

Prison Youth Vulnerability Scale

Administration and Technical Manual

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CONCEPTUAL ISSUES AND SCALE DEVELOPMENT

INTRODUCTION

The Prison Youth Vulnerability Scale (PYVS) is a rating scale for the assessment of vulnerability in imprisoned male youth aged from 17 – 19 years. The PYVS was developed in order to determine which of the youth sentenced or remanded to prison required placement in purpose built Specialist Youth Units. These Youth Units have the aim of creating a safe developmental environment for all sentenced and remanded youth under the age of 17 years, and for sentenced and remanded youth aged 17 – 19 years who are assessed as vulnerable. Consequently it became necessary to determine which youth were most vulnerable to suicide or self harm¹, and those who were most at risk of victimisation.

There is much research suggesting that when young offenders are placed with adults some are particularly vulnerable to being victimized and of committing suicide (Ziedenberg & Schiraldi, 1997). While there is an increasing (although still relatively small) body of research regarding the prediction of vulnerability in youth, there is no standard systematic assessment tool for the determination of suicide and victimisation risk among prison youth. The focus of the current research therefore became to identify those inmates at risk of self harm or victimisation from others, by developing a systematic screening tool. Hence the Prison Youth Vulnerability Scale was designed in order to detect those youth vulnerable to harm from themselves and/or harm from others.

The PYVS consists of three primary subscales: “Vulnerability to Victimization”, “Wellbeing” and “Vulnerability to Suicide / Self Harm”. The well-being sub-scale was included due to some items in the research literature being linked to vulnerability to both victimisation and suicidal behaviours; and due to the conceptual clarity that grouping items linked to psychological well-being afforded. The following discussion represents a review of the literature relevant to the development of the PYVS². Where possible this focuses on research pertaining to youth offenders.

¹ For the purposes of this review, self harm is defined as deliberate, non-life threatening, self-effected bodily harm or disfigurement of a socially unacceptable nature that predisposes a person to an increased risk of suicide. It is known that in the community those who harm themselves are 100 times for likely to kill themselves than the general population, and that 10% of this group do eventually kill themselves (HM Chief Inspector of Prisons for England and Wales, 1999).

² An area of recent research focus not included in the current discussion is that of problem solving. Youth offenders with the most problem-solving deficits (particularly social problem solving) were found to be the most vulnerable to both victimisation and suicide in a recent study by Biggam and Power (1999). This was not included in the PYVS due to the difficulties of assessing problem-solving deficits in a brief screening tool. It does however have important ramifications for intervention and may well be effectively targeted with a programme such as EQUIP (Gibbs, Potter & Goldstein, 1995), which assists youth with antisocial behaviour to develop, amongst other things, social skills and problem-solving skills.

LITERATURE REVIEW

VULNERABILITY TO VICTIMISATION

Victimisation in prison

It has been some time since Sir Alexander Paterson declared that prisoners are incarcerated as punishment rather than for punishment. However despite this, accounts of prison life from prison officers, inmates and official statistics continue to demonstrate that prison is a harsh and often dangerous place. While those who commit crimes should expect to forgo many of their liberties, ideally, their personal safety should not be significantly compromised. As McCorkle (1993a) points out, stress in prison is not uniformly experienced by all inmates, and causes great physical and mental suffering to some. Furthermore, the experience of such suffering in prison is likely to diminish the deterrent effect of imprisonment. This could occur both by creating or intensifying hostilities in offenders which could lead to further criminal behaviour, and also by interfering with a prisoner's ability to successfully undertake programmes offered to reduce their likelihood of reoffending.

That many offenders do experience significant levels of victimisation in prison is rarely disputed (Chonco, 1989; Cooley, 1992; Cooley, 1993; Dumond, 1992; Edgar & O'Donnell, 1999; Eigenberg, 1989; Hemmens & Marquart, 1999; Howard League Commission of Inquiry into Violence in Penal Institutions for Teenagers Under 18, 1995; Maitland & Sluder, 1996; McCorkle, 1993a; O'Donnell & Edgar, 1998; O'Donnell & Edgar, 1999; Smith & Batiuk, 1989; Wooldredge, 1994; Wright, 1991). When individual inmates are surveyed rates of victimisation are alarmingly high. For instance Cooley (1992) reported that of his sample of Canadian federal prisoners, 48% reported having been victimised in the previous 12 months in prison. Similarly increasing numbers of inmates are requesting placement in protective custody, in an attempt to avoid the dangers of the general inmate population (McCorkle, 1992).

A well-recognised difficulty in determining the rate at which incidents of victimisation occur in prison is the problems of official statistics in comparison to the self-report of the inmates themselves (Cooley, 1992; Maitland & Sluder, 1998; McCorkle, 1992; McCorkle, 1993a; McCorkle, 1993b). In terms of sexual assaults for instance, Chonco (1989) reported a rate of sexual assault on inmates of less than 1% according to official records, however when individual inmates were interviewed this rate rose to 30%. Furthermore officers may be aware of incidents of victimisation even though they may not make an official notification of an event. For instance Cooley (1993) found that although only 9% of victimisation incidents were officially documented, inmates questioned reported that prison officers were aware of 22% of all victimisation. This underreporting in official sources may reflect either an apathy towards, or acceptance of, violence in the prison environment, or alternatively the need for "hard evidence" before official records are made.

The discrepancy between self-report and official statistics can be explained by many of the mechanisms that also contribute to the high levels of violence and victimisation within prison. It has been noted that many inmates fail to report incidents of victimisation due to fear of inmate reprisals or staff apathy (McCorkle, 1992). This apathy may reflect Johnson's (1987, in McCorkle, 1992) observation that "violence between inmates is now so common that it is considered a norm of the convict world".

Furthermore we see in prison an environment in which force becomes an acceptable means of conflict resolution; where large numbers of men with a proven history of aggression are forced to interact on a daily basis; and where victimisation is almost routine (O'Donnell & Edgar, 1999). Furthermore Riley (1997) describes what he terms the "sticking fat" ethic in New Zealand prisons culture, that is an ethic where antisocial values are applauded, might is right, and the esteemed inmates are those who demonstrate the most machismo attitudes and behaviours. Most importantly "sticking fat" involves adherence to the inmate code, which prohibits informing officers of the misdoings of other inmates.

Thus there are factors of prison life which make victimisation an ongoing concern for both inmates and staff. Some of these factors are related to features of the external environment (Maitland & Sluder, 1998; Walters, 1998). These features include for example, prison overcrowding, staff characteristics, the demographics of the intake area, prison specific racial and gang tensions, and security ratings of the facility. However despite the institutional variation and large numbers of victims in prisons, what is also evident is that not all inmates are subjected to the same degree of mental and physical suffering. It is therefore necessary to, where possible, identify those individuals who are most at risk of victimisation.

Characteristics of prison youth vulnerable to victimisation

Of particular concern to the current research was the issue of determining the characteristics of *young* inmates that make them at particular risk of victimisation. The rates of victimisation are especially high in populations of young offenders (Bailey, 1993; Biggam & Power, 1999a; Edgar & O'Donnell, 1999; Hemmens & Marquart, 1999; Howard League Commission of Inquiry into Violence in Penal Institutions for Teenagers Under 18, 1995; Maitland & Sluder, 1998; O'Donnell & Edgar, 1998; Wales, 1997; Wooldredge, 1994). In their study of young offenders in British prisons, for example, Edgar and O'Donnell (1999) found that one third of all young offenders had been assaulted and over half have been threatened with violence.

Overall, research to assist in determining the characteristics of an individual that may place him or her at greater risk of victimisation is limited. What is available is often on older adults in maximum-security prisons, and primarily from Canadian, American, and British institutions. The generalisability of research from these populations of offenders to the young offenders in New Zealand prisons is at this stage unknown.

Experience of institutions

In an extensive study of prison staff, O'Donnell and Edgar (1998) found that officers identified "first timers" as those most likely to be victimised. Similarly Maitland and Sluder (1996) found that in British prisons it was new inmates that were most likely to be victims of attack. Wright (1991) further extended this finding when he determined that those who were most likely to be victimised were usually in prison for the first time, but that they also had no prior institutional experience. He provided evidence that "state raised convicts", that is, those youth who have previous institutional (although not necessarily that of a prison environment) experience are less likely to be victimised.

