Report on the Development of

Risk Assessment Tools for Spouse Battering and

Child Abuse in Hong Kong Chinese Families

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Executive summary

This study validated three risk assessment tools for spouse battering or child abuse in Hong Kong. The questionnaire, containing a comprehensive profile of risk factors and the measurement of violence against partner and child, was developed and administered during the period from December 2003 to August 2004 in a household survey. A total of 5,049 and 2,062 respondents were successfully interviewed using respectively the adult and child questionnaires. The overall response rate achieved was 71%.

Logistic regression analysis was first performed to identify risk factors that are significantly correlated with the presence of spousal battering (including physical assault, sexual coercion or injury, as measured by the CTS2) and child physical maltreatment (including severe or very severe levels of physical assault, as measured by CTSPC). Stepwise logistic regression was further performed to select the higher loading risk factors to be included in the model of risk assessment tools. Three sets of risk assessment tools (Form A for perpetrator of spouse battering, Form B for victim of spouse battering and Form C for perpetrator of child abuse) were validated with satisfactory psychometric properties.

The tools were further field-tested to ascertain the clinical validity of the risk assessment tools when being applied to clinical samples in welfare settings and to operationalize the administration of the tools. A total of 162, 174 and 161 subjects successfully completed the Forms A, B and C respectively. Results showed that the tools demonstrated satisfactory validity testing. The social workers involving in the field test generally appreciate the functions of the tools which can provide scientific data to facilitate clinical judgment of risk assessment.

The three Risk Assessment Tools were developed and validated with satisfactory psychometric properties. In view of the complexity of the tools, systematic training, monitoring and support is highly recommended before widely application of the tools.

撮要

　　這項研究主要驗證三套有關配偶虐待及虐兒的危機評估工具。是項家庭調查於 2003 年 12 月至 2004 年 8 月間進行，問卷設計共分成人及兒童版本，包括配偶虐待及虐兒危機因素，成功訪問並取得 5,049 成人及 2,062 子女對問卷的回應，回應率達七成。

　　有關統計分析，首先運用邏輯迴歸分析（Logistic regression）鑒別出與配偶暴力（包括 CTS2 量度的身體虐打、強迫性行為或傷害）及身體虐兒（包括 CTSPC 量度的嚴重及非常嚴重的身體虐打）有明顯關係的危機因素。然後運用分階邏輯迴歸分析（Stepwise logistic regression）篩選出較強的危機因素，列入危機評估工具內。經過心理測量屬性驗證，最後三套危機評估工具完成（甲表格：配偶施虐者填寫；乙表格：被虐配偶填寫；及丙表格：兒童施虐者填寫）。

　　這三套危機評估工具進一步讓社福界工作者於輔導個案中使用，作臨床驗證。最後甲、乙及丙表格各自成功取得 162, 174 及 161 個回應，結果顯示評估工具驗證滿意。參與使用評估工具的社工欣賞這工具能夠提供科學化的統計數據，以協助危機評估的臨床判斷。

　　這三套家庭暴力危機評估工具的建立經過滿意的心理測量屬性驗證。基於工具的複雜性，我們建議於廣泛使用前，先進行系統性訓練、監察及支援的部署。

Chapter 1
Introduction

Objective of the study

1.1   The Department of Social Work and Social Administration, the University of Hong Kong was commissioned by the Social Welfare Department (SWD) of the Government of Hong Kong Special Administrative Region (HKSAR) to develop and validate assessment tools to facilitate early identification of cases at risk of spouse battering and timely intervention. This is the report of the study which contains the findings and recommendations addressing the objectives of the study.

1.2   More specifically, the objective of this study is to develop and empirically validate assessment tools, making use of local data obtained in the household survey conducted on domestic violence and after having reviewed assessment tools available in Hong Kong and overseas.

Definition of spouse battering and child abuse

1.3   According to the multi-disciplinary procedural guidelines developed for handling battered-spouse cases, spouse battering is a kind of domestic violence,[1] defined as the use of violence or the threat of violence inflicts physical or psychological harm, with the effect of one individual establishing over another. Spouse battering covers incidents of physical attack, which may take the form of physical and sexual violations, such as slapping, pushing, pinching, spitting, kicking, hitting, punching, choking, burning, clubbing, stabbing, throwing boiling water or acid, and setting fire to the spouse, as well as forcing the spouse into sex or undesirable sexual acts. It also includes psychological abuse, which may consist of repeated verbal abuse, harassment and confinement, and deprivation of physical, financial, and personal resources, social activities, and so forth.

1.4   In the procedural guidelines, "spouse battering" refers to battering that occurs in a relationship between two partners who want to maintain a lasting relationship that is more than just a brief encounter. The partners can be married couples, co-habitees, separated partners, and the like.[2] In most cases, the abused person is likely to be a woman. However, the terms "battered spouse" and "victim" adopted in this procedural guideline refer to both female and male abused persons unless otherwise specified.

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[1] Working Group on Combating Violence (2004). *Procedural guidelines for handling battered spouse cases (2004).* Hong Kong: Social Welfare Department.
[2] Ibid.

1.5　　Child abuse, according to the multi-disciplinary procedural guidelines developed for handling child abuse cases, is defined as any act of commission or omission that endangers or impairs a child's physical/psychological health and development.[3] Child abuse is not limited to child-parent/guardian situations but includes anyone entrusted with the care and control of a child, such as child-minders, relatives, teachers, and so forth. Child abuse includes physical abuse, sexual abuse, neglect and psychological abuse.

1.6　　It should be noted that the above definitions of spouse battering and child abuse have neither legal effect nor legal implications. They provide only operational guidelines in dealing with abuse cases.[4]

Operational definition of spouse battering and child abuse

1.7　　In this study, spousal battering is defined by physical assault, sexual coercion or injury, as measured by the revised Conflict Tactics Scales (CTS2). Child physical maltreatment is defined by severe or very severe levels of physical assault, as measured by the Parent-Child Conflict Tactics Scale (CTSPC).

Definition of risk and risk assessment

1.8　　Risk is conceptualized as a hazard that is closely related to probability.[5] Risk is a complex concept. The occurrence of risk can be forecasted only with uncertainty. Janus and Meehl (1997)[6] have suggested a multi-dimensional understanding of the concept, which consists of the following: (1) the nature of the hazard, (2) the likelihood that the hazard will occur, (3) the frequency with which the hazard will occur, (4) the seriousness of the hazard's consequences, and (5) the imminence of the hazard. In brief, the essence of the five phases concerns not only the kinds of violence and the probability that violence might occur, but also how often and how soon the violence might occur and how serious it might be. The five phases suggested by Janus and Meehl highlight the importance of violence studies and provide informative ways to study the many facets of violence. The above considerations should be borne in mind in using any tool to assess the risk of spousal violence, noting that any

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[3] Working Group on Child Abuse (1998). *Procedures for handling child abuse cases Revised 1998.* Hong Kong: Social Welfare Department.
[4] Ibid.
[5] Bernstein, P. L. (1996). Against the gods: The remarkable story of risk. New York: Wiley.
[6] Janus, E. S., & Meehl, P. E. (1997). Assessing the legal standard for the prediction of dangerousness in sex offender commitment proceedings. *Psychology, Public Policy, and Law, 3*, 33-64.

assessment can be made only with uncertainty or a certain degree of certainty. Users of any risk assessment tools should not overlook the multi-dimensionality of risk.

1.9 The definition of risk assessment refers to the process of attempting to understand and avoid risk. Reducing the probability of risk occurrence has become a core concern in many fields, including business, engineering, medicine and psychology.[7]

Goals and functions of risk assessment

1.10 Risk assessment is the process of identifying and studying hazards to reduce the probability of their occurrence.[8] It is also a process of evaluating individuals to (1) characterize the chances that they will commit violence in the future, and (2) develop interventions to manage or reduce that risk.[9] Monahan (1981; 1995)[10] pointed out four "musts" in the assessment of violence risk: the clinician must (1) determine what information to gather regarding risk; (2) gather the information; (3) use this information to estimate risk; and (4) if the clinician is not the ultimate decision maker, communicate the information and estimation to those who are responsible for making clinical decisions.

1.11 Monahan & Steadman (1996)[11] also suggested three aspects of risk assessment: (1) the relationship between risk factors and judgment or clinical prediction; (2) the relationship between judgment or clinical prediction and the criteria for violent behavior; (3) the relationship between risk factors and the criteria for violent behavior. Although a large number of variables (risk factors) correlate with violence, rarely does a given variable account for more than twenty percent of the variance in any explanatory model.[12] Most of all, a comprehensive risk assessment as suggested by Whittemore & Kropp (2002) should[13]:

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[7] Menzies, R., Webster, C. D., & Hart, S. D. (1995). Construction and validation of risk assessments in a six-year follow-up of forensic patients: A tri-dimensional analysis. *Journal of Consulting and Clinical Psychology, 63*, 766-778.

[8] Boer, D. P., Hart, S. D., Kropp, P. R., & Webster, C. D. (1997). *Manual for the Sexual Violence Risk - 20*. The British Columbia: The British Columbia Institute Against Family Violence.

[9] Monahan, J., & Steadman, H. J. (1996). Violent storms and violent people: How meteorology can inform risk communication in mental health law. *American Psychologist, 51*(9), 931-938.

[10] Monahan, J. (1981/1995). Predicting violent behavior: an assessment of clinical techniques. Beverlt Hills, Ca: Sage.

[11] Monahan, J., & Steadman, H. J. (1996). Violent storms and violent people: How meteorology can inform risk communication in mental health law. *American Psychologist, 51*(9), 931-938.

[12] Pinard, G.-F., & Pagani, L. (Eds.). (2001). *Clinical assessment of dangerousness empirical contributions*. Cambridge ; New York: Cambridge University Press.

[13] Whittemore, K. E., & Kropp, P. R. (2002). Spousal assault risk assessment: A guide for clinicians. *Journal of Forensic Psychology Practice, 2*(2), 53-64.

     a)   Consider risk factors supported in the literature

     b)   Employ multiple sources of information

     c)   Be victim-informed

     d)   Risk assessments can be improved by using tools and/or guidelines

     e)   Lead to risk management.

1.12   Some effective risk assessments take into account the diverse social and risk factors that may affect the occurrence and levels of risk.[14] They provide professional guidelines and shape future intervention. Social scientists, psychologists, and mental health professionals interested in violence tend to conduct risk assessments to characterize the chances that an individual will commit violence in the future, and develop interventions to manage or reduce that risk.[15]

Risk assessment approaches

1.13   There are two major approaches to conducting risk assessment: clinical judgment and actuarial risk assessment. Grove and his colleagues (2000)[16] considered clinical judgment to be 'informal, subjective and impressionistic'; it is highly subjective because it all comes down to gut feelings. Such subjective judgments are contaminated by cultural beliefs, attitudes towards violence and women in different societies, as well as the knowledge and professional training the individual clinician has received. It also requires consideration of contextual factors. In contrast, actuarial risk assessments rely heavily on computations of probability, which can avoid the problem of subjectivity.

1.14   In terms of the clinical judgment approach, early methods of predicting the risk of re-offending were based on a clinician or professionals' rational opinions in making unstructured judgment.[17] This approach provided no constraint on how evaluators make a judgment based on the information available to them and on their past experience. Such judgments can be very subjective and impressionistic.[18]

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[14] Barratt, E. (1994). *Impulsiveness and aggression*. In Monahan, J. & Steadman, H. (Eds.) Violence and mental disorder: Development in risk assessment (pp. 61-79). Chicago: University of Chicago Press.

[15] Monahan, J., & Steadman, H. J. (1996). Violent storms and violent people: How meteorology can inform risk communication in mental health law. *American Psychologist, 51*(9), 931-938.

[16] Grove, W., Zald, D., Lebow, B., Snitz, B., & Nelson, C. (2000). Clinical versus mechanical prediction: A meta-analysis. *Psychological Assessment, 12*, 19-30.

[17] Burgess, E. W. (1928). Factors determining success or failure on parole. In A. A. Bruce, A. J. Harno, E. W. Burgess & J. Landesco (Eds.) *The workings of the indeterminate sentence law and the parole system in Illinois*. Springfield, IL: Illinois State Board of Parole.

[18] Grove, W. M., & Meehl, P. E. (1996). Comparative Efficiency Of Informal (Subjective, Impressionistic) And Formal (Mechanical, Algorithmic) Prediction Procedures. *Psychology, Public Policy, and Law, 2*(2), 293-323.

1.15   The actuarial approach tends to predict violence or re-offending by using statistical information, including demographic, criminal history, and psychological variables. Multivariate statistics are then used to identify those variables that best predict risk of violence or re-offending. Once these variables have been identified, offenders can be assigned a risk score by either summing their scores on the individual variables, or using a system whereby some variables are weighted. This type of approach is generally referred to as actuarial risk assessment. Although the clinical approach has the advantage of being flexible, especially with respect to violence prevention, there is little doubt that the actuarial approach is more accurate and superior with respect to decision-making and assessing risk for violence.[19]

1.16   However, some scholars have pointed out the importance of the clinical judgment approach because these studies can make better generalization from local samples when compared with actuarial approach. They have also argued that it is morally wrong to quantify each human being as a number, because every individual is unique and it is unethical to use group data to make statements about individual responses.[20] Therefore, Kemshall and Pritchard (1996) have suggested that the ideal risk assessment should be conducted according to guidelines that have a scientific and empirical basis. They have argued that an integration of actuarial approach and clinical judgment would be a better approach to studying violence.[21] This study, primarily adopts the actuarial method to select items and validate tools. But the importance of professional judgment in risk assessment is also emphasized. Relevant risk factors will be suggested in the process of risk assessment.

Existing risk assessment tools in the West

1.17   In the past decades, the increased prevalence rate of violence has been voiced out in the United States and Canada. Studies on the screening and prediction of violence are in great need. Many of the researchers had contributed efforts in conducting interviewing procedures as well as assessments together information to detect and reduce the probability of violence occurrence.

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[19] Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. A. (1998). *Violent offenders: appraising and managing risk*. American Psychological association: Washington D C.
[20] Boer, D. P., Hart, S. D., Kropp, P. R., & Webster, C. D. (1997). *Manual for the Sexual Violence Risk - 20*. The British Columbia: The British Columbia Institute Against Family Violence.
[21] Kemshall, H., & Pritchard, J. (1996). Good Practice in Risk Assessment and Risk Management. Britian: Cromwell Press.

