process, which may in turn boost the candidness of self-report information. Lastly, computerized testing situations create an impersonal situation, free of social cues, where individuals can respond more candidly.

Development of the CASA

In 1990, the Correctional Service of Canada (CSC), in response to growing concern over the degree of alcohol and drug abuse among newly admitted offenders, established a policy framework that would facilitate the development of a new process to address the needs of this population (Robinson, Porporino & Millson, 1991). This framework included the development and implementation of a standardized intake assessment process for screening offenders for appropriate substance abuse programs. As a result, the self-administered Computerized Lifestyle Screening Instrument (CLSI) was introduced at two regional reception centres to test its ability to facilitate evidence-based program referrals. After several enhancements to the CLSI, the production version, called

the Computerized Lifestyle Assessment Instrument (CLAI), was nationally implemented.

Since the mid 1990s, information gleaned from the CLAI has informed the Offender Intake Assessment (OIA) process (CSC, 2003). The OIA involves the timely and systematic identification and analysis of critical static and dynamic factors that affect the safe and timely reintegration of each offender into the community. Supplementary assessments like the CLAI inform the OIA process by providing additional information about the nature and seriousness of particular criminogenic needs, including substance abuse problems. The OIA process and supplementary assessments are used for correctional planning and other administrative purposes.

In 1998, CSC commenced revisions to the CLAI after operational staff and an international panel of expert consultants cited a number of difficulties with the software and content. In 1999, CSC began development of the CASA for the purposes of establishing substance abuse severity levels and for matching offender needs to level of service delivery. Demonstrations of the English and French versions began in the Atlantic and Ontario regions in 2002.

Content

The 288-item, self-administered CASA explores the nature and seriousness of an offender's substance abuse problems (see Table 1). It specifically assesses: patterns of alcohol use (total of 36 items); consequences of alcohol use (25 items); severity of alcohol problems (25 items); problems related to drinking (15 items); and alcohol's link to past and current offending (20 items). The CASA also assesses: patterns of drug use (39 items); the severity of drug problems (20 items); the degree of psychological dependence on drugs (5 items); drug use and its relationship to past and current offending (19 items); injection drug use (6 items); and poly-substance use patterns (8 items). Nine items investigate in-

custody substance abuse patterns and nine items explore family-related patterns of substance use.

Information concerning progress in prior substance abuse programming, including methadone maintenance, is collected by means of 20 items. The CASA concludes with 20 items that delve into the area of treatment readiness along the following six dimensions: problem recognition, level of comfort with problem, feelings of personal responsibility, commitment to treatment, willingness to change and external support for change. Twelve additional post-assessment items provide respondents with an opportunity to rate their experience completing the CASA.

Table 1: CASA Content

Content Areas	Number of Items
Patterns of alcohol use	36
Consequences of alcohol use - MAST (Selzer, 1971)	25
Severity of alcohol problems – ADS (Skinner & Horn, 1984)	25
Problems related to drinking - PRD	15
Link to past and current offending (alcohol)	20
Patterns of drug use	39
Severity of drug problems – DAST (Skinner, 1982)	20
Degree of psychological dependence on drugs – SDS (Gossop, et al., 1995)	5
Link to past and current offending (drugs)	19
Injection drug use	6
Poly-substance use patterns	8
In-custody substance use patterns	9
Family-related patterns of use	9
Progress in prior programming	20
Treatment readiness	20
Respondent satisfaction with the CASA	12

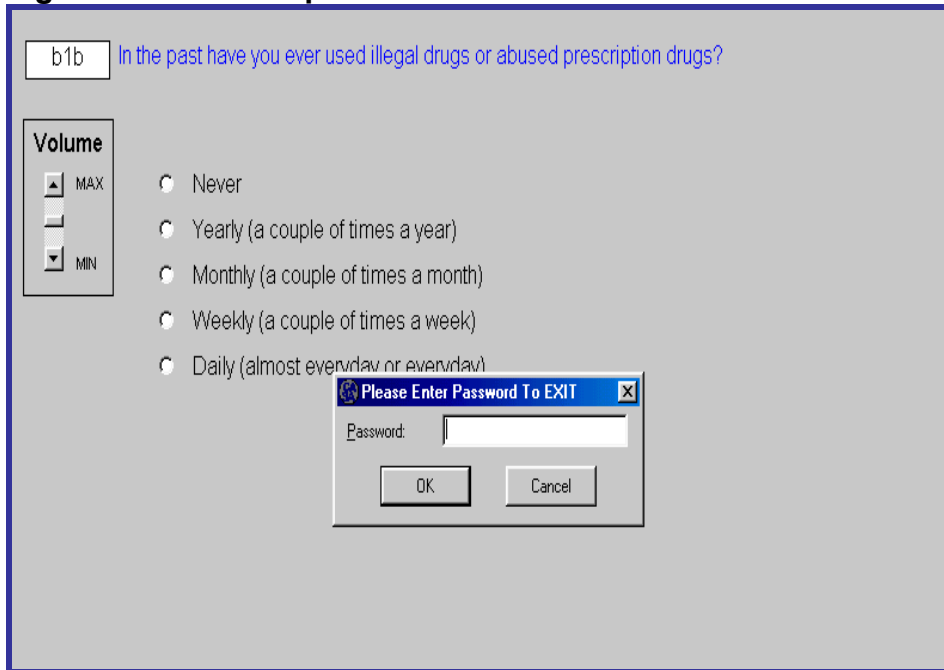
Unlike the CLAI, the CASA does not investigate ancillary lifestyle areas, such as nutrition, caffeine use, physical activity, general health, smoking and psychological complaints. The assessment is designed to assist operational staff in making evidence-based recommendations for substance abuse programming.

Functionality

The CASA's computer-controlled question flow (i.e., conditional logic branching) and automated data checking (e.g., field validation events) increase the integrity of the data and the quality of self-report information. When the computer detects major inconsistencies in self-report information, it adjusts the delivery of subsequent questions so that respondents are presented with additional opportunities to reconcile these inconsistencies. For example, if a respondent denies any substance use during the 12-month period prior to arrest for the current offences, but later reports substance use at the time of the current offences, which occurred during the same 12-month period prior to arrest, the computer displays a message describing this inconsistency and branches back to re-sequence relevant questions.

Each CASA item is delivered sequentially by the software in either French or English. Each question is presented separately along the upper edge of the computer screen while the offender uses a mouse to point and click at the appropriate answers that appear directly below the question. The software uses hidden, conditional logic branching to present only those questions that are relevant. The system incorporates a variety of visually appealing option buttons, check boxes and text fields similar to those found in web browsers to create a graphical user interface (see Figure 1). Security features, such as password protection, prevent respondents from exiting the program, windowing between applications and minimizing screens.

Figure 1: CASA Graphical User Interface



The CASA also has an optional audio function to assist respondents with reading difficulties. Digital audio recordings of a human voice are linked to each instruction box, question and answer choice. With a click of the mouse button, the computer can play each text string to the respondent through a set of headphones. The audio option can be turned on or off at any point during the computerized interview and can be presented in both French and English. A volume control image also appears on the screen to assist the hearing impaired.

An automated report is produced upon conclusion of the computerized interview. Demographic information, summary scores for the standardized measures, substance abuse severity levels and recommended substance abuse programming appear on the first page. Subsequent pages include a bulleted summary of the respondent's substance abuse history, prior programming, and treatment readiness indices. With the click of a button, the CASA can produce an automated report in either French or English to inform assessment staff and the offender. All of this is made possible by a dynamic database management system.

Measures of Substance Abuse Severity

The CASA systematically applies a number of standardized instruments to assess the severity of substance abuse. The severity of alcohol abuse is assessed with the 25-item Alcohol Dependence Scale (ADS) (Skinner & Horn, 1984), the 15-item Problems Related to Drinking Scale (PRD) and the 25-item Michigan Alcoholism Screening Test (MAST) (Selzer, 1971). The MAST and ADS have been extensively used with a number of special populations, including offender populations, to assess severity of alcohol abuse. Both are considered valid and reliable by best practices literature (Boland, Henderson, & Baker, 1998).

The ADS assesses the degree of physiological dependence, whereas the MAST and PRD focus on the extent of psycho-social interference or negative consequences of alcohol abuse. All three scales reference the 12-month period prior to arrest in order to establish a severity index. The ADS classifies individuals into the following groups: "none", "low", "moderate", "substantial" and "severe". The PRD uses the classifications of "none", "some", "quite a few", and "a lot" to describe the extent of alcohol-related interference. CSC has used the ADS to establish the severity of alcohol dependence and the PRD to establish the extent of alcohol-related problems since the early 1990s. The MAST has been included in the CASA to establish its clinical utility within a CSC context with the end goal of replacing the PRD in the program referral matrix.

To assess the severity of drug abuse, CASA employs the 20-item Drug Abuse Screening Test (DAST) (Skinner, 1982) and the 5-item Severity of Dependence Scale (SDS) (Gossop, Darke, Griffiths, Hando, Powis, Hall & Strang, 1995). The former focuses on the extent of psycho-social interference and parallels the MAST items (Boland et al., 1998), whereas the latter assesses the degree of psychological dependence (Gossop et al., 1995). The DAST uses the same classification system as the ADS. Both the DAST and the SDS reference the 12-month period prior to arrest. CSC has used the DAST to establish the severity of

drug abuse since the early 1990s. The validity of both instruments has been previously established (Skinner, 1982; Gossop et al., 1995).

The SDS has been introduced in the CASA to provide a measure of psychological dependence on drugs and to establish its diagnostic utility within a CSC context. A number of studies have examined the relationship between the dependence syndrome, first identified by Edwards and Gross (1976), in their research with alcohol abusers, and the consequences of drug use (Skinner & Goldberg, 1986; Feingold & Rounsaville, 1995). A greater emphasis has been placed on the psychological components (e.g., compulsiveness) of dependence within this syndrome. The compulsive use of drugs is now seen as a central feature of drug dependence (Gossop et. al., 1995; Swift, Copeland & Hall, 1998). The SDS was included in the CASA so that additional information related to the psychological dimensions of addictions, such as an individual's preoccupation with and anxiety about drug taking and impaired control, could be more closely examined in an offender population.

The CASA currently uses the same program referral criteria as the Offender Management System (OMS)¹ to match offenders to appropriate program intensity levels. Table 2 provides an overview of the OMS program referral matrix. Highest classification level on the ADS, DAST or PRD dictates program intensity level.

¹ OMS is a database of detailed information about Canadian federal offenders. It is used daily by officers of the Correctional Service Canada and the National Parole Board to enter information about offenders and to track offender progress, from admission to sentence end.

Table 2: OMS Program Referral Matrix

PRD Cut-off Scores	0	1-3	4-6	7-15	
Problems related to drinking	None	Some	Quite a few	A lot	
Recommended Program Intensity based on PRD Levels^a	None	Low		High	
ADS Cut-off Scores	0	1-13	14-21	22-30	31-47
DAST Cut-off Scores	0	1-5	6-10	11-15	16-20
Severity Level based on ADS/DAST cutoffs	None	Low	Moderate	Substantial	Severe
Recommended Program Intensity Level based on ADS & DAST^b	None	Low	Moderate	High	

^aThe PRD dictates program intensity level only when the ADS and DAST suggest a lower program intensity level than the PRD. For example, the PRD determines referral to the high intensity program only when offenders are rated as "a lot" on the PRD *and* moderate or lower on the ADS and DAST.

^bHighest severity level on the ADS or DAST establishes overall substance abuse severity level of none, low, moderate, substantial or severe. This severity level is then used to establish program intensity.