Social skills

There is growing research evidence that those inmates without friends or "allies" in prison are more likely to be victimised (Maitland & Sluder, 1996; McCorkle, 1993b; Wooldredge, 1994). This may be because those with friends in an institution have

better social skills and therefore are less likely to antagonise others or provoke incidents of violence against themselves; or due to friends acting to insulate and protect an individual from victimisation; or a combination of both these factors. Wright (1991) highlighted the importance of social skills in protecting inmates from victimisation. Having tested inmates using a measure of personality functioning (the Minnesota Multiphasic Personality Inventory – Second Edition (Butcher, Dahlstrom & Graham; 1989)), Wright found that those with poorer sociability, a distrust of others, and a tendency to be introverted and withdrawn were more likely to be victimised. He hypothesised that these individuals may react aggressively at times due to poor social skills and an inability to problem solve, and thus they may be more likely to irritate other inmates and therefore “provoke” attack.

Inmates perception of risk

The relationship between fear of victimisation and actually being victimised is a complicated one. However O'Donnell and Edgar (1999) found that there was a strong relationship between self-reported fear of victimisation and actual experience of victimisation. For instance those youth that had not been victimised themselves, even if they had witnessed the victimisation of someone else, did not report significant levels of fear. Furthermore the level of fear of victimisation that an inmate reports has been found to be one of the best predictors of general well being in both adult inmates (McCorkle, 1993a) and youthful inmates (Maitland & Sluder, 1996).

History of victimisation

Previous victimisation remains a strong predictor of future risk (Cooley, 1992; Maitland & Sluder, 1996; McCorkle, 1993a; McCorkle, 1993b). This includes not only victimisation within a prison environment but also that suffered in a wider setting. For instance Browne and Falshaw (1996) found that the victims of bullying in a juvenile residential centre had a history of being victimised in their previous schools. Maitland and Sluder (1996) also found that a history of victimisation was one of the best predictors of general well being in their sample of youthful inmates.

Offence type - child sex offenders

In their survey of British prison staff, O'Donnell and Edgar (1998) found that staff identified potential victims of assault in prison as more likely to be child sex offenders. When they extended their study to the inmates themselves they found that 72% of those inmates surveyed stated that sex offenders were not only victimised more often, but also “deserved” to be victimised (O'Donnell & Edgar, 1999).

Age of youth

Most of the research on victimisation in prisons has found that younger inmates are significantly more likely to be victimised than older inmates (Bailey, 1993; Baskin, Sommers, & Steadman, 1991; Cooley, 1993; Hemmens & Marquart, 1999; Howard League Commission of Inquiry into Violence in Penal Institutions for Teenagers Under 18, 1995; Maitland & Sluder, 1996; Maitland & Sluder, 1998; McCorkle, 1993b; Wooldredge, 1994). Various reasons have been postulated to explain the greater levels of victimisation that occur in younger populations of inmates. This includes the hypotheses that younger inmates have higher activity and energy levels than older inmates (Fuller & Orsagh, 1977, in Maitland & Sluder, 1998); or perhaps is reflective of the pressures that young inmates face to “establish a reputation for themselves vis-à-vis toughness and that violent behaviour is one way for younger inmates to prove themselves” (Baskin, et al., 1991, p.278).

While much evidence exists to suggest that younger inmates are at more risk of victimisation than older inmates, this is based on comparisons between populations of inmates ranging from 17 through to 70 years of age. Consequently it is unclear at this stage whether there is a difference in the risk of victimisation between younger and older adolescent inmates, that is, for example between an inmate who is 17 and an inmate who is 19 years old. While Cooley (1993) found that the odds of being victimised appeared to decrease with age, this was deduced using a sample of inmates aged between 19 and 60 years and thus the actual differences in victimisation rates in younger inmates is uncertain.

Intellectual impairment

Inmates of low intelligence were identified by prison staff to be more at risk of victimisation in the survey completed by O'Donnell and Edgar (1998). Furthermore given that those with intellectual disabilities are more likely to lack social and problem-solving skills, be less "street wise" than their peers, and be developmentally more immature generally than their peers, this factor was considered important to include.

Lack of fit with prison culture

When determining those inmates at most risk of victimisation a number of characteristics emerge from the research literature. These include factors such as being perceived as weak, of small physique, of middle class background, lacking in "street wise" knowledge, being effeminate in behaviour, and being of a minority race within the prison (Maitland & Sluder, 1996; Toch, 1977; Wright, 1991). Inmates have also found to be at greater risk if they do not belong to a gang (Maitland & Sluder, 1998). In their survey of prison staff, O'Donnell and Edgar (1998) found that staff were almost unanimous in their opinion that those inmates who appeared physically vulnerable, that is those who are small or weak, anxious, timid and quiet, were more likely to be victimised.

When examining the features of those inmates more likely to be victims of sexual assaults, Chonco (1989) found that the victims of sexual assault tend to be perceived as those who talk too much, have feminine features (such as a small high pitched voice) and those seen as weak. In a similar study Smith and Batiuk (1989) found that inmates who walked or dressed in a feminine way were more likely to be victimised

VULNERABILITY TO SUICIDE / SELF HARM

Suicide and Youth

New Zealand has one of the highest rates of suicide in young males aged 15 to 24 years in the industrialised world (World Health Organisation, 1993). The suicide rate in this age group has quadrupled over the last two decades (New Zealand Health Information Service, 1997). Furthermore suicide attempts that do not result in death continue to pose a serious health concern for youth under the age of 20 years, resulting in between 600 and 700 hospital admissions annually (New Zealand Health Information Service, 1995). In one Christchurch study of a cohort of young people, it was found that more than a quarter reported some form of suicidal behaviour before the age of 21 years, including suicidal ideation and suicide attempts (Fergusson, Woodward, & Horwood, 2000). These findings are consistent with a number of other international studies of adolescent populations (Horwood & Fergusson, 1998).

There are a number of factors that have been found to be associated with the risk of suicide or serious suicide attempts in youth (Fergusson, Woodward, Horwood, 2000; Beautrais, 1997; Fergusson & Lynsky, 1995; Garland & Zigler, 1993). These include a family environment characterised by socio-economic adversity, marital disruption, poor parent-child attachment, and exposure to sexual abuse. The individuals concerned also usually have mental health problems, including substance abuse and dependence, and exposure to stressful life events during adolescence. Prior to their suicide attempt youth usually report precipitants such as relationship breakdowns, interpersonal difficulties, financial concerns, and work and legal problems.

Many of the factors associated with suicide attempts are present for youth in prison. This is reflected in the findings of the Suicide Prevention Review Group (1995) who found that inmates kill themselves 4-6 times more often than the community sample (age adjusted), with younger inmates (15-19) at the greatest relative risk. These findings are not restricted to New Zealand prisons. For instance the suicide rate in the prisons of Victoria, Australia, has been reported at between five and eleven times greater than that of the general population (Victorian Correctional Services Task Force, 1998). Adolescents in juvenile detention facilities in America have also been identified as being at high risk of both suicide attempts and suicide (Rohde, Seeley, & Mace, 1997).

The prediction of suicide risk

While many of the factors that place a youth at risk of suicide and self harm may be identified retrospectively, following an actual attempt, there are many problems inherent in prospectively predicting those at risk. For instance the indicators of heightened risk of suicide (such as depression or relationship problems) are relatively common, whereas an actual suicide attempt is not. Consequently it becomes necessary to understand the patterns of past and current factors that are strongly suggestive of, and can be used to determine those that are a higher risk of suicide.

A number of well researched documents exist regarding the factors to consider when determining risk of suicide (Beautrais, 1997; Beautrais, 1995; Beautrais, Coggan, Fergusson & Rivers, 1997; Council of the College of Physicians and Surgeons of Alberta, 1994; Garland & Zigler, 1993; Hudson & Ward, 1997; Mental Health Services, 1993; National Health Committee, 1996). The following represents a brief discussion of the items that these documents delineate³, with (where possible) reference to research pertaining to offenders, and in particular youth offenders.

Hopelessness

Hopelessness is defined as negative thoughts about the future, and has been widely identified by research as the pre-eminent psychological predictor of suicide and its various manifestations (see Holden, Kerr, Mendonca & Valamoor, 1998; Harris & Lennings, 1993). Hopelessness (while an important dimension of depression) has also been found to be better at predicting suicidal behaviour than depression itself (ibid). Hopelessness has been found to be a particularly pertinent characteristic of those who attempt suicide in prison (Biggam & Power, 1999; Liebling, 1997, in HM Chief Inspector of Prisons for England and Wales, 1999; Smyth & Ivanhoff, 1994).

