



The Utility of the HCR–20 in an Australian Sample of Forensic Psychiatric Patients

Stephane M. Shepherd*, Rachel E. Campbell and James R. P. Ogloff

Centre for Forensic Behavioural Science, Swinburne University of Technology, Melbourne, VIC, Australia; Victorian Institute of Forensic Mental Health (Forensicare), Melbourne, VIC, Australia

The Historical Clinical Risk Management–20 (HCR–20) is utilised internationally to assess an individual’s risk for violence. Despite being widely administered in Australian correctional and forensic populations, the predictive validity of the HCR–20 instrument has never been explored in Australian settings. This retrospective study investigated the predictive validity of the HCR–20 for an Australian cohort of 136 forensic psychiatric patients. Findings support the relationship between the HCR–20 and violent offending post hospital discharge. The HCR–20 Total, Historical, and Risk Management scales shared moderate to large positive correlations with several reconviction categories.

Key words: forensic patients; forensic psychology; Historical Clinical Risk Management–20; offending; risk assessment; structured professional judgement; violence.

Introduction

Violence risk assessment allows health professionals to assess an individual’s risk for violence and other problem behaviours. Structured professional judgement (SPJ) decision making aims to systematise the risk assessment process, providing guidelines that link best practice with the empirical literature. The SPJ model guides the clinician, while simultaneously providing an avenue to consider idiosyncratic variables, or variables deemed by the clinician to have critical importance to an individual’s level of risk (Douglas, Ogloff, Nicholls, & Grant, 1999). This process enables a clinical identification of treatment targets for risk reduction purposes. The Historical Clinical Risk Management–20 (HCR–20) is one such measure that provides a ‘guided clinical approach’ to risk assessment.

The HCR–20 (Webster, Douglas, Eaves, & Hart, 1997) was developed for the assessment of general violence in forensic-psychiatric patients. Numerous studies evaluating the HCR–20 have demonstrated predictive validity for inpatient and post-discharge recidivism across samples of psychiatric patients (Douglas et al., 1999; Doyle, Carter, Shaw, & Dolan, 2012; Gray, Taylor, & Snowden, 2011; O’Shea, Mitchell, Piccioni, & Dickens, 2013), forensic-psychiatric patients (Dernevik, Grann, & Johansson, 2002; de Vogel & de Ruitter, 2005, 2006; Dolan & Blattner, 2010), and offenders (Douglas, Yeomans, & Boer, 2005; Stadtland et al., 2005; Wilson, Desmarais, Nicholls, Hart, & Brink, 2013). A new revision of the HCR–20, the HCR–20 Version 3 (Douglas, Hart, Webster, & Belfrage, 2013) has also demonstrated robust associations with future

*Correspondence: Stephane Shepherd, Centre for Forensic Behavioural Science, Swinburne University of Technology, 505 Hoddle Street, Clifton Hill, VIC 3068, Australia. Email: sshepherd@swin.edu.au

offending (de Vogel, van den Broek, & de Vries Robbe, 2014; Doyle et al., 2014). The HCR–20 Version 3 is constitutionally comparable to the HCR–20. Changes to the HCR–20 Version 3 include alterations to item content and the addition of relevance ratings. Recent investigations, however, have found strong correlations between the HCR–20 and HCR–20 Version 3 Total scores (de Vogel et al., 2014; Strub, Douglas, & Nicholls, 2014) and similar predictive capacities for both instruments within the same sample (de Vogel et al., 2014).

As discussed, the HCR–20 has been well validated globally. Yet surprisingly there is no existing study investigating the predictive validity of the HCR–20 in Australian settings despite the regular use of the instrument in Australian forensic and correctional environments. It is important that an instrument demonstrates regional validity given potential dissimilarities in demographics and medico-legal procedures and practices. Further, accurate identification of violence risk is necessary for public safety and to match patients with appropriate interventions. This study sought to investigate the predictive validity of the HCR–20 for violent recidivism in an Australian sample of mentally disordered offenders and forensic patients in a forensic psychiatric hospital. It was anticipated that the HCR–20 would be significantly correlated with violence and general offending post discharge.