Both the ADS and DAST use a five-category, case-classification system which is supported by previous research examining the validity of the ADS and DAST within clinical populations (Skinner & Horn, 1984). The first rating of "none" on the ADS indicates no alcohol dependence. Individuals with a rating of "low" on the ADS are more likely to be psychologically dependent rather than physiologically dependent and more likely to comply with controlled drinking strategies than abstinence goals. Individuals with a rating of "moderate" on the ADS experience psycho-social problems related to drinking, and they are likely psychologically dependent with possible signs of physiological dependence and withdrawal symptoms. These individuals are also more likely to accept controlled drinking strategies and to reject abstinence goals. Respondents with a severity rating of "substantial" are more likely to be physically dependent and suffering from a myriad of psycho-social problems related to alcohol. Abstinence is likely

the only option for these individuals. Lastly, individuals with a rating of “severe” on the ADS are physically dependent on alcohol with clear evidence of physical disorders related to drinking. For this group, abstinence is probably the only realistic treatment goal.

Skinner (1982) also found that higher scores on the DAST were closely associated with interference in a number of life areas. Individuals with higher scores tend to experience psycho-social and behavioural instability marked by impulsivity, anti-social attitudes, interpersonal problems, suspiciousness and depressive symptoms. High scores are inversely related to age, social stability, stable accommodation, employment and family contact. Higher scores on the DAST are also related to more frequent use of cannabis, barbiturates, and opioids.

Previous research has emphasized the importance of including instruments, like the ADS and DAST, in a comprehensive assessment process. The systematic application of these objective measures ensures that clients are correctly matched to the appropriate levels of treatment. This approach is consistent with the principles of effective correctional treatment, which argue that offenders who present with higher needs should be matched to more intensive and extensive services to reduce the likelihood of re-offence (Andrews & Bonta, 1998).

Measure of Response Bias

There has been much debate concerning the reliability and usefulness of offender self-reported information. Some argue that self-report is fairly accurate, while others suggest that offenders in particular under-report personal information (Kroner & Weekes, 1996; Boland, Henderson & Baker, 1998). Developers of assessment instruments recommend that staff remain sensitive to the possibility that individuals may under-report their symptoms of substance abuse in certain high-demand situations, such as when they are being assessed (Skinner & Horn, 1984). For this reason the Paulhus Deception Scales (PDS)

(Paulhus, 1998) was incorporated into the CASA to measure offender response bias within a correctional context.

The 40-item Paulhus Deception Scales (PDS) (Paulhus, 1998) provide staff with an objective measure of response bias. Two subscales comprise the PDS: the Impression Management Scale and the Self-Deceptive Enhancement Scale. The Impression Management Scale measures a form of dissimulation (e.g., faking, lying) while the Self-Deceptive Enhancement Scale measures self-enhancement (i.e., a rigid overconfidence similar to narcissism). A respondent who claims an over-abundance of unlikely behaviours on the Impression Management Scale may be attempting to present himself or herself in a favourable light because of the high demands associated with being in an assessment situation. Likewise, extreme scores on the Self-Deceptive Enhancement Scale identify respondents with extreme claims of overconfidence. The 40 items that comprise the PDS are unrelated to the respondent's substance use history.

The CASA uses the results from the PDS to classify respondents into one of four profiles that have been established using prison entrant norms (Paulhus, 1998). The first profile consists of respondents with low scores on Impression Management and Self-Deceptive Enhancement. These individuals tend to be aware of their problems. Their self-presentation is less likely to be influenced by situational demands, and their interpersonal style is direct. Based on these results, the responses to CASA questions are considered likely honest and valid.

For the next three profiles, CASA results may be overly positive. That is, respondents may have underestimated their severity of substance abuse problems. Respondents with high scores on Impression Management and low scores on Self-Deceptive Enhancement are aware of their shortcomings; however, they may want to appear publicly acceptable because of the high social demands of the assessment situation. Respondents with low scores on Impression Management and high scores on Self-Deceptive Enhancement

generally tend to provide overly positive responses stemming from a trait-like tendency to present themselves in an overly favourable light; it does not tend to be related to situational demands. Lastly, respondents with high scores on both scales have a trait-like style towards self-enhancement as well as a tendency towards socially desirable responding when influenced by situational demands.

The PDS results provide operational staff with an objective means of assessing the truthfulness of self-reported information. When an offender produces PDS results that suggest questionable responding, it is recommended that operational staff rely on multi-method assessment approaches to produce reliable and accurate assessments. This approach is consistent with the general principle of professional discretion, which states that guided adjustments should rely on sound evidence to improve the sensitivity of assessments when necessary (Andrews & Bonta, 1998).

Moreover, the assessment process can also present an excellent opportunity for brief motivational interventions (Miller & Rollnick, 1991). For example, staff can use motivational interviewing techniques with an oppositional offender who has produced CASA results suggesting questionable responding and some minimization of substance abuse problems. These techniques would aim at encouraging the offender to seek treatment.

Rationale and Purpose

This study examines the results from the audio-enhanced CASA in a sample of federally incarcerated offenders. The relationship between severity of substance abuse and criminogenic need will be determined, followed by an analysis of the impact of offender response bias on the overall CASA results. The general aim is to establish the assessment's ability to appropriately differentiate cases for program referral purposes.

As stated previously, the principles of effective correctional treatment argue that offenders who present with higher needs should be matched to more intensive and comprehensive services. Conversely, low-needs offenders require minimal to no treatment. For this report, the overall substance abuse severity levels will be compared across a number of indicators to determine if these levels appropriately differentiate cases for program referral purposes. It is predicted that respondents who report more severe substance abuse problems on the standardized measures will also report more interference in their personal lives. These individuals are also more likely to identify substance use as a contributing factor in their current offences. It is further expected that respondents who report more severe substance abuse problems will be at a higher risk for general re-offending.

In addition to the aforementioned analyses, the results from the Severity of Dependence Scale (SDS) and the Michigan Alcoholism Screening Test (MAST) will be compared with existing measures in the referral matrix to determine if these scales can be integrated into the matrix. Descriptive information on drug abuse profiles and offence histories will also be presented to shed further light on the link between substance use and criminal behaviour.

For the purpose of this report, the results from the substance abuse measures will be compared across the Paulhus Deceptions Scales (PDS) profiles to determine the effects of socially desirable responding on the overall CASA

results. It is predicted that respondents who produce PDS profiles that are suggestive of unreliable responding will underestimate their level of substance abuse severity as will be evidenced by lower scores on the substance abuse severity measures for these groups.

Finally, results from a number of CASA questions will be presented to rate the respondents' general satisfaction with the content and their general acceptance of a computerized format.

Method

Sample

Demonstrations of the English and French versions of the CASA began at Millhaven and Springhill Institutions in 2002. These two institutions serve as the regional reception centres for the Ontario and Atlantic regions, respectively. Data were available for 907 male offenders [mean age (M) = 33; standard deviation (SD) = 9.8], who completed the CASA between May 2002 and January 2004. This sample represents about 36% of the actual admissions (N = 2530) to these facilities.² The remaining offenders (64%) were assessed with the existing Computerized Lifestyle Assessment Instrument (CLAI) because the rate of admission at these two facilities exceeded the capacity of this demonstration project.

The CASA was administered as part of the standard assessment process that includes completion of the Offender Intake Assessment (OIA) and other supplementary assessments. Both assessments are completed within the first 90 days of an offender's admission to federal custody.

Data Sources

The CASA and the OIA served as the two main data sources. The specific indicators of interest are presented later in this section.

² Assignment to the CASA depended simply on the availability of the CASA work-stations. There was no systematic pre-selection for the CASA that was based on case-specific factors or any other potentially confounding criteria that would have biased the results.

The CASA is a supplementary assessment to the OIA (Correctional Service Canada, 2003). It provides information about the nature and seriousness of specific substance abuse problem areas, and serves as the basis for program referrals. The OIA involves the identification and analysis of critical static and dynamic factors that affect the safe and timely reintegration of each offender into the community. Both are used for correctional planning activities and for other administrative purposes.

The OIA information was extracted from the Offender Management System (OMS). OMS is an electronic database system used by CSC to maintain all offender records and to manage offenders from sentence commencement to sentence end. The system captures a wealth of information that includes, but is not limited to, the following: demographic information, sentence and conviction information, all admission and release records, assessments for decision-making purposes, urinalysis results, misconduct information, reports on offender performance, and related records. The CASA databases were received from the regions through secure electronic linkages.

Standardized Scales and Indicators

The Alcohol Dependence Scale (ADS) (Skinner & Horn, 1984) consists of 25 items that are designed to tap into the alcohol dependence syndrome (Edwards & Gross, 1976). The ADS provides a measure of the extent to which the use of alcohol has progressed from psychological involvement to impaired control. Sample items include: "Did you have the shakes when sobering up (hands tremble, shake inside)?" and "As a result of drinking, did you see things that weren't really there?" Empirically derived severity levels of none (0), low (1-13), moderate (14-21), substantial (22-30) and severe (31-47) are used to differentiate cases for program referral purposes. This case classification system is supported by previous research with the scale (Skinner & Horn, 1984). The ADS references the "12 month period prior to arrest" in establishing a severity level.

The ADS boasts excellent internal consistency and external validity (Skinner & Horn, 1984). Cronbach's alpha values range from 0.85 to 0.94, which indicate excellent reliability (Boland et al., 1998). External validity is supported by the scale's strong association with other measures of alcohol-related instability (Skinner & Horn, 1984; Boland et al., 1998). The scale is considered unidimensional. Previous research has supported its clinical utility within a correctional context (Hodgins & Lightfoot, 1988, 1989).

The Drug Abuse Screening Test (DAST) (Skinner, 1982) was modelled after the Michigan Alcoholism Screening Test (MAST), but is used to assess the severity of problems associated with drug use. Quantitative severity levels of none (0), low (1-5), moderate (6-10), substantial (11-15) and severe (16-20) are based on normative data for the scale (Robinson, Porporino & Millson, 1991). As with the ADS, these severity levels are used to differentiate cases for program referral purposes. The DAST includes items concerning the frequency of use, symptoms of dependence, extent of drug-related interference, feelings of guilt and prior treatment (Boland et al., 1998). Sample items include: "Could you get through the week without using drugs?" and "Did you neglect family because of your drug use?" The DAST also references the "12 month period prior to arrest" in establishing the severity of drug abuse. A dichotomous response format is used with each "yes" endorsement warranting a score of one.

Previous psychometric work has established the reliability and validity of the DAST (Boland et al., 1998). Cronbach's alpha values range from 0.85 to 0.94, which indicates excellent reliability (Boland et al., 1998). External validity is supported by the scale's strong association with other measures of drug-related instability (e.g., frequency of use, psychopathology). Previous research has also supported its clinical utility within a correctional context (Hodgins & Lightfoot, 1988, 1989).

The Michigan Alcoholism Screening Test (MAST) (Selzer, 1971) is a 25-item scale designed to measure a variety of problems associated with alcohol abuse. Sample items include: "Did you ever lose a job because of drinking?" and "Did you ever get into physical fights when drinking?" A dichotomous response format is used with each "yes" endorsement warranting a score of two or five depending on the item.

The reliability and validity of the MAST has been previously established with a number of different populations, including an offender population (Millson, Weekes & Lightfoot, 1995; Boland et al., 1998). Values for Cronbach's alpha range from 0.83 to 0.95. The scores on the MAST have also correlated quite highly with scores from other measures of substance abuse severity, such as the ADS ($r=0.69$) (Boland et al., 1998).