³ For a full explanation the reader is referred to the documents cited.

Current suicidal ideation

Current thoughts of suicide are very common in New Zealand prisons. The recent National Study of Psychiatric Morbidity in New Zealand Prisons (Simpson, Brinded, Laidlaw, Fairley, & Malcolm, 1999) found that one in five inmates of all ages had thoughts of suicide since being in prison. One in 20 inmates reported having made a plan as to how they intended to do it. In terms of youth in prison under 20 years of age, a total of 16% had had thoughts of suicide since being in prison. Furthermore, suicidal ideation was found to be present prior to all attempted suicides in a sample of Australian adolescent offenders (Harris and Lennings, 1993).

Past attempts

The strongest behavioural predictor of future suicidal behaviour is past suicidal behaviour (Lewinsohn, Rohde, & Seeley, 1994). Hawton and Catalan (1987) found that between 6 and 15% of youthful suicide attempters make another attempt within a year. Studies of British prisoners found that approximately half the inmates who committed suicide had threatened or attempted suicide in the past (Liebling, 1995; Lloyd, 1990). Furthermore the review by HM Chief Inspector of Prisons for England and Wales (1999) reported that between 7 and 15% of prisoners claimed to have made a suicide attempt in the previous year.

Recent exposure to others suicidal behaviour

There is increasing evidence that adolescents are at increased risk of suicidal behaviour themselves, following the suicide of another known individual (such as family members or friends), and this was also found to hold true in a sample of American juvenile delinquents (Rohde, Seeley, & Mace, 1997).

Contact with a mental health professional

Horwood and Fergusson (1998) found that of the 57 Christchurch youth in their sample that had attempted suicide or died by suicide, 35% had been in contact with some form of psychiatric treatment service. This is primarily due to the fact that the majority of these 57 youth had a recognisable psychiatric disorder prior to their suicide attempt (including mood disorders, anxiety disorders, and substance abuse disorders). The recent National Study of Psychiatric Morbidity in New Zealand Prisons (Simpson, et al., 1999) found that about 30% of sentenced male inmates (of all ages) had received some form of treatment for a mental health problem prior to entering prison. Furthermore a number of researchers (see Power, McElroy, & Swanson, 1997) have found that about one-third of all inmates who committed suicide had been treated as in-patients prior to their imprisonment.

Sentence length

After his review of the literature Lloyd (1990) concluded that prisoners serving long sentences, particularly a life sentence, were more at risk of suicide than those with short sentences. Liebling (1993) found that when youth offenders in the United Kingdom received a long sentence this acted as a specific trigger of suicide attempts and self-injury. The review of suicide in New Zealand prisons (Corrections Operation Group, 1995) found that inmates serving a sentence of more than one year are over represented in the suicide population. This was found to be particularly true for inmates serving life sentences.

WELLBEING

Alcohol and drug use

The National Study of Psychiatric Morbidity in New Zealand Prisons (Simpson, et al., 1999) concluded that substance abuse and dependence are relatively common disorders among the prison population. Substance abuse is most commonly cited as a strong risk factor for suicide behaviour in both the community (Beautrais, 1997; Beautrais, 1995; Beautrais, et al., 1997; Council of the College of Physicians and Surgeons of Alberta, 1994; Garland & Zigler, 1993; Hudson & Ward, 1997; Mental Health Services, 1993; National Health Committee, 1996) and in samples of prison youth (Liebling, 1992; Power, et. Al., 1997; Rohde, et.al., 1997). For instance Putnins (1995), from a sample of 216 young Australian offenders, found that suicide attempts and self harm were associated with increased substance use. There is also evidence that drug use in prison contributes to victimisation in the form of 'drug debts' and 'stand-overs' (Maitland & Sluder, 1998).

Social support

Social factors, including the lack of a perceived supportive family/whanau or social networks outside of the prison, have been found to be increasingly important in predicting those inmates at risk of victimisation and suicide. Those lacking social support have been found to be at increased risk of suicide (Victorian Correctional Services Task Force, 1998), and victimisation (McCorkle, 1993; Wooldregde, 1994) in prison.

The importance of family and friends has also been acknowledged in the PYVS by the inclusion of the requirement to contact a "significant other" as part of the assessment. This aspect was included with respect to the knowledge that many youth may be unwilling to disclose personal information about themselves in a brief screening assessment, but this information may well be known by another that knows them well. The usefulness of contacting a significant other is confirmed by the finding that between 68% and 86% of those attempting suicide are likely to have made indirect references to their suicidal intention to relatives (Jamison, 1986).

Psychological Distress

Psychological distress is an important factor in predicting those at risk of both victimisation and suicide. Approximately 90% of adolescents that complete or attempt suicide will have been diagnosed with a recognisable psychiatric disorder prior to their attempt (Beautrais, 1995; Shaffer et al, 1996). In a sample of American juvenile delinquents Rohde, Mace and Seeley (1997) found that suicide attempts were primarily related to depression and anxiety. Furthermore depression was found to be the best predictor of both suicidal ideation and suicide attempts in sample of Australian youth offenders (Harris & Lennings, 1993). Furthermore, Biggam and Power (1999) found that the victims of victimisation in prison demonstrated levels of depression and anxiety at similar levels to those prisoners who were actively suicidal.

DEVELOPMENT OF THE SCALE

Following the review of the research literature, a pool of factors were identified that were likely to be predictive of vulnerability in youth. The next step was to devise operational definitions of these factors in the form of questions to be included in the Prison Youth Vulnerability Scale. Taking into account that the scale would be administered to prison youth by non-clinically trained staff, it was considered essential that the language and format of questions be suitable for their audience. To obtain guidance in this, a range of publications from agencies dealing with youth and others at risk were consulted including: the Ministry of Education Guidelines for Assessing and Managing Risk in Schools (Beutrais, et al, 1997); the Ministry of Health Guidelines for Clinical Risk Assessment and Management in Mental Health Services (Ministry of Health, 1998); and the National Health Committee Guidelines for Recognising, Assessing and Treating Alcohol and Cannabis Abuse in Primary Care (National Health Committee, 1999). In addition discussions were held with a researcher (Mr Don Smith) involved in developing a risk assessment tool for use with youth in the care of the Children, Youth and Family Service.

Following this process of consultation, a pool of item questions were developed and formatted into a draft questionnaire. Where possible, consistency was sought between PYVS questions and those employed by other agencies dealing with New Zealand youth. For example, the selection of questions for the Alcohol and Drug use – Brief screen, and Psychological Distress sections of the PYVS were adapted from those with known research validity⁴. Due to the recognised difficulty of relying on self-report alone in assessing risk (e.g., Cooley 1992; McCorkle 1993a) it was decided to supplement the questions posed directly to youth with a review of collateral information in the form of prison health and unit files and an interview with a significant other nominated by the youth concerned. To minimise the potential consequences of error in employing multiple sources to assess vulnerability, it was further decided that answers given by the youth would be modified only in terms of increasing the assessed level of risk. That is, where a discrepancy between youth self-report and collateral information was established, the item concerned would be scored in accord with the information source which rated the youth's risk most highly.

The draft scale was then subjected to an extensive review process. Individual items in the questionnaire were first reviewed for cultural appropriateness by Maori cultural advisors from the Policy and Service Division of the Department of Corrections. Following amendments resulting from this process, the modified format of the scale was then submitted for feedback to Psychologists and Maori Cultural advisors at the

⁴ The alcohol and drug screen of the PYVS is based on two items from the CAGE, a brief screening instrument for problematic drug and alcohol use; and an item that tapped the problematic use criteria from the Diagnostic and Statistical Manual of Mental Disorders – Fourth Edition (American Psychiatric Association, 1994).

The Psychological Distress section of the PYVS includes both a measure of current presentation, and a version of the Non-Specific Psychological Distress Scale known as the K-6 (Kessler & Mroczek, 1994) adapted for use with prison inmates. The six-item version of this scale was found by Kessler and Mroczek to represent the entire range of high distress and to also be highly discriminating along that continuum. In her recent research with a sample of students at a New Zealand university campus primary care clinic, Westwater (1998) found that the K-6 compared very favourably in its diagnostic utility with a structured diagnostic interview of proven validity. Her research with the K-6 further suggested that it detected current depression, anxiety, and restlessness.