Child Abuse Potential Inventory

1.18   The Child Abuse Potential Inventory (CAPI) is a widely used measure of child maltreatment risk in adult caregivers.[22] It is a self-report instrument which is composed of 160 "agree–disagree" items. It takes about 20 minutes to complete, and incorporates a Physical Abuse scale. It has a main risk indicator on the CAPI, which consists of 77 items and 6 factor subscales along with three validity scales. The six subscales are distress, rigidity, unhappiness, problems with child and self, problems with family, and problems from others. The three validity scales are composed of a lie scale, a random response scale, and an inconsistency scale, which form three response distortion indexes (i.e., faking-good, faking-bad, and the random response index). The ego-strength scale and loneliness scale also have been developed.[23] Internal consistency estimates for the Abuse Scale of the CAPI range from .85 to .98 for physically abusive parents and general population groups. The CAPI has high sensitivity that it accurately classifies individuals who have physically abused their children as at-risk and those who have not physically abused their children as not-at-risk.

Danger Assessment

1.19   The Danger Assessment (DA) is a research and clinical instrument developed to assist abused women in assessing risk factors for intimate partner homicide in their relationship. DA was originally developed by Jacquelyn C. Campbell with consultation and content validity support from battered women, shelter workers, law enforcement officials, and other clinical experts on intimate partner violence.[24] The original DA was a 15-item, yes/no dichotomous response format of risk factors associated with intimate partner homicide.[25] DA is scored by counting the "yes" responses, with a higher number indicating more risk in the relationship. DA has the most published data on risk factors for intimate partner femicide and concurrent and predictive validity information.[26] Internal consistency reliability has ranged between 0.60 and 0.86, with test-retest reliability of 0.89 to 0.94.[27]

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[22] Milner, J. S. (1986). The child abuse Potential Inventory: Man1ual (2nd. Ed) Webster NC: Psytec.

[23] Milner, J. S. (1995). Physical child abuse assessment: perpetrator evaluation. In J. Campbell (ed) *Assessing Dangerousness: Violence by Sexual Offender, Batterers and Child Abusers*. London: Sage.

[24] Campbell, J. C. (1986). Assessment of risk of homicide for battered women. *Advances in Nursing Science*, *8*, 36-51.

[25] Campbell, J. C. (1995). Prediction of homicide of and by battered women. In J. C. Campbell (Ed.). *Assessing the risk of dangerousness: Potential for further violence of sexual offenders, batterers, and child abusers* (pp. 93-113). Newbury Park, CA: Sage

[26]Campbell, J. C. (2001). *Danger assessment* (*DA-2*). Retrieved from http://www.son.jhmi.edu/research/CNR/Homicide/DANGER.htm

[27] Campbell, J. C., Sharps, P., & Glass, N. E. (2000). Risk assessment for intimate partner violence. In G. F. Pinard & L. Pagani (Eds.), *Clinical assessment of dangerousness: Empirical contributions* (pp. 136-157). New

Spousal Assault Risk Assessment Guide

1.20   Although many studies have been conducted in assessing violence in different aspects such as child abuse, homicide, and spouse abuse, there has been no guideline concerning how to conduct spousal abuse risk assessment such as what factors need to be considered, and what type of information is helpful in making decision, and where and how to get the information. Therefore, the British Columbia Institute on Family Violence had collaborated with a number of government and community agencies in Canada to derive the Spousal Assault Risk Assessment (SARA). It is a clinical checklist of risk factors for spousal assault. It comprises 20 individual items identified by extensive articles review, clinical experience and empirical literature.[28] The 20 items are factors grouped into five dimensions: criminal history, psychosocial adjustment, spousal assault history, index offence, and other considerations. SARA can be used in many different contexts, for instance, education, consultation, research purpose. According to Martin & Ingela (2002)[29], three SARA items were statistically significant and associated with increased risk of recidivism: past violations of conditional release; personality disorder; and extreme minimization or denial of spousal assault history.

Violence Risk Appraisal Guide and Sex Offender Risk Appraisal Guide

1.21   The Violence Risk Appraisal Guide (VRAG) and its companion Sex Offender Risk Appraisal Guide (SORAG) are actuarial tools for the prediction of violent recidivism. The tools give the probability (from zero to 100%) that an offender will commit a new violent offense (including sex offenses) within a specified period of community access. It is an actuarial tool that makes prediction based on the measured relationship between the outcome (violent recidivism, in this case) and several objectively measured variables (e.g., age, marital status, criminal record, in the case of the VRAG). Variables are selected based on their unique contribution to the prediction of the outcome, and weights for each are then computed. Clinical expertise is required to score VRAG and SORAG variables from a comprehensive psychosocial history addressing childhood conduct, family background, antisocial and criminal behavior, psychological problems, and details of the index offense. In the area of predicting crime and assessing risk, it is insufficient to rely on what an offender says about himself. Therefore, information is gathered from third parties (friends, family, schools,

York: Cambridge University Press.

[28] Cooper, M. (1993). Assessing the risk of repeated violence among men arrested for wife assault: A review of the literature. Vancouver: BC Institute on Family Violence.

[29] Martin, G., & Ingela, W. (2002). Risk factors for recidivism among spousal assault and spousal homicide offenders. *Psychology Crime and Law, 8*(1), 5-23.

correctional facilities, police, and the courts). However, some researchers criticized that the scale is too general and it only covers a small number of risk factors that some are even unacceptable on legal grounds (e.g. age, race, sex).[30] It also ignores the nature, frequency, severity and imminence of the violence. Use of instrument in other assessment contexts may lead to non-optimal and even bizarre decisions.

Psychopathy Checklist –Revised

1.22   The Psychopathy Checklist (PCL) was originally developed by Hare (1980)[31] as a 22 item checklist. It was subsequently revised to form a 20 item Psychopathy Checklist-Revised (PCL-R), which measures 2 associated factors.[32] The two factors are:

Factor 1 - Emotional detachment: superficial charm, grandiose sense of self-worth, deceitful, no emotional depth, lack of remorse or guilt, lack of empathy, failure to accept responsibility for own actions.

Factor 2 - Socially deviant behaviors or chronically unstable and antisocial lifestyle: impulsive, poor behavioral controls, lacks goals, irresponsible, adolescent antisocial behavior, adult antisocial behavior.

1.23   Although the PCL-R requires a fair amount of training and a detailed review through case history records by the assessor, it has been found to be good at predicting recidivism.[33] It is found that psychopaths are more likely to violate release conditions and be reconvicted within a year of release from prison, especially of a violent offence.[34]

Family Needs Screener

1.24   The instruments mentioned above have reported valuable significance in the field of violence, but they seem to single out only one problem at a time. There have been research findings suggested the link between domestic violence and child abuse.[35] A

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[30] Boer, D. P., Hart, S. D., Kropp, P. R., & Webster, C. D. (1997). *Manual for the Sexual Violence Risk - 20*. The British Columbia: The British Columbia Institute Against Family Violence.

[31] Hare, R. D. (1980). A research scale for the assessment of psychopathy in criminal populations. *Personality and Individual Differences, 1*, 111-119.

[32] Harpur, T. J., Hakstian, R., & Hare, R. D. (1988). Factor structure of the psychopathy Checklist. *Journal of Consulting and Clinical Psychology, 56*, 741-747.

[33] Hemphill, J. F., Hare, R. D., & Wong, S. (1998). Psychopathy and recidivism: A review. *Legal and Criminological Psychology, 3*, 139-170.

[34] Serin, R. C., Peters, R. D., & Barbaree, H. E. (1990). Predictors of psychopathy and release outcome in a criminal population. *Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2*, 419-422.

[35]   Lyon, C. (1994). *The legal Basis for the Control and Treatment of Children with Learning Disabilities with*

study of 2544 at-risk mothers for 5 years by McGuigan and Pratt (2001)[36] reported that the cooccurrence of spousal abuse and child abuse is significant in terms of three types of abuse: psychological, physical, and neglect. Based on the volunteer sample of 1000 women, Bowker et al. (1990)[37] found a 70% rate of co-occurrence in domestic violence and child abuse. The co-occurrence of these two types of abuse reveals the need to consider a multidimensional assessment that can be able to screen or detect both abuses at the same time. The Family Needs Screener (FNS) is developed to assess both spousal and child abuse in the United States.[38] It is a 57-item self report survey using mothers as the respondents for the family situation. It is an initial screening tool developed especially for the Air Force to assist clinician in clinical planning and family assessment. The FNS consists a total of nine subscales which composes the following domains of family risks: demographic; substance abuse; relationship discord; family of origin violence and neglect; social support; stress; psychological health-self esteem; psychological health-depression; and prior family violence. In a validation test on a population of pregnant women and recent mothers receiving services from the USAF Family Advocacy Program, the FNS subscales showed stable reliabilities ranging from .75 to .85. The total reliability alpha of FNS was .91.

1.25   What may be concluded from the above review is that predicting risks of violence in general and spousal violence and child abuse in particular is a precarious exercise. The assessment tools involve fairly lengthy solicitation of information from the victims, perpetrators, professionals or other informants on factors that may have correlation with occurrences of violence. From a cursory examination of factors included in different assessment tools, it may be noted that there is considerable consensus among researchers on risk factors, which include history of assaultive behaviour, antisocial behaviour and attitudes, stability of relationships, stability of employment, mental health and personality disorder, childhood abuse, motivation for treatment and attitudes towards women.[39]

1.26   It may also be noted that for actuarial-based risk assessment, it is based on statistical generalization which is believed to be predictive of a group of perpetrators. In the actual use of risk assessments, however, it is for the purposes of predicting risks for

Challenging Behavior. London: Mental Health Foundation.
[36] McGuigan and Pratt (2001)
[37] Bowker et al., (1990)
[38] Kantor, Glenda, K., & Straus, M. A. (1999). Report on the USAF Family Needs Screener. New Hampshire: Family Research Laboratory.
[39] Dutton, Donald G. and Kropp, P Randall (2000), "A review of domestic violence risk instruments", in *Trauma, violence and abuse*, 1(2): 71 – 181.

an individual.[40] In other words, in using the assessment tool proposed in this study, there is a definite role for professional judgment, taking into account other factors not included in the assessment tool (e.g. history of previous violence). Furthermore, it should not be forgotten that there is no assessment tool that can infallibly predict domestic violence. The use of empirically validated assessment tool is an important part, but not all of the assessment process. It should be considered as an integral part to facilitate professional judgment. The quality of information on which the assessment tool is based is also important. It is thus necessary to employ multiple information sources and multiple methods.[41] Use of multiple methods may include interviews with victim, perpetrator, children and other family members. The means of data collection may include behavioral observations, review of case records (medical, legal and social investigation), all relevant documents (for example, criminal records, medical records, transferal of records, referral/discharge summary, psychological tests, use of risk assessment tool etc. The assessment of risk could be cross validated or triangulated to counter check the accuracy of the information. Risk assessment should be repeated at regular intervals. In the case of uncertainty when making judgment. the assessor could get a second opinion from other professionals, for instance, supervisor, a team of professionals, multidisciplinary case conference etc. to better evaluate the case.

Existing risk assessment strategies in Hong Kong

1.27   A well-validated local risk assessment of violence is not available in Hong Kong. In dealing with risk assessment, several agencies have adopted various ways and scales developed in the West. They included interviewing procedures conducted through clinical judgments, scales from the West without local validation, as well as initial scales that are being derived from psychometric data which needs further validation. Examples are as follow.

FCPSU/SWD - Risk Assessment

1.28   According to the procedural guidelines for handling battered spouse cases [42], in the interview with a victim alone when spouse battering is a possibility, the victim should be asked directly whether the injuries are caused by his/her partner. As a reference, the following questions related to the circumstances, previous record of abuse, children at

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[40] Goddard, Charles J et al (1999), "Structured risk assessment procedures: instruments of abuse?", in *Child Abuse Review*, 8: 251 – 263.
[41] Dutton, Donald G and Kropp, P Randall (2000), "A review of domestic violence risk instruments", in *Trauma, Violence and Abuse,* 1(2): 171 – 181.
[42] Working Group on Combating Violence (2004). *Procedural guidelines for handling battered spouse cases.* Hong Kong: Social Welfare Department.

risk, coping mechanism, the batterer and discharge arrangement may be asked to help assess the victim's situation.

a)   How severe was the violent act? Has this happened before?

b)   How badly have you been hurt in the past?

c)   What was the duration of each violent act?

d)   How old are the children? Are they in danger?

e)   Have they been hurt or hit by your partner? How badly?

f)   Have they witnessed the battering? If yes, how frequent is the battering?

g)   What have you done in the past to protect yourself and your child (ren), if any?

h)   What have you done in the past to get help? How useful was the help you have received?

i)   Have you ever called the Police?

j)   Does your partner have a criminal record? Has he/she threatened to kill you?

k)   Are you afraid to go home?

1.29   While the victims themselves should be the best judge of how dangerous it would be to return home, it is important to help them assess the risk that they and their children may be exposed to. Workers need to be alert to the possibility of minimization of risk by the victims. After years in a violent relationship, victims may have developed such "positive biases" in order to survive. The workers should assess the following risk factors:

a)   Failure of multiple support systems for the family;

b)   Isolation of the family;

c)   Psychosocial adjustment of victim/batterer e.g. pathological jealousy, threat of retaliation, recent homicidal/suicidal idea, personality disorder with anger, impulsiveness or behavioral instability;

d)   Batterer's displacement of anger on children;

e)   Batterer threatening to kill spouse;

f)   Past assault of family members by the batterer;

g)   Escalation of violence by the batterer;

h)   Use of drugs and/or alcohol by the batterer; and

i)   Presence of a weapon.

1.30   SWD has also compiled a set of risk assessment tools to guide risk assessment.[43] Although the tools have not been locally validated, it brings inspiration to the administration of risk assessment tools in Hong Kong.

