Reliability and Predictive Validity of the Juvenile Sex Offender Assessment Protocol-II in an

Australian Context

Timea Molnar, Griffith University

Troy Allard, Griffith University

Nadine McKillop, University of the Sunshine Coast

John Rynne, Griffith University

Abstract

This study investigated the reliability and predictive validity of the Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II), in an Australian context, and for Australian Indigenous and non-Indigenous youth. Participants were 123 ($n = 91$ non-Indigenous; $n = 32$ Indigenous) youth assessed using the J-SOAP-II and followed up over an average period of four years. The reliability of the J-SOAP-II was assessed using measures of internal consistency (Cronbach's alphas and inter-item correlations). Receiver Operating Characteristic (ROC) analyses were conducted to assess the J-SOAP-II's validity in predicting sexual and non-sexual (violent and non-violent) recidivism. Overall, the J-SOAP-II demonstrated moderate to high levels of reliability and weak to moderate levels of validity for predicting sexual and non-sexual (violent and non-violent) recidivism for the whole sample. Whilst the J-SOAP-II total score was significantly associated with non-sexual (violent and non-violent) recidivism for non-Indigenous youth, it was not significantly associated with any of the outcome variables for Indigenous youth. Across all analyses, the dynamic scales of the J-SOAP-II predicted recidivism with greater accuracy than the static scales. However, the static scales had greater accuracy in predicting the risk of sexual recidivism for Indigenous youth. While a reliable measure, these preliminary findings raise questions about the validity of the J-SOAP-II for predicting sexual recidivism for Indigenous and non-Indigenous youth in an Australian context, and warrants further investigation.

Keywords: J-SOAP-II, Indigenous, youth, sexual, recidivism, reliability, predictive validity

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Youth account for a large proportion of those who sexually harm. In the United States and Canada, for example, youth under 18 years account for approximately 10–17% of all sexual offences reported to police (Allen, 2018; United States Department of Justice, 2015). In Australia, youth account for approximately 28% of all offenders with a principal offence of sexual assault (Australian Bureau of Statistics [ABS], 2018). Indigenous youth are further overrepresented in the proportion of youth who sexually harm (YSH). For example, in the United States, American Indian and Alaskan Native youth experience higher levels of involvement in the juvenile justice system as they are two to three times more likely to be arrested for certain offences, including sexual offences, than non-Indigenous youth (Rountree, 2015; Voisin, Kim, Takahashi, Morotta, & Bocanegra, 2017). Indigenous youth in Canada and Australia¹ are also overrepresented in the criminal justice system as they account for approximately a quarter of all sexual offences reported to police but represent less than 5% of the population (ABS, 2017; Hylton, 2002, 2004; Queensland Police Service, 2017; Statistics Canada, 2017).

The proportion of YSH poses a serious threat to the health and wellbeing of the community (Letourneau & Borduin, 2008). For example, the annual cost associated with sexual victimisation in Australia, including the cost of correctional treatment, is estimated to be approximately \$775 million dollars (Australian Institute of Criminology, 2014). Some of the many negative emotional impacts of sexual offending on victims may include fear, self-blame, anxiety, and depression (Letourneau & Borduin, 2008). Social costs are also

¹ The term Indigenous used in the context of the present study refers to the Australian Aboriginal and Torres Strait Islander population.

experienced by those who sexually harm, many of whom are removed from their families and face the stigma associated with sexual offending (Letourneau & Borduin, 2008). Accurate risk assessments and treatments are therefore necessary in order to correctly identify and effectively address such behaviours.

Youth Sexual Recidivism Risk Assessment Measures

Until recently, the empirical literature regarding sexual recidivism risk assessment focused largely on adult populations. Given the primary focus on measures designed to assess the likelihood of sexual recidivism for adults, sexual recidivism risk assessment measures designed for youth populations are largely lacking (Hempel, Buck, Cima, & van Marle, 2013). There are limited published studies examining youth sexual recidivism risk assessment and, as there is a high propensity of youth who also engage in non-sexual offending prior to and subsequent to sexual offending, it is important to consider whether these risk assessment measures are accurate for assessing the risk of sexual as well as non-sexual recidivism for this population (Chu, Ng, Fong, & Teoh, 2012). There are a number of sexual recidivism risk assessment measures developed for YSH including the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR; Worling & Curwen, 2001); Juvenile Sexual Offender Recidivism Risk Assessment Tool-II (JSORRAT-II; Epperson & Ralston, 2015); and the Protective + Risk Observations for Eliminating Sexual Offense Recidivism (PROFESOR; Worling, 2017). There are also risk assessment measures, not specifically developed for YSH, but are used as part of their overall assessment (Youth Level of Service/Case Management Inventory [YLS/CMI; Hoge & Andrews, 2002]). One of the most commonly used sexual recidivism risk assessment measures developed for youth populations is the Juvenile Sex Offender Assessment Protocol-II (J-SOAP-II; Prentky & Righthand, 2003), which is the focus of the present study.