Department of Corrections Psychological Service National Conference. Prison officers at Hawkes Bay and Christchurch regional prisons were also asked to provide feedback on the “user friendliness” of the scale items and format. Based on the feedback received from these sources the scale was again modified and then piloted on 20 youth in Christchurch Prison by psychologists from Psychological Service and Prison Officers from the Christchurch Prison case management assessment team. During this process Youth and prison officers were asked to comment on the scale items and overall assessment process. Based on feedback from this process, final modifications were made and the scale was submitted for a final cultural review. The final version of the Prison Youth Vulnerability Scale is included in Appendix 1.

ADMINISTRATION AND SCORING GUIDELINES

A. GENERAL CONSIDERATIONS WHEN USING THE PYVS

1. **Who** - The PYVS should be administered to all youth aged between 17 and 19 years of age (inclusive). This includes both sentenced youth and those on remand.
2. **When** – The PYVS should be administered as part of an initial induction assessment to determine placement options for youth. This should ideally take place within 72 hours of arrival.
3. **Where** - Arrange a time and place for the interview. Try to make the environment where the assessment is conducted as quiet and confidential as possible.
4. **Administrators** – All those who administer the PYVS should have completed training by psychologists familiar with the nature and purpose of the scale.

B. CONDUCTING THE INTERVIEW WITH YOUTH

1. Establish rapport

- a) Introduction – in an effort to put the youth at ease with you and the assessment process it is important to provide a rationale and an introduction to you and your role. This could be something like *“Hi my name is [.....], I am a prison officer with the Specialist Youth Unit. Part of my role is to come and interview young people when they first come into prison. It is normal to experience problems when you come to prison and I want to ask you some questions about how it is for you.”*
- b) Ask the youth some of the questions on the front page of the PYVS, these provide an introduction into the “question and answer” format of the interview, and are relatively non-threatening and non-personal.
- c) Make a point of asking the youth “where are you from”, this again is a non-threatening question that may provide the youth the chance to talk about family, whanau, iwi, and their connections with others.

2. Complete PYVS interview with youth.

- a) Ask all the questions in bold type. Try to keep the wording you use as close as possible to the wording in the scale. Paraphrase, or explain, if the youth seems confused by an item.
- b) If the youth does not give you a definite answer, i.e. “depends” or “not sure”, re-phrase the question with options and ask them to choose one option even if none are completely right for them.
- c) Obtain contact details for significant others and written consent using the consent form on page 6 of the PYVS. Note that it is not compulsory that the youth give their permission for you to contact someone; however if the youth does not wish to supply his consent, encourage him and attempt to allay any concerns he may have about this occurring.

- d) If in doubt about an answer give it a higher score (err on the side of more vulnerability not less).
- e) Do not let the youth see the scale where possible, as this may bias the responses the youth provides.
- f) As you ask the youth each question, score their response in the appropriate space beside one of the shaded options.

NOTE: If during the interview, the youth appears at immediate or serious risk of harm from themselves or others, follow usual prison procedure – such as reporting your concerns to the Health Unit and/or the Unit Manager.

C. OBTAIN COLLATERAL INFORMATION

1. Complete file review.

- a) Review the file for any information that may help you to answer any of the items in the PYVS.
- b) Ensure that you have obtained and reviewed a copy of the Judges Sentencing notes (these should arrive with the youth to prison – if they did not contact the court to ensure that a copy is sent). Do not consider the PYVS complete until you have obtained and reviewed the Judges Sentencing notes.
- c) Use the checklist entitled "Areas to Cross-check in File review", included with the PYVS, to assist in determining relevant information.
- d) Tick the box on page 1. of the PYVS to indicate that you have completed the file review. If unable to complete any aspect of this part of the PYVS administration state the reasons why on page 1 of the PYVS (for instance, "Judges Sentencing notes unavailable").

2. Interview with Significant Other

- a) Follow guidelines included on pages 10 and 11 of the PYVS.
- b) Tick the box on page 1. of the PYVS to indicate that you have completed the interview with the significant other. If unable to complete this aspect of the PYVS administration state the reasons why on page 1 of the PYVS (for instance, "Significant other could not be contacted").

3. Review PYVS Scores on the basis of new information obtained through collateral sources.

- a) On the basis of any collateral information obtained, review the PYVS scores obtained from the youth interview and amend these scores where necessary. **Amendments should only be made to reflect increased perception of vulnerability** – that is item scores may increase but should not decrease as a result of collateral information received.

D. SCORING THE PRISON YOUTH VULNERABILITY SCALE

1. Obtaining sub-scale and Total PYVS scores

- a) Add the scores from each box (with revised scores following collection of collateral material) to obtain a total for each of the three subscales.
- b) Enter the subscale totals on page 1 of the PYVS.
- c) Add the subscale scores to obtain a Total PYVS score.

2. Using scores as criteria for entry to Specialist Youth Units

- a) Based on current research with the PYVS, a Total PYVS score of 12 is recommended as a suitable “cut-off” for determining entry to the Specialist Youth Units.
- b) If the youth obtains a score of 12 or above consider them for entry to the Specialist Youth Units. However final entry may need to be based on availability of beds and other regional constraints.

SUMMARY OF PSYCHOMETRIC PROPERTIES ⁵

How well does the PYVS predict vulnerability?⁶

The use of a prediction instrument such as the PYVS which employs a cut-off will result in a number of people being identified as vulnerable and a number of people being identified as not vulnerable. In assessing how well the PYVS predicts vulnerability it was necessary to establish how often the PYVS will predict someone to be vulnerable when in fact they are not at risk of harm (known as the false positive rate), and how often the PYVS will predict someone to be not vulnerable when in fact they are at risk of harm (known as the false negative rate). Two methods of establishing whether youth had suffered harm were employed to test the accuracy of the PYVS.

1. Penal files and prison health files were reviewed for documented evidence of harm suffered by youth after being tested with the PYVS. Using this method and the recommended cut-off score of 12 it was established that the PYVS has a false positive rate of 31% and a false negative rate of 23%. In other words 69% of youth predicted by the PYVS to be at risk of harm did suffer some form of harm and 77% of youth predicted by the PYVS to be safe from harm did not suffer harm.
2. Prison officers from the youth's prison unit were asked to rate the harm suffered by youth after being tested with the PYVS. Using this method and the cut-off score of 12 it was established that the PYVS had a false positive rate of 13% and a false negative rate of 35%. This means that 87% of youth predicted by the PYVS to be at risk of harm suffered some form of harm and 65% of youth predicted by the PYVS to be safe from harm did not suffer harm.

Will two different assessors agree on the PYVS score to give a youth?

Any two prison officers trained in the use of the PYVS are likely to obtain the same or a very similar score for a given youth. When pairs of prison officers independently rated the same group of youths with the PYVS they achieved a high level of agreement (known technically as inter-rater reliability). The correlations between the scoring of PYVS raters and co-raters for each scale on the PYVS were as follows: Total PYVS score = .97, Victimisation scale = .98, Well-being scale = .92 and Suicide/self-harm scale = .94. Any correlation above .90 is considered to be very high.

Are PYVS scores stable over time?

PYVS scores are unlikely to change significantly over a short time period. When youth who had been administered the PYVS were re-tested after approximately three weeks, their scores remained fairly stable. The correlations between PYVS scale scores at initial testing and re-testing were as follows: Total PYVS score = .80, Victimisation score = .66, Well-being score = .56 and Suicide/self-harm score = .94. Correlations between .50 and .80 are considered to be moderate to high. These correlations are considered adequate given that several items within each sub-scale measure qualities which would be expected to vary over time (for example, psychological distress).

⁵ A fuller description of the psychometric properties of the PYVS is included in Appendix 2. *Psychometric properties of the PYVS*

⁶ The predictive validity estimates provided above must be regarded as tentative owing to the small sample size employed in compiling these estimates.

How do characteristics of the youth being tested affect the score they will get?

Age

The age of the youth being tested is scored as part the PYVS administration procedure and therefore younger youth will receive a higher score than older youth. The PYVS has not been trialled on youth outside the ages of 17 to 19.

Ethnicity

Whether a youth is Maori, Pakeha or Pacific Islander will not affect the PYVS score he receives. Other ethnic groupings have not been tested with the PYVS

Length of Sentence

The length of sentence a youth is serving is scored as part of the PYVS administration and therefore will influence their eventual score. Youth with longer prison sentences will receive a higher score than youth with shorter sentences.

Time served in prison before testing

The time a youth has served in prison before being administered the PYVS will not affect the score he receives.