Po Leung Kuk Family Violence Risk Assessment Form

1.31   The Sunrise Court, Po Leung Kuk has adopted the Family Violence Risk Assessment Form which was developed by Dr. K.L. Chan based on existing studies of risk factors and clinical experience. The form provides guidelines to assess the immediate risk of violence and suicide, using Abuse Assessment Scale (AAS) and a suicidal ideation scale, to assess the types, severity and frequency of violence using the revised Conflict Tactics Scale (CTS2), and to assess risk factors using Personal and Relationship Profile (PRP). The AAS, CTS2 and PRP have been translated into Chinese and validated in previous local studies.

Abuse Assessment Screen-modified (AAS-modified)

1.32   The Abuse Assessment Screen (AAS) Questionnaire was derived from an assessment and intervention protocol developed by McFarlene & Parker (1994).[44] It was revised and translated in Chinese language (AAS-modified) by Leung et al (2005).[45] The AAS-modified has been using in some of the local hospitals to detect any abusive acts during pregnancy. Such an abuse is applied in several aspects including, emotional/psychological, physical, sexual abuse and injury. There are questions asking the subject whom performing the abuse and the severity of the injury if any. A particular question asks the informant if a sense of fear is created from the abuser.

Leung's Suicide Risk Assessment Tool

1.33   Due to the lack of locally validated instrument in assessing suicide risk, Leung and her colleagues conducted Leung's Suicide Risk Assessment Tool (version one) to cater early identification of persons who may have suicidal ideation and the risk levels of suicide.[46] The Tool is a psychological profile consisting of 19 items that are being derived statistically with good internal consistency (Cronbach's alpha = .86) as well as good discriminant validity between experimental and control groups. Answers of the 19 items scored in terms of intensity from 0 = not at all, to 8 = very severe. The

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[43] Working group on risk assessment (2003). Risk assessment guide of battered spouse cases for FCPSUs. Social Welfare Department.
[44] McFarlane, J. & Parker, B (1994). Preventing abuse during pregnancy: an assessment and intervention protocol. MCN, 19, P. 324. Developed by the Nursing Research Consortium on violence and abuse.
[45] Leung, W.C. (2005) Domestic violence in Chinese pregnant women. Manuscript submitted to journal.
[46] Leung, Gracemary, Chan, P.S. Vivien, & Chow, S.L (2003). Leung's Suicide Risk Assessment Tool Manual (ISBN: 988-97415-1-2)

Tool is responded through semi-structured interview with eight questions asking the informant's current conditions and six questions asking the informant's suicidal matter. According to the report findings, the cutoff scores of the levels of suicide risk are: low = 0 – 19; low to medium = 20 – 57; medium to high = 58 – 95; high = 96 or above. The Leung's Suicide Risk Assessment Tool certainly provides a footnote for the scale development of risk assessment in Hong Kong.

Cultural Validity

1.34   The effects of culture on validity occur at different levels and affect all types of evidence for validity. Factors that may threaten the validity of assessment with culturally diverse populations may include varied interpretations of an observed behavior based on cultural norms, language barriers, and different cultural meanings of a particular construct. For instance, it has been speculated that the power of face creates a significant effect on Chinese when exercising violence, and there has been initial report on in-law conflicts that trigger the happening of domestic violence.[47] It would be too dangerous to adopt an assessment in a new population especially from a different country of a possibly different culture without prior validation of such assessment. Even if there's a satisfactory validation, the lack of empirical representation about the items still creates problems.

The Risk Assessment Issues

1.35   Over the years, there are actuarial measures attempting to predict risk of violence or re-offending which have been developed in the West.[48] However, there is no validated risk assessment tool for spouse battering or child abuse in Hong Kong. Moreover, clinical judgment weights heavily in developing risk assessment. It would be beneficial and fair if a risk assessment is developed based on both empirical evidence and clinical judgment.

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[47] Chan, K. L. (2005). *Study on Child Abuse and Spouse Battering: Report on findings of Household Survey.* [A Consultancy Study Commissioned by the SWD of the HKSAR]. Hong Kong: Department of Social Work & Social Administration, the University of Hong Kong.

[48] (CAP: Milner, 1989; DA: Campbell, 1986; SARA: Cooper, 1993; FNS: Kantor & Straus, 1999) ; Milner, J. S. (1986). The child abuse Potential Inventory: Man1ual (2nd. Ed) Webster NC: Psytec; Campbell, J. C. (1986). Assessment of risk of homicide for battered women. *Advances in Nursing Science, 8,* 36-51; Cooper, M. (1993). *Assessing the risk of repeated violence among men arrested for wife assault: A review of the literature.* Vancouver: BC Institute on Family Violence.

Chapter 2

Development of Indigenous Risk Assessment Tool

2.1 The present study comprises two phases: (a) development of item pool - questionnaire design for household survey; and (b) the generation of risk assessment tool.

Phase A: Development of item pool - questionnaire design for household survey

2.2 The first step of the study was to develop the items related to the measurement of spousal battering, child abuse and risk factors. All items were included in the questionnaires of household survey. The pre-designed structured questionnaires were used in collecting information from different groups of respondents. In designing the questionnaires, reference was made to information obtained from in-depth interviews and focus group discussions with service users. A total of eleven focus groups were arranged with each group contained about 6 to 8 participants. They included male and female victims and perpetrators of spousal battering; male and female perpetrators of child abuse and non-abusive parents of child abuse; child victim of abuse; children who have witnessed family violence; abused children who have witnessed family violence; and social workers and other professionals involved in dealing with child abuse and spouse battering. Views were solicited from SWD and the Advisory Group on the Study on Child Abuse and Spouse Battering. The questionnaires were also pre-tested before they were included in the Household Survey.

2.3 The revised Conflict Tactics Scales (CTS2) and the Parent-Child Conflict Tactics Scale (CTSPC) were employed to measure spousal battering and child abuse respectively. For the spouse battering, the CTS2 subscales (physical assault, injury & sexual coercion) are used to form dependent variables - spouse battering, at total & severe levels as well as at ever and annual prevalence. For the child abuse, the CTSPC subscales (severe or very severe physical assault) are used to form dependent variables – physical maltreatment, at total & severe levels as well as at ever and annual prevalence.

2.4 The Personal and Relationships Profile (PRP), the Acquisitive Face Orientation Scale, the Rosenberg Self-esteem Scale and the Support Scale are also used to establish profiles of risk factors for perpetrators and victims of spousal battering, and perpetrators of child abuse.

2.5   The risk factors to be investigated include the following:

      (a)   family profile (e.g. new arrival family & spousal age difference);

      (b)   health conditions (e.g. chronic ill, disability, wife pregnancy, adoption, or postnatal within 1 year);

      (c)   financial conditions (e.g. unemployment, income, receiving comprehensive social security assistance (CSSA), indebtedness);

      (d)   relationship factors (e.g. extended family influence, in-law conflict, shifting responsibility);

      (e)   suicidal ideation;

      (f)   static factors (e.g. criminal history, sexual abuse history, child neglect, child sexual abuse history, child witnessed parental violence);

      (g)   factors measured by the Personal and Relationships Profile (PRP) (e.g. anger management, substance abuse, violence approval, depressive symptoms, social desirability, stressful conditions, relationship distress, domination, jealousy, negative attribution);

      (h)   the Acquisitive Face Orientation Scale;

      (i)   the Rosenberg Self-esteem Scale;

      (j)   the Support Scale from the Family Needs Screener;

      (k)   Three items exclusively for victim's report on their response towards violence (e.g. partner's stalking, afraid of partner, feeling unsafe).

2.6   It should be noted that for any one factor, it is based on response to a number of question items as included in the household survey questionnaire. Validation of these measurement tools have been performed, showing that the internal consistency of the items included in any one factor is very high. The results are shown in the household survey report.[49] The demographic data consists of items that may be risk factors of domestic violence.

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[49] Chan, K. L. (2005). *Study on Child Abuse and Spouse Battering: Report on findings of Household Survey.* [A Consultancy Study Commissioned by the SWD of the HKSAR]. Hong Kong: Department of Social Work & Social Administration, the University of Hong Kong.

Phase B: Generation of Risk Assessment Tool

Methodology

Participants

2.7   The questionnaire developed in Phase A was administered during the period from December 2003 to August 2004 in a household survey. A total of 5,049 and 2,062 respondents were successfully interviewed using respectively the adult and child questionnaires. The overall response rate achieved was 71%.

Ethical issues

2.8   In recognition of any potential vulnerability of prospective participants, they would be approached by coordinators to explain the study and invited them to take part. Participation in the study is entirely voluntary. No complaint on the administration of questionnaires was received. Confidentiality was maintained through the use of pseudonyms in terms of numbers on the questionnaires instead of the names of clients.

Procedures

2.9   The questionnaires were administered in a random sample in a household survey. Members of a selected family who was aged above 16 and who were married (or cohabited) were invited to participate in the study. The method of face-to-face interview was adopted in conducting the household survey. The interviewers completed the questionnaires according to self-reports by the participants. The interviewers were trained to observe factors in the environment of the families visited. They recorded their observations of the behavior of children and other family members in the households during the visit. Informants were invited to stay in their own house for the assessment. It took about 45 to 60 minutes to complete the assessment.

Statistical Analysis and results

Preliminary logistic regression analysis

2.10   Logistic regression analysis was performed to identify risk factors that are significantly correlated with the presence of spousal battering (including physical assault, sexual coercion or injury, as measured by the CTS2) and child physical maltreatment (including severe or very severe levels of physical assault, as measured

by CTSPC). Separate analysis was performed for perpetrators (Table 1) and victims (Table 2) of spousal battering, and perpetrators of child abuse (Table 3).

2.11   For perpetrators and victims of spousal battering, the dependent variables are the ever prevalence (incidents ever happened) and annual prevalence (incidents happened in the past year) of spousal battering. Total spouse battering includes both minor and severe levels of spouse battering, while severe spouse battering counts only incidents at the severe level.

2.12   For perpetrators of child abuse, the dependent variables are the ever prevalence (incidents ever happened) and annual prevalence (incidents happened in the past year) of physical maltreatment. Total physical maltreatment includes both severe and very severe levels of physical maltreatment, while severe child maltreatment counts only incidents at the very severe level.

2.13   Preliminary logistic regression analysis using a single factor at a time shows that 30 significant risk factors are common to perpetrators and victims of spousal battering, and perpetrators of child abuse. An additional risk factor, disability, is included for the analysis of perpetrators of child abuse which gives a total of 31 for this category of analysis.

2.14   It should be noted that this is preliminary analysis of possible factors that are relevant. It serves as a broad reference of the relevant risk factors that should be well addressed in the process of risk assessment. To reduce the number of factors by selecting the higher loading risk factors in the interaction of the factors, further analysis using stepwise multiple logistic regressions has been performed on selected risk factors, and the results are presented in the paragraphs to follow. All factors, except income, are included in stepwise multiple logistic regression analysis. We received feedback from social workers who participated in the field test, as described in Chapter 3 of this report, that, personal income may not be a good indicator of financial situation of a family and it may be confused whether it includes financial assistance from social security. Taking into consideration of the clinical experience, the income factor was not included in the multiple regression analysis.

2.15   *Interpretation of Odds Ratios:* Odds ratios have been previously used in the study of physical assault[50]. An odds ratio greater than 1.00 indicates that the independent variable is associated with an increase in the odds of the dependent variable. An odds ratio below 1.00 indicates that the independent variable is associated with a decrease in the odds of the dependent variable. For example, if the odds ratio for the substance abuse is 1.69, it would indicate that each increase of one point on the substance abuse scale is associated with an average increase of 69% in the odds of battering a spouse in their lifetime. On the other hand, an odds ratio of 0.35 would indicate that each increase of one point in the anger management is associated with an average decrease of 65% in the odds of battering a spouse in their lifetime.

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[50] Straus, M. A., & Ramirez, I. L. (1999). *Criminal history and physical assault of college dating partners.* Paper presented at the American Society of Criminology annual meeting, Toronto, Ontario.

Table 1: Preliminary logistic regression analysis (Perpetrators of spouse battering)

	Spouse Battering (Total)				Spouse Battering (Severe)			
	Ever		Annual		Ever		Annual	
Health conditions								
Chronic ill[51]	1.32	**	1.00		1.76	**	1.38	
Wife pregnancy/adoption/postnatal (within 1 year)	1.77	**	2.41	**	0.99		1.74	
Financial conditions								
Unemployment[52]	0.72	*	1.37		0.75		0.90	
Income	1.25	**	1.50	**	1.15		1.41	**
Receiving CSSA[53]	1.21		1.12		1.68	*	2.07	*
Indebtedness[54]	3.13	**	2.60	**	3.42	**	4.06	**
Relationship factors								
Extended Family Influence	1.26	**	1.40	**	1.21	**	1.88	*
In-law Conflict	2.13	**	2.32	**	2.07	**	2.21	**
Relationship Distress	2.80	**	2.33	**	5.52	**	7.13	**
Domination	3.32	**	4.42	**	5.42	**	9.66	**
Jealousy	2.32	**	2.46	**	1.92	**	2.14	**
Negative Attribution	3.98	**	3.49	**	6.36	**	6.51	**
Shifting Responsibility	1.28	**	1.36	**	1.28	*	1.55	*

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[51] 0=No chronic ill, 1=Chronic ill

[52] 0=Unemployed, 1= Non-unemployed group. Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group. Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner.   Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence.   Besides, there may be correlation among the independent variable adopted in the analysis.