Method

Participants

The sample comprised 136 randomly selected forensic-psychiatric patients (men $n = 98$; women $n = 38$) discharged from a secure forensic-psychiatric hospital, Thomas Embling Hospital (TEH), in Melbourne, Australia. The hospital is operated by the Victorian Institute of Forensic Mental Health (Forensicare) and is the state of Victoria's only secure forensic mental health facility. TEH provides assessment and treatment to men and women with serious mental illnesses requiring secure

inpatient psychiatric hospitalisation. Patients include prisoners with serious mental illness who are involuntarily hospitalised at TEH for treatment, as well as forensic patients (i.e., those determined to be unfit to be tried or found not guilty, because of mental impairment). The mean age at discharge was 32.2 years ($SD = 9.4$; range = 17–62). The large majority of TEH patients have psychotic diagnoses. In the study sample, 72% had been diagnosed with either psychotic or affective disorders (with psychotic features) at discharge.

Measures

The HCR–20 Violence Risk Assessment Scheme Revised (Webster et al., 1997) is a structured professional judgment measure that provides guidelines for the assessment of risk for inpatient and community violence in people with mental disturbances. It comprises 20 items, which make up its three domains of risk: Historical (10 items), Clinical (five items), and Risk Management (five items; see Table 1). The Historical domain includes historical variables, which are static and therefore generally not subject to change. The Clinical and Risk Management scales of the HCR–20 comprise dynamic (changeable) risk factors. The Clinical items reflect present concerns, and the Risk domain items capture future patient management considerations. The HCR–20 items are coded using a 3-point scale (0 = the risk factor is absent or does not apply, 1 = the risk factor may be present, 2 = the risk factor is definitely present).

Originally developed for clinical use, administration preferably involves a combined interview and the consideration of collateral information; however, for research purposes, the HCR–20 can be reliably coded from comprehensive file information alone (Webster et al., 1997). Where areas of risk lack detailed information, items may be omitted and prorated scores generated. Interrater reliability for the HCR–20 has ranged from .79 to .91 over a variety of mental health and correctional settings (see Douglas & Reeves,

Table 1. HCR–20 item and subscales.

HCR–20 item	Variable label
Historical scale	
H1	Previous violence
H2	Young age at first violent incident
H3	Relationship instability
H4	Employment problems
H5	Substance use problems
H6	Major mental illness
H7	Psychopathy
H8	Early maladjustment
H9	Personality disorder
H10	Prior release or detention failure
Clinical scale	
C1	Lack of insight
C2	Negative attitudes
C3	Active symptoms of major mental illness
C4	Impulsivity
C5	Unresponsive to treatment
Risk Management scale	
R1	Plans lack feasibility
R2	Exposure to destabilisers
R3	Lack of personal support
R4	Noncompliance with remediation attempts
R5	Stress

Note: Webster et al. (1997). HCR–20 = Historical Clinical Risk Management–20.

2010). Previous studies have also found the HCR–20 to demonstrate high internal consistency (Belfrage, 1998; Dunbar, Quinones, & Crevecoeur, 2005).

Coding of the HCR–20 item H7 (Psychopathy) was based on the score derived from the Psychopathy Checklist–Revised (PCL–R; Hare, 2003). The PCL–R was developed as a measure of psychopathic personality traits. It comprises 20 items considered characteristic of the prototypical psychopath.

Procedure

The study employed a retrospective design. A sample of 136 patients was randomly drawn from a larger sample of 265 forensic-

psychiatric patients discharged from TEH between April 2000 and the 30 November 2003. Each patient had been admitted to TEH at least once during this period and discharged before November 2003. The date of the first patient discharge was on 3 August 2000, and the last patient discharged was on the 30 July 2003.

The patient information gathered included: legal status, index offence, forensic and psychiatric history, social history, personal history (employment, living arrangements, and marital status), suicidal/self-harm behaviour, and release plans. File information from all admissions (prior and the index hospitalisation) were used to code the HCR–20 Historical items (Webster et al., 1997) and the PCL–R score. Files were coded on site either at TEH

or at Forensicare's outpatient clinic, the Community Forensic Mental Health Service. The coding of instruments was completed by doctoral-level clinical forensic-psychology researchers.