Type of offence

The type of offence a youth has committed before coming in to prison may affect the score he receives. Convictions for sexual offences against a child are scored as part of the PYVS, therefore youth with this type of offence may rate as more vulnerable than those without such an offence. Those youth convicted of violent offences in general may also receive a higher Total PYVS score than those convicted of non-violent offences. This is because violent offences generally attract longer sentence lengths, which will score more highly on the PYVS.

Directions for Future Research

Appropriate Populations

At present the PYVS has only been trailed on a limited number of male youth aged 17 – 19 years in four New Zealand prisons. Hence before definitive conclusions can be drawn about the ability to generalise the results of the current research to other populations further research is required. This could include a wider sampling of youth from regions of different demographic characteristics; with youth younger than 17 years of age; with different ethnic groups; and with females.

Sample Size

The psychometric data provided in this manual is based on a moderate initial sample size (n=33). Further data collection would enable more definitive conclusions to be drawn, and detect with greater certainty differences that may exist between groups (for instance, different ages, ethnic groups, offence types, and sentence lengths).

Predictive Validity

There is an inherent difficulty in attempting to predict low base rate events, such as the incidence of self-harm and suicide. That is, these events occur at such a low rate that any attempt at predicting their occurrence needs to allow sufficient time to lapse between the point of prediction and the point at which follow-up data is obtained. Allowing a large enough time between the initial administration of the PYVS and the collection of follow-up data becomes problematic when dealing with young prison inmates due to the tendency for these youth to have predominately short sentences. This tendency resulted in a smaller sample size for predictive follow-up in the current research due to large numbers of youth being either released or transferred out of the prison in which they were initially tested over the follow-up period. Thus the data on predictive validity provided in this manual must be regarded as tentative.

A further difficulty in determining the occurrence of events of victimisation and self-harm within prison at follow-up is the limitation inherent in relying on external sources of information. As discussed in the introduction, it is recognised that when individual youth are asked directly they tend to report significantly more incidents of victimisation and self-harm than when file information and officer ratings of vulnerability are used. As noted in the psychometric section, file information may underestimate the true incidence of victimisation whereas prison officer sources may underestimate the incidence of self-harm. Including the youth's self report as a means of determining the occurrence of these events and behaviours may well provide significantly more data than relying solely on official records and prison officer ratings of vulnerability.

Should further research on the PYVS be completed, greater predictive power could be gained by both having a greater sample size at follow-up and by using youth self-reports to supplement officer ratings and file information. The larger quantities of data thus available would allow the use of regression analyses to determine the relative predictive power of individual items on the PYVS. This would allow items to be assigned weightings relative to their true predictive power, thereby increasing predictive accuracy. It would also allow items which make little independent contribution to predictive estimates to be removed from future editions of the PYVS, thereby simplifying the assessment process.

Determination of “Cut-Off” Scores

There are two primary factors to consider when determining a suitable “cut-off” score for entry to the Specialist Youth Units. The first is the proportion of youth likely to be identified by any particular score, in relation to the number of places available in a particular region’s unit. Appendix 3 outlines the percentage of youth likely to be identified based on PYVS scale scores based on the standardisation sample. For instance using a total PYVS score of 12 would be likely to identify 53% of youth as suitable for the unit. This needs to be considered in relation to the second factor, that of the false negative and positive rates that any cut-off score is likely to engender (see Appendix 2. Table 6). Given that the false positive and negative rates are based on a currently small predictive validity sample these can at this stage be considered only as tentative.

Thus in the determination of a cut-off score the number of youth likely to be selected for the units needs to be weighed against the possibility of excluding youth that may be at risk. Using a higher PYVS cut-off score will mean a smaller number of youth are placed in the Specialist Youth Units, but could also lead to a greater proportion of youth who could potentially be vulnerable being excluded. Using a lower PYVS cut-off score will mean a larger number of youth are placed in the Specialist Youth Units, but will decrease the likelihood of vulnerable youth being excluded.

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Appendix 1. The prison youth vulnerability scale

PYVS

Date Completed: _____

Name of assessor: _____

Offender Details:

Full Name: _____

Date of Birth: _____

Age: _____

Culture / Ethnicity: _____

Hapu / iwi: _____

Sentencing date: _____

Sentence length: _____

How long in prison (including remand)? _____

Offences: _____

Scale Parts and Score Summary

		Score:
I	Vulnerability to Victimisation	_____
II	Well being	_____
III	Vulnerability to Suicide / Self harm	_____
	TOTAL SCORE	_____

IV Collateral Information (tick boxes when completed)

- File review completed (including Judge's sentencing notes)

- Significant other contacted

If unable to obtain collateral information state reasons: _____

I. Vulnerability to Victimisation

1. Experience of institutions

Ask: **Is this your first time in prison?**

On either remand or post-sentencing.

If youth has served time on remand for previous offences score 0.

No	Score 0	
Yes	Score 2	

If yes, ask:

Have you ever spent time in any other secure institution?

e.g. Corrective Training, Youth Justice or Children and Young Persons Care and Protection facilities.

Yes	Score 0	
No	Score 1	

2. Social skills

Lead in with: **How have you found being in prison with so many other inmates around?**

Then ask:

- **Do you feel you get on well with other people?** Y / N
- **Do you find it easy to make friends?** Y / N
- **Do you feel OK about being in groups of people that you don't know very well?** Y / N

Award a score of 1 for each **No** answer.

Score (0 – 3)	
---------------	--

3. Perception of risk

Ask: **Do you feel at risk from attack or abuse from other inmates?**

Give relevant examples as necessary, such as referring to their ethnicity, gang affiliation or lack of it, "narking", contracts, threats.

Prompt with options if necessary:

Not at all	Score 0	
Sometimes	Score 1	
Often	Score 2	

If sometimes or often, ask for more details and note:

4. *History of victimisation*

Ask: **How often have you been attacked, bullied or abused by people your own age (peers)?**

Prompt with options if necessary:

Never	Score 0	
A few times	Score 2	
Often	Score 4	

5. *Offence type*

Ask: **Have you ever been convicted of a sexual offence on a child or other form of child abuse?**

Also check file information

No	Score 0	
Yes	Score 4	

The following items should be answered on the basis of judgement, observation, and file review or other collateral information (e.g. discussion with significant others)

6. *Age of youth*

19 years	Score 0	
18 years	Score 1	
17 years	Score 2	

7. *Intellectual impairment*

From file review note any evidence that this person has been previously reported to have an intellectual impairment.

This may include references to contact with organisations for those with intellectual disabilities, having been in “special classes” at school, assessments included as part of Psychiatric or psychological reports, or Community Probation reports.

No evidence	Score 0	
Evidence	Score 2	

8. *“Lack of fit” with prison culture*

This item requires a judgement by the assessor that this person is unlikely to “fit in” within the mainstream inmate culture. (Tick boxes for features observed).

Look for features of the offenders physical appearance such as:

- Small build
- Impaired vision i.e. requires glasses
- Pronounced disfigurement
- Physical disability
- Deaf

Look for features of the offenders presentation and behaviour such as:

- Inappropriate verbal behaviour e.g. giggling
- Inappropriate physical behaviour e.g. wearing makeup, sexual behaviour
- Hunched fearful posture
- Obvious effeminate behaviour
- Speech impediment
- Appears slow or “dull”
- Behaviours that are likely to irritate and annoy other offenders e.g. immaturity
- Others e.g. unfortunate mannerisms

Look for other features of the offender which make him stand out such as

- Being from a “straight” middle-class background
- Having a lack of exposure to criminal lifestyle
- Being from an ethnic minority not well represented in the offender population (e.g. Vietnamese, Indian, Middle Eastern etc.)
- Membership of a gang that is likely to be a target of attack from others

Note other features not listed above: _____

None or only one feature	Score 0	
Two or three features	Score 2	
Multiple features	Score 4	

II Well being

Lead in with: **Now I'd like to ask you some questions about life on the outside**

Alcohol and Drug use – brief screen

9. Ask: **Did you use alcohol or any other drugs in the month before you came into prison?**

If yes, ask **What did you use?**

Prompt with: **Alcohol, marijuana, anything else?**

Score according to following criteria:

Alcohol and / or marijuana only	Score 0	
Other drug use (including pills, LSD, IV drugs etc)	Score 1	

- **Have you ever felt you ought to cut down on drinking alcohol or doing drugs?** Y / N
- **Have people close to you complained about your alcohol or drug use?** Y / N
- **Have drugs or alcohol ever caused problems for you?** Y / N
e.g. missing work or school, being arrested for selling or using drugs, doing crime or getting into fights while intoxicated

Award a score of 1 for each **Yes** answer.