[53] 0=No CSSA, 1=have CSSA, CSSA = Comprehensive Social Security Assistance

[54] 0=No debt, 1=have debt

Table 1: Preliminary logistic regression analysis (Perpetrators of spouse battering) (Cont'd)

	Spouse Battering (Total)				Spouse Battering (Severe)			
	Ever		Annual		Ever		Annual	
Perpetrator's characteristics								
Anger Management	0.31	**	0.31	**	0.16	**	0.12	**
Substance Abuse	1.71	**	2.09	**	1.97	**	2.31	**
Violence Approval	1.80	**	2.17	**	3.57	**	5.71	**
Depressive Symptoms	2.15	**	2.13	**	2.83	**	4.47	**
Social Desirability	0.28	**	0.17	**	0.45	**	0.10	**
Stressful Conditions	2.68	**	2.71	**	3.99	**	4.42	**
Face	2.11	**	2.54	**	2.02	**	3.19	**
Self-esteem	0.57	**	0.66	*	0.42	**	0.36	*
Social Support	0.77	*	1.02		0.45	**	0.57	
Suicidal Ideation	1.35	**	1.50	**	1.56	**	1.93	**
Static factors								
Criminal History	4.92	**	4.40	**	5.47	**	6.40	**
Sexual Abuse History	3.51	**	4.54	**	3.80	**	6.37	**
Child Neglect	1.32	**	1.26	**	1.50	**	1.62	**
Child witnessed parental violence	5.33	**	4.44	**	4.14	**	5.81	**
Reaction towards violence								
Partner's disturbance	2.27	**	2.52	**	2.30	**	3.26	**
Afraid of partner	2.33	**	2.20	**	2.30	**	2.53	**
Feeling unsafe	2.29	**	2.17	**	2.48	**	2.60	**

Note: * means p-value <=0.05   ** means p-value <=0.01

Table 2: Preliminary logistic regression analysis (Victims of spouse battering)

	Spouse Battering (Total)				Spouse Battering (Severe)			
	Ever		Annual		Ever		Annual	
Health conditions								
Chronic ill	1.39	**	0.99		1.79	**	1.25	
Wife pregnancy/adoption/postnatal (within 1 year)	1.47		2.23	**	0.77		1.97	
Financial conditions								
Unemployment[55]	0.59	**	0.90		0.57	*	0.75	
Income	1.15	**	1.41	**	1.04		1.32	*
Receiving CSSA	1.36	*	1.10		1.80	**	2.05	*
Indebtedness	2.81	**	1.98	**	2.49	**	2.50	**
Relationship factors								
Extended Family Influence	1.33	**	1.43	**	1.24	**	1.98	**
In-law Conflict	2.58	**	2.52	**	2.41	**	2.35	*
Relationship Distress	3.66	**	3.26	**	7.84	**	7.90	**
Domination	2.97	**	3.93	**	5.97	**	6.81	**
Jealousy	2.46	**	2.79	**	1.77	**	2.00	**
Negative Attribution	4.55	**	4.27	**	8.07	**	7.13	**
Shifting Responsibility	1.25	**	1.26	*	1.23		1.31	

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[55] Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group.　Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner.　Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence.　Besides, there may be correlation among the independent variable adopted in the analysis.

Table 2: Preliminary logistic regression analysis (Victims of spouse battering) (Cont'd)

	Spouse Battering (Total)				Spouse Battering (Severe)			
	Ever		Annual		Ever		Annual	
Victim's characteristics								
Anger Management	0.34	**	0.32	**	0.26	**	0.24	**
Substance Abuse	1.65	**	1.82	**	1.98	**	2.47	**
Violence Approval	1.62	**	1.71	**	2.51	**	2.62	**
Depressive Symptoms	2.51	**	2.39	**	3.10	**	4.59	**
Social Desirability	0.38	**	0.21	**	0.59		0.15	**
Stressful Conditions	3.16	**	3.09	**	4.60	**	4.88	**
Face	1.79	**	2.04	**	1.76	**	2.44	**
Self-esteem	0.50	**	0.63	*	0.37	**	0.35	**
Social Support	0.60	**	0.77		0.36	**	0.49	*
Suicidal Ideation	1.49	**	1.54	**	1.72	**	1.94	**
Static factors								
Criminal History	4.87	**	4.39	**	4.86	**	6.08	**
Sexual Abuse History	3.68	**	6.42	**	4.20	**	4.70	**
Child Neglect	1.38	**	1.37	**	1.66	**	1.76	**
Child witnessed parental violence	4.76	**	4.06	**	4.03	**	3.89	**
Reaction towards violence								
Partner's disturbance	2.39	**	2.94	**	2.61	**	3.63	**
Afraid of partner	2.60	**	2.64	**	2.69	**	3.23	**
Feeling unsafe	2.79	**	2.86	**	3.55	**	4.11	**

Note: * means p-value <=0.05   ** means p-value <=0.01

Table 3: Preliminary logistic regression analysis (Perpetrator of child abuse)

	Physical maltreatment (Total)				Physical maltreatment (Severe)			
	Ever		**Annual**		**Ever**		**Annual**	
Health conditions								
Chronic ill	2.01	**	2.08	**	1.93	**	2.10	**
Disability	3.88	*	1.78		2.33		1.89	
Wife pregnancy/adoption/postnatal (within 1 year)	0.56		1.02		0.46		0.85	
Financial conditions								
Unemployment[56]	1.15		1.15		1.11		1.09	
Income	1.01		1.03		1.01		1.03	
Receiving CSSA	2.24	**	3.00	**	2.04	**	3.04	**
Indebtedness	1.61	*	1.59		1.59	*	1.55	
Relationship factors								
Extended Family Influence	1.72	**	2.44	**	1.75	**	2.51	**
In-law Conflict	2.41	**	2.27	**	2.47	**	2.27	**
Relationship Distress	2.98	**	2.56	**	3.06	**	2.61	**
Domination	3.11	**	3.07	**	3.27	**	3.37	**
Jealousy	2.18	**	2.80	**	2.22	**	2.82	**
Negative Attribution	2.85	**	3.02	**	2.95	**	3.12	**
Shifting Responsibility	1.35	**	1.29		1.31	*	1.29	

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[56] Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group. Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner. Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence. Besides, there may be correlation among the independent variable adopted in the analysis.

Table 3: Preliminary logistic regression analysis (Perpetrator of child abuse) (Cont'd)

	Physical maltreatment (Total)				Physical maltreatment (Severe)			
	Ever		**Annual**		**Ever**		**Annual**	
Perpetrator's characteristics								
Anger Management	0.34	**	0.24	**	0.35	**	0.25	**
Substance Abuse	1.79	**	2.25	**	1.82	**	2.33	**
Violence Approval	6.15	**	5.47	**	6.31	**	6.04	**
Depressive Symptoms	2.85	**	2.36	**	3.00	**	2.52	**
Social Desirability	0.33	**	0.21	**	0.32	**	0.20	**
Stressful Conditions	4.63	**	5.17	**	4.66	**	5.21	**
Face	1.23		1.36		1.22		1.32	
Self-esteem	0.35	**	0.33	**	0.34	**	0.32	**
Social Support	0.36	**	0.38	**	0.34	**	0.35	**
Suicidal Ideation	1.43	**	1.26		1.50	**	1.29	
Static factors								
Criminal History	5.05	**	5.01	**	5.10	**	5.39	**
Sexual Abuse History	3.24	**	3.30	**	3.36	**	3.50	**
Child Neglect	1.39	**	1.14		1.38	**	1.13	
Child witnessed parental violence	2.83	**	2.91	**	2.80	**	2.68	**
Reaction towards violence								
Partner's disturbance	1.80	**	1.83	**	1.79	**	1.77	**
Afraid of partner	1.48	**	1.36	*	1.52	**	1.41	*
Feeling unsafe	1.70	**	1.69	**	1.74	**	1.71	**

Note: * means p-value <=0.05   ** means p-value <=0.01

Analysis covering risk factors for perpetrators of spouse battering

2.16   Further analysis of risk factors using stepwise logistic regression is performed to select the higher loading risk factors. In clinical practice, information related to the perpetrators or victims will in any way be collected from the clients seeking help. In other words, if the risk assessment tool is integrated in the interview form used by social workers or other professionals in providing help to the clients, additional information required to be sought for the purposes of risk assessment may not be too much to deter the use of the risk assessment tool.

2.17   For perpetrators of spousal battering, the dependent variable is the annual prevalence of spousal battering perpetration at both minor and severe levels.

2.18   The results of stepwise logistic regression performed on all risk factors pertaining to perpetrators are shown in the <u>Table 4</u> below. It may be seen that 13 out of 29 risk factors were found to be significant, based on the usual 0.05 significance level. The Wald χ^2 statistic, which tests the unique contribution of each factor, by holding constant the other factors, is also shown in the table. However, the Wald χ^2 has been criticized for being too conservative, that is, lacking adequate power. An alternative is to test the significance of each factor by eliminating it from the model and testing the significance of the increase in the -2 log likelihood statistic for the reduced model. The results are shown in <u>Table 5</u> below. It may be seen that the increase in the -2 log likelihood statistic is significant for all risk factors identified. To improve the predictive power of the model, mean imputation by relative scale has been performed on item non-response resulting in an increase in the number of valid cases available for model computation.

2.19   In general, the Model equation is:

$$A = \beta_0 + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5 + \beta_6 * X_6 + \beta_7 * X_7 + \beta_8 * X_8 + \beta_9 * X_9 + \beta_{10} * X_{10} + \beta_{11} * X_{11} + \beta_{12} * X_{12} + \beta_{13} * X_{13} + \ldots$$

$$P\,(\text{risk}) = \exp\,(A) \,/\, (1 + \exp\,(A))$$

where A is a non-zero constant, β_i and X_j are the beta coefficients and independent variables respectively, for i=0,1,2,… and j=1,2,3,…., with 0<=P (risk)<=1.

Table 4: Logistic regression analysis based on 29 risk factors (for perpetrators of spouse battering)

Risk factor	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for Exp (B)	
							Lower	Upper
Wife pregnancy/ adoption/postnatal (within 1 year)	.637	.291	4.779	1	.029	1.890	1.068	3.346
Unemployment[57]	.665	.326	4.159	1	.041	1.945	1.026	3.687
Indebtedness	.540	.215	6.284	1	.012	1.716	1.125	2.617
In-law Conflict	.585	.254	5.284	1	.022	1.794	1.090	2.954
Domination	.587	.240	5.954	1	.015	1.798	1.122	2.881
Jealousy	.529	.147	12.886	1	.000	1.698	1.272	2.266
Negative Attribution	.501	.177	8.027	1	.005	1.651	1.167	2.334
Shifting Responsibility	.260	.106	6.033	1	.014	1.297	1.054	1.597
Anger Management	-.572	.197	8.428	1	.004	.564	.384	.830
Face	.556	.150	13.742	1	.000	1.744	1.300	2.340
Criminal History	.905	.184	24.264	1	.000	2.472	1.724	3.544
Child witnessed parental violence	1.058	.210	25.457	1	.000	2.880	1.909	4.343
Partner's disturbance	.731	.091	64.180	1	.000	2.078	1.737	2.485
Constant	-8.540	1.056	65.369	1	.000	.000		

2.20   For perpetrators of spouse battering, the required model equation is:

$$A = -8.540 + 0.637X_1 + 0.665X_2 + 0.540X_3 + 0.585X_4 + 0.587X_5 + 0.529X_6 + 0.501X_7 + 0.260X_8 - 0.572X_9 + 0.556X_{10} + 0.905X_{11} + 1.058X_{12} + 0.731X_{13}$$

$$P (risk_{(A)}) = \exp (A) / (1 + \exp (A))$$

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[57] Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group.   Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner.   Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence.   Besides, there may be correlation among the independent variable adopted in the analysis.

Table 5: -2 log likelihood statistics for the logistic regression model based on 29 risk factors (for perpetrators for spouse battering)

Risk Factor	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Wife pregnancy/adoption/postnatal (within 1 year)	-943.730	4.322	1	.038
Unemployment[58]	-943.985	4.832	1	.028
Indebtedness	-944.484	5.831	1	.016
In-law Conflict	-943.792	4.447	1	.035
Domination	-944.556	5.975	1	.015
Jealousy	-947.951	12.765	1	.000
Negative Attribution	-945.566	7.993	1	.005
Shifting Responsibility	-944.619	6.100	1	.014
Anger Management	-945.792	8.446	1	.004
Face	-948.468	13.799	1	.000
Criminal History	-952.580	22.022	1	.000
Child witnessed parental violence	-952.960	22.783	1	.000
Partner's disturbance	-971.170	59.202	1	.000

2.21   To evaluate the goodness of fit[59] of logistic models, four inferential tests are used, namely the Brown chi-square test, the Pearson chi-square test, the deviance-based test and the Hosmer-Lemeshow (H-L)[60] test. Non-significant test statistic implies that the logistic model explains the data well. Four descriptive measures of goodness-of-fit are usually computed by most statistically packages, which are variations of the R square concept defined in ordinary least square regression models. However, none of the R

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[58] Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group.   Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner.   Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence.   Besides, there may be correlation among the independent variable adopted in the analysis.

[59] Goodness-of-fit statistics help you to determine whether the model adequately describes the data. The null hypothesis is "No lack of fit" and the alternative hypothesis is "Lack of fit".

[60] Hosmer-Lemeshow test of goodness of fit for the model - This statistic is the most reliable test of model fit for SPSS binary logistic regression, because it aggregates the observations into groups of "similar" cases. The statistic is then computed based upon these groups. The Hosmer-Lemeshow statistic indicates a poor fit if the significance value is less than 0.05.

square indicates the proportion of variance explained and none corresponds to predictive efficiency.[61] Generated from the SPSS packages are Cox and Snell square, which come closer to the Pseudo R square and equals to 0.082, and Nagelkerke R square the value of which is 0.192. The results of the Hosmer-Lemeshow (H-L) test are shown in the Table 6 below. It may be seen that the H-L test shows that the model explains the data well.

Table 6

	Chi-square	Degree of freedom	Sig.
H-L test for all risk factors regression analysis (Perpetrators)	6.309	8	.613

2.22   For the validation of predicted probabilities, the two-way classification table is used. The overlay plot of sensitivity and specificity against cut-off probabilities is useful for determining an appropriate cut-off for future applications. The point at which the two curves intersect is the optimal cut-off.[62] The two-way classification table is appended in Table 7 below based on a cut-off probability of 7%.