Juvenile Sex Offender Assessment Protocol-II

The J-SOAP-II is widely used across Australia, the United Kingdom, and the United States to assist clinical decision-making (Chu et al., 2012; Martinez, Rosenfeld, Cruise, & Martin, 2015; Prentky & Righthand, 2003). The J-SOAP-II is designed to be used with male youth between 12 and 18 years who have committed a sexual offence/s as well as those with a history of sexually coercive behaviour (Prentky & Righthand, 2003). The J-SOAP-II consists of 28 items aiding in the review of risk factors identified as being associated with sexual and non-sexual offending. The items are grouped into four scales: Scale 1 - Sexual Drive/Sexual Preoccupation, Scale 2 - Impulsive/Antisocial Behaviour, Scale 3 - Intervention, and Scale 4 - Community Stability/Adjustment. Scale items measure developmental risk factors (e.g., Caregiver Consistency, History of Physical Assault and/or Exposure to Family Violence) and situational risk factors (e.g., Quality of Peer Relationships) (Prentky & Righthand, 2003).

Static and dynamic risk factors. The scales of the J-SOAP-II reflect both static and dynamic risk factors associated with sexual and non-sexual recidivism. Scales 1 – Sexual Drive/Sexual Preoccupation and 2 – Impulsive/Antisocial Behaviour reflect static risk assessment in which factors are generally unchangeable (e.g., duration of sex offence history, previous charges/arrests for sexual and non-sexual offences). Scales 3 – Intervention and 4 – Community Stability/Adjustment reflect dynamic risk assessment in which factors are amenable to change (e.g., motivation for change, management of sexual urges/desire) (Beech & Craig, 2012; Prentky & Righthand, 2003) enabling these to be identified and therefore targeted in any interventions to address the risk of recidivism, to assess the degree of behavioural change, or to evaluate program effectiveness (Harris, Cousineau, Pagé, Sonnichsen, & Varrette, 2011).

Dynamic scales of the J-SOAP-II are consistently found to outperform static scales in the prediction of sexual recidivism (e.g., Martinez, Flores, & Rosenfeld, 2007; Martinez et

al., 2015). However, there are differences across settings and presumably across different cultural groups (Martinez et al., 2015). Research concerning recidivism risk assessment for Indigenous males more broadly indicates that static factors not based on culture (e.g., personal history factors such as age, number of past criminal convictions, etc.) may more accurately predict recidivism for Indigenous males (Gendreau, Little, & Goggin, 1996; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2007). Dynamic risk factors that influence behaviours therefore require broader conceptualisation for Indigenous peoples in order to more effectively predict sexual recidivism (Babchishin, Blais, & Helmus, 2012; Gutierrez, Helmus, & Hanson, 2016).

For the majority of YSH, sexual offending behaviour is limited to the period of adolescence (Lussier, Blokland, Mathesius, Pardini, & Loeber, 2015; McKillop, Rayment-McHugh, Smallbone, & Bromham, 2018). Developmental risk factors (e.g., family violence) have been shown to explain early onset offending behaviour, and while many sexual recidivism risk assessment measures focus largely on these factors, research indicates that YSH are characterised by risk factors that are different to early onset non-sexual offenders (Lussier, McCuish, Mathesius, Corrado, & Nadeau, 2018). Recent developments in the sexual offending literature have pointed to the consideration of the person-situation interaction as ecological (e.g., peers, school) and situational factors (e.g., substance misuse, stress) are implicated in driving and facilitating sexual offending behaviour (McKillop et al., 2018; Mischel, 1968). McKillop, Rayment-McHugh, Smallbone, and Bromham (2018) and Van de Vijver and Leung (2000; see also Adams, McKillop, Smallbone, & McGrath, 2019) highlight the importance of contextual factors (e.g., situational factors, opportunities to offend) in predicting the propensity to sexually offend, especially when working with Indigenous offenders.

Reliability. There are limited studies examining the J-SOAP-II's reliability. The most relevant of these is the initial validation study of the Juvenile Sex Offender Assessment Protocol (J-SOAP), the precursor to the J-SOAP-II, conducted by Prentky and Righthand (2003). This study indicated high levels of inter-rater reliability for most of the scale items of the J-SOAP (.75-.91) and moderate to high levels of internal consistency for each of the individual scales ($\alpha = .64-.95$). These reliability measures were conducted on a sample of 96 YSH and subsequently a sample of 153 youth in North America (Prentky & Righthand, 2003).