Score (0 – 3)	
---------------	--

Social Support

10. Ask: **Do you feel your family / whanau care about what happens to you?**

Yes	Score 0	
A little	Score 1	
No	Score 2	

11. Ask: **In the month before you came into prison were there any other groups or people that you felt close to or supported by?**

If youth seems unsure prompt with: **People like your friends, friend's family, hapu, partner, cultural group, or a gang?**

Yes	Score 0	
No	Score 1	

If YES ask: **Do you feel that you could still turn to these people now?**

Yes	Score 0	
No	Score 1	

12. Ask: **As part of this assessment we would like to contact someone that you have had contact with over the last few weeks and you think knows you well.**

Could you give me a name of someone that you feel OK about us talking to? It could be a family / whanau member, close friend, social worker, nurse, or anyone else that you feel supported by, that we can contact by phone.

Name of person: _____

Relationship to youth: _____

Contact details: _____

Alternative contact:

Name of person: _____

Relationship to youth: _____

Contact details: _____

Consent for Contact with Significant Other

I _____ give my consent for the people above to be contacted. I understand that they will be asked if they have any concerns about me at present.

Signed: _____ Date: _____

Psychological Distress

13. Presentation

Appears calm or relaxed	Score 0	
Appears distressed, tearful, agitated etc	Score 2	

14. Check for psychological distress by asking the following questions
(adapted from the Kessler)

For each of the following items prompt the youth to respond with how often they have experienced each feeling using the rating scale below:

0	1	2	3	4

None of the time	A little of the time	Some of the time	Most of the time	All of the time

Lead in with: **Now I've got a couple of questions about how you've been feeling over the last few weeks. For each of the questions I want to know how often you've felt this way, none of the time, a little of the time, some of the time, most of the time or all of the time.**

Repeat the prompt "**none, a little, some, most or all of the time**" after each question

Ask: **In the last two weeks, about how often did you feel ...**

	Rate 0 - 4
.... so sad nothing could cheer you up	
.... worried or frightened	
.... restless or stressed	
.... hopeless	
.... that everything was an effort	
.... worthless	
TOTAL RATING	

On the basis of the total rating assign the following scores

Total rating 0 - 4	Score 0	
Total rating 5 - 12	Score 2	
Total rating 13 and above	Score 4	

NOTE: If the youth obtains a score of 13 or above inform the health unit in your prison.

III Vulnerability to Suicide / Self harm

15. Ask: **Which of these statements best applies to you?** Then read out statements in bold to youth.

I feel mostly positive about my future	Score 0	
I feel discouraged about my future	Score 2	
I feel that my future is hopeless	Score 4	

16. Ask: **Have you ever thought about killing yourself or hurting yourself?**

No	Score 0	
Yes	Score 2	

If

NO, go to question 17.

If YES ask: **Have you thought about a way in which you might do it?**

No	Score 0	
Yes	Score 2	

If yes, note details:

Ask: **Have you had these thoughts in the last two weeks?** Y / N

If NO go to question 17.

If YES ask: **How often** (read out options in bold below):

Hardly ever	Score 0	
Often	Score 1	
Almost all the time	Score 2	

17. Ask: **Have you ever tried to kill or harm yourself in the past?**

No	Score 0	
Yes	Score 4	

If yes, ask:

How many times?

Once	Score 0	
Two or more times	Score 1	

If yes, ask: **How did you do it?**

Note details:

Rank method for lethality (likelihood that method would result in death)

Low lethality e.g. car accident, drug overdose, slash wrists	Score 0	
High lethality, e.g. gun, hanging, jumping, carbon monoxide	Score 1	

18. Ask: **Has anyone close to you tried to kill themselves in the last year?**

No	Score 0	
Yes	Score 1	

19. Ask: **Have you seen anyone like a psychiatrist, psychologist or counselor in the past year (other than for sentencing)?**

No	Score 0	
Yes	Score 1	

20. Sentence length

0 – 17 months	Score 0	
Over 18 months	Score 1	
Life Imprisonment	Score 4	

Note: If youth reports current suicidal thoughts or has received a total Vulnerability to Suicide score greater or equal to 7, inform the health unit in your prison.

IV. Collateral Information

On the basis of any collateral information obtained review the items above and amend scores obtained during interview. **Amendments should only be made to reflect increased perception of vulnerability** – that is item scores should not decrease as a result of collateral information received. For example: If the youth states that they have no intention of harming themselves or have never attempted suicide in the past, and collateral sources suggest this is not the case **increase** the score obtained.

1. **Review all available file information.** Where possible ensure that Community Probation Service Pre-Sentence Report, judges sentencing notes, and any psychiatric or psychological reports written for the court are obtained and reviewed.
2. **Contact significant other** and question using the guidelines below:
 - a. Introduce yourself – saying who you are and where you are from
 - b. Explain you have the consent of the youth to contact them.
 - c. Explain the purpose of your contact with them

For example: “This is John Smith of I have the permission of [youth] to speak with you as part of his initial prison assessment. I mainly want to find out if you have any concerns about [youth] and if you believe he is at any risk while he is in prison”.

The aim is to engage the significant other in a general discussion focusing on the areas assessed by the items in the main body of the scale. It is important that at some stage you gain answers to the following:

- How do you feel [youth] will cope in prison? _____

- Do you believe that [youth] will be able to look after himself in the prison environment? (if not note why not) _____

- To your knowledge has [youth] ever been the victim of attacks, bullying or other victimisation in the past? _____

- To your knowledge has [youth] ever tried to kill or hurt himself in the past?_

- Has [youth] ever given you any reason to believe that he might want to hurt himself?_____

- Has anyone in the family tried to kill or hurt themselves in the last year?_____

- Are you prepared to be contacted again?_____

- If no, ask is there someone else that you think we could contact in the future?
(note name and phone number)_____

Record additional notes below:

Areas to Cross-check in File review

[**Note:** If file information is used to amend the answers given by a youth, please record the evidence this decision was based on and the source of this evidence on the form below. (e.g., pre sentence report (date) noted youth had made prior suicide attempt). Area numbers below correspond to PYVS questions that could be altered on the basis of file information].

1. First time in prison, any other experience of secure institutions?

2. Social skills (get on well with others, easy to make friends, OK in groups?)

4. History of victimisation by peers?

5. Sexual offences against children?

7. Intellectual Impairment?

9. Alcohol and drug use (alcohol and cannabis only, urge to cut down, complaints from others, led to problems)?

16. Ever had thoughts of killing himself, current plan, thoughts in last two weeks?

17. Past attempts to kill himself, how often, method used?

18. Attempt by someone close to youth to kill themselves in last year?

19. Contact with psychiatrist, psychologist or other health professional in last year?

APPENDIX 2. PSYCHOMETRIC PROPERTIES OF THE PYVS

STANDARDISATION SAMPLE CHARACTERISTICS

To investigate the psychometric characteristics of the PYVS, the scale was administered to a total of 84 male youth between the ages of 17 and 19 in four New Zealand prisons: Christchurch (23 youth); Hawkes Bay (30 youth); Waikeria (23 youth); and Auckland (8 youth). Scale administrators were Psychological Service psychologists and selected prison assessment officers trained by Psychological Service psychologists in the use of the scale. The demographic characteristics of the youth sample at the time of initial testing are represented in Table 1. This sample was comparable with New Zealand male youth populations in prison based on comparison with the 1999 New Zealand prison muster. The primary discrepancies appear to lie in the smaller proportion of 19 year olds in the standardisation sample and slightly smaller proportion of youth in the greater than 24 month sentence length category.

Table 1. Demographic Characteristics of Standardisation Sample

	Number	Percentage	
Age			
17	31	37%	
18	37	44%	
19	16	19%	Mean =17.82; SD = 0.73
Ethnicity			
Maori	48	57%	
Pakeha	22	26%	
Pacific Island	14	17%	
Sentence Length (months)			
Remand	19	23%	
0-6 months	10	12%	
6-12 months	12	14%	
12-24 months	19	23%	
>24 months	24	29%	Mean = 29.9; SD =28.01
Time in Prison (weeks)			
0-1 week	12	14%	
1-4 weeks	31	37%	
4-12 weeks	12	14%	
12-52 weeks	19	23%	
>52 weeks	10	12%	Mean = 16.31; SD = 26.03
Offence Type			
Violent	56	66%	
Non- violent	28	33%	

RELIABILITY

Inter-rater reliability

In order to estimate the consistency with which independent raters would score a youth's responses to PYVS items, prison officer co-raters present during assessment interviews independently scored the responses of 22 youth administered the PYVS at Hawkes Bay prison. Correlations between the scoring of PYVS raters and co-raters indicated a very high level of inter-rater agreement with scale score correlations as follows: Total = .97; Victimisation = .98; Well-being = .92 and Suicide/self harm = .94.

