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Conflict of Interest Statement

Abstract

Under Belgian law, offenders not guilty by reason of insanity (NGRI) are committed by the courts to forensic mental health treatment. The use of violence risk assessment tools has become routine in these settings. However, there are no national statistics regarding violence risk assessment in the Belgian forensic population. A study was undertaken to collect risk assessment data (PCL-R, VRAG, HCR-20) on a large cohort of forensic patients committed to medium-security facilities in the Flanders region and in medium- to high-security facilities in the Walloon region. Flemish patients were expected to present a lower risk compared with their Walloon counterparts. Instead, data yielded by a structured risk assessment method demonstrate the opposite. Moreover, the majority of patients in Flemish facilities had committed violent offences and were institutionalized for shorter periods whereas the majority of Walloon patients had committed sexual offences and were institutionalized for markedly longer periods.

Keywords: forensic psychiatry, NGRI offenders, violence risk profile

Violence Risk Profile of Medium- and High-security NGRI Offenders in Belgium

The organization of the healthcare system requires that mentally disordered individuals who have committed an offence be triaged in order to be directed to treatment facilities that fit their needs (Kennedy, 2002). These needs extend beyond the medical sphere to include personal security as well as institutional and societal considerations. Triaging these individuals is predicated on two categories—risk and treatment—and three levels of security—low, medium and high. In the field, however, these categories are poorly operationalized though the scientific literature stresses the importance of defining, assessing and taking them into account. A vital part of this triage is to engage in violence risk assessment (Andrews & Bonta, 2017).

Over the past few decades, studies in the international literature have sought to identify key risk factors in the field of violence. Andrews and Bonta (2017) identified both primary major central explanatory factors, such as history of violence, antisocial personality, pro-criminal attitudes and cognitions, and presence of antisocial peers and secondary explanatory factors, such as education/employment, biological family, marital status, and leisure/recreation. These factors have also been found to be associated with general and violent recidivism in violent forensic populations (Bonta, Blais, & Wilson, 2014; Skeem, Winter, Kennealy, Louden, & Tatar, 2014). More specifically, antisocial personality profile, pro-criminal attitudes and cognitions, and criminal history have proved the factors most strongly related to violent recidivism in these populations under psychiatric treatment (Wilson, Crocker, Nicholls, Charette, & Seto, 2015).

Aside from identifying risk factors, researchers have developed various recidivism risk assessment tools for use with different populations, including mentally disordered offenders committed to secure psychiatric facilities. These tools are well known and their potential to assess violence risk has been validated. There are tools that evaluate static risk, such as the

Violence Risk Assessment Guide (VRAG; Quinsey, Harris, Rice, & Cormier, 1998, 2006), and there are structured clinical tools, such as the Historical Clinical Risk-20 (HCR-20; Douglas, Hart, Webster, & Belfrage, 2013; Webster, Douglas, Eaves, & Hart, 1997) for a more dynamic evaluation of risk. These can be used in combination with the Psychopathy Checklist–Revised (PCL-R; Hare, 2003), which can also be used independently to assess general or violent recidivism risk (Hare, 2003).

The VRAG is an actuarial measure comprising 12 items that do not vary over time, unless new offences are committed. The items were found to be strongly associated with violent recidivism in the validation study conducted by its creators among partly mentally disordered population (Quinsey et al., 1998, 2006). Other studies have supported the VRAG's predictive validity for violent recidivism (Doyle, Carter, Shaw, & Dolan, 2012; Harris et al., 2003; Pham, Ducro, Marghem, & Réveillère, 2005; Rice, Harris, & Lang, 2013; Snowden, Gray, Taylor, & Fitzgerald, 2009). Furthermore, this instrument predicts institutional violence (Hastings, Krishnan, Tangney, & Stuewig, 2011; Vitacco, Gonsalves, Tomony, Smith, & Lishner, 2012) and general recidivism (Glover, Nicholson, Hemmati, Bernfeld, & Quinsey, 2002; Gray, Fitzgerald, Taylor, MacCulloch, & Snowden, 2007; Pham et al., 2005). It should be noted, also, that the replication studies of the VRAG's predictive validity have covered post-release periods as short as five months (Harris, Rice, & Camilleri, 2004) and as long as 15 years (Parent, Guay, & Knight, 2011). The predictive effects observed in these studies were similar to those obtained by the VRAG's creators (Harris, Rice, & Quinsey, 2010). On the contrary, the VRAG failed to significantly predict violent reoffences and was only accurate in identifying low risk individuals (Ben van Heesch, Inge Jeandarme, Claudia Pouls, & Geert Vervaeke, 2016).