Table 7   (% of all cases examined)

All risk factors logistic regression analysis (perpetrators)			
Actual	**Predicted**		**Total**
	Not Happened	**happened**	
Not Happened	64.38%	27.54%	91.92%
Happened	2.55%	5.53%	8.08%
Total	66.93%	33.07%	100%

2.23   A number of indicators of the predictive power of the model may be compiled from the above classification table, as follows:

a)   Sensitivity, which is the percentage of occurrences correctly predicted and is equal to (5.53%)/(8.08%) or 68.4%;

b)   Specificity, which is the percentage non-occurrences correctly predicted and is equal to (64.38)/(91.92%) or 70.0%;

c)   Positive predictive value, which is the percentage of predicted occurrences that are correct and is equal to (5.53%)/(33.07%) or 16.7%;

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[61] Peng, Cha-ying Joanne and So, Tak-shing Harry (2002), "Logistic regression analysis and reporting: a primer", in *Understanding Statistics*, 1(1): 31 – 70.
[62] Optimal cut-off exits if and only if sensitivity = specificity.

d)   Negative predictive value which is the percentage of predicted non-occurrences that are correct and is equal to (64.38%)/(66.93%) or 96.2%;

e)   Overall accuracy, which is the percentage of predicted occurrences and non-occurrences that are correct and is equal to (64.38%+5.53%) or 69.9%.

2.24   A table showing different cut-off probabilities and overlay plots are shown in Table 8 below, indicating that the optimal cut-off probability should be in the region of 7%.

Table 8

Cut-off probability (%)	Sensitivity	Specificity	Positive Predicted Value (PPV)	Negative Predicted Value (NPV)	Overall accuracy
95	0.3%	100.0%	100.0%	91.9%	91.9%
90	0.6%	100.0%	100.0%	92.0%	92.0%
85	1.3%	100.0%	100.0%	92.0%	92.0%
80	1.3%	100.0%	80.0%	92.0%	92.0%
75	2.2%	100.0%	87.5%	92.1%	92.1%
70	4.1%	99.8%	68.4%	92.2%	92.1%
65	6.3%	99.8%	71.4%	92.4%	92.2%
60	8.1%	99.7%	72.2%	92.5%	92.3%
55	9.7%	99.6%	68.9%	92.6%	92.4%
50	10.9%	99.5%	67.3%	92.7%	92.4%
45	13.1%	99.3%	63.6%	92.9%	92.4%
40	14.7%	99.0%	57.3%	93.0%	92.2%
35	18.4%	98.5%	52.7%	93.2%	92.1%
30	21.3%	97.9%	46.6%	93.4%	91.7%
25	25.6%	96.8%	41.2%	93.7%	91.0%
20	34.4%	94.9%	37.4%	94.3%	90.1%
15	42.2%	90.8%	28.7%	94.7%	86.8%
10	56.9%	82.0%	21.8%	95.6%	80.0%
9	60.9%	79.1%	20.4%	95.8%	77.7%
8	63.1%	75.0%	18.1%	95.9%	74.0%
7	68.4%	70.0%	16.7%	96.2%	69.9%
6	74.4%	63.1%	15.0%	96.6%	64.0%
5	82.5%	54.3%	13.7%	97.2%	56.6%
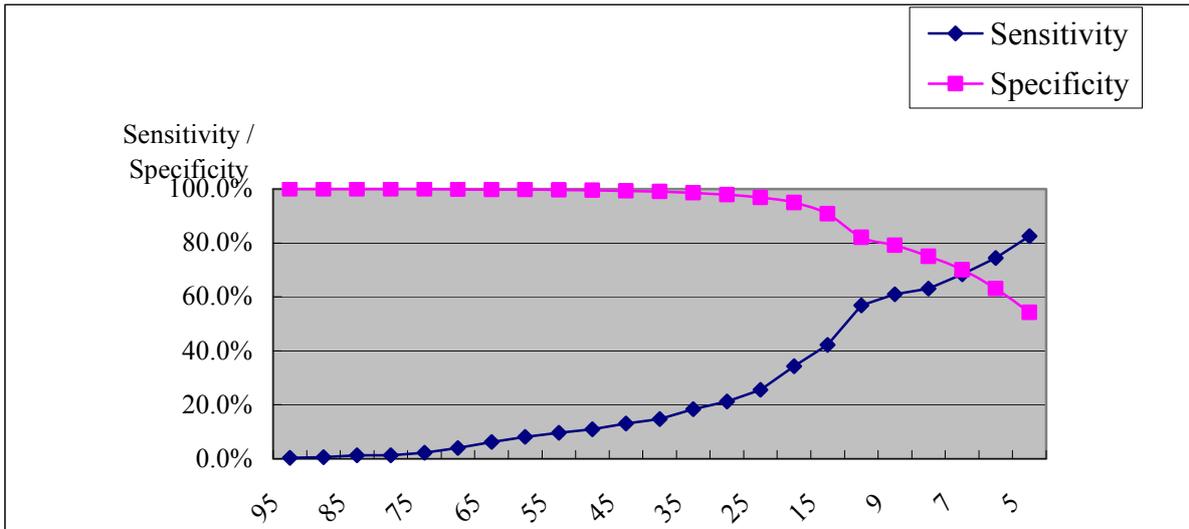
2.25   A Receiver Operating Characteristic (ROC) curve[63] may also be compiled from the regression results. The ROC curve is a graphical representation of the trade off between the predictive values positive and negative for every possible cut off. The ROC curve is a plot showing (1-specificity) on the X axis and sensitivity on the Y axis. The accuracy of the assessment tool is measured by the area under the ROC curve. An area of 1 represents a perfect test, while an area of 0.5 represents a worthless test. Based on results of the logistic regression analysis, the ROC curve is plotted below. It may be seen that ROC curve is well above the 45 degree reference line. The area under the curve is 0.77 which is significant greater than the area of 0.5 under the 45 degree reference line.

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[63]   A Receiver Operating Characteristic (ROC) curve is a graphical representation of the trade off between the false negative and false positive rates for every possible cut off.

ROC Curve

Diagonal segments are produced by ties.
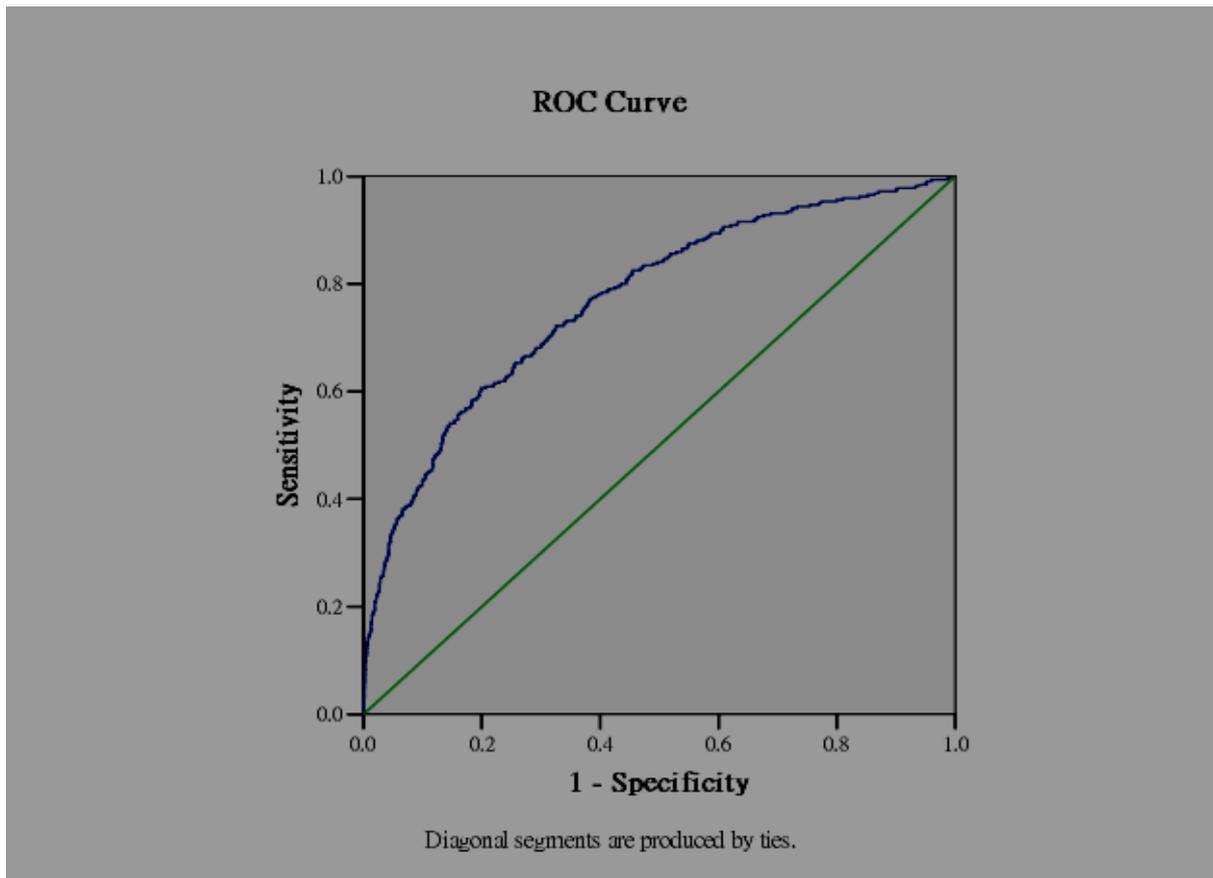
2.26 It should nevertheless be noted that in developing assessment tools for screening purposes, researchers often concentrate on the sensitivity and specificity of the test and use ROC curves to evaluate the discriminating power of the tools. They ignore the predictive value of the tools which is equally important. The ROC curve evaluates how well the tool performs in classifying a person whose condition is known, which is plot of the true positive rate (i.e. sensitivity) against the false positive rate (i.e. 1 – specificity). The predictive value, on the other hand, indicates how accurate is the test in classifying a person whose condition is not known. It answers that question: "If the test is positive, what is the probability that the person really has the condition?" [64] In other words, the predictive values of the risk assessment tool shown above are equally important.

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[64] Severino, Richard (undated), "How to use SAS software to evaluate screening tests using predictive values in conjunction with ROC curves. (logistic 3.pdf)

Analysis covering risk factors for victims of spouse battering

2.27   For victims of spousal battering, the dependent variable is the annual prevalence of spousal battering victimization at both minor and severe levels.

2.28   The results of stepwise logistic regression performed on all risk factors pertaining to victims are shown in the Table 9 below. It may be seen that only 8 out of 29 risk factors were found to be significant, based on the usual 0.05 significance level. The significance of each factor by eliminating it from the model and testing the significance of the increase in the -2 log likelihood statistic for the reduced model is shown in Table 10 below. It may be seen that the increase in the -2 log likelihood statistic is significant for all risk factors.

Table 9: Logistic regression analysis based on 29 risk factors (for victims of spouse battering)

Risk factor	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for Exp (B) Lower	Upper
Jealousy	.718	.155	21.451	1	.000	2.051	1.513	2.779
Negative Attribution	.716	.186	14.868	1	.000	2.047	1.422	2.946
Anger Management	-.632	.202	9.800	1	.002	.532	.358	.790
Criminal History	.750	.195	14.711	1	.000	2.116	1.443	3.104
Sexual Abuse History	1.041	.340	9.403	1	.002	2.832	1.456	5.510
Child witnessed parental violence	1.123	.217	26.721	1	.000	3.075	2.008	4.708
Partner's disturbance	.654	.103	39.976	1	.000	1.924	1.570	2.356
Feeling unsafe	.502	.112	20.184	1	.000	1.651	1.327	2.055
Constant	-5.996	.849	49.839	1	.000	.002		

2.29   For victims of spouse battering, the required model equation is:

$$V = -5.996 + 0.718X_1 + 0.716X_2 - 0.632X_3 + 0.750X_4 + 1.041X_5 + 1.123X_6 + 0.654X_7 + 0.502X_8$$

$$P\ (risk_{(v)}) = exp\ (V) / (1 + exp\ (V))$$

Table 10: -2 log likelihood statistic for the logistic regression model based on 29 risk factors (for victims of spouse battering)

Risk Factor	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Jealousy	-856.442	21.270	1	.000
Negative Attribution	-853.190	14.767	1	.000
Anger Management	-850.724	9.834	1	.002
Criminal History	-852.544	13.476	1	.000
Sexual Abuse History	-850.014	8.416	1	.004
Child witnessed parental violence	-857.505	23.396	1	.000
Partner's disturbance	-864.245	36.877	1	.000
Feeling unsafe	-855.471	19.329	1	.000

2.30   Generated from the SPSS packages are Cox and Snell square, which come closer to the Pseudo R square and equals to 0.08, and Nagelkerke R square the value of which is 0.20. The results of the Hosmer-Lemeshow (H-L) test are shown in the Table 11 below. It may be seen that the H-L test shows that the model explains the data well.

Table 11

	Chi-square	Degree of freedom	Sig.
H-L test for all risk factors regression analysis (Victims)	15.211	8	.055

2.31   The two-way classification table is appended in Table 12 below based on a cut-off probability of 5.5%.

Table 12   (% of all cases examined)

All risk factors logistic regression analysis (victims)			
Actual	**Predicted**		**Total**
	Not Happened	**happened**	
Not Happened	64.87%	28.02%	92.89%
Happened	2.10%	5.00%	7.10%
Total	66.97%	33.02%	100%

2.32   A number of indicators of the predictive power of the model may be compiled from the above classification table, as follows:

a)   Sensitivity, which is the percentage of occurrences correctly predicted and is equal to (5%)/(7.10%) or 70.4%;

b)   Specificity, which is the percentage non-occurrences correctly predicted and is equal to (64.87%)/(92.89%) or 69.8%;

c)   Predictive value positive, which is the percentage of predicted occurrences that are correct and is equal to (5%)/(33.02%) or 15.1%;

d)   Predictive value negative which is the percentage of predicted non-occurrences that are correct and is equal to (64.87%)/(66.97%) or 96.9%;

e)   Overall accuracy, which is the percentage of predicted occurrences and non-occurrences that are correct and is equal to (64.87%+5%) or 69.9%.

2.33   A table showing different cut-off probabilities and overlay plots are shown in Table 13 below, indicating that the optimal cut-off probability should be in the region of 5.5%.