Test-retest reliability

An estimate of the stability over time of the PYVS sub-scale and total scale scores was based on the responses of a sub-sample of 20 youth incarcerated in Hawkes Bay prison who were re-administered the PYVS approximately 3.5 weeks after initial administration (mean time elapsed before re-test= 25.5 days, SD = 2.52 days). Correlations between Time 1 and Time 2 for each scale score was as follows: Total = .80; Victimisation = .66; Well Being = .58 and Suicide = .83. These levels of correlation reflect a moderate level of stability over time. As anticipated, those scale items reflecting historical (static) factors showed little or no variation over time with more dynamic (variable) items showing greater change. In no cases did the degree of change in an item from time 1 to time 2 reach statistical significance.

Internal Consistency

Table 2 presents the item total correlations and Cronbach coefficient alphas for the three PYVS sub-scales. The Cronbach co-efficient alpha scores of .68 (Victimisation sub-scale), .66 (Well-being sub-scale), and .69 (Self harm/Suicidality sub-scale) demonstrate a moderate level of internal consistency for each sub-scale component of the PYVS.

Table 2. Item-Total Correlations and Co-efficient Aphas for the PYVS sub-scales

PYVS Subscales	Item-total correlation	Coefficient Alpha
Victimisation		
Item 1a	.43	
Item 1b	.24	
Item 2	.25	
Item 3	.45	
Item 4	.44	
Item 5	.23	
Item 7	.15	
Item 8	.52	
Coefficient alpha		.68

Table 2. Item-Total Correlations and Co-efficient Aphas for the PYVS sub-scales cont.

PYVS Subscales	Item-total correlation	Coefficient Alpha
Well-being		
Item 9a	.22	
Item 9b	.20	
Item 10	.07	
Item 11a	.07	
Item 11b	.11	
Item 13	.21	
Item 14a	.81	
Item 14b	.90	
Coefficient Alpha		.66
Self-harm/suicidality		
Item 15	.33	
Item 16a	.58	
Item 16b	.58	
Item 16c	.37	
Item 17a	.54	
Item 17b	.61	
Item 17c	.61	
Item 18	-.003	
Item 19	.19	
Coefficient Alpha		.69

Factor Structure

In order to determine the factorial structure of the PYVS, a principal component analysis was performed which identified nine components with eigenvalues greater than 1.0. These nine components together explained 67.1% of the variance in scores. The results of this analysis are presented in Table 3.

Factor 1 had negative loadings for the following items: Kessler distress rating (Item 14), Thoughts of self harm (Item 16a), Self harm plan (item 16b), Thoughts of self harm in last two weeks (item 16c), Past attempts to self harm (Item 17a), Frequency of attempts to harm self (Item 17b), and lethality of method used in self harm attempt (item 17c). This grouping suggests youth who are not currently distressed may be less likely to indicate past or current suicidal behaviour or ideation.

Factor 2 had negative loadings for item 2 (Social skills), and item 3 (Perception of risk of victimisation), and positive loadings for item 14 (Kessler distress rating), item 17a (Past attempts at self harm), item 17b (Frequency of attempts at self harm), and item 17c (Lethality of method used in self harm attempt). This appears to reflect the impact of a self - perceived lack of social skills on the reporting of current distress and past suicidal behaviour.

Factor 3 had moderate loadings for the following items: First time in prison (item 1a), First time in any secure institution (item 1b), Poly-substance use (item 9a), and

Negative consequences of substance use (item 9b). This suggests youth with a lack of experience of institutions are likely to report a greater range substance use and associated difficulties.

Factor 4 had a strong loading for item 8 (Lack of fit with prison culture) and moderate loadings for the following items: Past history of victimisation by peers (item 4), Conviction for sexual offence on a child (item 5), Recent contact with mental health professional (item 19), and Current self harm plan (item 16b). This suggests that youth who are perceived by prison officers as different from mainstream inmates are more likely to have been victimised by their peers in the past, to have committed a sexual offence against a child, to have recently seen a mental health professional, and to be currently suicidal.

Factor 5 loaded strongly on Current social support (item 11b), and moderately on Distressed presentation (item 13) and thus appeared to reflect the impact of a perceived lack of current social support on current distress.

Factor 6 had moderate loadings on Item 1a (First time in prison), item 1b (First time in any secure institution), item 10 (Family support) and item 11a (Extra-familial support). This factor appeared to reflect the perception of total social support available and suggests that this may decline for those who have already spent time in secure institutions including prison.

Factor 7 had moderate loadings on item 9b (Negative consequences of substance use) and item 18 (Suicide attempt in someone close to the youth). The implications of this relationship requires further investigation.

Factor 8 had a moderate loading on item 15 (hopelessness) suggesting that hopelessness may make an important independent contribution to vulnerability as suggested by the literature (see section on Conceptual issues).

Factor 9 had moderate loadings on item 5 (Child sex offences) and item 7 (Intellectual impairment) which suggests that youth convicted of a sexual offence against a child are more likely to have been identified as intellectually impaired.

Table 3. Unrotated Principal Components Loadings for the PYVS*

Item No.	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9
Item 1a	-.07	-.14	.52	.24	.20	.43	-.26	.20	.18
Item 1b	-.28	.17	.56	.03	.07	.40	-.08	.17	-.16
Item 2	-.24	-.56	.01	-.21	-.08	-.21	-.18	-.11	-.04
Item 3	-.36	-.46	.36	.04	-.34	.04	-.03	.04	.22
Item 4	-.21	-.31	-.01	.42	.04	-.12	.30	.21	.07
Item 5	-.04	.03	.00	.46	-.08	.17	-.21	-.22	-.49
Item 7	.18	.08	.15	.28	.01	-.33	.31	-.38	.48
Item 8	-.18	-.17	.30	.61	-.28	.09	.14	-.13	.11
Item 9a	-.27	-.11	-.56	.11	-.09	-.03	-.10	.37	.00
Item 9b	-.18	-.09	-.47	.07	-.26	-.16	-.49	.10	.15
Item 10	-.33	.16	-.36	.14	-.14	.47	.30	.02	.01
Item11a	-.24	.25	-.29	-.02	.18	.49	.12	.12	.34
Item11b	-.11	-.13	-.03	-.11	-.74	.22	.20	.08	-.01
Item 13	-.34	-.11	.24	-.15	-.43	-.26	.15	.33	-.16
Item14a	-.38	-.69	.04	-.23	.19	.02	-.06	-.08	.17
Item14b	-.45	.70	.00	-.26	.15	.05	-.06	-.07	.07
Item 15	-.31	.06	-.33	-.20	-.35	.25	.10	-.52	-.06
Item16a	-.62	-.22	-.25	.28	.32	.00	-.04	-.16	-.02
Item16b	-.55	.09	-.27	.45	.18	-.08	-.10	-.01	-.03
Item16c	-.49	.21	.17	-.17	.26	-.01	.30	-.21	-.31
Item17a	-.58	.54	.18	-.10	-.01	-.22	.01	-.11	.13
Item17b	-.69	.58	.13	-.18	.01	-.16	-.04	.06	.05
Item17c	-.69	.58	.13	-.18	.01	-.16	-.04	.06	.05
Item 18	.01	-.21	-.19	.03	.25	-.18	.53	.35	-.14
Item 19	-.13	.04	.10	.50	-.13	-.37	-.11	.02	-.12
Common Variance	34.7%	29.6%	20.6%	18.4%	16.2%	15.3%	12.3%	11.3%	10.4%
Total Variance	13.8%	11.8%	8.2%	7.3%	6.4%	6.1%	4.9%	4.5%	4.1%

* Salient Loadings >.40 are in bold

PREDICTIVE VALIDITY

To determine the ability of PYVS sub-scale and total scale scores to predict subsequent instances of self-harm and harm from others, file evidence and prison officer ratings of actual harm experienced by youth were collected for the 33 youth from the standardisation sample who were still in prison at the end of a four month follow-up period (mean follow-up time = 3.93 months, SD = 1.23 months). According to file information 42% of youth suffered some form of harm during the follow-up period (36% suffering victimisation, 30% suffering self-harm), whereas according to prison officer ratings 55% of youth had suffered some form of harm (42% suffering victimisation, 12% suffering self-harm). These figures suggest that file information may have tended to underestimate the frequency of victimisation suffered by youth, whereas the prison officers surveyed may have underestimated the incidence of self-harm among youth in their units.