The Problems Related to Drinking Scale (PRD) was derived from the MAST. This 15-item scale quantifies the number of problems related to alcohol use. A dichotomous response format is used with each "yes" endorsement warranting a score of one. The PRD score is divided into four levels: no substantive alcohol problems (score of 0), some problems (1-3), quite a few problems (4-6), and a lot of alcohol problems (7-15). Example items include: "Were there major arguments in your family because of your drinking?" and "Did your drinking result in your getting hurt in an accident?"

Overall severity level is based on the ADS and the DAST. The highest severity level on either measure dictates an overall severity level of none, low, moderate, substantial or severe. The highest rating on the ADS, DAST or PRD determines program intensity level.³

³ The PRD determines referral to the high-intensity program only when offenders are rated as "a lot" on the PRD *and* moderate or lower on the ADS and DAST. Of the 907 offenders who completed the CASA, 2% ($n = 18$) were recommended to a high-intensity program based on a PRD result of "a lot" when the other scales suggested programming of a lower intensity level.

The Severity of Dependence Scale (SDS) (Gossop et al., 1995) provides a measure of the psychological dimensions of addiction, such as an individual's preoccupation and anxiety about drug taking and impaired control. The respondent first identifies the drug used most often during the 12-month period prior to arrest for the current offences. The CASA then automatically inserts the name of the drug into each of the five SDS items. Sample items include: "Did the prospect of missing a fix (or dose) or not chasing make you anxious or worried?" and "Did you worry about your use of (*named drug*)?" For the first four items, responses are indicated using a four-point scale ranging from "never or almost never" to "always or almost always". The fifth item, "How difficult did you find it to stop or go without (*named drug*)?", is also scored on a four-point scale; however, response choices range from "not difficult" to "impossible". Scores range from 0 to 15.

The psychometric properties of the SDS have been previously examined with samples of heroin, cocaine and amphetamine users (Gossop et al., 1995). Cronbach's alpha values of between 0.81 and 0.90 suggest excellent internal consistency. The validity of the scale is supported by its positive correlation with a number of indicators of drug abuse (e.g., dose, duration of use, frequency of use).

The Paulhus Deception Scales (PDS) (Paulhus, 1998) assesses socially desirable responding. Two scales, the Impression Management (IM) Scale and the Self-Deceptive Enhancement Scale (SDE), comprise the PDS. The former measures a form of dissimulation (e.g., faking, lying) while the latter measures self-enhancement (i.e., a rigid overconfidence similar to narcissism). The PDS is comprised of 40 statements. Respondents are asked to rate the statements on a five-point scale indicating the extent to which each statement applies to them from "not true" to "very true". Sample items include: "My first impressions of people usually turn out be right" and "I don't gossip about other people's

business." Points are assigned for extreme responses (on either end of the five-point scale) (Paulhus, 1998).

A respondent who claims an over-abundance of unlikely behaviours on the IM scale may be attempting to present in a favourable light because of the high demands of the assessment situation. Likewise, extreme scores on the SDE scale identify respondents with extreme claims of overconfidence. The PDS differentiates responders across four profiles, three of which suggest a pattern of unreliable responding (Paulhus, 1998). These three profiles were collapsed into one group of unreliable responders and then compared to the reliable responders across measures of substance abuse severity.

Previous psychometric work has established the reliability and validity of the PDS. Confirmatory factor analysis has produced an orthogonal two factor solution (i.e., there is empirical support for the two scales). Norms are available for four comparison groups including prison entrants (N=1457). Cronbach's alpha as a measure of internal consistency (reliability) produces a high value of 0.84 for the Impression Management Scale and an acceptable value of 0.75 for the Self Deceptive Enhancement Scale (i.e., items consistently measure the two constructs). Concurrent validity is supported by the scales' strong association with other measures traditionally known as lie scales (Paulhus, 1998).

The most often used drug is identified by the respondent for the purpose of completing the SDS. (See above).

Substance use prior to current offence(s) is established by asking respondents to report if alcohol and/or drug use preceded the current offences. For those respondents who report substance use prior to the commission of their current offences, CASA presents follow-up questions that explore the affective and behavioural consequences of alcohol and drug use.

The offender satisfaction survey concludes the CASA. Respondents are asked to indicate their level of agreement with 11 declarative statements that delve into various aspects of their assessment experience. Respondents use a five-point Likert scale to indicate their level of agreement. Response choices include: strongly agree, slightly agree, neither agree nor disagree, slightly disagree, strongly disagree. These responses were collapsed into three categories (agree, neither agree nor disagree, disagree) for these analyses. Sample items include: "I found this questionnaire interesting," "I felt comfortable answering the questions on the computer" and "I understood the questions."

Offender Intake Assessment (OIA) Indicators

The OIA Dynamic Factor analysis is conducted by the institutional parole officer within the Offender Management System (OMS) by confirming the presence of specific indicators which relate to each of the seven domains or criminogenic needs. These domains are: Employment, Marital/family Relationships, Associates/Social Interaction, Substance Abuse, Community Functioning, Personal/Emotional Orientation, and Attitude. The indicators are structured as questions with a dichotomous response format ("yes" = presence of a problem; "no" = absence of a problem). This allows for the efficient identification of specific problems within each domain area.

For each domain, OMS automatically scores the number of responses and ranks them in order of priority (i.e., the higher the score, the higher the priority) (CSC, 2003). Parole officers use the results from this exercise and other case specific information to establish an overall need rating for each domain. Except for the substance abuse and personal/emotional orientation domains, all domains can be rated as an asset. If the offender's background suggests otherwise, the parole officer assigns one of the following three levels: "no need for improvement", "some need for improvement" or "considerable need for improvement". An overall dynamic factor (need) rating of either "low", "moderate" or "high" is then assigned so that the level of required intervention

can be established. Generally, the more severe the identified problems and the greater the number of domains involved, the higher the overall dynamic factor rating. The parole officer exercises professional discretion in establishing this rating.

The overall dynamic factor rating was compared across levels of overall substance abuse severity to examine the association between the two. Because the identification of specific need indicators serves as the basis for the domain ratings, their total, accumulated across all seven domains, was also used to quantify the number of identified needs in an offender's life. The total number of identified need indicators were accumulated across all seven domains: Employment (35 indicators), Marital/Family Relationships (31 indicators), Associates/Social Interaction (11 indicators), Substance Abuse (29 indicators), Community Functioning (21 indicators), Personal/Emotional Orientation (46 indicators) and Attitude (24 indicators). The total number of identified need indicators were then compared across the overall substance abuse severity levels to examine if the total number of identified needs increased across substance abuse severity levels.

The OIA Static (Risk) Factor rating is based on the Criminal History Record (CHR), the Offence Severity Record (OSR) and the Sex Offence History (SOH). The CHR investigates the significant factors related to the offender's involvement with the criminal justice system. The OSR measures the nature and degree of psychological and physical harm inflicted on the victim(s) and on society. The SOH looks at the nature and extent of sexual offending, if any, and the amount of victim harm. It also highlights involvement in any prior sex offender assessment, treatment and/or intervention activities (CSC, 2003).

Once all questions are completed by the parole officer, OMS automatically scores the number of dichotomous yes/no responses from the CHR, OSR and the SOH. A point is assigned for each "yes" response. Generally, the higher the

number of "yes" responses, the greater the criminal risk (CSC, 2003). A level of intervention of either "low", "moderate" or "high" is automatically assigned based on the results from this static factor analysis (i.e., analysis of the CHR, OSR and the SOH) and the Revised Statistical Information on Recidivism Scale (SIR-R1) (described later in this section).

The total number of identified static factor indicators were accumulated across the CHR (38 indicators), OSR (71 indicators), and SOH (28 indicators). This total and the static factor ratings of "low", "moderate" and "high" were then compared across the overall substance abuse severity levels to examine if risk increased across substance abuse severity levels.

The Revised Statistical Information on Recidivism Scale (SIR-R1)⁴ (Nuffield, 1982 as cited in Nafekh & Motiuk, 2002) is a statistically derived tool for predicting re-offending in federally sentenced, non-aboriginal males. It is typically completed within the first 90 days after an offender's admission to federal custody to help establish an offender's OIA static factor level. It is also re-administered later in an offender's sentence to establish re-integration potential.

The SIR-R1 statistically quantifies 15 demographic and criminal history indicators using the weighted Burgess method. This method applies positive and negative scores to individual items to reflect differences between endorsed items and population success rates. Items (predictor variables) are assigned a weight depending on their deviation from the base rate of success (Bonta, Harman, Hann & Cormier, 1996). Simple summation of the items yields scores ranging from -30 (poor risk) to +27 (very good risk) (Nafekh & Motiuk, 2002).

⁴ The General Statistical Information on Recidivism Scale (GSIR) (Nuffield, 1982) was modified to improve face validity and to reflect changes in legislation. As a result, it was renamed the Revised Statistical Information on Recidivism Scale (SIR-R1).

Offenders are classified into one of the following five risk categories: "very good" risk (four out of five offenders predicted to succeed); "good" risk (two out of three offenders in this category predicted to succeed on release); "fair" risk (one out of two offenders predicted to succeed); "fair/poor" risk (two out of five offenders predicted to succeed); and "poor" risk (one out of three offenders predicted to succeed). These categories provide an estimate of an offender's risk for re-offending during the first three years after release from federal custody.

The internal reliability and predictive validity of the SIR-R1 has been previously established (Bonta et al., 1996). It is considered a stable predictor of general recidivism. Scores predict a variety of outcomes and the risk categories which comprise the scale demonstrate systematic associations with re-offence outcomes.

For this report, the SIR-R1 risk categories were collapsed into the following three risk groups: "poor to fair/poor", "fair" and "good to very good". The association between these risk groups and substance abuse severity was then examined.

Statistical Analyses

Statistical analyses were performed with the SAS Version 8 software (SAS Institute, 1999). For analyses involving continuous response variables, the assumptions for parametric procedures were first tested. The Shapiro-Wilk and the Levene's tests were applied to test for the normality of distributions and for the homogeneity of variances between groups, respectively (SAS, 1999). If assumptions were met, analysis of variance (ANOVA) was used to test for significant differences.

For the data that violated the assumptions for parametric procedures, rank transformations of each continuous data point were used instead of the raw data (Allison & Gorman, 1993; SAS, 1999). The sums of the ranks for each group were then compared using a General Linear Model (GLM) procedure. The Tukey

multiple comparison method was employed to control the experimentwise error rate for all pairwise comparisons (SAS Institute, 2000). For comparisons involving only two groups, the nonparametric Kruskal-Wallis chi-square statistic was used to test for significant differences.

The Mantel-Haenszel Chi-square and the Spearman's correlation statistics were used to test the significance and strength of associations between categorical response variables of an ordinal nature. For categorical response variables of a nominal nature, Chi-square and Cramer's-V statistics were employed to test for significance and strength of associations.

Results

Introduction

To illustrate the links between substance abuse, criminal behaviour, and psychosocial instability, the relationship between the overall substance abuse severity level and the dynamic and static factor ratings from the Offender Intake Assessment (OIA) will be examined. In addition, results from the Revised Statistical Information on Recidivism Scale (SIR-R1) will be compared across levels of overall substance abuse severity to explore the relationship between the severity of substance abuse problems and the risk for re-offending. Additional descriptive information relating to current offences and drug use profiles will shed additional light on the link between substance abuse and criminal behaviour.

Following this, the relationship between the Severity of Dependence Scale (SDS) and the Drug Abuse Screening Test (DAST); and the relationship between the Michigan Alcoholism Screening Test (MAST) and the Alcohol Dependence Scale (ADS) will be presented to assess the utility of drawing on additional measures to further differentiate cases for intervention purposes.