Predictive validity. In terms of the predictive validity of the J-SOAP-II, there are only a limited number of published studies examining its validity for use with YSH. Findings indicate that there is considerable variability regarding its validity (e.g., Aebi, Plattner, Steinhausen, & Bessler, 2011; Caldwell & Dickinson, 2009; Caldwell, Ziemke & Vitacco, 2008; Chu et al., 2012; Martinez et al., 2007; Parks & Bard, 2006; Peterson, 2010; Powers-Sawyer & Minor, 2009; Prentky, Righthand, Schuler, Cavanaugh, & Lee, 2010; Rajlic & Gretton, 2010; Schwartz-Mette, Righthand, Hecker, Dore, & Huff, 2019; Viljoen et al., 2008). The authors of the initial validation study of the Juvenile Sex Offender Assessment Protocol (J-SOAP) were unable to reach any significant conclusions about the validity of the J-SOAP due to low base rates of sexual recidivism and therefore a lack of generalisability of the findings (Christiansen & Vincent, 2013; Prentky & Righthand, 2003). Of the studies examining the predictive validity of the J-SOAP-II with non-institutionalised YSH, most have demonstrated moderate Area Under the Curve (AUC) scores ranging from .70 to .80 for the prediction of sexual recidivism (Aebi et al., 2011; Martinez et al., 2007; Peterson, 2010; Prentky et al., 2010; Rajlic & Gretton, 2010). However, Fanniff and Letourneau (2012) argue that only Scale 2 – Impulsive/Antisocial Behaviour of the J-SOAP-II demonstrated acceptable levels of predictive validity in their nine-study review. Scale 1 –

Sexual Drive/Sexual Preoccupation and Scale 4 – Community Stability/Adjustment had low internal consistency (.43-.65) and were not indicative of sexual behaviours. Scale 3 – Intervention demonstrated predictive validity for relevant behaviours, however, its relationship with sexual recidivism could not be examined (Fanniff & Letourneau, 2012). The authors provided minimal support for the use of Scale 3 – Intervention and concluded that more research is required (Fanniff & Letourneau, 2012).

In contrast, research has demonstrated mixed performance of the J-SOAP-II in residential treatment or correctional settings, with offenders who presumably pose a greater risk of sexual recidivism or who have engaged in more severe acts of sexual violence. Four studies have demonstrated poor predictive validity for most scales as they were unable to significantly predict sexual recidivism (Caldwell & Dickinson, 2009; Caldwell et al., 2008; Parks & Bard, 2006; Viljoen et al., 2008) whilst Powers-Sawyer and Minor (2009) demonstrated support for only static scales (Scale 1 – Sexual Drive/Sexual Preoccupation and Scale 2 – Impulsive/Antisocial Behaviour). A study conducted by Chu et al. (2012), which examined both incarcerated youth and those receiving treatment in the community, found no association between J-SOAP-II scores and sexual recidivism.

In a more comprehensive review of the J-SOAP-II for the prediction of adolescent sexual reoffending, Viljoen, Mordell, and Beneteau (2012) conducted a 33-study meta-analysis which found that the J-SOAP-II significantly predicted general (non-sexual) recidivism. However, the J-SOAP-II explained only a modest amount of variance in sexual recidivism (i.e., 1.4-4% for total scores). The results of this study are consistent with the results presented above for higher-risk youth. More recently, a longer-term validation study examining the predictive validity of the J-SOAP-II into adulthood found support for the prediction of both sexual and non-sexual (violent and non-violent) recidivism, although this differed across scales (Schwartz-Mette et al., 2019). Predictive validity was found for all J-

SOAP-II scores (except Scale 1 – Sexual Drive/Sexual Preoccupation) for non-sexual (violent and non-violent) recidivism. However, only the J-SOAP-II total score, Scale 1 – Sexual Drive/Sexual Preoccupation, and the static scales (Scales 1 – Sexual Drive/Sexual Preoccupation and 2 – Impulsive/Antisocial Behaviour) were implicated in significantly predicting sexual recidivism (Schwartz-Mette et al., 2019).

Given the mixed results of the validity of the J-SOAP-II in predicting sexual recidivism and as no fixed cut-off scores have been determined or validated for classifying YSH as low, moderate, or high risk, it is typically only used by clinicians to guide their decision-making regarding the risk of recidivism in their decision making (Martinez et al., 2015).

Cross-Cultural Application of Sexual Recidivism Risk Assessment Measures

Most studies that have examined risk assessment measures for YSH are based on North American samples (Chu et al., 2012). The lack of breadth in the youth sexual recidivism risk assessment literature is problematic as cultural differences in the definitions and development of sexually deviant attitudes and behaviours can vary significantly. Cultural norms, gender roles, mores and morals, religion, taboos, and expectations, for example, can affect the way in which sexually deviant attitudes and behaviours are understood and dealt with across cultures. Therefore, it is possible that risk factors for sexual offending may differ cross-culturally and therefore may affect the utility of risk assessment measures (Allan & Dawson, 2004; Chu et al., 2012).