Only the clinical-legal files pertaining to the index hospitalisation were used to code the HCR-20 Clinical and Risk items, which relate to present and future risk, respectively. Accordingly, Risk items were judged on the patient's predicted functioning within the community. A measure of functioning/adjustment was reliant on detailed clinical case notes, discharge summaries, and reports providing information as to future plans for accommodation, psychiatric follow-up, and family supports while in the community, or while incarcerated. The objective of using information up until the date of discharge was to attain the most accurate representation of that person at discharge. This assumes that the level of risk assessed at discharge reflects the level of risk the individual posed when returning into the community or prison.

Recidivism was established on records of criminal charges obtained from the Victoria Police Law Enforcement Assistance Program (LEAP) data. Recidivism was defined as the first new offence occurring during the study's follow-up period.

Violence was operationalised as 'actual, attempted, or threatened harm to a person or persons' (Webster et al., 1997, p. 24). As defined by the HCR-20, sexual assaults, physical assaults (e.g., kicking, hitting, etc.), fear-inducing actions (e.g., stalking), clear threats of harm (with or without a weapon), and acts resulting in criminal sanctions such as arson, kidnapping, and reckless driving all constituted violent behaviour. Violence did not include: destruction of property, self-defence, or acts against animals unless committed with the intent to induce fear in another person. Offences were separated into three violence categories: (a) any violence; (b) physical violence (i.e., physical assault, sexual assault, robbery with violence); and (c) fear-inducing or threatening behaviour

(i.e., armed robbery, arson, stalking, reckless driving, and clear threats). Any violence subsumed both physical and fear-inducing violence.

Statistical Analysis

Descriptive analyses were utilised to ascertain the mean and standard deviation of HCR-20 Total and subscale scores. Additionally, *t*-tests were employed to explore the group differences on the HCR-20 across reconvicted and non-reconvicted participants.

A range of analyses were then conducted to examine the predictive validity of the HCR-20. These included: (a) point-biserial correlations, (b) receiver operating characteristic (ROC) curves, (c) odds ratios.

Point-biserial correlations were used to examine the association between the reconviction criterion variables (dichotomous variables coded 0 or 1, e.g., violence) and the continuous predictor variables (risk measure scores).

ROC analyses were employed to evaluate the predictive accuracy of the HCR-20. The ROC curve plots the 'hit' rate, or the true positive rate (sensitivity), against the false positive rate ($1 - \text{specificity}$), for various thresholds on the predictor variable. These data create an area under the curve (AUC), which is a measure of the degree to which the curve deviates from the diagonal (chance prediction). The AUC is the preferred index for interpreting the accuracy of the predictor as it represents the probability that a true positive and a true negative, which are selected at random, will be correctly ordered by the test. That is, the probability that a randomly chosen person who is positive on the dependent measure (e.g., in this study, violence), will score higher on the predictor measure than a randomly chosen non-violent person. The magnitude of AUC values are usually estimated relative to studies within the area of the research. In a reanalysis of 58 data sets from 44 published studies of violence prediction, Mossman (1994) reported that the median

AUC was .73, well above the .5 level indicative of prediction no-better-than-chance.

Odds ratios were used to generate an interpretable means of evaluating whether scores above and below the HCR-20 median distinguished patients who were reconvicted and those who were not.

Results

Descriptive Analyses

Table 2 presents descriptive scores for the HCR-20 Total and subscales for the sample. Although the HCR-20 has no recommended cut-off scores, a score of 30 has been used widely within the HCR-20 research. This cut-off score yielded a base rate of 17.2%.

Interrater Reliability

Interrater reliability of file coding was assessed by having the primary rater and a second rater code a randomly chosen subset of 20 (14.7%). Intraclass coefficient (ICC) scores revealed strong agreement across raters for the HCR-20 Total score (ICC = .93) and subscales (Historical, H = .95; Clinical, C = .86; Risk Management, R = .86).