The results section will conclude with a look at the potential influence of offender response bias on the overall CASA results, followed by an overview of the respondents' ratings of the computerized assessment.

Severity of Substance Abuse Problems

As stated previously, the overall substance abuse severity level is based on the ADS and the DAST. The highest severity level on either measure produces an overall severity level of none, low, moderate, substantial or severe. The highest rating on the ADS, DAST or PRD determines program intensity level.

In this sample of offenders, which includes only offenders who completed the CASA (about 36% of admissions), 31% were identified as having no substance abuse problems, 32% had a low level problem, 15% were identified with a moderate problem, 16% had a substantial problem and 5% of this sample was assessed as having a severe substance abuse problem. Table 3 provides the distribution of the results for the ADS, DAST and overall severity levels. Ratings of substantial to severe on overall severity result in placement to the high intensity program. Ratings of moderate and low result in a referral to the corresponding intensity levels.

Table 3: Distribution of Results for the ADS, DAST and Overall Severity Levels

Problem Area	Severity Level %				
	None	Low	Moderate	Substantial	Severe
Alcohol (ADS)	56.3	33.2	6.0	2.9	1.7
Drugs (DAST)	46.8	22.3	12.6	14.4	4.0
Overall Severity ¹	31.1	32.4	14.7	16.2	5.4

¹Highest severity level on the ADS or DAST establishes overall severity level of none, low, moderate, substantial or severe.

The PRD indexes the extent of alcohol-related problems across four levels ranging from "none" to "a lot". Of these respondents, 64% indicated that they experienced no problems related to alcohol, 20% experienced some problems, 8% indicated quite a few problems, and 7% felt that they experienced a lot of problems related to alcohol. A rating of "a lot" results in a referral to the high-intensity program. Ratings of "some" to "quite a few" result in placement to a low-intensity program only when the ADS and DAST produce ratings of "none".

Total Identified OIA Need Indicators by Substance Abuse Severity

When the total number of identified need indicators were compared across overall substance abuse severity levels, the results showed a positive association between substance abuse severity levels and total number of identified need indicators, $F(4, 907) = 81.6, p < .0001$. The results from the multiple comparisons are presented in Table 4.

Offenders who received a rating of none on overall substance abuse severity had a significantly lower number of needs identified on the OIA when compared to all other groups. The same was true for offenders with a severity rating of low. The difference between the severe and substantial groups was not statistically significant. The same was true when the moderate group was compared to the substantial group. However, when the moderate group was compared to offenders with a rating of severe on overall substance abuse severity, the moderate group had a significantly lower number of needs identified in the OIA.

Table 4: Substance Abuse Severity Level by Total Number of Need Indicators

Overall Severity Level ¹	Mean ²	SD	N
None	41.6 _a	20.6	284
Low	55.1 _b	22.6	294
Moderate	68.5 _c	20.3	133
Substantial	72.5 _{cd}	22.8	147
Severe	80.1 _d	20.4	49

Note. Values represent the mean number of OIA need indicators, accumulated across all 7 OIA dynamic factors.

¹Highest severity level on the ADS or DAST establishes overall severity level of none, low, moderate, substantial or severe.

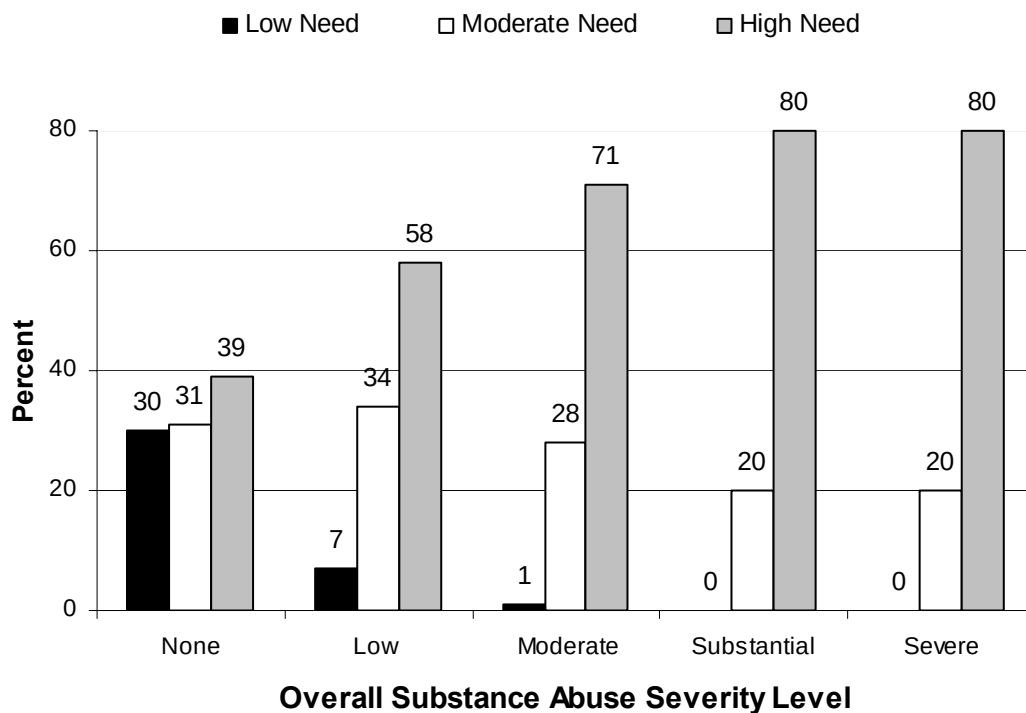
²Means with the same letter are not significantly different at the $p < .05$ level.

Parametric procedures were used because the assumptions for ANOVA were met. The Tukey multiple comparisons method (HSD) was employed to control for the Type I experimentwise error rate.

Overall Dynamic Factor Rating by Substance Abuse Severity Level

A similar trend emerged when the overall dynamic factor (need) rating was compared across levels of overall substance abuse severity (See Figure 2). The majority of offenders with a rating of moderate to severe on overall substance abuse severity were rated high need on the OIA, indicating the requirement for a more intensive level of intervention to facilitate successful community reintegration. In contrast, fewer offenders with ratings of low or none on overall severity were rated high on need, Mantel-Haenszel $\chi^2(8, N = 907) = 120.82, p < .0001 (r_s = .36)$.

Figure 2: Distribution of Overall Dynamic Factor Rating by Substance Abuse Severity



Total Identified OIA Static Factor Indicators by Substance Abuse Severity

When the total number of identified static factor indicators were compared across levels of overall substance abuse severity, there was a positive association, $F(4, 907) = 11.6$, $p < .0001$. Table 5 summarizes the results from the multiple comparisons.

Offenders who received a rating of none on overall substance abuse severity had a significantly lower number of static factor indicators identified when compared to all other groups. The same was true when the low group was compared to the severe group. All other differences were not statistically significant.

Table 5: Total Risk by Overall Substance Abuse Severity

Overall Substance Abuse Severity Level ¹	Mean ²	SD	N
None	26.2 _a	14.1	284
Low	29.6 _b	13.8	294
Moderate	32.6 _{bc}	12.7	133
Substantial	33.2 _{bc}	12.9	147
Severe	36.3 _c	11.8	49

Note. Values represent the mean number of OIA static factor indicators, accumulated across the Criminal History Record, Offence Severity Record and Sex Offence History.

¹Highest severity level on the ADS or DAST establishes overall substance abuse severity level of none, low, moderate, substantial or severe.

²Means with the same letter are not significantly different at the $p < .05$ level.

Parametric procedures were used since the data did not violate the assumptions for ANOVA. The Tukey multiple comparisons method (HSD) was employed to control for the Type I experimentwise error rate.

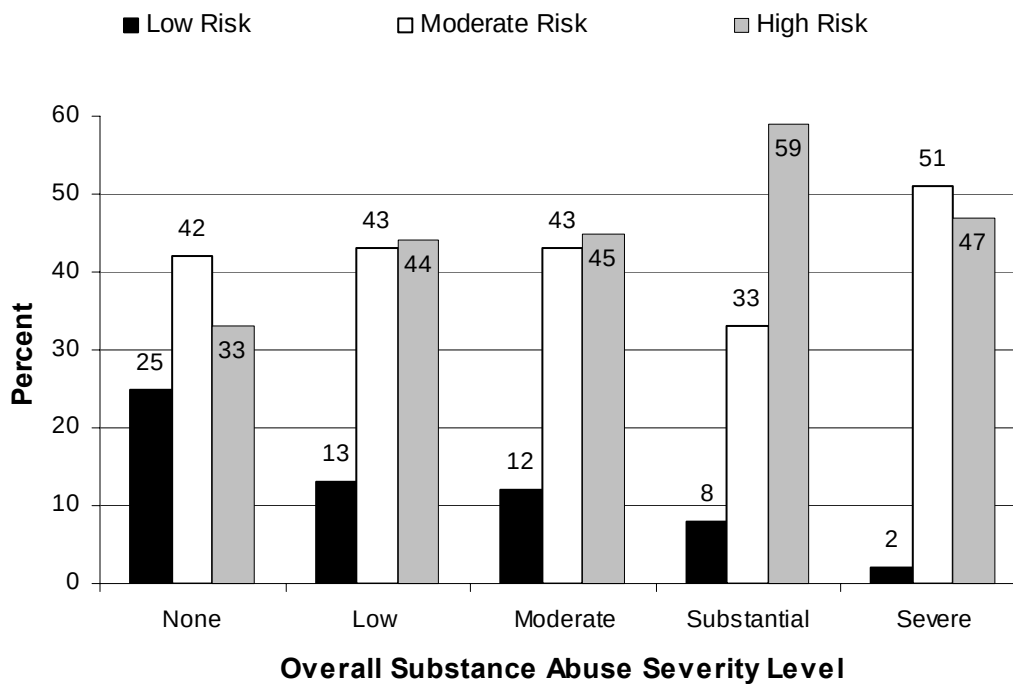
Overall Static Factor Rating by Overall Substance Abuse Severity Level

There was a significant ordinal association between the overall static factor (risk) rating and the overall substance abuse severity level, Mantel-Haenszel

$\chi^2(8, N = 907) = 34.7$, $p < .0001$ ($r_s = .20$) (see Figure 3). Specifically, as the

severity of substance abuse problems moved from none to severe, the proportion of offenders with a moderate to high static factor rating increased. Almost all of the offenders who were rated substantial to severe on overall substance abuse severity received an OIA static factor rating of moderate to high, indicating a more involved criminal history and thus in need of a more intensive level of intervention to mitigate the risk for re-offending. It appears that offenders with a rating of severe on substance abuse severity were less likely to receive a rating of high on the overall static factor. This may have been due to the comparatively small sample size of offenders ($n=49$) with a rating of severe on overall substance abuse severity.

Figure 3: Distribution of Overall Static Factor Rating across Substance Abuse Severity



SIR-R1 Results across Overall Substance Abuse Severity Levels

There was also a significant ordinal association between overall substance abuse severity levels and SIR-R1 risk groupings (see Table 6). Offenders with more severe substance abuse problems were assessed as less likely to succeed

(i.e., at a higher risk of re-offending) during the three years after release from custody. The same trend was observed in the "good to very good" risk category. As the overall severity level increased, the probability of post-release success decreased. The one exception to this trend emerged when offenders with a rating of severe on overall substance abuse severity were compared to offenders with a moderate or substantial rating. Offenders with a severe rating appeared more likely to succeed post-release than offenders with ratings of substantial and moderate; however, this may have been attributable to their comparatively small sub-sample size ($n = 38$).