In an attempt to validate risk assessment measures for YSH in a non-Western context, Chu et al. (2012) compared the scores of 104 male youth across three risk assessment measures designed for YSH within a Singaporean context. The results of the study indicated support for the Estimate of Risk of Adolescent Sexual Offense Recidivism (ERASOR) in significantly predicting sexual recidivism, however the J-SOAP-II and the Youth Level of

Service/Case Management Inventory (YLS/CMI) were only successful in significantly predicting non-sexual recidivism. The findings of this study suggest that the ERASOR appears to be appropriate for the assessment of youth who have sexually offended in a non-Western context, however the J-SOAP-II and YLS/CMI have limited utility for this purpose (Chu et al., 2012).

Research regarding the effectiveness of the J-SOAP-II has been conducted within culturally diverse samples. A recent attempt to measure changes in J-SOAP-II scores over the course of treatment for YSH has been conducted in Canada in which a small proportion of the youth in the sample were African American (8.6%), Hispanic (4.9%), American Indian or Alaskan Native (1.2%), and biracial (2.5%) (Viljoen et al., 2017). One half of youth showed a significant decrease on total scores obtained on the dynamic scales of the J-SOAP-II (Scales 3 – Intervention and 4 – Community Stability/Adjustment) after treatment. However, decreases in risk factors and increases in protective factors did not predict reduced sexual and non-sexual (violent and non-violent) recidivism (Viljoen et al., 2017). Despite the diverse sample, analyses did not differentiate based on these diversities.

Present Study

In Australia, limited research has been conducted on the utility of the J-SOAP-II for assessing the risk of recidivism for YSH, and specifically for Indigenous versus non-Indigenous youth. Considering findings from other studies that have highlighted differences in the predictive validity of the J-SOAP-II for culturally diverse youth, it is important to compare the utility of this risk assessment measure in Australia and for this population. As such, the present study examined the reliability and predictive validity of the J-SOAP-II on a sample of Australian youth, and compared its reliability and validity for predicting sexual and non-sexual (violent and non-violent) recidivism for Indigenous and non-Indigenous YSH.

Method

Participants

The original sample included a total of 200 (139 non-Indigenous and 61 Indigenous youth) male youth found guilty of committing a sexual offence/s (between 10 and 17 years of age) and referred to and completed treatment at the Griffith Youth Forensic Service in Australia between January 2001 and November 2012. The Griffith Youth Forensic Service is a field-based service led by a team of clinicians and researchers who provide individualised services to youth who had committed serious sexual offences. The majority of sexual offences included contact sex offences (98.3%) such as aggravated sexual assault. Services are offered state-wide to youth residing in metropolitan, regional, rural, and remote locations. Participants were excluded from the study if post-treatment J-SOAP-II scores were unavailable due to the fact that they did not engage in or complete treatment or if they were declined at the time of referral to the service ($n = 77$). The final sample consisted of 123 (91 non-Indigenous and 32 Indigenous) male youth.

Table 1 presents the sample characteristics. Indigenous youth were of a similar age to non-Indigenous youth at the time of referral to treatment. Differences in prior offence histories appear to be due to the significantly higher number of prior non-sexual (violent and non-violent) offences in the Indigenous youth group; both groups had similar sexual offence histories at the time of referral to treatment. The offences included in these figures refer to arrests resulting in actions by police, not convictions. This offence count also reflects concurrent and consecutive offences charged. Both groups received treatment for a similar duration.

Table 1

Sample characteristics by Indigenous and Non-Indigenous Youth

	Indigenous (<i>n</i> = 32)	Non-Indigenous (<i>n</i> = 91)	Total (<i>n</i> = 123)	Statistic / <i>p</i> (95% Confidence Interval; CI)
Age at time of referral (years, M [<i>SD</i>])	15.88 (1.50)	15.33 (1.29)	15.47 (<i>SD</i> = 1.36)	$t(121) = -1.97 / p = .05 (-1.09-.00)$
Criminal history (offences, M [<i>SD</i>])	32.59 (38.39)	13.51 (19.14)	18.47 (26.75)	$t(77.86) = -2.70 / p = .011 (-33.43-4.74)$
Sexual	2.25 (1.88)	2.84 (2.70)	2.68 (2.52)	$t(121) = 1.13 / p = .26 (-.44-1.61)$
Non-Sexual Violent	2.66 (1.88)	1.08 (2.16)	1.49 (2.69)	$t(39.15) = -2.34 / p = .025 (-2.95-.21)$
Non-Sexual/Non-Violent	27.69 (36.54)	9.59 (17.80)	14.30 (25.23)	$t(36.56) = -2.69 / p = .011 (-31.73-4.46)$
Treatment duration (years, M [<i>SD</i>])	1.13 (.61)	1.24 (.68)	1.21 (.66)	$t(121) = .87 / p = .39 (-.15-.39)$

Measures

J-SOAP-II. The present study utilised post-treatment J-SOAP-II scores. These scores were derived from clinical records completed during the course of treatment by five highly experienced clinicians trained in clinical and forensic psychology.