Table 13

Cut-off probability (%)	Sensitivity	Specificity	Positive Predicted Value (PPV)	Negative Predicted Value (NPV)	Overall accuracy
95	0.4%	100.0%	100.0%	92.9%	92.9%
90	0.7%	100.0%	100.0%	92.9%	92.9%
85	2.1%	100.0%	100.0%	93.0%	93.0%
80	3.9%	99.9%	84.6%	93.1%	93.1%
75	5.4%	99.9%	88.2%	93.2%	93.2%
70	6.8%	99.9%	90.5%	93.3%	93.3%
65	8.2%	99.9%	85.2%	93.4%	93.4%
60	9.3%	99.8%	81.3%	93.5%	93.4%
55	11.1%	99.8%	77.5%	93.6%	93.5%
50	12.1%	99.6%	72.3%	93.7%	93.4%
45	14.6%	99.4%	66.1%	93.8%	93.4%
40	15.7%	99.1%	57.9%	93.9%	93.2%
35	19.3%	98.7%	54.0%	94.1%	93.1%
30	20.4%	98.2%	46.3%	94.2%	92.7%
25	25.7%	97.2%	41.4%	94.5%	92.1%
20	31.8%	96.0%	37.6%	94.8%	91.4%
15	39.3%	93.2%	30.6%	95.3%	89.3%
10	53.9%	85.9%	22.6%	96.1%	83.6%
9	57.9%	84.2%	21.8%	96.3%	82.3%
8	60.7%	81.6%	20.2%	96.4%	80.2%
7	61.8%	78.3%	17.9%	96.4%	77.2%
6	67.1%	72.9%	15.9%	96.7%	72.5%
5	75.7%	65.5%	14.4%	97.2%	66.3%
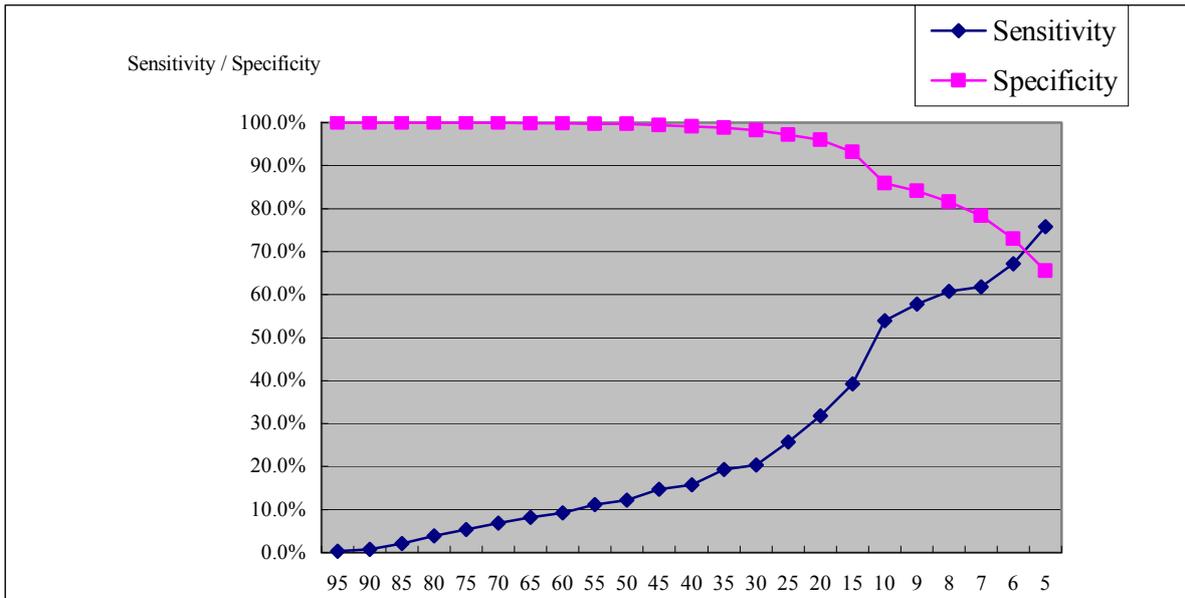
2.34 Based on results of the logistic regression analysis, the ROC curve is plotted below. It may be seen that ROC curve is well above the 45 degree reference line. The area under the curve is 0.7687 which is significantly greater than the area of 0.5 under the 45 degree reference line.

ROC Curve

Diagonal segments are produced by ties.
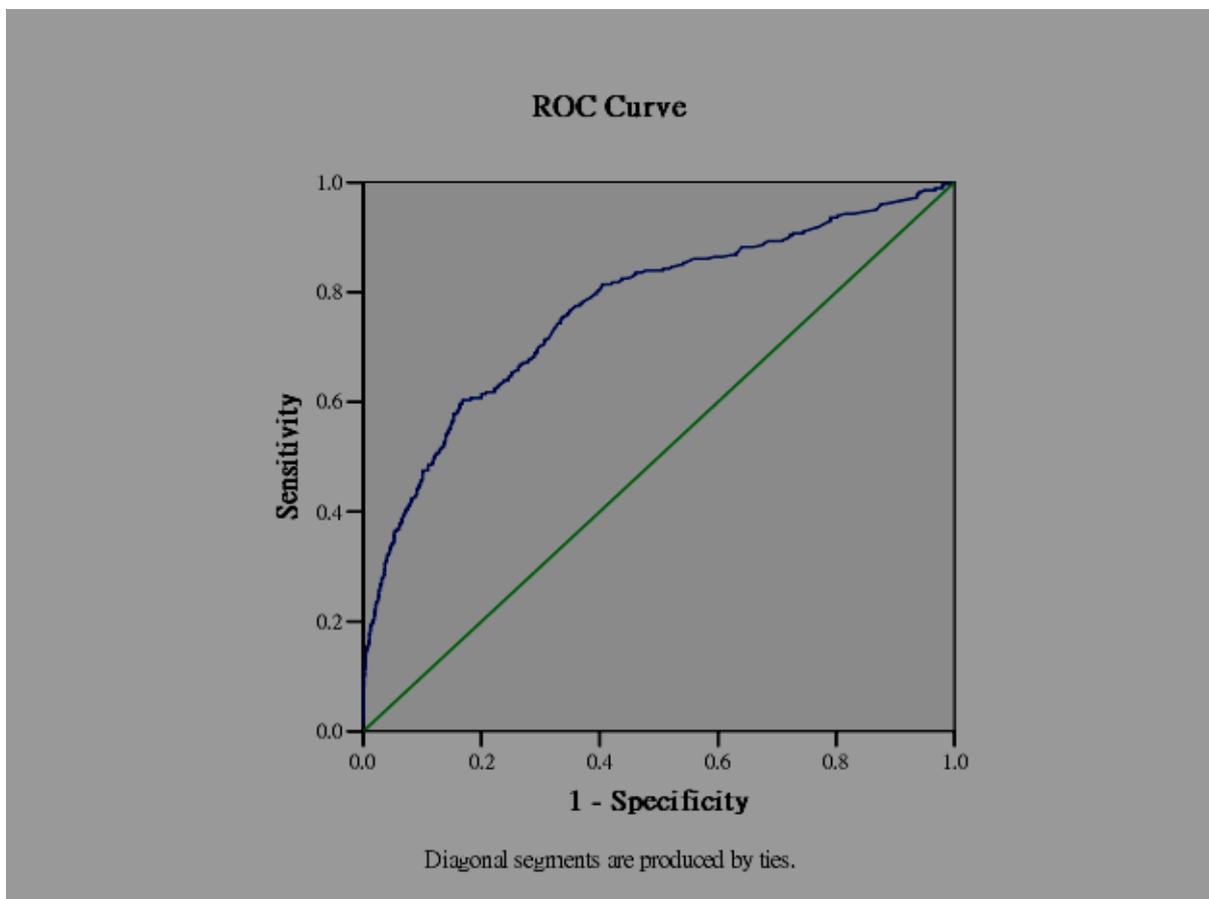
Analysis covering risk factors for perpetrators of child abuse

2.35   For perpetrators of child abuse, the dependent variable is the annual prevalence of physical maltreatment perpetration at both severe and very severe levels.

2.36   The results of step-wise logistic regression performed on all risk factors pertaining to perpetrators of child abuse are shown in the Table 14 below. It may be seen that only 7 out of 30 risk factors were found to be significant, based on the usual 0.05 significance level. The significance of each factor by eliminating it from the model and testing the significance of the increase in the -2 log likelihood statistic for the reduced model is shown in Table 15 below. It may be seen that the increase in the -2 log likelihood statistic is significant for the 7 risk factors identified.

Table 14: Logistic regression analysis based on 30 risk factors (for perpetrators of child abuse)

Risk factor	B	S.E.	Wald	df	Sig.	Exp (B)	95% C.I. for Exp (B) Lower	Upper
Unemployment[65]	.953	.474	4.052	1	.044	2.595	1.025	6.566
Receiving CSSA	1.306	.284	21.098	1	.000	3.690	2.114	6.441
Extended Family Influence	.653	.209	9.776	1	.002	1.922	1.276	2.895
Jealousy	1.110	.238	21.775	1	.000	3.034	1.904	4.837
Anger Management	-.858	.305	7.894	1	.005	.424	.233	.771
Violence Approval	.971	.335	8.385	1	.004	2.639	1.368	5.091
Criminal History	1.458	.246	35.048	1	.000	4.296	2.651	6.960
Constant	-8.150	1.567	27.064	1	.000	.000		

2.37   For perpetrators of child abuse, the required model equation is:

$$C = -8.150 + 0.953X_1 + 1.306X_2 + 0.653X_3 + 1.110X_4 - 0.858X_5 + 0.971X_6 + 1.458X_7$$
$$P (risk_{(c)}) = \exp (C) / (1 + \exp (C))$$

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[65] Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group.   Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner.   Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence.   Besides, there may be correlation among the independent variable adopted in the analysis.

Table 15: -2 log likelihood statistic for the logistic regression model based on 30 risk factors (for perpetrators for child abuse)

Risk Factor	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Unemployment[66]	-387.557	4.895	1	.027
Receiving CSSA	-394.242	18.265	1	.000
Extended Family Influence	-390.228	10.237	1	.001
Jealousy	-396.019	21.821	1	.000
Anger Management	-389.054	7.889	1	.005
Violence Approval	-389.533	8.848	1	.003
Criminal History	-400.222	30.226	1	.000

2.38   Generated from the SPSS packages are Cox and Snell square, which come closer to the Pseudo R square and equals to 0.064, and Nagelkerke R square the value of which is 0.176. The results of the Hosmer-Lemeshow (H-L) test are shown in the Table 16 below. It may be seen that the H-L test shows that the model explains the data well.

Table 16

	Chi-square	Degree of freedom	Sig.
H-L test for all risk factors regression analysis (Perpetrators)	7.719	8	.461

2.39   The two-way classification table is appended in Table 17 below based on a cut-off probability of 5.5%.

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[66] Result showed that unemployment is negatively correlated with the odds of spouse battering when compared to the non-unemployed group which contained economic active and inactive（such as housekeepers and retired persons）subgroups. Generally speaking, it implies that holding other factors constant the unemployed group has a lower probability of having the presence of spouse battering/ child physical maltreatment than the non-unemployed group.   Such findings contradict those of other researches and studies, in which unemployment has already been recognized as a universal risk factor of child abuse and spouse battering. In particular, it is a good predictor of severe level of man's violence against his female partner.   Such contradictory findings may be due to the fact that the present regression analysis has not controlled for the gender factor and the data refer largely to minor level of physical violence.   Besides, there may be correlation among the independent variable adopted in the analysis.

Table 17 (% of all cases examined)

All risk factors logistic regression analysis (perpetrators)			
Actual	**Predicted**		**Total**
	Not Happened	**happened**	
Not Happened	68.15%	25.90%	94.05%
Happened	1.85%	4.10%	5.95%
Total	70.00%	30.00%	100%

2.40 A number of indicators of the predictive power of the model may be compiled from the above classification table, as follows:

a) Sensitivity, which is the percentage of occurrences correctly predicted and is equal to (4.10%)/(5.95%) or 68.9%;

b) Specificity, which is the percentage non-occurrences correctly predicted and is equal to (68.15%)/(94.05%) or 72.5%;

c) Predictive value positive, which is the percentage of predicted occurrences that are correct and is equal to (4.10%)/(30%) or 13.7%;

d) Predictive value negative which is the percentage of predicted non-occurrences that are correct and is equal to (68.15%)/(70%) or 97.4%;

e) Overall accuracy, which is the percentage of predicted occurrences and non-occurrences that are correct and is equal to (68.15%+4.1%) or 72.3%.

2.41 A table showing different cut-off probabilities and overlay plots are shown in Table 18 below, indicating that the optimal cut-off probability should be in the region of 5.5%.