In terms of descriptive statistics, the mean score obtained on the VRAG by forensic populations has been in the vicinity of 5 (Snowden, Gray, & Taylor, 2010: $N = 1182$; $M = 4.73$, $SD = 10.25$; Ho, Thomson, & Darjee, 2009: $N = 88$; $M = 5.35$, $SD = 11.04$), bearing in mind that the score range for this instrument runs from -26 to +38.

Regarding structured clinical instruments, also referred to as structured professional judgement guides, the HCR-20 covers 20 risk items selected on the basis of a review of the scientific, theoretical and professional literature. The purpose of this tool is to help clinicians structure how they perform risk assessment so as to ensure that all relevant factors for the prediction of future violence are considered in the process. The items are grouped under three different factor types. Items under the Historical factor are static and present at all times. Those under the Clinical factor relate to the individual's recent and current functioning. Finally, the last group of items concern Risk management. The two last factors are potentially variable and, as such, are obvious targets for clinical intervention and violence risk management (Pedersen, Ramussen, & Elsass, 2012). Clinicians seem to prefer the HCR-20 to other instruments (Farrington, Jolliffe, & Johnstone, 2008; Hurducas, Singh, de Ruiter, & Petrila, 2014; Pham et al., 2016) primarily because it takes into consideration symptoms and risk situations likely to evolve over the course of treatment. In other words, clinicians are more sensitive to the dynamic aspect of these two factors. It should be noted, for example, that this is the instrument most widely used in secure psychiatric facilities in the United Kingdom (Khiroya, Weaver, & Maden, 2009). Where predictive validity is concerned, studies have shown that the HCR-20 predicts violent recidivism with a significant moderate to strong effect in various populations (Douglas & Reeves, 2010; Pham et al., 2005). However, some recent field validity studies have found reduced accuracy (Jeandarme, Pouls, De Laender, Oei, and Bogaerts, 2017; Neal, Miller, &

Shealy, 2015; Vojt, Thomson, and Marshall, 2013; Pedersen, Ramussen, & Elsass, 2012). At the descriptive level, forensic populations have scored from 18 to 25 on the HCR-20. Snowden et al. (2010) reported means of 18.5 (SD = 6.5) for the total score, 11.3 (SD = 3.7) for the Historical factor, 3.3 (SD = 2.5) for the Clinical factor, and 3.8 (SD = 2.6) for the Risk-management factor in a population of 1182 forensic patients. Jeandarme et al. (2017), instead, reported means of 24.8 (SD = 5.06) for the total score, 14.1 (SD = 3.28) for the Historical factor, 4.8 (SD = 1.74) for the Clinical factor, and 6 (SD = 2.01) for the Risk-management factor in a medium-secure psychiatric population (N =168).

Both the VRAG and the HCR-20 ratings require a structured assessment of psychopathy. It should be noted that the revised version of the HCR-20 (HCR [V3]; Douglas, Hart, Webster, & Belfrage, 2013) no longer requires a PCL-R and that in the revised version of the VRAG, the PCL-R was replaced by Facet 4 of the PCL-R (VRAG-R; Rice, Harris, & Lang, 2013). Though the PCL-R (Hare, 2003) was not initially constructed to assess recidivism risk, meta-analyses have shown it to possess moderate predictive validity with various offender populations (Leistico, Salekin, DeCoster, & Rogers, 2008; Singh, Grann, & Fazel, 2011; Yang, Wong, & Coid, 2010) as well as with forensic populations (Jeandarme et al., 2017; Pham, et al., 2005; Singh et al., 2011; Yang et al., 2010). More specifically, the instrument's antisocial and behavioral facet (Factor 2 of the PCL-R) has demonstrated a stronger predictive validity for violent recidivism (Yang et al., 2010) and general recidivism (Jeandarme et al., 2017; Walters, 2003) than has its interpersonal and affective facet (Factor 1 of the PCL-R). The instrument's field of application has grown broader over the years. Indeed, whether for the purposes of an expert medical opinion, offender orientation or treatment, the psychopathy profile and its level of associated risk are a useful indicator for professionals in the field (DeMatteo et al., 2014; Pham