Recidivism

Of the 116 participants followed up in the community, 45.7% ($n = 53$; 37 men and 16 women) were convicted of a new offence. The average length of time to first reconviction (corrected for rehospitalisation and

reincarceration) was 343 days ($n = 47$; $Mdn = 166.34$). Twenty-five percent ($n = 29$; 20 men and 9 women) were convicted of a violent re-offence. The average number of convictions was 15.9 ($SD = 15$), and the mean number of conviction categories that patients had engaged in was 3.5 ($SD = 1.9$). Assault was the most frequent (serious) offence type (12.1%). Participants who were reconvicted received significantly higher HCR-20 Total scores than those who were not reconvicted, $t(113) = 5.20, p < .0001$.

Predictive Validity

The point-biserial correlations revealed significant and moderate to large effect sizes between the 'any reconviction' category and a number of the study measures: specifically, the Historical scale and the HCR-20 Total (see Table 3). While the base rate of 'any reconviction' approached 50%, the base rate of 'any violence' was 25%. Accordingly, the base rates for the derivatives of the 'any violent reconviction' category were even lower (20% for physical violence and 16% for and fear-inducing violence). When the base rate of a criterion variable is below .50, the effect sizes recommended by Cohen may be reconsidered, and lower estimates employed. Rice and Harris (1995) proposed that for a base rate of .25 an r of .40 qualifies as large, while an r of .30 can be considered large for a base rate of .12. Employing these guidelines, the HCR-20 Total produced moderate, although still significant, correlations with 'any

Table 2. Descriptive characteristics of the HCR-20.

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>	Range
HCR-20 Total	134	22.64	6.57	0.57	0-36
H	135	12.58	3.99	0.34	1-19
C	134	3.73	2.27	0.20	0-8
R	135	6.25	2.09	0.18	0-10

Note: HCR-20 = Historical Clinical Risk Management-20; Total = Total score; H = Historical; C = Clinical; R = Risk Management.

Table 3. Point-biserial correlations between HCR–20 scores and reconviction categories.

	Reconviction category			
	Any reconviction	Any violence	Physical violence	Fear-inducing violence
HCR–20 Total	.439**	.259**	.199*	.208*
Historical	.466**	.238*	.168	.158
Clinical	.111	.098	.082	.116
Risk	.376**	.249**	.208*	.214*

Note: HCR–20 = Historical Clinical Risk Management–20.
* $p < .05$ level (two-tailed). ** $p < .01$ level (two-tailed).

violence’. The Risk Management scale also demonstrated a moderate correlation with ‘any violence’ as well as producing the largest correlations with both ‘fear-inducing violence’ and ‘physical violence’ categories.

Table 4 presents the AUC results of the ROC analyses for the HCR–20 Total and subscale scores across four reconviction categories. The HCR–20 Total score produced significant moderate to strong AUCs for all types of reconviction. Similarly, the Risk Management subscale also demonstrated significant effects across categories. For the reconviction categories ‘any reconviction’ and ‘any violent reconviction’, the Historical subscale produced significant AUCs (.71 and .67, respectively). However, the Clinical subscale was unable to significantly predict any form of reconviction and achieved AUC values marginally above chance.

The odds ratio (OR) analyses discovered that individuals who scored above the median Total score on the HCR–20 ($Mdn = 23$) were

significantly more likely to be reconvicted of an offence during the study follow-up than those with scores below or equal to the median score. Specifically, patients who scored above the median on the HCR–20 Total were over six times more likely to be reconvicted than those who scored below or equal to the HCR–20 median (OR = 6.68, $p < .01$). Additionally, those who scored above the HCR–20 median were almost four times as likely to be reconvicted of ‘any violence’ (OR = 3.89, $p < .01$) and ‘fear-inducing violence’ (OR = 3.92, $p < .01$) and at least twice as likely to be convicted of ‘physical violence’ (OR = 2.55, $p = .05$) than those scoring below or equal to the median.

Discussion

No previous research had examined the predictive validity of the HCR–20 risk instrument in Australian forensic or correctional

Table 4. Area under the curve values for the HCR–20 across reconviction categories.