Table 6: Substance Abuse Severity by SIR-R1 Risk Grouping

Overall Substance Abuse Severity Level ²	SIR-R1 Risk Group (probability of success post-release) ¹			Number of Cases
	Poor to Fair/Poor%	Fair%	Good to Very Good%	
None	32.2	10.5	57.3	
Low	40.5	20.1	39.4	
Moderate	54.8	20.0	25.2	
Substantial	66.9	14.1	19.0	
Severe	50.0	23.7	26.3	

Note. Ninety-two (10%) of the offenders were not included in this analysis because they did not meet the criteria for SIR-R1 administration.

¹The five SIR-R1 risk categories were collapsed into three groups: "poor to fair/poor", "fair" and "good to very good".

²Highest severity level on the ADS or DAST establishes overall severity level of none, low, moderate, substantial or severe.

Mantel-Haenszel $\chi^2(1, N = 815) = 56.9, p < .0001$

$r_s = -.28$

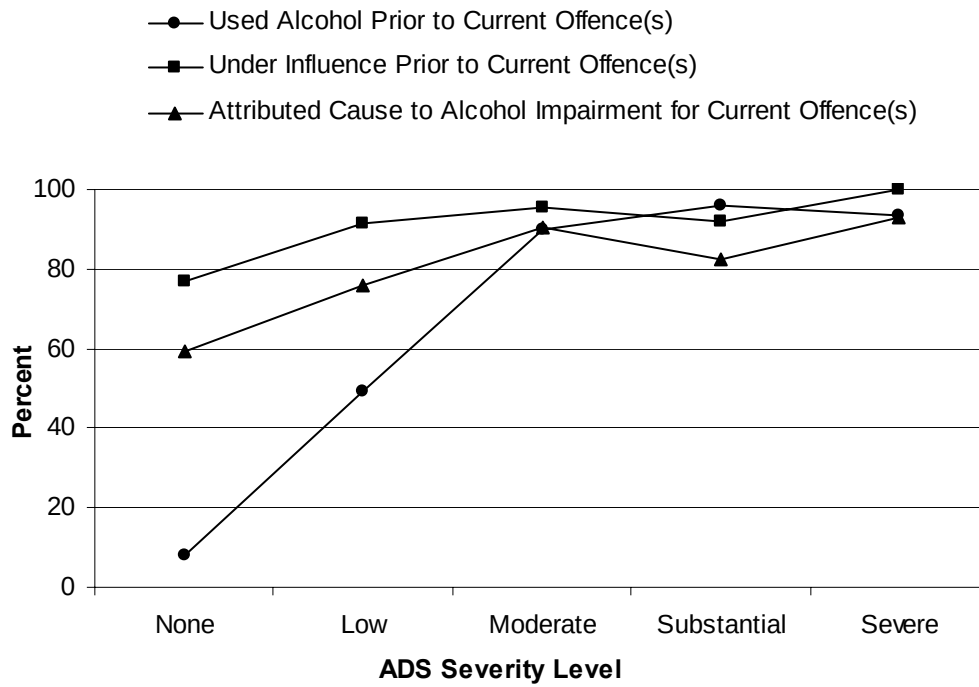
Substance Use Prior to Current Offence(s)

Alcohol Use

Of the 907 offenders who completed the CASA, only those who reported a history of alcohol use and who were not appealing current offences were presented with questions examining the relationship between alcohol and their current offence(s). Of the 829 respondents who met these two conditions, 31% ($n = 260$) reported that they had consumed alcohol prior to committing their current offence(s). The majority of these [91% ($n = 236$) or 29% of the total respondents] reported that they were under the influence of alcohol. Of the offenders who reported alcohol impairment prior to their offences, [78% ($n = 185$) or 22% of the total respondents] attributed cause to their alcohol use for their current offences (i.e., would not have committed the offences if they were not under the influence of alcohol).

When the distribution of these results was examined across the ADS severity levels (see Figure 4), there was a strong association between severity levels on the ADS and alcohol use, $\chi^2(4, N = 829) = 316.12, p < .0001 (V = .62)$. The majority of offenders who received a moderate to severe rating on the ADS used alcohol prior to the commission of their current offence(s). These offenders were also more likely than offenders with a rating of low or none on the ADS to be under the influence of alcohol, $\chi^2(4, N = 829) = 308.43, p < .0001 (V = .61)$. In addition, offenders with higher severity levels on the ADS were generally more likely than offenders with lower severity levels to attribute cause to their alcohol impairment for their current offence(s), $\chi^2(4, N = 236) = 12.10, p < .05 (V = .23)$.

Figure 4: Percentage of Offenders Identifying Alcohol as a Contributing Factor in their Current Offence(s) by ADS Severity Levels



The majority of offenders who were under the influence of alcohol on the day of their offences(s) reported alcohol-related cognitive and behavioural interference (see Table 7). Of the 236 offenders, 81% (n = 192) (or 23% of the total number of respondents) reported that alcohol impaired their judgement at the time of the offence(s). Almost all of the offenders (94%) in the combined moderate, substantial and severe categories on the ADS reported impaired judgement at the time of their offences. Fewer offenders with ratings of none or low on the ADS experienced this type of cognitive interference. A chi-square statistic confirmed a significant association between severity levels on the ADS and cognitive interference, $\chi^2(4, N = 236) = 16.5, p < .005 (V = .26)$.

Approximately 50% of the 236 offenders who were under the influence of alcohol on the day of their offence(s) attributed cause to alcohol for their offence-related physical aggression (see Table 7). Offenders in the moderate to severe ADS categories were far more likely to report increased physical aggression as a result of being under the influence of alcohol than offenders with lower ratings on the ADS. Only 15% of the offenders in the none category and 48% of the offenders in the low category reported that alcohol impairment made them more physically aggressive. A chi-square statistic also confirmed a significant association between severity levels on the ADS and physical aggression at the time of the current offence(s), $\chi^2(4, N = 236) = 21.0, p < .001 (V = .30)$.

Table 7: Cognitive-Behavioural Interference while Under the Influence of Alcohol

ADS Severity Level	Judgement Impaired %	More Aggressive %	Total Cases
None	63.0	14.8	27
Low	77.5	48.1	129
Moderate	95.4	67.4	43
Substantial	87.0	60.9	23
Severe	100.0	64.3	14

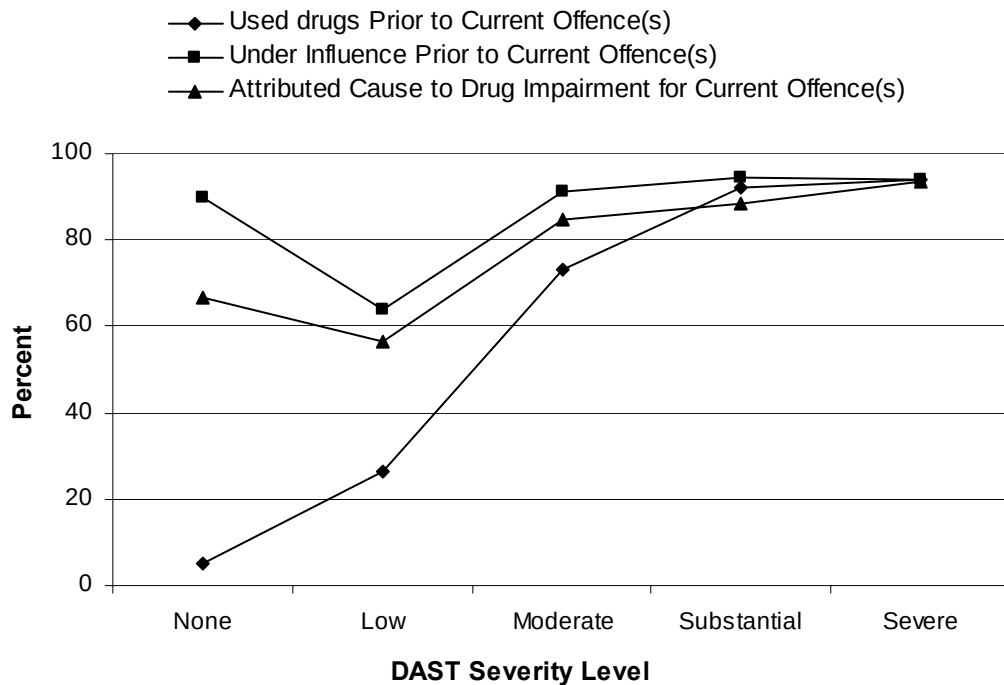
Drug Use

As with the alcohol-related questions, only those offenders who reported a history of drug use and who were not appealing current offences were presented with CASA questions relating to drug use and its relationship to current offending ($n=661$). Of these, 44% ($n = 289$) used drugs prior to committing their current offence(s). The majority of these offenders [88% ($n = 255$) or 39% of the total number of offenders] who reported drug use were under the influence of drugs on the day of their offence(s). Approximately 83% ($n = 212$) of this group (or

32% of the total respondents) attributed cause to their drug impairment (i.e., they would not have committed their current offences if they had not been under the influence of drugs). Figure 5 provides the distribution of these results across the DAST severity levels.

There was a strong association between severity levels on the DAST and antecedent drug use. Offenders with higher ratings on the DAST were more likely to have used drugs prior to the commission of their current offence(s) than offenders with lower ratings, $\chi^2(4, N = 661) = 341.59, p < .0001 (V = .72)$. Offenders with higher DAST severity levels were also more likely to be under the influence of drugs at the time of their current offence(s), $\chi^2(4, N = 661) = 337.26, p < .0001 (V = .71)$. Of the offenders who reported drug impairment prior to their current offences, those with higher severity levels were generally more likely than those with lower severity ratings to attribute cause to their drug impairment for their current offence(s), $\chi^2(4, N = 255) = 22.8, p < .0001 (V = .30)$. It appears that offenders with a rating of none on the DAST were more likely to attribute cause to drug impairment for their current offences than those with a low rating. However, this may have been due to the comparatively small sub-sample ($n = 9$) of offenders in this group.

Figure 5: Percentage of Offenders Identifying Drug Use as a Contributing Factor in their Current Offence(s) by DAST Severity Levels



Of the 255 offenders who were under the influence, 83% (n = 212) reported that drugs impaired their judgement at the time of their offence(s) (see Table 8). A large majority of offenders (89%) in the substantial and severe categories reported impaired judgement at the time of their offence(s) as a result of drug use. However, this association was a weak one, $\chi^2(4, N = 255) = 9.98, p < .05$ ($V = .20$). Table 8 provides the distribution of these results across DAST severity levels.

Drug impaired offenders were generally less likely than alcohol impaired offenders to report that drug use contributed to more physically aggressive behaviour. When results were examined across DAST severity levels, there was

a marginal increase in physical aggression among the drug-impaired offenders as DAST severity levels moved from low to severe; however, this association was not significant, $\chi^2(4, N = 255) = 3.60, p > .05$.

Table 8: Cognitive-Behavioural Interference while Under the Influence of Drugs

DAST Severity Level	Judgement Impaired %	More Aggressive %	Total Cases
None	77.8	33.3	9
Low	68.8	34.4	32
Moderate	76.4	34.7	72
Substantial	88.5	38.1	112
Severe	90.0	53.3	30

Alcohol and Drug Use (Both) prior to Current Offending

It has been variously reported that approximately 50% to 60% of Canadian federal offenders have used alcohol, drugs or a combination of the two on the day of their current offences (Robinson et al., 1991; Brochu, Cousineau, Gillet, Cournoyer, Pernanen & Motiuk, 2001). Results from this study support these earlier findings.