et al., 2016). Regarding the psychopathy levels evaluated in secure psychiatric populations, they have varied across studies. Indeed, Hare (2003) reported a mean score of 21.5 (SD = 6.9; N = 1246) and, more specifically, a mean score of 8 (SD = 3.5) for the Interpersonal Factor (Interpersonal Facet: M = 3.1, SD = 2.1; Affective Facet: M = 4.9, SD = 2.1) and a mean score of 11.9 (SD = 4.0) for the Social Deviance Factor (Lifestyle Facet: M = 6.1, SD = 2.2; Antisocial Facet: M = 5.9, SD = 2.6). With a cohort of 98 forensic patients, Hildebrand and de Ruiter (2004) reported comparable mean scores (Total score: M = 21.4, SD = 8.4; Interpersonal Factor: M = 9.3, SD = 3.8; Social Deviance Factor: M = 9.3, SD = 5). More recently, with a forensic population of 958 patients, Krstic et al. (2017) reported means of 15.3 (SD = 6.8) for the Total score, 2 (SD = 1.94) for the Interpersonal Facet, 3.5 (SD = 2) for the Affective Facet, 3.9 (SD = 2.3) for the Lifestyle Facet, and 3.6 (SD = 2.6) for the Antisocial Facet. In this same study, it should be noted that only 2% of the population obtained scores equal to or greater than 30, compared with 10% of the population examined by Hare (2003) and 21.4% of the population in the Hildebrand and de Ruiter (2004) study.

Aim of the Current Study

It is a fact that the use of recidivism risk assessment tools is essential in both forensic and clinical settings. The instruments most widely used for these purposes are the HCR-20, the VRAG and the PCL-R (Pham et al., 2016). However, research in this regard on forensic populations in Belgium has been scattered and fragmented (Cartuyvels, Champetier, & Wyvekens, 2010; Decoene, 2010). Statistics exist for the Flanders and Walloon regions, respectively, but not for the country as a whole. In this light, we undertook a study to assess violent recidivism risk in a large cohort of NGRI offenders treated in medium-secure facilities in

the Flanders region and in medium- to high-security facilities in the Walloon region. We expected the Flemish patients to present a lower risk level compared with their Walloon counterparts.

Method

Participants

The study's participants were hospitalized under Belgium's Social Defense Law, which provides for the indefinite confinement of offenders deemed incapable of controlling their conduct on account of mental disorder.

The Walloon part of the sample ($n = 434$) consisted of male patients committed to the Établissement de Défense Sociale (EDS) of the Centre Régional Psychiatrique "Les Marronniers" in Tournai, Belgium. These were forensic patients in medium- to high-security units who agreed to take part in the study in the period 2009-2014. The sample was not representative of the entire Social Defense population as it comprised only stabilized patients. Patients were excluded from the study if they were in an acute phase or if they presented a pronounced intellectual deficiency rendering valid clinical evaluation unfeasible. Participants were evaluated for research purposes by the EDS clinical psychologist team. Data were analyzed by the research team at the Centre de Recherche en Défense Sociale (CRDS).

The Flemish part of the sample ($n = 504$) was composed mainly of male NGRI offenders committed to one of the three medium-security facilities located in Bierbeek, Zelzate and Rekem. We excluded female patients ($n=27$) from the analyzes in order to obtain comparative data in terms of gender concerning two samples.

The sample consisted of practically the entire population (98%) treated during the period 2001-2010. Data were gathered for clinical purposes and subsequently analyzed by the research

team at the Knowledge Centre for Forensic Psychiatric Care (KeFor). Medium-security facilities provide a treatment setting for NGRI offenders who do not require care in a high-secure hospital but are nevertheless considered unsuitable for general psychiatric inpatient or outpatient care.

The characteristics of the combined population ($N = 938$), the Flemish sample ($n = 504$; 53.7%) and the Walloon sample ($n = 434$; 46.3%) are presented in Table 1. Most (83.8%) of the forensic patients were of Belgian nationality. Fewer than one in ten (9.3%) was married or living common law at the time of their index offence. Mean age at time of forensic psychiatric admission was 36.1 years ($SD = 10.94$) and mean length of stay was 1693 days ($SD = 2229.4$). The offences for which the patients were committed were distributed as follows by type: 55.1% violent, 24.5% sexual, and 20.4% non-violent non-sexual. Moreover, 78.4% of the population had priors. These broke down as follows by type: 59% violent, 16.6% sexual and 24.4% non-violent non-sexual.