	Any reconviction			Any violent reconviction			Physically violent reconviction			Fear-inducing violent reconviction		
	AUC	SE	95% CI	AUC	SE	95% CI	AUC	SE	95% CI	AUC	SE	95% CI
HCR–20 Total	.76*	.045	[.66, .84]	.68*	.057	[.56, .79]	.64*	.063	[.52, .77]	.66*	.065	[.54, .79]
Historical	.78*	.044	[.69, .87]	.66*	.059	[.54, .77]	.62	.065	[.49, .75]	.62	.069	[.48, .75]
Clinical	.56	.054	[.46, .67]	.57	.061	[.45, .69]	.56	.064	[.44, .69]	.59	.068	[.46, .72]
Risk	.71*	.048	[.62, .81]	.67*	.057	[.55, .78]	.64*	.065	[.52, .78]	.67*	.064	[.54, .79]

Note: HCR–20 = Historical Clinical Risk Management–20; AUC = area under the curve; CI = confidence interval.
* $p < .05$ level (two-tailed). ** $p < .01$ level (two-tailed).

samples. As such, the aim of the present study was to evaluate the predictive validity of the HCR-20 for general and violent recidivism. This objective was achieved by observing the instrument's association with future recidivism for an Australian sample of mentally disordered offenders discharged from a secure inpatient psychiatric facility.

The results of the study support the relationship between the HCR-20 and general and violent offending post hospital discharge. The HCR-20 Total score demonstrated a strong relationship with recidivism in line with previous studies (Dernevik et al., 2002; Dolan & Khawaja, 2004; Gray, Taylor, & Snowden, 2008; Nicholls, Ogloff, & Douglas, 2004). Additionally, the Historical and Risk Management subscales were significantly predictive of all three violence categories. Both subscales also demonstrated robust correlations with the 'any reconviction' category. These findings support the association of past behaviour and future adjustment variables with future recidivism. This is consistent with previous research that found the Historical subscale to be associated with re-offending (Douglas & Webster, 1999; Grann, Belfrage, & Tengström, 2000).

The Clinical subscale was not found to be independently related to violence. An explanation for this finding is that the Clinical scale, which relies on dynamic variables, was coded at discharge when patients' clinical symptoms were stable. The finding, however, is consistent with Douglas et al.'s (1999) research with civil psychiatric patients, and other studies that established modest associations between the Clinical scale and inpatient violence (Grevatt, Thomas-Peter, & Hughes, 2004; Macpherson & Kevan, 2004; Ross, Hart, & Webster, 1998, cited in Douglas et al., 1999). Also, the Clinical scale may be a predictor of short-term but not long-term risk in psychiatric patients, thus predicting inpatient but not outpatient behaviour. Chu, Daffern, and Ogloff (2013) found that the Clinical subscale predicted imminent inpatient aggression and violence in a sample of

patients from the TEH. Furthermore, given the Clinical scale is dynamic it may predict less serious, as opposed to serious, violence, which may stem from symptoms of mental illness (Douglas et al., 1999). As the current study was reliant on information obtained from official criminal records, it is possible that the study data did not tap into the type of minor violence that the Clinical scale may best predict, particularly when formal convictions are used as an outcome variable.

In contrast to the study's findings, Nicholls et al. (2004) found that the Clinical scale (coded at discharge) correlated with violent recidivism for civil psychiatric patients. Belfrage, Fransson, and Strand (2000) found that the Historical items demonstrated very little predictive value in a sample of long-term sentenced inmates, while the Clinical and Risk Management items demonstrated high predictive validity. An analogous finding was reported by Strand, Belfrage, Fransson, and Levander (1999) who examined post-discharge violent criminality in 40 mentally disordered offenders (MDOs). With the exception of item H7 (psychopathy), none of the Historical items were predictive of violence, while the Clinical and Risk Management subscales demonstrated significant predictive power. A possible explanation for these findings relates to the homogeneity of the samples. Over 70% of the offenders in the Belfrage et al. (2000) study had a score of ≥ 18 on the PCL Screening Version (PCL:SV), and all offenders had committed violent crimes. Similarly, 70% of the Strand et al. (1999) sample had violent index offences. Accordingly, attributes that are common to the large majority of the group (i.e., a history of violent crime) may fail to discriminate the offenders. In contrast, clinical symptoms, and an individual's ability to adjust to future circumstances, will differ between subjects and potentially provide greater distinction. These findings do not devalue the importance of historical factors in risk assessment, rather they acknowledge the importance of a thorough assessment of all three areas of risk (Strand