Recidivism. Recidivism was measured as any rearrest for a new offence post-treatment. This data extraction was completed by the Queensland Police Service and provided to the research team for analysis. For the present study, time at risk was defined as the period between treatment end date and the date of recidivism data extraction. The offence-related data comprised several variables including identification number, date/s of offences (start and finish), as well as offence type and description which was based on the 16 offence categories outlined in the Australian and New Zealand Standard Offence Classification (ANZSOC) (ABS, 2011). Offences were classified into three broad categories: sexual (Divisions 3 and 13), non-sexual (violent; Divisions 1, 2, and 4-6), and non-sexual (non-violent; Divisions 1, 4, 7-13, and 15; ABS, 2011).

Procedure

J-SOAP-II and recidivism data was obtained from a clinical database; additional file review was conducted as required. Institutional research ethics review was conducted and approval obtained for this study. All processes were conducted in accordance with the governing ethical principles.

Statistical analyses. Descriptive data including mean J-SOAP-II total and scale scores and accompanying t-tests and inter-item and bivariate correlations were included. To assess the reliability of the J-SOAP-II in an Australian context, and for Indigenous and non-Indigenous YSH, Cronbach's alphas were calculated to measure internal consistency. These analyses were conducted for the total 28-item J-SOAP-II scale, as well as for each individual scale of the J-SOAP-II. Bivariate correlations were conducted for the total 28-item J-SOAP scale and static (Scales 1 – Sexual Drive/Sexual Preoccupation and 2 – Impulsive/Antisocial Behaviour) and dynamic scales (Scales 3 – Intervention and 4 – Community Adjustment/Stability) only. To assess the predictive validity of the J-SOAP-II, Receiver Operating Characteristic (ROC) analyses were conducted to determine its utility in predicting sexual and non-sexual (violent and non-violent) recidivism for Indigenous and non-Indigenous YSH in an Australian context. For this study, effect sizes (AUCs) above .71 represent a large effect size and those between .64 and .71 represent a medium effect size (Rice & Harris, 2005). Further analyses were conducted to compare AUCs between groups using z-score calculations (Hanley & McNeil, 1982). Analyses were conducted using IBM Statistical Package for Social Sciences software (version 25).

Results

Descriptive Data

Participants were followed up over an average period of four years ($SD = 2.41$ years, range = 5.00 days-10.85 years). The average follow-up period for non-Indigenous youth (M

= 4.04 years, $SD = 2.46$ years, range = 5.00 days-10.85 years) and Indigenous youth ($M = 3.89$ years, $SD = 2.28$ years, range = 34.00 days-8.93 years) was similar, $t(121) = .30, p = .767$. Of the 123 youth in this sample, the sexual recidivism rate during this follow-up period was 6.5% ($n = 8$, 3 Indigenous; 5 non-Indigenous), $\chi^2(1, n = 123) = .12, p = .767, \Phi = .069$. Furthermore, 31 (25.2%) youth ($n = 13$ [40.6%] Indigenous; $n = 18$ [19.8%] non-Indigenous) were rearrested for a new non-sexual (violent) offence during the follow-up period, $\chi^2(1, n = 123) = 4.41, p = .036, \Phi = .211$. Finally, 68 (55.3%) of youths were rearrested for a new non-sexual (non-violent) offence ($n = 25$ [78.1%] Indigenous; $n = 43$ [47.3%] non-Indigenous), $\chi^2(1, n = 123) = 7.92, p = .005, \Phi = .272$. These rates are consistent with the rates of recidivism within the broader youth cohort as well as between Indigenous and non-Indigenous offenders (Caldwell, 2010; Gutierrez, Wilson, Rugge, & Bonta, 2013).

As shown in Table 2, there were no significant differences in the J-SOAP-II total and scale scores between Indigenous and non-Indigenous youth.

Table 2

J-SOAP-II Descriptive Data for Indigenous and Non-Indigenous Youth Who Sexually Harm

J-SOAP-II Scales	Indigenous $M(SD)$	Non-Indigenous $M(SD)$	Total $M(SD)$	Statistic / p (CI)
Total	18.19 (7.78)	15.85 (8.95)	16.48 (8.69)	$t(118) = -1.306$ / $p = .194$ (-5.88-1.21)
Static	11.81 (7.20)	9.80 (6.33)	10.33 (6.60)	$t(119) = -1.488$ / $p = .139$ (-4.70-.67)
Dynamic	5.41 (3.03)	5.50 (4.07)	5.48 (3.81)	$t(73) = .137$ / $p = .892$ (-1.27-1.46)
Scale 1 – Sexual Drive/Sexual Preoccupation	3.89 (3.27)	4.05 (3.31)	4.01 (3.29)	$t(104) = .218$ / $p = .828$ (-1.28-1.60)
Scale 2 – Impulsive/Antisocial Behaviour	7.11 (4.67)	5.88 (4.42)	6.21 (4.50)	$t(104) = -1.236$ / $p = .219$ (-3.18-.74)