Correlations between PYVS scale scores and incidents of harm

The correlations between PYVS scale scores and incidents of harm as reported by prison officers familiar with the youth are reported in Table 4. The Total PYVS score, Victimisation sub-scale score and Self-harm/suicidal sub-scale scores all predicted officer ratings of both the level of victimisation and overall level of vulnerability of the youth over the follow-up period at a level significantly greater than chance. The Well-being sub-scale of the PYVS did not predict any type of harm to youth as rated by prison officers. No PYVS scale predicted officer ratings of self-harm or suicidality. This latter finding may reflect the difficulty for prison officers in detecting the often subtle correlates of self-harm as opposed to the overt behaviours that are likely to signal victimisation in a prison unit.

Table 4. Correlations between PYVS Scale Scores and Incidents of harm over a four month follow-up period as rated by Prison Officers.

	Ratings of Victimisation	Ratings of Self-harm/suicidality	Ratings of overall vulnerability
Victimisation score	.40*	-.13	.34*
Well-being score	.04	.11	.08
Self-harm/suicidality score	.35*	-.02	.34*
Total PYVS score	.34*	-.02	.33*

*denotes statistical significance at the <.05 level

The correlations between PYVS scale scores and incidents of harm from self or others over the follow-up period recorded in penal and/or health files are represented in Table 5 below. As can be seen, the correlations between PYVS scale scores and file evidence of harm from self or others did not reach statistical significance. This may reflect either a weak relationship between PYVS predictor scores and file evidence of harm experienced or the small sample size available to detect this relationship. A weak

relationship between PYVS predictions and officially recorded evidence may in turn be the product of under-reporting of incidences of victimisation and self harm which would be consistent with research findings in prison settings (e.g., Cooley, 1993; McCorkle 1993a).

Table 5. Correlations between PYVS scale scores and Incidents of harm suffered by Youth recorded in Health or Penal Files.

	Evidence of victimisation	Evidence of Self harm/suicidality	Total evidence of harm experienced
Victimisation score	.21	.12	.19
Well-being score	.30	.01	.18
Self-harm/suicidal score	.04	.25	.17
Total PYVS score	.28	.14	.25

*denotes statistical significance at the <.05level

False Positive and False Negative rates

The false positive and false negative rates for a range of cut-off score for the PYVS were calculated using the method employed by Monahan (1981). This procedure yields the proportion of youth predicted to be vulnerable who showed no evidence of harm at follow-up (false positive rate) and the proportion of youth predicted not to be at risk who did show evidence of harm at follow-up (false negative rate). False positive and false negative rates for a range of potential cut-off scores for each of the PYVS scales measured against file information and officer ratings are represented in Table 6 below. This demonstrates the likelihood of error in utilising the victimisation sub-scale to predict the occurrence of victimisation, the self-harm/suicide sub-scale to predict the occurrence of self-harm, and the total PYVS score to predict the occurrence of either type of harm.

Table 6. False positive and false negative rates for PYVS scale scores measured against File evidence and Prison Officer ratings.

Scale Score	File Evidence		Officer Ratings	
	False negative	False positive	False negative	False positive
Total PYVS				
10	3/12 (25%)	10/21 (47%)	5/12 (42%)	5/21 (24%)
11	3/12 (25%)	9/21 (42%)	5/12 (42%)	5/21 (24%)
12	4/17 (23%)	5/16 (31%)	6/17 (35%)	2/16 (13%)
13	5/20 (25%)	4/13 (31%)	9/20 (45%)	2/13 (15%)
14	7/23 (30%)	3/10 (30%)	12/23 (52%)	1/10 (10%)
Victimisation				
4	2/11 (18%)	14/22 (64%)	2/11 (18%)	9/22 (41%)
5	3/13 (23%)	11/20 (55%)	2/13 (15%)	7/20 (35%)
6	4/20 (25%)	6/13 (46%)	5/20 (25%)	4/13 (31%)
7	4/20 (25%)	4/13 (31%)	5/20 (25%)	3/13 (13%)
8	6/24 (25%)	2/8 (25%)	8/24 (33%)	1/8 (12%)
Self-harm/suicide				
1	1/1 (100%)	22/32 (69%)	0/1 (0%)	30/32 (94%)
2	5/13 (38%)	15/20 (75%)	1/13 (8%)	19/20 (95%)
3	6/21 (29%)	7/12 (58%)	2/21 (9%)	12/12 (100%)
4	5/25 (20%)	3/8 (38%)	2/25 (8%)	8/8 (100%)
5	6/26 (23%)	3/7 (43%)	2/26 (7%)	7/7 (100%)

CORRELATIONS BETWEEN PYVS SCALE SCORES, AGE, ETHNICITY, LENGTH OF SENTENCE, TIME IN PRISON AT TIME OF TESTING, AND TYPE OF OFFENCE (VIOLENT VS NON-VIOLENT).

The correlations between sub-scale and total scale scores are represented in Table 7. As can be seen each sub-scale score correlated significantly with the total PYVS score, however individual sub-scales did not correlate significantly with the exception of the suicide and well-being sub-scales. This highlights the relative independence of predictive indicators of victimisation and suicide/self harm, suggesting that these two sub-scales tap unrelated constructs. The closer relationship between well-being and suicide/self-harm sub-scales appears to reflect the link between indicators of self harm behaviour and current psychological distress and lack of perceived social support.

Table 7. Correlations between PYVS Scale Scores

	Victimisation	Well-being	Self-harm/ suicide	PYVS Total
Victimisation	1.00*	.18	.12	.68*
Well-being	.18	1.00*	.35*	.66*
Self-harm/suicide	.12	.35*	1.00*	.69*
PYVS Total	.68*	.66*	.69*	1.00*

*denotes statistical significance at the $p < .05$ level

The correlations between scale scores and age, ethnicity, length of sentence, time in prison at time of testing and offence type are represented below in Table 8. As can be seen, PYVS scale scores were relatively unaffected by the age or ethnicity of the youth, the length of his sentence, or the time served in prison before testing. However, youth convicted of a violent offence scored significantly higher on the Suicide and Total PYVS scales than those convicted of a non-violent offence. This increase in vulnerability rating for violent youth appeared to stem primarily from two factors. Firstly, youth convicted of a violent offence were likely to receive longer prison sentences, which in turn increased the scores they received on the suicide/self-harm sub-scale of the PYVS. Secondly, youth convicted of a violent offence were more likely to report having a plan to harm themselves, which also increased the scores they received on the suicide/self-harm sub-scale of the PYVS.

Table 8. Correlations between PYVS Scale Scores and Demographic Variables

	Age	Ethnicity	Sent.length	Time.prison	Offence type
Victimisation	-.10	-.11	-.02	-.09	.12
Well-being	.06	-.05	-.14	-.07	.09
Self-harm/ Suicide	.19	-.04	.12	.04	.25*
PYVS total	.07	-.11	.09	-.06	.23*

*denotes statistical significance at the $p < .05$ level

APPENDIX 3. PERCENTILES FOR PYVS SCALE SCORES
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Raw Score	Total PYVS	Victimisation	Well-being	Self-harm/ suicide
27				
26	99			
25				
24	96			
23	94			
22				
21				
20				
19	93			
18	90			
17	87			
16	81			
15	70			
14	65	99		
13	57	98		99
12	47			
11	34	96		
10	33	93		
9	28	87		
8	20	78	98	95
7	12	63	94	94
6	10	52	82	88
5	6	34	66	83
4	2	25	43	76
3	1	13	27	61
2		6	14	39
1		1	10	14
0				

The table above can be used to estimate the percentages of youth who are likely to be identified as vulnerable utilising different cut-off scores obtained by the PYVS. Percentile scores are expressed in terms of the percentage of persons in the standardisation sample who fell below a given raw score. Thus, to calculate the percentage of youth likely to be identified as vulnerable using a given raw score, the percentile ranking for that raw score is subtracted from 100%. For example, using a Total PYVS score of 12 as a cut-off would identify $100-47=53\%$ of youth as being vulnerable.