et al., 1999). Pertaining to the Risk Management subscale, the strong association with recidivistic outcome in this study reflects other research that found the Risk Management subscale to be the strongest predictor of violence (Belfrage, Fransson, & Strand, 2000; de Vogel & de Ruiter, 2005). The Risk Management subscale comprises variables pertaining to a client's future capacity to access support services, comply with treatment, and re-integrate back into the community. Obstacles to these factors naturally heighten a forensic patient's (whose needs are both complex and criminogenic) risk for future re-offence.

Another key finding from the study was that patients who were reconvicted were found to have significantly higher HCR-20 scores than those who were not reconvicted. Furthermore, patients with high HCR-20 scores (above the median) were six times more likely to be reconvicted than those with low HCR-20 scores. They were also more likely to recidivate violently and commit physical and fear-inducing violent offences. Although the purpose of the instrument is not an additive one, higher HCR-20 scores indicate the cumulative presence of a concert of problematic risk factors. Previous literature has contended that the greater number of risk factors one possesses or is subject to, the greater the likelihood of engaging in future criminal behaviour (Farrington, 1995, 1997; Farrington & Loeber, 2000). Studies employing SPJ measures have consistently found that clients adjudicated as being high risk have higher individual numeric Total scores.

Limitations

The study design was postdictive or a 'retrospective follow-up', and so there was a reliance on file information of which there are a number of drawbacks. Although previous studies using archival data observed significant effects (Douglas & Ogloff, 2003; Menzies & Webster, 1995), the coding of diagnostic tools or risk measures from files may be limiting. In the case of future

prospective studies, the preferred method would be to supplement file data with information derived from interview and collateral information, thereby improving accuracy and potentially the base rate of diagnoses. Second, the Clinical subscale of the HCR-20, which encompasses dynamic factors, requires regularly updating to accommodate changes in client circumstances. This was unmanageable due to the retrospective nature of the study and potentially affected the precision of the Clinical subscale. A further limitation that pertains to the scoring of the HCR-20 was that the final structured judgments – an index of structured professional or clinical judgment made by the clinician (of low, moderate, or high risk) – was not recorded at the time of data coding. Such evaluations have important implications for the use of the HCR-20 within clinical practice.

Furthermore, the study employed the conservative outcome variable of 'reconviction'. Stronger predictive validity may have been obtained if variables relating to 'arrest' or 'charges' were utilised.

Notwithstanding these limitations, the study made several noteworthy contributions to the risk assessment literature. The examination provided the first known study testing the predictive validity of the HCR-20 in Australian settings. Evidence from the study suggests that the HCR-20 instrument can be administered in Australian forensic conditions with some confidence in its capacity to discriminate re-offenders from non-re-offenders. Further research exploring the comparable validity of the HCR-20 and HCR-20 Version 3 is warranted in both Australian correctional and forensic settings.

Disclosure Statement

No potential conflict of interest was reported by the authors.

References

- Belfrage, H. (1998). Implementing the HCR-20 scheme for risk assessment in a forensic