Scale 3 – Intervention	4.25 (2.80)	3.95 (3.20)	4.03 (3.09)	$t(106) = -.440 /$ $p = .661 (-1.65-$ $1.05)$
Scale 4 – Community Stability/Adjustment	1.54 (1.58)	1.50 (1.62)	1.51 (1.60)	$t(118) = -1.306$ $/ .194 (-5.88-$ $1.01)$

Inter-item correlations. Although the inter-item correlation matrix revealed some negative values, the mean inter-item correlation coefficients for each of the scales demonstrated moderate to high levels of internal consistency. The mean inter-item correlation coefficients for the total 28-item J-SOAP-II scale, the static and dynamic scales, and Scales 1 – Sexual Drive/Sexual Preoccupation, 2 – Impulsive/Antisocial Behaviour, 3 – Intervention, and 4 – Community Stability/Adjustment ranged from .21 to .44. These results are presented in Table 3.

Table 3

J-SOAP-II Scale Inter-Item Correlations for Indigenous and Non-Indigenous Youth Who Sexually Harm

J-SOAP-II Scales	<i>M</i>	Min/Max	<i>N</i>
Total	.21	-.13-.80	28
Static	.28	-.13-.78	16
Dynamic	.27	-.01-.60	12
Scale 1 – Sexual Drive/Sexual Preoccupation	.23	-.13-.69	8
Scale 2 – Impulsive/Antisocial Behaviour	.44	.22-.78	8
Scale 3 – Intervention	.37	.12-.60	7
Scale 4 – Community Stability/Adjustment	.30	.10-.42	5

Bivariate correlations. As shown in Table 4, all scales were significantly correlated with each other indicating a moderate to strong relationship between the scales of the J-SOAP-II. These results provide support for the convergence of scores representing related concepts.

Table 4

J-SOAP-II Bivariate Correlations for Indigenous and Non-Indigenous Youth Who Sexually Harm

J-SOAP-II Scales	Static	Dynamic	Total
Static	1.000	.450***	.818***
Dynamic	.450***	1.000	.763***
Total	.818***	.763***	1.000

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

Reliability

Internal consistency. Cronbach's alpha coefficients revealed moderate to high levels of internal consistency for each of the scales except for Scale 4 – Community Stability/Adjustment ($\alpha = .67$). The Cronbach's alpha coefficients for the total 28-item J-SOAP-II scale, the static and dynamic scales, and Scales 1 – Sexual Drive/Sexual Preoccupation, 2 – Impulsive/Antisocial Behaviour, and 3 – Intervention ranged from .71 to .88.

Predictive Validity

ROC analyses. ROC analyses were used to assess the classification accuracy of the J-SOAP-II for predicting sexual and non-sexual (violent and non-violent) recidivism for the total sample and for the Indigenous and non-Indigenous groups separately. The results are presented in Table 5.

Total. ROC analyses conducted for the total sample revealed a statistically significant level of classification accuracy of the J-SOAP-II total score for sexual and non-sexual (violent and non-violent) recidivism. The static scales more accurately classified the prediction of sexual recidivism, and dynamic scales non-sexual (violent and non-violent) recidivism.

Non-Indigenous. ROC analyses revealed a statistically significant level of classification accuracy of the J-SOAP-II total score for non-Indigenous youth for non-sexual (violent and non-violent) recidivism only. The J-SOAP-II total score was not significantly associated with the prediction of sexual recidivism.

In contrast to the total sample, the classification accuracy of the static scales was statistically significant for predicting non-sexual (non-violent) recidivism only. Consistent with the results for the total sample, the dynamic scales were statistically significant for predicting non-sexual (violent and non-violent) recidivism only. In all of these instances, the dynamic scales of the J-SOAP-II more accurately classified the prediction of non-sexual recidivism for the non-Indigenous group than the static scales. As above, the static and dynamic scale scores were not significantly associated with the prediction of sexual recidivism.

Indigenous. ROC analyses revealed a high but not statistically significant level of classification accuracy of the J-SOAP-II total score for predicting sexual recidivism. Furthermore, the classification accuracy of the J-SOAP-II total score for predicting non-sexual (violent) and non-sexual (non-violent) recidivism was close to chance.

The classification accuracy of the static and dynamic scales was high but not statistically significant for the prediction of sexual recidivism. When predicting non-sexual (violent) recidivism, the classification accuracy was close to chance for both the static and dynamic scales. Finally, when predicting non-sexual (non-violent) recidivism, the

classification accuracy was close to chance for the static scales and moderate but not statistically significant for the dynamic scales. Despite not reaching significance, the dynamic scales of the J-SOAP-II more accurately classified the prediction of non-sexual (violent and non-violent) recidivism for the Indigenous group than the static scales. In contrast, the static scales of the J-SOAP-II more accurately classified the prediction of sexual recidivism.