Of the 858 offenders who answered questions concerning their current offence(s), 52% reported substance use on the day of their offence(s).⁵ Specifically, 12% reported they had used both alcohol and drugs, 18% had consumed alcohol and 22% had used drugs on the day of their offences. Of

⁵ Of the total sample of 907 offenders, 858 were presented with questions concerning their current offences. A small number of offenders (n=49) were excluded because they were appealing their current convictions.

these 858 offenders, 11% were under the influence of both on the day of their current offence(s), while 17% and 19% were under the influence of alcohol and drugs, respectively. Offenders who were under the influence of both alcohol and drugs were more likely to attribute cause to both alcohol and drugs than to drugs or alcohol alone. Specifically, 66% attributed cause to both, 13% to drugs, and 9% attributed cause to alcohol. The remainder (13%) did not attribute cause to alcohol nor to drugs.

Substance Use and Type of Current Offending

Previous research has consistently found that offenders with an alcohol-dependency problem were far more likely to commit a violent crime than offenders with an identified drug-dependency problem (Pernanen, Cousineau, Brochu & Sun, 2002). Conversely, drug dependent offenders were more likely to commit crimes of a property nature (e.g., robberies, break and enters, thefts fraud). It has been argued that where alcohol abuse is associated with criminal behaviour, the intoxicating effects of alcohol often result in cognitive disruption and exacerbated physical aggression, which consequently leads to violent behaviour. In contrast, where drug abuse is linked to criminal behaviour, the offences are often property or theft related and motivated by financial gain to finance the high price of illicit drugs (Brochu et al., 2001).

With this sample of offenders, more violent offences were committed while under the influence of alcohol on the day of the offence(s) than drugs or a combination of the two (see Table 9). Proportionally more assaults (34%), sexual assaults (25%) and murders (22%) were associated with alcohol intoxication than with drugs or a combination of the two. Conversely, offences of a property or theft type were more closely associated with drug impairment. Twenty-nine percent of thefts and 30% of robberies were committed while under the influence of drugs. Interestingly, the majority of drug offences (84%), frauds (68%) and weapons offences (68%) were associated neither with drug nor alcohol impairment.

Table 9: Offences Committed while Under the Influence of Alcohol, Drugs or a Combination of Both

Offence Types	Alcohol %	Drugs %	Both %	Neither %	Total offences by offence type
Theft	15	29	10	47	315
Robbery	10	30	17	43	192
Fraud	6	21	6	68	90
Drug Offences	2	13	2	84	174
Assault	34	13	13	40	193
Sexual Assault	25	5	13	58	80
Murder	22	3	14	61	36
Possession Weapon	11	14	7	68	76
Escape	26	9	14	51	43
Kidnapping	31	--	15	54	13
Arson	40	20	7	33	15
Obstruction Justice	22	10	12	56	41
Major Driving Offences	46	8	8	38	96
Other	20	10	14	56	80
Total offences	266	257	149	772	1444

Note. The total sample size includes 858 offenders; 49 were excluded from the analysis because they were appealing current convictions.

Offence categories may include more than one offence of that type (see Appendix A).

Most Frequently Used Drug Types

The most frequently used drug was defined as the drug used most often during the 12-month period prior to arrest for the current offences. Of the 504 offenders who responded to the DAST and SDS items, over half (52%) identified cannabinoids as their most frequently used drug, followed by crack cocaine (14%), opioids (13%) and cocaine (12%). All "other" combined drug categories accounted for less than 10% of the sample. Benzodiazepines (2%), heroin (2%),

amphetamines (1%), MDA (methylenedioxyamphetamine) (1%) and the unspecified group (2%) contributed the majority of observations to this combined group. The inhalants, steroids, LSD and the methadone drug categories each contributed less than 1%.

When the most frequently used drugs were examined across DAST severity levels, a clear pattern emerged (see Table 10). A sizable majority of offenders in the crack cocaine, opioids, cocaine and "other" groups produced DAST results suggestive of moderate to severe drug problems. In contrast, very few of the offenders in the cannabinoid group produced DAST results suggesting the same level of problem. Of all the groups, offenders in the crack cocaine and the opiates groups were more likely to report a substantial to severe drug problem. These results are not surprising given the highly addictive nature of these classes of drugs (World Health Organization [WHO], 2004).

Table 10: Most Frequently Used Drug across DAST Severity Levels

Most Frequently Used Drug ¹	DAST Severity Level%			Total Cases
	None to Low%	Moderate%	Substantial to Severe%	
Cannabinoids	67.8	20.3	11.9	
Crack Cocaine	7.3	23.2	69.6	
Opioids	14.7	22.1	63.2	
Cocaine	27.1	30.5	42.4	
Other	31.2	25.5	42.6	

Note. ¹Defined as the drug used most often during the 12-month period prior to arrest for the current offences.

$\chi^2(8, N = 504) = 160.10, p < .0001$

$V = .40$

Based on the results of the SDS, the degree of psychological dependence varied across drug types, $F(4, 504) = 60.31$, $p < 0.0001$. The results from the multiple comparisons are presented in Table 11. The cannabinoids group produced significantly lower scores on the SDS than all other groups. Based on previous research with the scale, this sample of cannabinoids users scored well below the threshold for a diagnosis of psychological dependence (Swift, Copeland & Hall, 1998). The crack cocaine group was the most psychologically dependent, followed by the opiates, cocaine and the other groups.

Table 11: SDS Scores across Drug Types

Most Frequently Used Drug ¹	Mean ²	N
Crack Cocaine	9.9 _a	69
Opiates	7.7 _{a b}	68
Cocaine	6.7 _b	59
Other	5.5 _b	47
Cannabinoids	2.4 _c	261

Note. ¹This is defined as the drug used most often during the 12-month period prior to arrest for the current offences.

²The mean is reported; however, rank transformations of each continuous data point were used in the parametric procedure instead of the raw data because the data violated the normal distribution and equal error variance assumptions. The sums of the ranks for each group were then compared using the General Linear Model (GLM) procedure. Mean SDS scores with the same letter are not significantly different at the $p < .05$ level.

The Tukey multiple comparisons method (HSD) was employed to control for the Type I experimentwise error rate.

Total Scores on the SDS across DAST Severity Levels

Results from the CASA confirmed a strong relationship between the total scores on the SDS and the DAST ($r = .86$). Offenders who experienced more drug-related behavioural instability as measured by the DAST severity levels were also more psychologically dependent on drugs as indicated by higher scores on the SDS, $F(4, 907) = 761.54$, $p < .0001$. The results from the multiple comparisons are presented in Table 12.

Statistical differences were observed across all pair-wise comparisons, except when the substantial group was compared to the severe group. Offenders in these two groups were clearly more psychologically dependent to drugs as indicated by the divergence between their elevated scores on the SDS and the successively lower scores for the offenders with ratings of moderate and low on the DAST.

Table 12: SDS Scores across DAST Severity Levels

DAST Severity Level	Mean ¹	N
None	0.0 _a	424
Low	1.3 _b	202
Moderate	5.5 _c	114
Substantial	9.0 _d	131
Severe	10.9 _d	36

Note. Values represent the mean score on the SDS

¹Means with the same letter are not significantly different at the $p < .05$ level. The mean is reported; however, rank transformations of each continuous data point were used in the parametric procedure instead of the raw data because the data violated the normal distribution and equal error variance assumptions. The sums of the ranks for each group were then compared using the General Linear Model (GLM) procedure.

The Tukey multiple comparisons method (HSD) was employed to control for the Type I experimentwise error rate.

Total Scores on the MAST across ADS Severity Levels

Results from the CASA also confirmed a strong relationship between the MAST and the ADS ($r = .86$). Offenders who produced ADS severity levels suggesting some level of physiological dependence (i.e., the moderate to severe groups) experienced more alcohol-related behavioural instability as measured by the MAST, $F(4, 907) = 295.95$, $p < .0001$. The results from the multiple comparisons are presented in Table 13.

Offenders with severity ratings of none or low on the ADS produced significantly lower scores on the MAST when compared to all other groups. Although MAST

scores increased as ADS severity levels moved from moderate to severe, these differences were not statistically significant. Nonetheless, these results support earlier research with the ADS (Skinner & Horn, 1984). Individuals with a rating of low on the ADS are more likely psychologically dependent on alcohol than physiologically dependent and less likely to experience psycho-social problems than offenders with higher severity ratings on the ADS (Skinner & Horn, 1984).

Table 13: MAST Scores across ADS Severity Levels

ADS Severity Level	Mean ¹	N
None	1.1 _a	511
Low	9.0 _b	301
Moderate	24.8 _c	54
Substantial	33.7 _c	26
Severe	42.9 _c	15

Note. Values represent the mean score on the MAST.

¹Means with the same letter are not significantly different at the $p < .05$ level. The mean is reported; however, rank transformations of each continuous data point were used in the parametric procedure instead of the raw data because the data violated the normal distribution and equal error variance assumptions. The sums of the ranks for each group were then compared using the General Linear Model (GLM) procedure.

The Tukey multiple comparisons method (HSD) was employed to control for the Type I experimentwise error rate.

Offender Response Bias

Developers of substance abuse assessments have argued that staff who administer assessments in high demand situations (e.g., an assessment unit within a correctional context) ought to remain sensitive to the possibility that individuals may under-report their symptoms in order to positively influence the outcome of their assessment (Skinner & Horn, 1984). The Paulhus Deception Scale (PDS) (Paulhus, 1998) was included in the CASA to allow staff to incorporate an objective measure of response bias in their interpretation of the CASA results.

The majority of offenders (64%) who completed the CASA produced results indicating a pattern of reliable responding. The remainder produced results signifying an unreliable pattern of responding. Specifically, 11% of the total sample scored above the threshold (high) on both the Impression Management (IM) and Self Deceptive Enhancement (SDE) scales, 17% of the offenders scored high on the SDE and 8% of the total sample scored high on the IM scale.

To determine if there was evidence of under-reporting of substance abuse problems, all offenders who were identified as unreliable responders (36% of the sample) were placed into one group and their results were compared to offenders for whom the PDS indicated reliable responding. If there was a difference between the groups and the differences indicated under-reporting, the utility of the PDS would be confirmed. For these analyses comparisons were made across the ADS, PRD, DAST and overall substance abuse severity levels.

The Alcohol Dependence Scale (ADS)

As shown in Table 14, when the ADS severity levels were compared across the two PDS profiles, approximately 15% of the reliable responders had a moderate to severe substance abuse problem, as compared to only 2% of the unreliable responders. Overall, over half of the reliable responders produced results indicating some level of substance abuse problem, compared to only 30% of the unreliable responders.

Table 14: ADS Severity Level across PDS Profiles

Paulhus Deception Scale	ADS Severity Level %					Number of Cases
	None	Low	Moderate	Substantial	Severe	
Reliable Responders	48.5	36.3	8.8	4.1	2.4	
Unreliable Responders	70.5	27.7	0.9	0.6	0.3	

$\chi^2(4, N = 907) = 58.6, p < .0001$

$V = .25$

The nonparametric Kruskal-Wallis statistic revealed that the unreliable responders produced significantly lower scores on the ADS than the group of reliable responders, $\chi^2(1, N = 907) = 60.12, p < .0001$.⁶

The Problems Related to Drinking Scale (PRD)

When results from the PRD were examined across PDS response profiles, the reliable responders reported more problems related to alcohol (see Table 15). More specifically, only 79% of the reliable responders indicated they had some or no problems related to alcohol compared to 94% of the unreliable responders.

⁶ The Kruskal-Wallis non-parametric procedure was used for these analyses because the data violated the normal distribution and equal variances assumptions for ANOVA.