- psychiatric hospital: Integrating research and clinical practice. *Journal of Forensic Psychiatry*, 9, 328–338.
- Belfrage, H., Fransson, G., & Strand, S. (2000). Prediction of violence using the HCR-20: A prospective study in two maximum security correctional institutions. *The Journal of Forensic Psychiatry*, 11, 167–175.
- Chu, C. M., Daffern, M., & Ogloff, J. R. P. (2013). Predicting aggression in acute inpatient psychiatric setting using BVC, DASA, and HCR-20 Clinical scale. *The Journal of Forensic Psychiatry & Psychology*, 24(2), 269–285.
- de Vogel, V., & de Ruiter, C. (2006). Structured professional judgment of violence risk in forensic clinical practice: A prospective study into the predictive validity of the Dutch HCR-20. *Psychology, Crime & Law*, 12, 321–336.
- de Vogel, V., & de Ruiter, C. (2005). The HCR-20 in personality disordered female offenders: A comparison with a matched sample of males. *Clinical Psychology & Psychotherapy*, 12, 226–240.
- de Vogel, V., van den Broek, E., & de Vries Robbe, M. (2014). The use of the HCR-20V3 in Dutch Forensic Psychiatric Practice. *International Journal of Forensic Mental Health*, 13, 109–121. doi:10.1080/14999013.2014.906518
- Dernevik, M., Grann, M., & Johansson, S. (2002). Violent behaviour in forensic psychiatric patients: Risk assessment and different risk-management levels using the HCR-20. *Psychology, Crime & Law*, 8, 93–111.
- Dolan, M., & Blatner, R. (2010). The utility of the Historical Clinical Risk – 20 Scale as a predictor of outcomes in decisions to transfer patients from high to lower levels of security – A UK perspective. *BMC Psychiatry*, 10(76).
- Dolan, M., & Khawaja, A. (2004). The HCR-20 and post-discharge outcome in male patients discharged from medium security in the UK. *Aggressive Behavior*, 30, 469–483.
- Douglas, K. S., & Ogloff, J. R. P. (2003). Violence by psychiatric patients: The impact of archival measurement source on violence prevalence and risk assessment accuracy. *Canadian Journal of Psychiatry*, 48, 734–740.
- Douglas, K. S., Ogloff, J. R., Nicholls, T. L., & Grant, I. (1999). Assessing risk for violence among psychiatric patients: The HCR-20 violence risk assessment scheme and the Psychopathy Checklist: Screening Version. *Journal of Consulting and Clinical Psychology*, 67, 917–930.
- Douglas, K. S., & Reeves, K. (2010). The HCR-20 violence risk assessment scheme: Overview and review of the research. In R. K. Otto & K. S. Douglas (Eds.), *Handbook of violence risk assessment* (pp. 147–185). New York: Routledge/Taylor & Francis Group.
- Douglas, K. S., & Webster, C. D. (1999). The HCR-20 Violence Risk Assessment Scheme: Concurrent validity in a sample of incarcerated offenders. *Criminal Justice and Behavior*, 26, 3–19.
- Douglas, K. S., Yeomans, M., & Boer, D. P. (2005). Comparative validity analysis of multiple measures of violence risk in a sample of criminal offenders. *Criminal Justice and Behavior*, 32, 479–510.
- Douglas, K. S., Hart, S. D., Webster, C. D., & Belfrage, H. (2013). *HCR-20V3: Assessing risk of violence – User guide*. Burnaby, Canada: Mental Health, Law, and Policy Institute, Simon Fraser University.
- Doyle, M., Carter, S., Shaw, J., & Dolan, M. (2012). Predicting community violence from patients discharged from acute mental health units in England. *Social Psychiatry and Psychiatric Epidemiology*, 47, 627–637.
- Doyle, M., Power, L. A., Coid, J., Kallis, C., Ullrich, S., & Shaw, J. (2014). Predicting post-discharge community violence in England and Wales using the HCR-20:V3. *International Journal of Forensic Mental Health*, 13(2), 140–147. doi:10.1080/14999013.2014.906517
- Dunbar, E., Quinones, J., & Crevecoeur, D. A. (2005). Assessment of hate crime offenders: The role of bias intent in examining violence risk. *Journal of Forensic Psychology Practice*, 5, 1–19.
- Farrington, D. P. (1995). The development of offending and antisocial behaviour from childhood: Key findings from the Cambridge Study in Delinquent Development. *Journal of Child Psychology and Psychiatry*, 36, 929–964.
- Farrington, D. P. (1997). Early prediction of violent and nonviolent youthful offending. *European Journal on Criminal Policy and Research*, 5, 51–66.
- Farrington, D. P., & Loeber, R. (2000). Epidemiology of juvenile violence. *Child and Adolescent Psychiatric Clinics of North America*, 9(4), 733–748.
- Grann, M., Belfrage, H., & Tengström, A. (2000). Actuarial assessment of risk for violence: Predictive validity of the VRAG and the historical part of the HCR-20. *Criminal Justice and Behavior*, 27, 7–114.
- Gray, N. S., Taylor, J., & Snowden, R. J. (2008). Predicting violent reconvictions using the HCR-20. *British Journal of Psychiatry: The Journal of Mental Science*, 192, 384–387.