Table 5

Receiver Operating Characteristic Analyses of the J-SOAP-II for Predicting Sexual and Non-Sexual (Violent and Non-Violent) Recidivism for Indigenous and Non-Indigenous Youth Who Sexually Harm

	Sexual Recidivism				Non-Sexual (Violent) Recidivism				Non-Sexual (Non-Violent) Recidivism			
	AUC	<i>p</i>	SE	95% CI	AUC	<i>p</i>	SE	95% CI	AUC	<i>p</i>	SE	95% CI
Total												
Total	.74	.034	.08	.58-.90	.68	.003	.05	.58-.79	.69	.000	.05	.60-.79
Static	.75	.028	.07	.61-.89	.57	.230	.07	.44-.70	.64	.011	.05	.53-.74
Dynamic	.72	.056	.09	.54-.89	.66	.010	.06	.55-.77	.66	.003	.05	.56-.75
Non-Indigenous												
Total	.75	.094	.12	.52-.97	.74	.001	.06	.62-.86	.71	.001	.06	.60-.82
Static	.71	.164	.11	.50-.92	.64	.081	.09	.47-.80	.65	.014	.06	.54-.77
Dynamic	.75	.087	.13	.50-1	.69	.015	.07	.55-.83	.66	.008	.06	.55-.78
Indigenous												
Total	.70	.258	.12	.47-.93	.52	.818	.11	.31-.74	.58	.538	.12	.34-.82

Static	.72	.207	.10	.53-.92	.50	.982	.11	.24-.76	.42	.466	.13	.22-.63
Dynamic	.68	.316	.11	.46-.90	.63	.294	.11	.41-.86	.59	.388	.12	.38-.80

Group differences in predictive validity. A z-test for AUC scores was conducted to determine if the predictive validity of the J-SOAP-II differed between Indigenous and non-Indigenous YSH. Analyses revealed that the J-SOAP-II was equally modest in predicting sexual ($z = .21$, $SE = .23$, $p = .83$) and non-sexual (violent; $z = 1.69$, $SE = .13$, $p = .09$, and non-violent; $z = .97$, $SE = .13$, $p = .33$) recidivism for both Indigenous and non-Indigenous youth.

Discussion

The purpose of this study was to undertake a cross-cultural examination of the reliability and predictive validity of the J-SOAP-II in an Australian context and for Indigenous and non-Indigenous YSH. Given the small sample size included in this study, the findings discussed herein are preliminary and should be interpreted as such.

Reliability of the J-SOAP-II

Across analyses for the total 28-item J-SOAP-II scale, as well as the static and dynamic scales and each of the four individual scales, Cronbach's alphas revealed moderate to high levels of reliability. These findings are consistent with previous research on the reliability of the J-SOAP and J-SOAP-II (Prentky & Righthand, 2003).

Predictive Validity of the J-SOAP-II

Despite differences in the predictive accuracy of the J-SOAP-II and its individual scales, AUC scores did not significantly differ between Indigenous and non-Indigenous youth. However, several patterns worthy of further consideration emerged. The findings of this study are consistent with the broader literature regarding the predictive validity of the J-SOAP-II for YSH, which indicates poor to moderate performance of the J-SOAP-II for the

prediction of sexual recidivism (e.g., Aebi et al., 2011; Caldwell et al., 2008; Caldwell & Dickinson, 2009; Martinez et al., 2007; Parks & Bard, 2006; Peterson, 2010; Prentky et al., 2010; Rajlic & Gretton, 2010; Schwartz-Mette et al., 2019; Viljoen et al., 2008).

Furthermore, consistent with the study conducted by Chu et al. (2012) involving youth from a non-Western context, the present findings indicate greater support for the J-SOAP-II in the prediction of non-sexual (violent and non-violent) recidivism than sexual recidivism for both Indigenous and non-Indigenous youth.

The J-SOAP-II failed to accurately predict sexual recidivism for both Indigenous and non-Indigenous youth. However, the J-SOAP-II was valid in the prediction of sexual recidivism for the total sample. These preliminary findings, based on an Australian sample, suggest that the scale items of the J-SOAP-II may be comprised of factors strongly associated with factors associated with general (non-sexual) offending for Indigenous youth and that the J-SOAP-II may not be as valid in the prediction of sexual recidivism, especially for Indigenous youth. However, given the small sample size and low base rates observed in the sample, further investigation is warranted before any definitive conclusions can be made.

Dynamic and Static Risk Factors

Consistent with research regarding dynamic and static risk factors for offending, the dynamic scales consistently outperformed the static scales for non-Indigenous youth as indicated by the ROC analyses (e.g., Martinez et al., 2007; Martinez et al., 2015).

In contrast to the findings for non-Indigenous youth, the static scales of the J-SOAP-II outperformed the dynamic scales for Indigenous youth and the total sample. The static scales outperformed the dynamic scales in the prediction of sexual recidivism as indicated by the ROC analyses, however, the dynamic scales outperformed the static scales for non-sexual (violent and non-violent) recidivism. These preliminary findings suggest that there may be

differences in the efficacy of static and dynamic scale items in the prediction of recidivism, particularly sexual recidivism, for Indigenous youth in Australia.