Table 15: PRD Level across PDS Profiles

Paulhus Deception Scale	PRD Levels %				Number of Cases
	None	Some	Quite a few	A lot	
Reliable Responders	57.2	21.7	11.0	10.1	582
Unreliable Responders	78.2	16.3	3.1	2.5	325

$\chi^2(3, N = 907) = 49.8, p < .0001$

$V = .23$

The same pattern was evident when the reliable and unreliable responders were compared on the total PRD score. The unreliable responders produced lower scores on the PRD than the reliable responders. The nonparametric Kruskal-Wallis statistic confirmed a statistically reliable difference, Kruskal-Wallis $\chi^2(1, N = 907) = 49.27, p < .0001$.

The Drug Abuse Screening Test (DAST)

As shown in Table 16, when the DAST severity levels were compared across the two PDS profiles, reliable responders produced results suggesting more severe drug problems. Approximately 40% of the reliable responders produced results indicating a moderate to severe drug problem compared to only 14% of the unreliable responders.

Table 16: DAST Severity Level across PDS Profiles

Paulhus Deception Scale	DAST Severity Level %					Number of Cases
	None	Low	Moderate	Substantial	Severe	
Reliable Responders	38.1	21.7	15.0	19.1	6.2	
Unreliable Responders	62.2	23.4	8.3	6.2	0.0	

$$\chi^2(4, N = 907) = 77.5, p < .0001$$

$$V = .29$$

When the total scores on the DAST were compared across the two groups, the unreliable responders produced lower scores on the DAST. The nonparametric Kruskal-Wallis statistic confirmed a reliable difference,

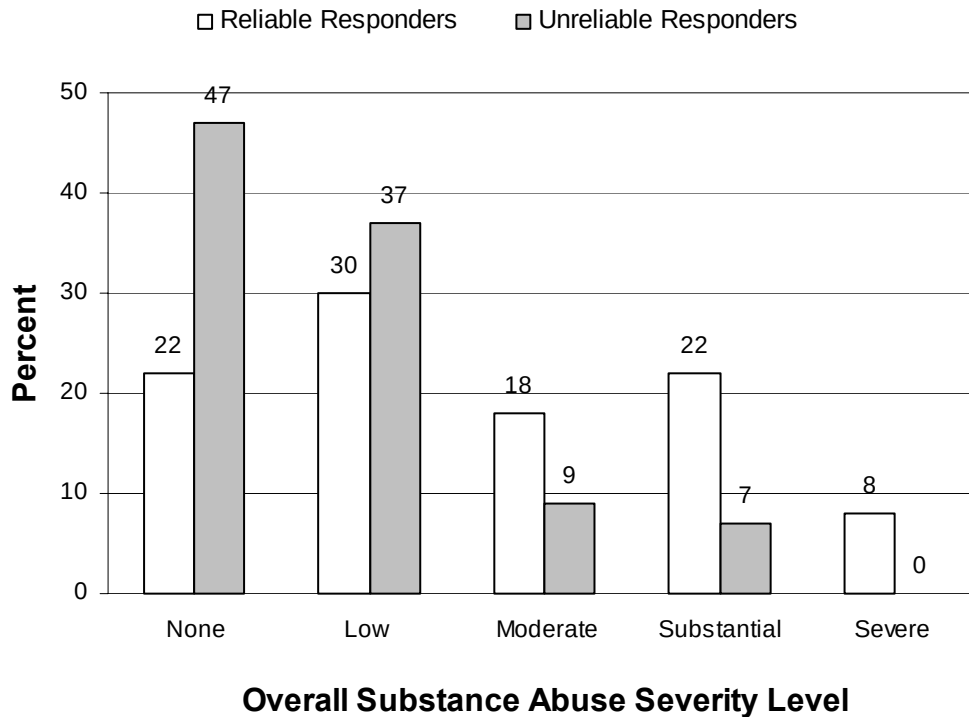
$$\chi^2(1, N = 907) = 73.23, p < .0001.$$

Overall Substance Abuse Severity Level

As mentioned previously, the CASA's rating of overall substance abuse severity level is based on the OMS referral matrix. Highest severity level on the ADS or DAST dictates overall substance abuse severity level of none, low, moderate, substantial or severe. Figure 6 clearly illustrates the effects of unreliable responding on the assessment of substance abuse severity. Approximately 48% of the reliable responders produced results indicating a moderate to severe substance abuse problem compared to only 16% of the unreliable responders.

There was a significant difference between these groups across overall substance abuse severity levels, $\chi^2(4, N = 907) = 109.77, p < .0001$ ($V = .35$).

Figure 6: Reliable vs. Unreliable Responders across Overall Substance Abuse Severity Levels



Respondent Ratings of the CASA

The majority of the respondents found the questionnaire interesting (60%), the content easy to understand (85%) and the computerized format comfortable (68%) and easy to use (67%). Approximately 20% of the respondents listened to the computer read the questions and response choices at least some of the time. Of these, 55% better understood the content because of the audio delivery of the text. Table 17 provides the distribution of results.

Table 17: Respondent Ratings of the CASA

Indicators	Level of Agreement ¹ %	
	Agree	Neither Agree nor Disagree
1. Found the questionnaire interesting.	60.0	30.0
2. Learned a lot about substance abuse habits.	37.8	36.1
3. Easier to be honest with the computer than with a person asking the questions.	36.0	32.3
4. Felt comfortable answering the questions on the computer.	67.6	21.9
5. Found it easy to answer the questions on the computer	67.3	20.7
6. Understood the questions on the computer.	85.1	7.1
7. Better understood the questions when the computer read them	54.6	27.8
8. Found questionnaire too long	22.7	40.9
9. Found the questionnaire too short.	9.2	54.1
10. Recommend questionnaire to others.	56.9	36.8
11. Would be interested in looking at the results.	88.9	8.2

¹Respondents used a 5 point Likert scale to indicate their level of agreement with each of the declarative statements. The five possible responses, ranging from strongly disagree to strongly agree, were collapsed into three categories (agree, neither agree nor disagree, disagree) for these analyses.

Discussion

The Computerized Assessment of Substance Abuse (CASA) was developed to provide Correctional Service Canada (CSC) with a comprehensive, multi-dimensional tool for establishing the severity of substance problems and for differentiating offenders for referral to CSC's substance abuse programs. Three of the main study findings provided strong empirical support for the application of the CASA for the purposes of case differentiation and program referral. The fourth main finding underscored the importance of including a measure that identifies individuals who may have distorted their responses during the assessment.

First, respondents with more severe substance abuse problems were more likely to experience problems in other aspects of their lives as well. This was illustrated by the strong association between the overall substance abuse severity level, which the CASA produced, and the overall dynamic (need) factor rating on the Offender Intake Assessment (OIA). Generally, as the substance abuse severity level moved from none to severe, the proportion of offenders identified with a high need rating on the OIA increased.

Second, the convergence between the CASA results and the results from the OIA and the Revised Statistical Information on Recidivism Scale (SIR-R1) substantiated the important link between criminal behaviour and substance abuse, which has been articulated in previous research (Andrews & Bonta, 1998). For example, offenders who reported substance abuse problems had more involved criminal histories as evidenced by higher static factor (risk) ratings on the OIA. Based on the SIR-R1 results, these individuals were also rated more likely to re-offend during the first three years after release.

Third, higher severity levels on the Alcohol Dependence Scale (ADS) and Drug Abuse Screening Test (DAST) were strongly associated with substance use and impairment on the day of the current offence(s). Offenders with higher severity

levels on the ADS and DAST were also more likely to report offence-related cognitive impairment than offenders with lower severity levels. Exacerbated offence-related aggression was closely associated with alcohol use, but not with drug use. Not surprising then that violent offences were more closely related with alcohol impairment than drug impairment, whereas property offences were more closely linked to drug impairment.

Fourth, offenders who produced Paulhus Deception Scales (PDS) results suggestive of unreliable responding appeared to underestimate their level of substance abuse problems. Of the 34% who produced PDS results indicating a pattern of unreliable responding, only 50% reported substance abuse problems. In contrast, close to 80% of the respondents with PDS profiles indicating a pattern of reliable responding reported some level of substance abuse problems, which is consistent with recent findings from other CSC research (Grant, Kunic, MacPherson, McKeown & Hansen, 2003).

The systematic identification of criminogenic need, which the CASA employs, is consistent with the principles of effective correctional treatment, which argue that offenders who present with higher needs should be matched to more intensive and extensive services so that the probability of re-offence is diminished. In contrast, low need offenders require minimal to no treatment (Andrews & Bonta, 1998). Within a correctional context, offenders with higher needs require more intensive and extensive services to effectively address multiple target behaviours that are associated with substance abuse and criminal behaviour. Offenders with a low level of substance abuse problems, on the other hand, require fewer services because fewer criminogenic needs are identified for this group.

In addition, findings on unreliable reporting in this study illustrate the importance of systematically evaluating the veracity of self-reported information when conducting assessments in high demand situations, such as those found in correctional contexts. When questionable results are indicated, it is recommended that staff rely on multi-method assessment approaches (e.g.,

reviewing collateral sources such as the Post-Sentence Community Assessment and other official documentation) to ensure assessment accuracy. The PDS profiles that the CASA produces in the automated report, three of which suggest socially desirable responding, should serve as "red flags" for operational staff so that guided adjustments can be made to the CASA results when necessary. This approach is consistent with the general principle of professional discretion, which states that guided adjustments should rely on sound evidence-based practice to improve the sensitivity of assessments when necessary (Andrews & Bonta, 1998).

The Severity of Dependence Scale (SDS) was included in the CASA to provide additional information related to the psychological dimensions of drug addiction, such as an individual's preoccupation with, and anxiety about, drug taking and impaired control. The results revealed that offenders who were more psychologically dependent on drugs based on the results of the SDS also experienced more drug-related behavioural instability as measured by the DAST. When the results were examined more closely, the offenders who produced DAST severity levels of substantial and severe scored well above the threshold on the SDS for a diagnosis of psychological dependence. This threshold has been previously reported in other literature (Topp & Mattick, 1997; De Las Cuevas et al., 2000); however, an optimal diagnostic cut-off will need to be formally established for this correctional population before the SDS is used for clinical purposes. For now, the SDS appears to differentiate offenders along a continuum that closely parallels existing severity levels on the DAST. Offenders in the substantial and severe groups are clearly more psychologically dependent on drugs as indicated by the divergence between their elevated scores on the SDS and the successively lower scores for the moderate and low groups. This marked difference suggests that the combined substantial and severe groups are more appropriate for referral to an intensive program that effectively targets the psychological, physiological and behavioural dimensions of dependence so that the risk of relapse is reduced or eliminated.

Similar results emerged when scores on the Michigan Alcoholism Screening Test (MAST) were compared across ADS severity levels. Offenders who produced ADS severity levels suggestive of physiological dependence (i.e., with a moderate to high rating on the ADS) experienced significantly more alcohol-related behavioural instability as measured by the MAST than offenders with a rating of low. Clearly, offenders with a moderate to severe rating will require more intensive treatment to address the physiological and behavioural dimensions of alcohol dependence.

For this sample of offenders, the most frequently reported drugs of choice were the cannabinoids, followed by crack cocaine, cocaine and opioids. The "other" drug category accounted for less than 10% of the sample. When the distribution of cocaine, crack cocaine and opioids users were compared to the cannabinoids users and the "other" group, the former were more likely to produce DAST results suggestive of moderate to severe substance abuse problems and SDS results indicative of psychological dependence. This is not surprising since opioids, cocaine and crack cocaine have long been considered highly addictive because of their biochemical mechanisms of action and their behavioural effects on the user (World Health Organization, 2004). In the case of cocaine and opioids, the elevated risk of acquiring and transmitting infectious diseases through the sharing of equipment, including syringes, cookers, cotton swabs and rinse water present additional health concerns. In a correctional context, users of these drugs will require intensive programming to mitigate the drug-related health risks and to address the psycho-social and behavioural problems associated with drug dependence.