Table 18

Cut-off probability (%)	Sensitivity	Specificity	Positive Predicted Value (PPV)	Negative Predicted Value (NPV)	Overall accuracy
95	0.0%	100.0%	NA	94.1%	94.1%
90	0.0%	100.0%	NA	94.1%	94.1%
85	0.0%	100.0%	NA	94.1%	94.1%
80	0.0%	100.0%	NA	94.1%	94.1%
75	0.0%	100.0%	NA	94.1%	94.1%
70	0.8%	100.0%	100.0%	94.1%	94.1%
65	2.5%	100.0%	100.0%	94.2%	94.2%
60	4.2%	100.0%	100.0%	94.3%	94.3%
55	5.0%	100.0%	100.0%	94.3%	94.4%
50	6.7%	99.8%	72.7%	94.4%	94.3%
45	8.4%	99.7%	62.5%	94.5%	94.3%
40	11.8%	99.4%	53.8%	94.7%	94.2%
35	13.4%	98.9%	44.4%	94.8%	93.9%
30	16.0%	98.6%	42.2%	94.9%	93.7%
25	22.7%	98.0%	42.2%	95.2%	93.6%
20	26.9%	96.7%	34.0%	95.4%	92.6%
15	31.9%	94.0%	25.3%	95.6%	90.4%
10	45.4%	87.7%	18.9%	96.2%	85.2%
9	49.6%	86.1%	18.4%	96.4%	83.9%
8	55.5%	83.9%	17.9%	96.8%	82.3%
7	58.0%	80.3%	15.7%	96.8%	79.0%
6	61.3%	76.0%	13.9%	96.9%	75.2%
5	74.8%	67.8%	12.8%	97.7%	68.3%
4	82.4%	56.4%	10.7%	98.1%	57.9%
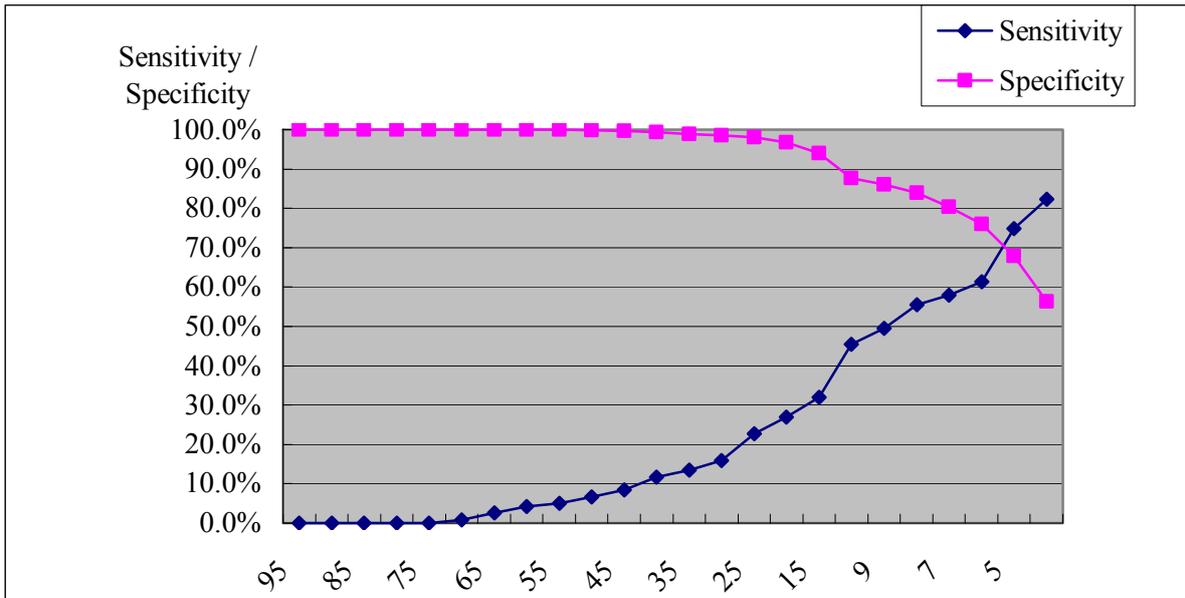
2.42   Based on results of the logistic regression analysis, the ROC curve is plotted below. It may be seen that ROC curve is well above the 45 degree reference line. The area under the curve is 0.7728 which is significantly greater than the area of 0.5 under the 45 degree reference line.

ROC Curve

Diagonal segments are produced by ties.
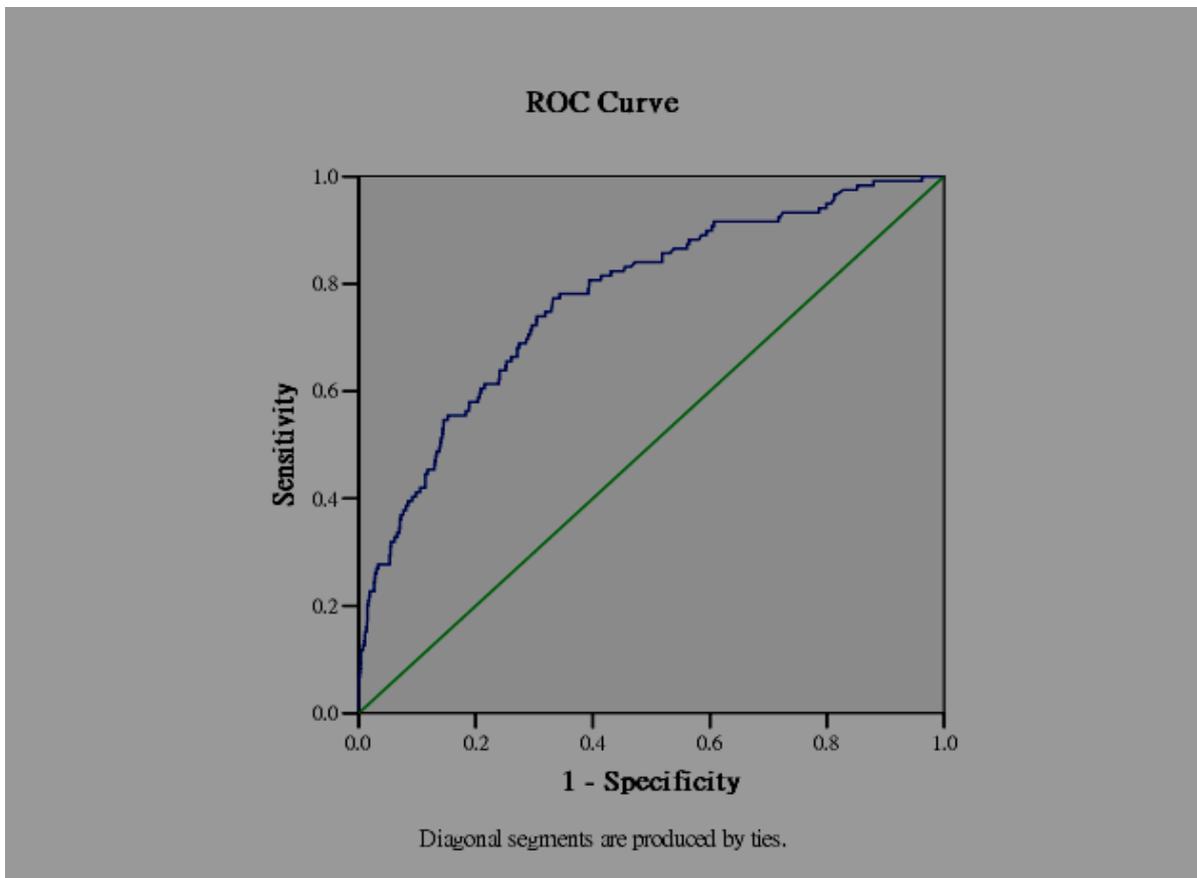
Chapter 3
Field Test

3.1 Objectives

3.1.1 In order to test the applicability of the risk assessment tools developed and identify any practical difficulties encountered by the users, a field test was conducted on clinical samples in July and August, 2006.

3.1.2 The main purpose of the field test was to ascertain the clinical validity of the risk assessment tools when being applied to clinical samples in welfare settings and to operationalize the administration of the tools that are designed to measure the probability of occurrence of spouse battering and child abuse. The target respondents were perpetrators and victims of spouse battering, and perpetrators of child abuse.

3.1.3 With the aim to facilitate the use of the tools, the purposes of the field test were to understand:

a) Difficulties encountered while implementing the tools;

b) Complexity when interpreting the results of the tools;

c) Value added to the existing risk assessment procedures and implications of using the tools;

d) Areas of the risk assessment manual to be refined.

3.1.4 Experience learned from the field test and expressed by the frontline social workers will be used to evaluate the overall usefulness and applicability of the tool.

3.2 Field Test Design

3.2.1 The field test was conducted based on criteria-based sampling, with which violent and non-violent clients were recruited to complete the risk assessment tools.

3.2.2 **Samples of field test**

3.2.2.1 There were three sets of risk assessment tools tested: Form A for perpetrator of spouse battering, Form B for victim of spouse battering and Form C for perpetrator of child abuse. It was expected to recruit a total of 100 perpetrators of spouse battering, 100 victims of spouse battering and 100 perpetrators of child abuse for the violent groups from the 8 units of FCPSUs and the 4 refuge centres for women. Another 300 non-violent

clients were targeted from IFSCs to form comparison groups.

3.2.2.2 <u>Criteria for sample selection</u>

a.   To identify clients for the violent and non-violent groups, screening questions were asked to clients using the screening questions modified from Abuse Assessment Screen[67].

b.   For the perpetrators and victims of spouse battering and their comparison groups, the subjects should be aged 16 or above, currently living with a partner (married or cohabited).

c.   For the perpetrators of child abuse and its comparison group, the subjects should be aged 16 or above, currently living with a partner (married or cohabited), with at least 1 child aged under 18.

d.   To minimize selection bias, the samples of clients were balanced according to gender, age, education level, marital status, number of children, case history and experience of violence.

Gender

e.   In general, about 80-90% of the victims of spouse battering are females. The selection of clients in the violent and non-violent groups should maintain such balance.

f.   For the perpetrators of spouse battering and the subjects in the comparison group, over 80% of the clients should be males.

g.   For the victims of spouse battering and the subjects in the comparison group, over 80% of the clients should be females. As 20 female victims were expected to be recruited from 4 refuge centres, the victims recruited from the FCPSUs should be maintained at a 3 to 1 female to male ratio.

h.   For the perpetrators of child abuse and the subjects in the comparison group, the male to female ratio should be reflecting the actual ratio in that unit.

Age

i.   The clients should be aged 16 or above.

j.   For each group of samples, clients of diverse age should be selected.

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[67] McFarlane, J. & Parker, B (1994). Preventing abuse during pregnancy: an assessment and intervention protocol. MCN, 19, P. 324. Developed by the Nursing Research Consortium on violence and abuse.

Education level

k.   In general, clients of all education levels could be selected. Only those clients who cannot read should be given help to understand the questions and record the answers.

l.   For each group of samples, clients of diverse education levels should be selected.

Marital status

m.   The clients selected should be currently living with a partner (married or cohabited). If divorced cases were considered, the separation should be less than 1 year.

Number of children

n.   Clients selected for the perpetrators or victims of spouse battering and their comparison groups could either have or not have children. Only that for those who have children, their children should be living with them.

o.   Clients selected for the perpetrators of child abuse and its comparison group must have children aged under 18. The number of children did not matter.

Case history

p.   New cases or active cases opened within 6 months are preferred to minimize the treatment effect.

Experience of violence

q.   Clients selected for the violent groups should have reported violence within 1 year.

r.   Clients selected for the non-violent groups should report no violence experience within 1 year.

3.2.3 Procedure of field test

3.2.3.1 The service units selected to take part in the field test were informed for their involvement.

3.2.3.2 The appropriate number of staff from each service unit was selected.

3.2.3.3 All selected staff was required to attend a briefing session provided by the HKU consultant team. The staff was instructed in the session about the objectives of the field test and the procedures of risk assessment to be followed.

3.2.3.4 Each staff involved was required to select clients using criteria-based sampling and collect data with the appropriate tools.

3.2.3.5 Data entry and analysis was performed by the consultant team.

3.2.3.6 The involved staff was invited to attend a feedback session to report their experience and comments regarding administration of the tools and interpretation of the results. A feedback form was completed by the involved staff (Appendix 4). The feedback form included questions such as the length of time taken to complete the questionnaire and to enter and analyze the data, any difficulties encountered in interpreting the results, and the overall usefulness and the applicability of the tool, etc.

3.2.3.7 To further investigate the applicability of the tools in clinical settings, 10 caseworkers were selected to conduct a trial on data entry and analysis in a workshop.

3.2.3.8 Comments and experience were analyzed and incorporated into the manual to facilitate practical application of the tools.

3.2.4 **Procedure of risk assessment**

3.2.4.1 Each eligible client was provided with the information sheet and consent form (Appendix 2) of the field test. The client had to sign the consent form before being asked to complete the tools.

3.2.4.2 In order to distinguish violent and non-violent samples, each potential client being selected was required to answer pre-screening questions modified from Abuse Assessment Screen (Appendix 3).

3.2.4.3 The client was required to complete a family profile form, the revised Conflict Tactics Scales and the risk assessment tool.

3.3 Schedule

Briefing	5 July 2006
	9a.m. – 11a.m. For FCPSU and refuges workers
	11a.m. – 1 p.m. For IFSC workers
Field test (4 weeks)	6 July – 3 Aug. 2006
Data entry & analysis	7-25 Aug. 2006
Feedback meeting	31 Aug, 2006
	9a.m. – 11a.m. For FCPSU and refuges workers
	11a.m. – 1 p.m. For IFSC workers
Feedback meeting (10 caseworkers)	31 Aug. 2006 2:30 – 5p.m.

3.4 Results

Clinical validity the risk assessment tools

3.4.1   There were total 162, 174 and 161 subjects successfully completed the questionnaires A, B and C respectively.

3.4.2   A summary of overall accuracy of the three risk assessment tools is shown in Table 19.

Table 19:   Summary of overall accuracy of the three risk assessment tools

	N	n (violent group)	n (non-violent group)	Annual Prevalence of violence	Cut-off	Sensitivity	Specificity	Overall accuracy
Form A	162	108	54	66.7%	7%	95.4%	44.4%	78.4%
Form B	174	118	56	67.8%	5.5%	99.2%	21.4%	74.1%
Form C	161	47	114	29.2%	5.5%	95.7%	35.1%	52.8%

3.4.3   For the analysis of Form A which is for perpetrator of spouse battering, the two-way classification table is appended in Table 20 below based on a cut-off probability of 7%.

Table 20   (% of all cases examined)

All risk factors logistic regression analysis (Perpetrators) (N = 162)			
Actual	**Predicted**		**Total**
	Not Happened	**happened**	
Not Happened	14.81%	18.52%	33.33%
Happened	3.09%	63.58%	66.67%
Total	17.90%	82.10%	100%

3.4.4   A number of indicators of the predictive power of the model may be compiled from the above classification table, as follows:

a) Sensitivity, which is the percentage of occurrences correctly predicted and is equal to (63.58%)/(66.67%) or 95.4%;

b) Specificity, which is the percentage non-occurrences correctly predicted and is equal to (14.81%)/(33.33%) or 44.4%;

c) Predictive value positive, which is the percentage of predicted occurrences that are correct and is equal to (63.58%)/(82.10%) or 77.4%;

d) Predictive value negative which is the percentage of predicted non-occurrences that are correct and is equal to (14.81%)/(17.9%) or 82.7%;

e) Overall accuracy, which is the percentage of predicted occurrences and non-occurrences that are correct and is equal to (14.81%+63.58%) or 78.4%.

3.4.5 For the analysis of Form B which is for victim of spouse battering, the two-way classification table is appended in Table 21 below based on a cut-off probability of 5.5%.