As discussed, static factors (e.g., personal history factors such as age, number of past criminal convictions, etc.) may be more accurate in significantly predicting recidivism for Indigenous youth (Gendreau et al., 1996; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2007). The preliminary findings of the present study are consistent with this research on the accuracy of static factors in predicting recidivism for Indigenous youth (Gendreau et al., 1996; Hanson & Bussière, 1998; Hanson & Morton-Bourgon, 2007). These findings also suggest that the dynamic factors included in the J-SOAP-II may not be accurately capturing the factors associated with sexual recidivism for Indigenous youth and therefore more broader conceptualisations of such factors, such as the inclusion of contextual factors (e.g., situational factors, opportunities to offend), are necessary (Lussier et al., 2018; McKillop, 2018).

Cross-Cultural Application of the J-SOAP-II

The findings of the present study are consistent with other validity studies of the J-SOAP-II conducted in non-Western contexts. Chu et al. (2012) found support for the J-SOAP-II in predicting only non-sexual (violent and non-violent) recidivism as the J-SOAP-II did not significantly predict sexual recidivism for their sample of Singaporean youth (Chu et al., 2012). These findings, together with the preliminary findings presented above, raise questions about the face and predictive validity for culturally diverse youth.

Limitations

Importantly, the findings of this study should be interpreted in light of some methodological limitations. The sample size and therefore the recidivism base rates—although comparable to other youth cohorts (e.g., Chu et al., 2012; Martinez et al., 2007; Powers-Sawyer & Minor, 2009; Prentky & Righthand, 2003; Righthand et al., 2005; Schwartz-Mette

et al., 2019)–was modest, especially when split to observe group differences. Although the chosen statistical analyses are resilient to low base rates (Martinez et al., 2015), the low base rates for sexual recidivism in this study resulted in low confidence intervals and limited power in some instances. There was also considerable range in the time at risk. However, due to the sample size, all participants were retained. The findings regarding the prediction of sexual recidivism should therefore be considered tentative and further studies should include a larger sample and should consider fixed times at risk.

Furthermore, as previously mentioned, the J-SOAP-II is used to aid clinical decision-making rather than as a standalone assessment of risk. Clinical judgements not to administer the J-SOAP-II due to a lack of engagement or completion of treatment were made independent of, and prior to, the present study. This did introduce some bias in the sample. However, these judgements were made in consideration of the issues raised in this study and reinforce the need for empirical validation of sexual recidivism risk assessment measures relevant for Indigenous and non-Indigenous YSH.

Finally, the J-SOAP-II scores utilised in this study were based on scores obtained on the completion of treatment. Whilst this approach reflects an individual's most recent estimate of risk, these scores are influenced by varying amounts of treatment and do not include those who did not complete treatment (e.g., dropouts). Future research should include estimates of risk obtained at both the commencement and completion of treatment.

Implications

Notwithstanding these limitations, these preliminary findings provide insights into the reliability and validity of the J-SOAP-II in an Australian context. In addition, the findings contribute to the limited knowledge regarding the utility of sexual recidivism risk assessment measures for YSH more generally. These preliminary findings are also useful for exploring ways to improve the reliability and predictive validity of the J-SOAP-II in predicting the risk

of recidivism for Indigenous and non-Indigenous youth populations. Exploring the strengths and weaknesses in the assessments currently available for YSH—with the goal of increasing the reliability and predictive validity of such measures—promotes community safety.

Furthermore, valid risk assessment measures, those that address relevant factors and that are sensitive to cultural differences, minimise unnecessary and potentially harmful interventions with youths and contribute to the formulation of effective treatment plans. The findings of this study are also important for expanding access to Indigenous services and ensuring that Indigenous youth receive culturally appropriate services and care.

As indicated, the J-SOAP-II may not be valid for the prediction of sexual recidivism for culturally diverse youth. The preliminary findings of this study raise questions about the continued use or disuse of this risk assessment measure, particularly for Indigenous youth. However, the interpretation of this is constrained by the low base rates and sample size. These findings implicate the need for further validation of the J-SOAP-II, with larger sample sizes and longer follow-up periods into adulthood, in order to more definitively determine the validity of the scale and improve relevance for this population. This should be done in consultation with community Elders and cultural consultants to ensure the ecological validity of the scale items. As it stands, the J-SOAP-II remains a measure used to inform part of the risk of recidivism, not as a sole sexual recidivism risk assessment measure.

The findings also lend support to the versatile nature of youth offending, for those who sexually harm, both before and after their onset sexual offence. The low base rates for sexual reoffending found in the present study are not dissimilar from other samples and highlight lower levels of persistence among the youth population post-detection, for sexual offences. These findings again highlight the continued underperformance of this risk assessment measure for predicting sexual recidivism, compared to non-sexual recidivism,

indicating the need for further validation of the J-SOAP-II in the Australian context, and globally.

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