This research has demonstrated that a self-administered, computerized assessment model, such as the CASA, has its place within a correctional context. Respondents generally found the CASA content easy to understand and the computerized format simple to use. The assessment also efficiently and accurately differentiated offenders for referral to substance abuse programs.

Future research is needed to refine the CASA, however. The development of a new algorithm, which incorporates the results from the SDS, the MAST and the PDS will need to be formally tested to determine whether their inclusion contributes to the overall accuracy of the CASA. For example, the SDS and MAST could be used to quantify the level of dependence and the extent of interference attributable to drug and alcohol use. Including both measures could provide additional insight into the psychological and psycho-social dimensions of drug and alcohol abuse. The results from the Paulhus Deception Scales could also be integrated into the algorithm to automatically adjust the severity levels when unreliable responding is indicated.

Other research on a national scale will be required to fully realize the potential benefits of integrating information from the CASA into the correctional planning and treatment delivery process. It will then be possible to conduct larger scale research involving the replication of these results and the linking of the CASA results with other indicators (e.g., in-custody substance use, program participation/non-participation, etc.) to examine the determinants of post-release success.

APPENDIX A

Offence Categories

1. Theft (e.g., break and enters, shoplifting, auto theft, unlawfully in dwelling, possession stolen property)
2. Robbery (e.g., armed robbery , robbery with violence, extortion)
3. Fraud (e.g., forgery, false pretences, credit card fraud, personation)
4. Drug Offences (e.g., possession, trafficking, import narcotics, cultivation)
5. Assault (e.g., attempt murder, assault causing bodily harm, threatening, common assault, aggravated assault, wounding)
6. Sexual Assault (e.g., indecent assault, rape, incest, gross indecency)
7. Murder (e.g., manslaughter, first and second degree murder)
8. Possession of Weapon (e.g., possession of explosives, dangerous use of firearm, pointing a firearm, use of firearm)
9. Escape (e.g., escape lawful custody, unlawfully at large, fail to appear, breach of recognizance, breach of bail, fail to comply, breach of probation)
10. Kidnapping (e.g., unlawful confinement, abduction)
11. Arson
12. Obstruction of Justice (e.g., assault police officer, obstruct peace officer, resist arrest, contempt of court)
13. Major Driving Offences (e.g., criminal negligence, drive while intoxicated, dangerous driving, driving while ability impaired, fail to remain at scene)
14. Other (e.g., vandalism, causing disturbance, mischief, willful damage, living off avails of prostitution)

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Appendix A: COMPUTERIZED ASSESSMENT OF SUBSTANCE ABUSE (CASA)

Directions: To receive credits for this course, you are required to take a post test and receive a passing score. We have set a minimum standard of 80% as the passing score to assure the highest standard of knowledge retention and understanding. The test is comprised of multiple choice and/or true/false questions that will investigate your knowledge and understanding of the materials found in this CEU Matrix – The Institute for Addiction and Criminal Justice distance learning course.

After you complete your reading and review of this material, you will need to answer each of the test questions. Then, submit your test to us for processing. This can be done in the following manner:

Submit your test via the Internet. All of our tests are posted electronically, allowing immediate test results and quicker processing. First, you may want to answer your post test questions found at the end of this appendix. Then, return to your browser and go to the Student Center located at:

<http://www.ceumatrix.com/studentcenter>

Once there, log in as a Returning Customer using your Email Address and Password. Then click on 'View Lesson Quiz' and you will be presented with the electronic exam.

To take the exam, simply select from the choices of "a" through "e" for each multiple choice question. For true/false questions, select either "a" for true, or "b" for false. Once you are done, simply click on the submit button at the bottom of the page. Your exam will be graded and you will receive your results immediately. If your score is 80% or greater, you will receive a link to the course evaluation. You will also receive a link to the Certificate of Completion. This is the final step in the process, and you may save and / or print your Certificate of Completion.

If, however, you do not achieve a passing score of at least 80%, you will need to review the course material and return to the Student Center to resubmit your answers.

NOTE: THE EXAM QUESTIONS AND /OR ANSWERS MAY BE IN A DIFFERENT ORDER IN THE ONLINE EXAM

Answer the following questions by selecting the most appropriate response.

1. Second generation assessment approaches relied on results from _____ assessments.
 - a. intuitive
 - b. dynamic
 - c. actuarial
 - d. subjective
 - e. actuated

2. The systematic identification of _____ need is consistent with the principles of effective correctional treatment.
 - a. psychopathic
 - b. antisocial
 - c. non-criminogenic
 - d. criminogenic
 - e. addictive

3. Computerized assessment has an added benefit of increasing candidness of self-reported responses given by the subject because of _____ unique properties.
 - a. 3
 - b. 4
 - c. 5
 - d. 6
 - e. 7

4. The CASA has _____ items.
 - a. 88
 - b. 488
 - c. 388
 - d. 288
 - e. 188

5. Which of the following content areas contains the largest number of items?
 - a. DAST
 - b. PRD
 - c. ADS
 - d. treatment readiness
 - e. patterns of drug use

Computerized Assessment of Substance Abuse (CASA)

6. The CASA does not investigate _____.
 - a. nutrition
 - b. caffeine use
 - c. smoking
 - d. psychological complaints
 - e. all of the above
7. To increase the integrity of the data and quality of self-report information, the CASA uses conditional logic _____.
 - a. outreach
 - b. networking
 - c. branching
 - d. breaching
 - e. spanning
8. On the CASA, the severity of alcohol abuse is assessed with the ADS, PRD, and _____.
 - a. TCUDS
 - b. SASSI
 - c. MAST
 - d. SALSI
 - e. DAST
9. The SDS was included in the CASA to provide information related to the _____ dimensions of addictions.
 - a. psychological
 - b. physiological
 - c. psychometric
 - d. psychosocial
 - e. neurological
10. Both the ADS and DAST use a _____ category, case-classification system.
 - a. four
 - b. five
 - c. six
 - d. seven
 - e. eight
11. Response bias was measured by the _____.
 - a. PDP
 - b. PDC
 - c. PDD
 - d. PDS
 - e. ADS

Computerized Assessment of Substance Abuse (CASA)

12. The CASA uses the results from bias measurement to classify respondents into one of _____ profiles that have been established using prison entrant norms.
 - a. seven
 - b. six
 - c. five
 - d. four
 - e. three
13. This study utilized a sample of _____ incarcerated offenders.
 - a. state
 - b. county jail
 - c. federally
 - d. city jail
 - e. internationally
14. The sample in the study represented _____ % of the actual admissions to the two institutions.
 - a. 64
 - b. 44
 - c. 26
 - d. 74
 - e. 36
15. The ADS is considered _____.
 - a. multidimensional
 - b. bi-dimensional
 - c. tri-dimensional
 - d. multi-determined
 - e. unidimensional
16. Program intensity level is determined by highest rating on the ADS, DAST, or _____.
 - a. PRD
 - b. CCD
 - c. DPR
 - d. MAST
 - e. SASSI
17. The PDS consists of the IM and _____.
 - a. SDS
 - b. SDE
 - c. ADS
 - d. DES
 - e. SED

Computerized Assessment of Substance Abuse (CASA)

18. The concurrent validity of the PDS is supported by a strong association with other measures traditionally known as _____ scales.
 - a. antisocial
 - b. fake-good
 - c. lie
 - d. fake-bad
 - e. depression
19. The OMS contains indicators that relate to each of the _____ domains on criminogenic needs.
 - a. 8
 - b. 7
 - c. 6
 - d. 5
 - e. 4
20. The SOH looks at the nature and extent of _____ offending and the amount of victim harm.
 - a. violent
 - b. monetary
 - c. drug
 - d. sexual
 - e. white collar
21. The OAI is conducted by the _____.
 - a. community probation officer
 - b. community parole officer
 - c. institutional parole officer
 - d. institutional psychologist
 - e. community caseworker
22. The severity of substance abuse problems results indicate that _____ percent were identified as having no problem.
 - a. 31
 - b. 41
 - c. 51
 - d. 21
 - e. 11
23. The majority of offenders with a rating of _____ on overall substance abuse severity were rated high need on the OAI.
 - a. none to low
 - b. moderate to severe
 - c. low to moderate
 - d. substantial to severest
 - e. mild to moderate

Computerized Assessment of Substance Abuse (CASA)

24. Offenders with more severe substance abuse problems were assessed as being at a higher risk of re-offending during the _____ after release from custody.
- a. three weeks
 - b. three months
 - c. six years
 - d. nine months
 - e. three years
25. What percent of the offenders who completed the CASA attributed cause to their alcohol use for their current offenses?
- a. 52
 - b. 42
 - c. 32
 - d. 22
 - e. 11
26. _____ percent of the offenders in the combined moderate, substantial, and severe categories of the ADS reported impaired judgment at the time of their offenses.
- a. Seventy-four
 - b. Eighty-four
 - c. Ninety-four
 - d. Sixty-four
 - e. Fifty-four
27. _____ percent of the offenders who reported drug use on the day of the offense(s) attributed cause to their drug impairment.
- a. Seventy-three
 - b. Eighty-three
 - c. Ninety-three
 - d. Sixty-three
 - e. Fifty-three
28. There was a strong association between severity levels on the DAST and _____ drug use.
- a. antecedent
 - b. consequent
 - c. antemortem
 - d. antedated
 - e. antepenultimate

Computerized Assessment of Substance Abuse (CASA)

29. Drug dependent offenders are more likely to commit crimes of _____.
a. robbery
b. break and enter
c. thefts
d. fraud
e. all of the above
30. Of the offenders who responded to the DAST and SDS items, over half identified _____ as their most frequently used drug.
a. cocaine
b. opioids
c. crack cocaine
d. cannabinoids
e. heroin
31. The drug type with the lowest degree of psychological dependence was _____.
a. cocaine
b. opioids
c. crack cocaine
d. cannabinoids
e. heroin
32. The PDS measures response _____.
a. speed
b. bias
c. direction
d. blocking
e. suppression
33. What percent of the offenders who completed the CASA indicated a pattern of reliable reporting?
a. 94
b. 84
c. 64
d. 54
e. 74
34. Approximately _____ percent of the reliable DAST responders produced results indicating a moderate to severe drug problem compared to only _____ percent of the unreliable responders.
a. 40, 14
b. 14, 40
c. 60, 20
d. 50, 5
e. 70, 10

Computerized Assessment of Substance Abuse (CASA)

35. What percent of the respondents found the computerized format comfortable?
- a. 38
 - b. 48
 - c. 58
 - d. 68
 - e. 78
36. The CASA research study produced _____ main study findings.
- a. 2
 - b. 3
 - c. 4
 - d. 5
 - e. 6
37. Offenders tend to _____ their level of substance abuse problems.
- a. overestimate
 - b. underestimate
 - c. estimate
 - d. underscore
 - e. over correct
38. Operational staff making guided adjustments is consistent with the _____ principle.
- a. risk
 - b. need
 - c. responsivity
 - d. professional control
 - e. professional discretion
39. The “other” drug category in the study accounted for less than _____ percent of the sample.
- a. 50
 - b. 40
 - c. 30
 - d. 20
 - e. 10
40. The CASA could be improved by the development of a new _____.
- a. logogram
 - b. logistic
 - c. logic tree
 - d. algorithm
 - e. logarithm