Comparing the two samples, it emerged that a higher proportion of the Walloon sample was of Belgian nationality, $\chi^2(1) = 32.00$, $p < .001$, Cramér's V = .19. Also, mean length of stay was longer for the Walloon sample than for the Flemish sample, $U = 17087.00$, $z = 22.14$, $p < .001$, $r = .72$. A higher proportion of the Walloon sample had an index offence of a sexual nature, $\chi^2(1) = 126.56$, $p < .001$, Cramér's V = .39, and a higher proportion of the Flemish sample had an index offence of a violent nature, $\chi^2(1) = 66.98$, $p < .001$, Cramér's V = .29. Finally, a higher proportion of Walloon patients had sexual priors, $\chi^2(1) = 10.50$, $p = .002$, Cramér's V = .12, and a higher proportion of Flemish patients had violent priors, $\chi^2(1) = 54.39$, $p < .001$, Cramér's V = .26.

Table 1

Characteristics of Flemish and Walloon NGRI Offenders

	Flemish Sample (n = 504)		Walloon Sample (n = 434)	
	%	*M (SD)*	%	*M (SD)*
Demographic				
Nationality (Belgian)	90		76.1	
Marital status (married/living together)	14.2		10.5	
Age at admission (years)		36.4 (10.8)		35.8 (11.1)
Length of stay (days)		488.7 (414.04)		3079.8 (2619.7)
Judicial				
Index offence				
Sexual	10.5		43.8	
Non-sexual violent	66.9		38.8	
Non-sexual non-violent	22.6		17.4	
Priors	86.1		65.1	
Type of prior				
Sexual	11.8		27.9	
Non-sexual violent	65.2		44.7	
Non-sexual non-	23.0		27.4	

violent

Instruments

Violent Risk Appraisal Guide (Quinsey et al., 1998)

The VRAG is a 12-item actuarial instrument widely used to predict violence risk within a specific post-release timeframe in mentally disordered violent offenders. Developed at the Penetanguishene Mental Health Centre, the tool uses information contained in a patient's clinical records, particularly the psycho-social history component, as the basis for scoring, rather than information garnered through interviews or questionnaires. The PCL-R score is incorporated in this risk assessment. VRAG scores range from -26 to +38 and are expected to average 0. The initial VRAG validation sample was divided into nine bins according to range of scores : 1) $\leq$ -22 ; 2) -21 to -15 ; 3) -14 to -8 ; 4) -7 to -1 ; 5) 0 to + 6 ; 6) + 7 to + 13 ; 7) +14 to + 20 ; 8) +21 to +27 and 9) $\geq$ +28.

In a study assessing the convergent and predictive validities of the PCL-R, the VRAG and the HCR-20 in a mixed population of high-security prison inmates and forensic inpatients, the three instruments were found to be highly correlated (> .70) and to share a large common variance. ROC (Receiver Operating Characteristics), survival curve analyses and correlation

coefficients suggested that the PCL-R, the VRAG and the HCR-20 presented a moderate predictive validity for both general and violent recidivism (Pham et al., 2005). The Dutch version of the VRAG (Jeandarme, Pouls, & Peters, 2012) was used with the Flemish sample and the French version with the French sample (Pham et al., 2005).

Historical, Clinical, Risk-20, version 2 (Webster et al., 1997)

The HCR-20 is the structured professional judgement tool most widely used for assessing violence risk worldwide. It derives its name from its three component scales: Historical (H) factors (10 items), Clinical (C) factors (5 items), and Risk-management (R) factors (5 items). Factors are scored on a three-point scale from 0 to 2, for a score range of 0 to 40. Higher scores indicate higher risk. The HCR-20 covers as many static factors (hardly likely to change over time) as dynamic ones (likely to change). The dynamic factors considered are intended to render the risk assessment sensitive to personal and situational changes. A quantitative review of over 50 studies of the HCR-20 by Douglas and Reeves (2010) revealed good to excellent inter-rater reliability and a moderate to large association between the HCR-20 and violence (Douglas et al., 2014). The instrument was found to have good psychometric properties in a study conducted in a French-language Belgian forensic hospital (Claix & Pham, 2004; Pham et al., 2005). In our study, the Dutch translation of the HCR-20 (Philipse, de Ruiter, Hildebrand, Bouman, & Webster, 2000) was used with the Flemish sample and the French translation with the French sample (Webster, Douglas, Eaves, & Hart, 1997). Though a third version of the HCR-20 was recently released (HCR-20^{V3}; Douglas et al., 2013), we used the second version of the instrument as this was the version available at the time of data collection.