- Gray, N. S., Taylor, J., & Snowden, R. J. (2011). Predicting violence using structured professional judgment in patients with different mental and behavioral disorders. *Psychiatry Research, 187*, 248–253.
- Grevatt, M., Thomas-Peter, B., & Hughes, G. (2004). Violence, mental disorder and risk assessment: Can structured clinical assessments predict the short-term risk of inpatient violence? *Journal of Forensic Psychiatry & Psychology, 15*, 278–292.
- Hare, R. D. (2003). *Manual for the Hare Psychopathy Checklist-Revised* (2nd ed.). Toronto: Multi Health Systems.
- Hart, S. D., Kropp, P. R., Laws, D. R., Klaver, J., Logan, C., & Watt, K. A. (2003). *The risk for sexual violence protocol*. Burnaby, BC, Canada: Simon Fraser University.
- Macpherson, G. J. D., & Kevan, I. M. (2004). Predictive validity of the HCR-20 Violence Risk Assessment Scheme within a maximum security special hospital. *Issues in Forensic Psychology, 5*, 62–80.
- Menzies, R. J., & Webster, C. D. (1995). Construction and validation of risk assessments in a six-year follow-up of forensic patients: A tridimensional analysis. *Journal of Consulting and Clinical Psychology, 63*, 766–778.
- Mossman, D. (1994). Assessing predictions of violence: Being accurate about accuracy. *Journal of Consulting and Clinical Psychology, 62*, 738–792.
- Nicholls, T. L., Ogloff, J. R., & Douglas, K. S. (2004). Assessing risk for violence among male and female civil psychiatric patients: The HCR-20, PCL:SV, and VSC. *Behavioral Sciences & the Law, 22*, 127–158.
- O'Shea, L. E., Mitchell, A. E., Picchioni, M. M., & Dickens, G. L. (2013). Moderators of the predictive efficacy of the Historical, Clinical and Risk Management-20 for aggression in psychiatric facilities: Systematic review and meta-analysis. *Aggression and Violent Behavior, 18*, 255–270.
- Rice, M. E., & Harris, G. T. (1995). Psychopathy, schizophrenia, alcohol abuse, and violent recidivism. *International Journal of Law and Psychiatry, 18*, 333–342.
- Stadtland, C., Hollweg, M., Kleindienst, N., Dietl, J., Reich, U., & Nedopil, N. (2005). Risk assessment and prediction of violent and sexual recidivism in sex offenders: Long-term predictive validity of four risk assessment instruments. *Journal of Forensic Psychiatry & Psychology, 16*, 92–108.
- Strand, S., Belfrage, H., Fransson, G., & Levander, S. (1999). Clinical and risk management factors in risk prediction of mentally disordered offenders—more important than historical data? *Legal and Criminological Psychology, 4*, 67–76.
- Strub, D. S., Douglas, K. S., & Nicholls, T. L. (2014). The validity of version 3 of the HCR-20 violence risk assessment scheme amongst offenders and civil psychiatric patients. *The International Journal of Forensic Mental Health, 13*, 148–159. doi:10.1080/14999013.2014.911785
- Webster, C. D., Douglas, K. S., Eaves, D., & Hart, S. D. (1997). *HCR-20 assessing risk for violence*. Burnaby, Canada: Mental Health Law and Policy Institute Simon Fraser University.
- Wilson, C. M., Desmarais, S. L., Nicholls, T. L., Hart, S. D., & Brink, J. (2013). Predictive validity of dynamic factors: Assessing violence risk in forensic psychiatric inpatients. *Law and Human Behavior, 37*(6), 377–388.