Psychopathy Checklist – Revised (Hare, 1991, 2003)

The PCL-R is characterized by two main factors and four facets. Factor 1 covers affective, interpersonal, and narcissistic elements and breaks down into Facet 1 "Interpersonal" and Facet 2 "Affective". Factor 2 focuses on the propensity for chronic antisocial behavior and

breaks down into Facet 3 "Lifestyle" and Facet 4 "Antisocial". The PCL-R comprises 20 items rated on a three-point scale: 0 indicates that the item does not apply, 1 that it applies only in part, and 2 that it applies in full. The total score thus ranges from 0 to 40. The procedure suggested by Hare (1991, 2003) was used. Information for the purposes of the evaluation was culled from two sources, namely, criminal, social, psychological, and psychiatric records and mainly semi-structured interviews. In Belgium, the instrument has been subjected to psychometric evaluation in a prison setting (Pham, 1998), has been used with a forensic psychiatric population (Pham, Remy, Dailliet, & Lienard, 1998), and has been the focus of a predictive validation study (Jeandarme et al., 2017; Pham et al., 2005). In our study, the Dutch translation of the PCL-R (Vertommen, Verheul, de Ruiter, & Hildebrand, 2002) was used with the Flemish sample and French translation with the French sample (Côté & Hodgins, 1996).

Procedure

For the combined population, the following offender information was gathered from hospital files: age at admission, length of stay, nationality, marital status, index offence, priors, and violence risk assessment.

Judicial information was retrieved from the Central Criminal Records of the Ministry of Justice. Violent offences were restricted to acts of non-sexual violence against others, that is, the intentional use of physical force or power–threatened, attempted, or actual–against another person. Offences were divided into three types: sexual, violent non-sexual, and other (non-sexual non-violent). When more one than one type of crime was committed, the one coded was the most serious according to the following hierarchy: sexual > violent non-sexual > other.

As the data sources were characterized by different percentages of missing data, the analyses were not always carried out on samples of the same size. The percentage of missing data for each variable is given in Table 2.

Ethical approval was obtained from the Medical Ethical Commission of the University Hospital of Antwerp for the Flemish sample and from the Ethical Review Board of the Centre Régional Psychiatrique "Les Marronniers" for the Walloon sample.

Table 2

Percentage of Missing Data per Variable

	N	% missing Combined Sample	% missing Flemish Sample	% missing Walloon Sample
Nationality (Belgian)	902	4.8	0.6	7.6
Married/living together	868	7.5	3.4	12.2
Age at admission	915	2.5	0	5.3
Length of stay	905	3.5	0	2.8
Index offence	867	7.6	0	16.4
Priors	796	15.1	0	32.7

Data Analysis

Owing to a lack of normality across all the dependent variables, as verified by way of the Kolmogorov-Smirnov test, non-parametric statistics were computed. To this end, the Walloon

and Flemish samples were compared via Mann-Whitney U tests and effect sizes ($r = z/\sqrt{n}$) (Field, 2013) were calculated on the following variables: age at admission, length of stay, PCL-R scores (Total, Factors and Facets), VRAG total score, and HCR-20 scores (Total and Factors). The chi-squared (χ^2) or Fisher's exact test and Cramér's V as a measure of association strength were used to compare the samples on the following variables: nationality, marital status, index offence, priors, and the VRAG and the PCL-R risk categories. The analyses were run on the SPSS 20.0 program (IBM Corp., 2011).

Results

Descriptive Variables regarding Violence Risk for Combined Sample

The mean VRAG total score for the patients from the two samples for which data was available ($n = 446$) was 6.6 ($SD = 10.3$, range = -26–38). These patients were distributed across the risk violence categories as follows: 0.2% ($n = 1/446$) in Category 1, 2.0% ($n = 9/446$) in Category 2, 6.3% ($n = 28/446$) in Category 3, 17.3% ($n = 77/446$) in Category 4, 21.5% ($n = 96/446$) in Category 5, 28.5% ($n = 127/446$) in Category 6, 15.0% ($n = 67/446$) in Category 7, 7.8% ($n = 35/446$) in Category 8, and 1.3% ($n = 6/446$) in Category 9.

The mean HCR-20 total score for the patients from the two samples for which data was available ($n = 484$) was 23.8 ($SD = 5.8$, range = 4–38). The mean score was 13.2 ($SD = 3.6$, range = 0–20) on the H-scale ($n = 490$), 4.9 ($SD = 2.0$, range = 0–10) on the C-scale ($n=490$), and 5.7 ($SD = 2.1$, range = 0–10) on the R-scale ($n = 486$).

The mean PCL-R total score for the patients from the two samples for which data was available ($n = 440$) was 19.6 ($SD = 7.0$, range = -26–38). The mean score was 7.9 ($SD = 3.6$, range = 0–16) for Factor 1 ($n = 424$) and 10.2 ($SD = 4.2$, range = 0–19) for Factor 2 ($n = 413$).

The mean score was 2.9 ($SD = 2.2$, range = 0–8) for Facet 1 ($n = 381$), 5.1 ($SD = 2.1$, range = 0–8) for Facet 2 ($n = 383$), 5.6 ($SD = 2.5$, range = 0–10) for Facet 3 ($n = 377$), and 5.0 ($SD = 2.7$, range = 0–10) for Facet 4 ($n = 357$). With the cut-off score set at 30 (Hare, 1991), the combined sample contained 32 psychopaths (7.3%, $n = 32/440$). With the cut-off score set at 25 as suggested in European countries (Cooke & Michie, 1999), the number of patients that received a psychopathy diagnosis rose to 117 (26.6%, $n = 117/440$).

Comparing Flemish and Walloon Samples

The descriptive statistics for the inter-group comparison are presented in Table 3. The mean VRAG total score was significantly higher for the Flemish sample than for the Walloon sample, $U = 20949.50$, $z = 2.87$, $p = .004$, $r = .14$. A higher proportion of the Walloon patients fell into the low and moderate VRAG risk categories (Figure 1), while a higher proportion of the Flemish patients fell into the higher categories, $\chi^2(1) = 15.70$, $p = .047$, Cramér's V $= .19$.
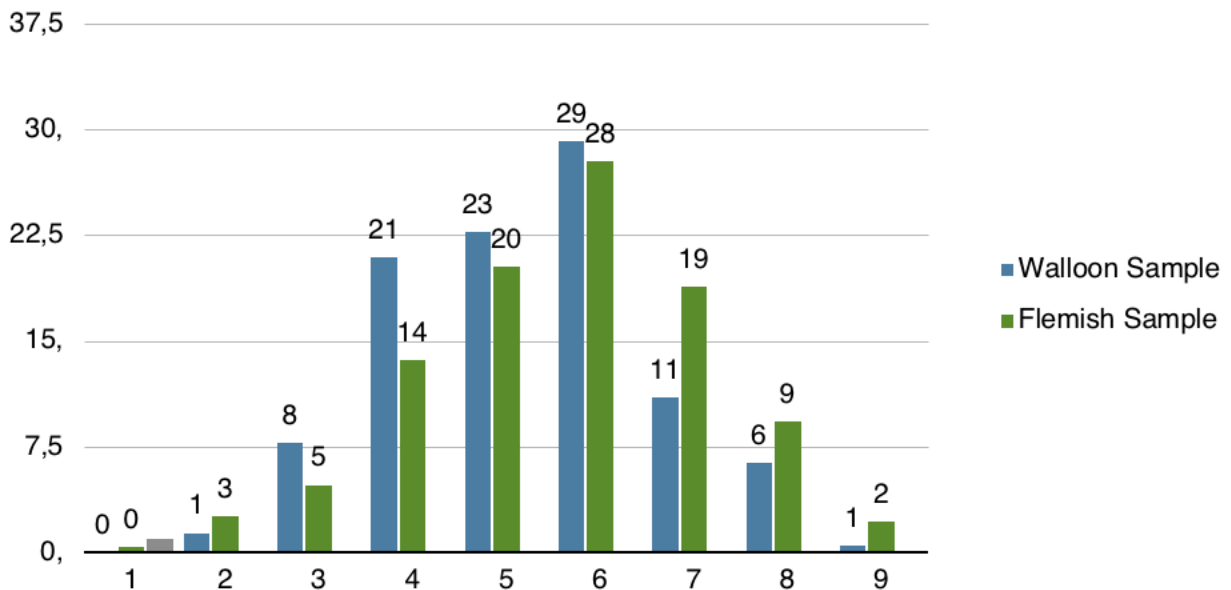
Figure 1. **Percent distribution of patients across VRAG risk categories by sample.**

The mean HCR-20 total score was significantly higher for the Flemish sample than for the Walloon sample, $U = 24571.50$, $z = 2.77$, $p = .006$, $r = .13$, as was the mean score on the H-scale, $U = 20052.00$, $z = 6.04$, $p < .001$, $r = .27$. However, the mean score on the C-scale was significantly higher for the Walloon sample than for the Flemish sample, $U = 25845.50$, $z = 2.32$, $p = .021$, $r = .10$.

The mean PCL-R total score was significantly higher for the Flemish sample than for the Walloon sample, $U = 18511.00$, $z = 4.27$, $p < .001$, $r = .20$, as was the mean score for Factor 1, $U = 17558.00$, $z = 3.91$, $p < .001$, $r = .19$. The results regarding the facets went in the same direction. The Flemish sample scored significantly higher on average than did the Walloon sample: Facet 1, $U = 15556.00$, $z = 2.23$, $p = .026$, $r = .11$; Facet 2, $U = 12536.00$, $z = 5.22$, $p < .001$, $r = .27$; Facet 3, $U = 14450$, $z = 2.95$, $p = .003$, $r = .15$; Facet 4, $U = 12702.00$, $z = 3.18$, $p = .001$, $r = .19$.

Finally, with the cut-off score set at 25, a significantly higher proportion of the Flemish sample (33.9%, $n = 75/221$) than of the Walloon sample (19.2%, $n = 42/219$) was deemed psychopathic, $\chi^2(1) = 12.3$, $p = .001$, Cramér's V $= .17$. With the cut-off score set at 30, the two samples did not differ significantly: Flemish sample 9.0% ($n = 20/221$) vs. Walloon sample 5.5% ($n = 12/219$).

Table 3

Violence Risk for Flemish and Walloon NGRI Offenders

	Flemish Sample (*N* = 504)		Walloon Sample (*N* = 434)	
	n	*M (SD)*	*n*	*M (SD)*
VRAG				
Total Score	227	7.9 (10.8)	219	5.3 (9.7)
HCR-20				
Total Score	273	24.4 (5.2)	211	22.9 (6.3)
Historical Factor	278	14.1 (3.2)	210	12.0 (3.9)
Clinical factor	278	4.7 (1.9)	210	5.1 (2.1)
Risk factor	275	5.7 (2.1)	210	5.7 (2.1)
PCL-R				

Total Score	221	21.1 (6.6)	219	18.2 (7.1)
Factor 1	212	8.1 (3.4)	212	7.3 (3.6)
Factor 2	210	10.3 (3.9)	203	10.0 (4.5)
Facet 1	169	3.1 (2.1)	212	2.7 (2.2)
Facet 2	170	5.7 (1.9)	213	4.6 (2.1)
Facet 3	167	6.1 (2.5)	210	5.3 (2.5)
Facet 4	161	5.5 (2.6)	196	4.6 (2.8)

Discussion

The purpose of our study was to analyze violent recidivism risk in a large cohort of forensic patients committed to medium-security facilities in the Flanders region and to medium- to high-security facilities in the Walloon region. We expected the Flemish patients to present a lower risk level compared with their Walloon counterparts.

Regarding profile, the forensic patients in Belgium at the time of the study had a mean age of 36 years and, for the most part, lived alone at the time of the offences for which they were currently committed. Mean length of stay was 4.6 years. More than 50% of the combined sample had committed violent non-sexual offences and 25% had committed sexual offences. Where priors are concerned, these same percentages applied. When the two samples were compared, however, it emerged that a higher proportion of Walloon patients had current and prior sexual offences on their records and a higher proportion of Flemish patients had violent offences on their records.

Violence Risk Profile of Belgian NGRI Offenders

Regarding the static assessment of violent recidivism risk, the Belgian forensic population presented levels comparable to those found in the international literature (Ho et al., 2009; Snowden et al., 2010). Regarding the structured clinical assessment, however, the data on the Belgian forensic population as a whole showed a higher level of violence risk compared with those reported in Snowden et al. (2010) based both on total score and on the different factors.

Psychopathy levels in our combined sample were intermediate compared with those reported in European and international studies (Hare, 2003; Hildebrand & de Ruiter, 2004; Krstic et al., 2017). In fact, intermediate levels were obtained across the board for total scores, factor scores and facet scores, as well as for prevalence of psychopathy with a cut-off of 30.

Differences between Flemish and Walloon NGRI Offenders

The static level of violent recidivism risk was higher for the Flemish sample than for the Walloon sample. The scores obtained by the Walloon sample are close to those reported in the international literature (Ho et al., 2009; Snowden et al., 2010).

Similarly, the structured clinical assessment of violence risk yielded higher scores in the Flanders region than in the Walloon region for both total score and the Historical factor. However, scores for the Clinical factor were higher in the Walloon region. Still, regardless of which Belgian population is considered, scores are higher than those reported by Snowden et al. (2010).

Finally, the mean total score and the mean scores for the Interpersonal factor and all facets of the PCL-R were higher in the Flemish treatment facilities than in the Walloon facility. It should be noted that the scores obtained in the Flemish region are close to those obtained by

Hare (2003) and by Hildebrand and de Ruiter (2004) whereas the scores obtained in the Walloon region are intermediate to those obtained by these researchers and by Krstic et al. (2017).

With a cut-off of 25, prevalence of psychopathy was higher in the Flanders region. In any event, prevalence of psychopathy is lower among Belgian NGRI offenders compared to levels reported in the international literature (Hare, 2003; Hildebrand & de Ruiter, 2004). Applying a cut-off of 30 probably boosted the number of false negatives in European samples. Moreover, the wide range of psychopathy prevalence rates and scores raises questions about the nature of the respective samples drawn from secure psychiatric populations. In this regard, it would be interesting to carry out analyses taking into account co-occurring diagnostic categories and the criminological profile of patients.

Limitations and strengths

Given that the offences committed by the NGRI patients were both sexual and non-sexual in nature, it would be worthwhile to replicate our study using static and structured clinical assessment tools for sexual recidivism, such as the Sex Offender Risk Appraisal Guide (SORAG; Quinsey, Rice, & Harris, 1995), the VRAG-R (Rice et al., 2013) or the Risk for Sexual Violence Protocol (RSVP; Hart et al., 2003). It would be preferable also in future to use the latest version of instruments available, such as version 3 of the HCR-20 (HCR-20[V3]; Douglas et al., 2013), and to collect data on all NGRI offenders, institutionalized and not. Indeed, even though our study is unique and involves a large sample, it should be noted that it took into account only one-fourth of the NGRI offenders in Belgium (Deckers et al., 2014).

Our study is limited by its cross-sectional design. It would be extremely worthwhile to push this study further by taking a dynamic or longitudinal approach in examining how patients are triaged for both clinical and risk-management purposes.

Conclusion

We hypothesized that the static and structured clinical level of violence risk was lower in Flemish medium-security facilities than in Walloon medium- to high-security facilities. As it turns out, the data obtained via a standardized risk assessment method demonstrate the opposite. Moreover, patients in the Flemish facilities for the most part committed violent offences, current and prior, and had shorter lengths of stay compared with patients in the Walloon facilities, who for the most part committed sexual offences, current and prior, and had markedly longer lengths of stay. One factor that might explain these findings are differences in the culture of committing NGRI offenders to outpatient care. This culture is much more developed in the Flanders region than in the Walloon region essentially because for the longest time there existed no facility equivalent to the EDS in the former. Things changed only as of 2015 with the opening of the Forensic Psychiatric Center (FPC) in Ghent. The absence of such a facility might have caused a shift in how and where NGRI offenders were assigned: Medium-security units received patients that should have been treated in a high-security facility and general psychiatric hospitals ended up receiving patients that should have been treated in a medium-security facility. Finally, the care circuit for NGRI offenders committed to treatment should expand thanks to changes to legal provisions that facilitate the opening of beds in general psychiatric facilities. Consequently, the care offer should adapt in the coming years to the assignment of high-risk patients to high-

security facilities and of medium- to low-risk patients to general psychiatric facilities properly set up to provide secure outpatient care for all of Belgium.

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