Table 21   (% of all cases examined)

All risk factors logistic regression analysis (Victims) (N = 174)			
Actual	**Predicted**		**Total**
	Not Happened	**happened**	
Not Happened	6.90%	25.29%	32.18%
Happened	0.57%	67.24%	67.82%
Total	7.47%	92.53%	100%

3.4.6 A number of indicators of the predictive power of the model may be compiled from the above classification table, as follows:

a) Sensitivity, which is the percentage of occurrences correctly predicted and is equal to (67.24%)/(67.82%) or 99.1%;

b) Specificity, which is the percentage non-occurrences correctly predicted and is equal to (6.90%)/(32.18%) or 21.4%;

c) Predictive value positive, which is the percentage of predicted occurrences that are correct and is equal to (67.24%)/(92.53%) or 72.7%;

d) Predictive value negative which is the percentage of predicted non-occurrences that are correct and is equal to (6.90%)/(7.47%) or 92.4%;

e) Overall accuracy, which is the percentage of predicted occurrences and non-occurrences that are correct and is equal to (6.90%+67.24%) or 74.1%.

3.4.7 For the analysis of Form C which is for perpetrator of child abuse, the two-way classification table is appended in Table 22 below based on a cut-off probability of 5.5%.

Table 22   (% of all cases examined)

All risk factors logistic regression analysis (Child Abuse) (N = 161)			
Actual	**Predicted**		**Total**
	Not Happened	**happened**	
Not Happened	24.84%	45.96%	70.81%
Happened	1.24%	27.95%	29.19%
Total	26.09%	73.91%	100%

3.4.8   A number of indicators of the predictive power of the model may be compiled from the above classification table, as follows:

a)   Sensitivity, which is the percentage of occurrences correctly predicted and is equal to (27.95%)/(29.19%) or 95.8%;

b)   Specificity, which is the percentage non-occurrences correctly predicted and is equal to (24.84%)/(70.81%) or 35.1%;

c)   Predictive value positive, which is the percentage of predicted occurrences that are correct and is equal to (27.95%)/(73.91%) or 37.8%;

d)   Predictive value negative which is the percentage of predicted non-occurrences that are correct and is equal to (24.84%)/(26.09%) or 95.2%;

e)   Overall accuracy, which is the percentage of predicted occurrences and non-occurrences that are correct and is equal to (24.84%+27.95%) or 52.8%.

3.4.9   The overall accuracies of the three risk assessment tools are satisfactory (from 53% to 78%). The accuracy of the Form C is relatively lower than that in the model using household survey data. The main reason is that 50.5% (46/91, see Table 23) of the subjects, although they were screened by the screening tool as violence cases, were classified into non-violence group by the CTSPC. Almost all these cases (41 out of 46) reported minor violence which, for the purpose of this study, were not classified into violent group. In this study, child physical maltreatment, which is the dependant variable for the risk assessment tool to predict, is defined by the severe or very severe levels of physical assault, as measured by CTSPC.

Table 23:

QA	By CTS2		QB	By CTS2		QC	By CTSPC	
Screening tool	0	1	Screening tool	0	1	Screening tool	0	1
0	54	21	0	53	19	0	68	2
1	0	87	1	3	99	1	46	45

0 = non-violent group; 1 = violence group

Feedback from social workers

3.4.10 Time needed to complete the questionnaires was recorded with the assistance of all the social workers involved in the field test. See Table 24. Time needed for Part A (family profile) in each form is around 8-10 minutes. Time needed for Part B (risk assessment) is around 11-14 minutes. Time needed for Part C (CTS2 / CTSPC) is around 15-17 minutes. It may take longer if clients showed emotions when recalling the traumatic experiences and needed to receive immediate counseling.

Table 24: Average interviewing time

	Mean (min)
Form A: Part A (Family profile)	9
Form A: Part B (Risk assessment tool)	14
Form A: Part C (CTS2)	17
Form B: Part A (Family profile)	10
Form B: Part B (Risk assessment tool)	13
Form B: Part C (CTS2)	17
Form C: Part A (Family profile)	8
Form C: Part B (Risk assessment tool)	11
Form C: Part C (CTSPC)	15

3.4.11 The overall feedback from the social workers is summarized in Table 25. Generally speaking, subjects can self-administer the questionnaires especially those who were educated. For those who were not well educated, more assistance was needed to complete the questionnaires.

3.4.12 Some social workers commented that the income variable was not clearly defined. Whether it should include money received from comprehensive social security assistance was controversial. Moreover, some social workers observed that some clients tended to report less monthly income than the actually earned. In view of the diversity in the responses to this variable, it is decided to exclude the income variable from the risk assessment model.

Table 25: **Summary of feedback**

	Positive	Negative
Administration of questionnaire	~ client can self-administer; can complete the questionnaire by himself, no assistance is needed. ~ process is smooth ~ easy to understand and no assistance is needed. ~ easy to answer if parent - child relationship is harmonious	~ easy to educated; but taking more time for poorly educated client; they need more assistance in responding questionnaire. ~ Patience and cooperation of the subject are the most important.
Design of questionnaire:	~ good to have such tool for questioning the problematic family members in HK. ~ The questions were thorough. ~ easy to understand ~ better understanding on the pattern of violence ~ Client said that the questionnaire is a good tool for his self reflection. ~ The conduct of research is meaningful ~ It was detailed and involved gender checklist ~ Client can have comparison on her style of parenting on the three children, She has more awareness on her improvement in parenting when compared with her in the part.	~ Too long; ~ difficulty to recall frequency; ~ complicated and too details; ~ Difficult to differentiate "agree" & "very agree"; ~ Some terms are difficult to understand e.g. 纏擾, 擁抱 ~ questions (about violence) are too serious, negative, quite provoking and would be disturbing to some clients. ~ more elaboration of "有一位大家庭成員" should be given to the subject ~ Some of the questions were not clear, e.g. hugging others is subjected to which person involved ~ Use of simple Chinese character

3.4.13 Frequently asked questions:

General questionnaire Design

Q1. The abuser might feel offended as the questions are not objective; for example, some questions only asked abusers how they battered their wife, without asking them for the reasons leading to such battering. The usual causes of violence, like extramarital affairs, are missed.

Answer:

The questions shouldn't cause any hard feelings with people who haven't been involved in violence. However, those who have been violent to their family members may be more sensitive to the terms related to violence. Sometimes feelings of unfair treatment may be expressed by abusers if they are not given enough opportunity to talk about the reasons for their violent acts. However, allowing the abuser to elaborate too much on his or her side of the story may allow the abuser to self-justify his or her violent behaviour. This may sometimes encourage social workers to be overly empathetic to the abuser's "reasons", when these "reasons" should mostly be treated as "excuses". Given that social workers are sensitive to abusers' justifications and excuses and because the abusers are interviewed in clinical settings, the abusers could be invited to talk about the process of conflict or violence, and to be self-reflective on personal emotions and thoughts during such conflict or violence. This would help relieve their emotions during the interview and so subjects would likely be less defensive.

The design of the questionnaire, in particular the scale used when asking about violent behaviour, is regarded by many abusers as fair as they are asked questions that address the violent behaviour of both partners. This is especially useful in mutual assessment.

Q2. Some subjects, participated in the field test, felt that there were too many items in the questionnaire.

Answer:

In the field test, there were three parts to the questionnaire. Only Part II was the risk assessment tools. Thus, it would not be long in using the risk assessment tool. The items included in risk assessment are all necessary as they were derived from the representative survey conducted to investigate spouse battering and child abuse in Hong Kong. The information collected should not be treated solely for data collection purposes but as part of the clinical assessment. And therefore, the information collected should be used to inform methods of intervention.

Q3. Most of the questions were about violent incidents; nothing was mentioned about the efforts made to maintain family harmony. This seemed unfair to the abuser.

Answer:

Some "positive" actions may not necessarily be protective factors that would stop violence. According to the "cycle of violence", activities expressing effort to maintain family harmony may not necessarily lead to the cessation of violence. They may simply be actions used to compensate the victims for their being abused.

Q4. Some groups, like the single-parent population and parents involved in child sexual abuse, were not addressed in the questionnaire.

Answer:

The single-parent population was considered in the development and validation of the risk assessment tools. The reason for not including the single-parent population in the field test was that it may have induced administration hassle. The single-parent population may present complications such as those related to the accessibility of the ex-partner or spouse, the source of income, definitions of "family", and so on.

The risk assessment tool for child abuse addresses solely the physical abuse against a child. With regard to parents' sexual abuse of their own children, this issue was not addressed in the household survey because it would have been difficult to measure parents' sexual abuse against their children while using the parents as respondents in the survey study. However, it was agreed that this is definitely an issue that needs to be addressed in professional clinical assessment. Another diagnostic assessment is required to carry out accurate measurement.

Q5. The questionnaire only seemed to help workers to understand the background of the family but not to assess the level of risk for violence.

Answer:

The outcome of the risk assessment tools is expressed in terms of probability, which is more objective and concrete than using levels of risk that are usually expressed as low, moderate, and high. The levels of risk are inevitably subjective and crude because there is no clear cut-off between levels and as it would be subject to users' perceptions of what constitutes the levels of risk.

Q6. One subject felt that "cane" should not be grouped with "belt" or "hard object" (in the scale CTSPC) since its harmfulness is quite different from that of the other tools in the group.

Answer:

Whether or not the abusers were using tools to punish children is the focus of that questions. The types of tools used may matter to a certain extent but it should not be considered too much a measure of the severity of punishment.

Q7. Social workers found that some subjects had difficulty comprehending terms like stalking and hugging, as well as difficulty recalling the frequency of violence.

Answer:

The terms related to hugging are used to indicate actions and behaviours that may trigger jealousy in partners. The difficulties observed by workers may be due to the avoidance of body contact in Chinese culture, meaning that subjects would have seldom thought of such behaviour. However, it would not affect the measurement of jealousy, based on these behaviours, as a risk factor.

Stalking behaviours included disruption, molestation and intimidation like repeatedly calling at her home at night, or at the place of work, chasing to victim's parents' home, work place, children's school, and to her new living place, using coarse language and verbal threats etc.

Social workers may help their clients to recall their experiences by asking them about the number of times violence occurred within an interval of time (e.g. did it happen in the last year or six months?).

Q8. The questionnaire for child abuse overemphasized violence. Some questions seem to be quite provocative, like suicidal ideation, and would be disturbing to some subjects.

Answer:

If subjects recognize that the purpose of conducting risk assessment would be useful in providing services, they would be more willing to participate. In the field test, some subjects responded to the questionnaire in a positive manner because they believe it is beneficial for the children in their family, and that it will facilitate them in being self-reflective, allowing them to review their parenting styles as well as the different effects these have on different children.

Asking a subject about his or her suicidal ideation would not be provoking his or her

risk of committing suicide; rather, it may help the subject to realize that the worker is ready and willing to help. Avoiding questions regarding suicide may lead the subject to believe that suicide is a taboo topic and that it should not be mentioned to anyone, even if it is bothering them.

Q9. When is the suitable time to administer a risk assessment tool?

Answer:

Risk assessment should be treated as an on-going process that helps to evaluate the risk posed by the subjects. Life experiences change over time, so the level of risk subjects have will not be static but rather will alter when provoking events occur. Therefore, continual assessment or regular assessment is needed to monitor any changes in the behaviour of subjects.

Victims in shelters are generally quite cooperative and respond to questionnaires even without having built a trusting relationship at the intake period. The questionnaire may also help the worker to build up relationships with the victims.

A social worker shared that if the assessment is carried out in the early part of an interview rather than after the main objective of the interview has been reached, the likelihood of completion could be enhanced and even guaranteed. The social worker can explain to the subject that the risk assessment is an integral part of the interview.

Some social workers shared that they can complete this questionnaire with the subjects when they have a satisfactory working relationship. However, if the subjects, especially perpetrators, are resistant, it may be very difficult to conduct the questionnaire. Social workers should seize every opportunity to interview perpetrators and reveal their risk profile; for example, when abusers are eager to contact the worker in order to locate their wife.

Q10. The subjects, especially the victims, sometimes needed time to calm down as the questions asked them to recall their tragic experiences of abuse. How to handle disturbed emotions while conducting the questionnaire?

Answer:

The worker may need to comfort and counsel clients with disturbed emotions. Just like with normal counselling, workers need to address their clients' disturbed emotions and evaluate if it is alright to continue the assessment or rather to quit and comfort the client.

Q11. Will there be any administrative support to the administration of risk assessment tools?

Answer:

It is important for the department or agency to provide support to workers to administer risk assessment. It includes training, standardized criteria for selecting cases to be assessed, skills in analyzing and interpreting the results, quality checks for the analysis generated, clear outlines for the prioritizing of risk assessment over other daily work of the workers, and administrative support for data entry and analysis.

3.5 Conclusion

3.5.1   The three Risk Assessment Tools were developed and validated with satisfactory psychometric properties. They were field tested with satisfactory results and encouraging feedback. The social workers involving in the field test generally appreciate the functions of the tools which can provide scientific data to facilitate clinical judgment of risk assessment.

3.5.2   In view of the complexity of the tools, in terms of the administration, interpretation and application of the findings in clinical process, systematic training, monitoring and support is highly recommended before widely application of the tools.

Appendix 1: Items of risk factors

Neglect includes leaving child alone in the house, leaving child in hunger, showing limited care when child in sickness, or being unable to take care of child due to drunkenness.

Examples of questions asked:

I have unhappy memories of my childhood	我童年時的回憶，是不快樂的。
My parents helped me with homework (R)	當我還是幼年時，遇到功課上的問題時，父母會幫助我。(R)
My parents did not help me to do my best in school	當我還是幼年時，我的父母沒有幫助我做到最好。
My parents made sure I went to school (R)	當我還是幼年時，我的父母儘力供我讀書。(R)
My parents did not care if I got into trouble in school	當我還是幼年時，我的父母對我在學校所遇到的問題漠不關心。
My parents helped me when I had problems (R)	當我還是幼年時，遇到困難的時候，父母會幫助我。(R)
My parents did not comfort me when I was upset	當我還是幼年時，心情不好的時候，父母不會安慰我。
My parents gave me enough clothes to keep me warm (R)	當我還是幼年時，我的父母給我足夠的衣服保暖。(R)
My parents did not keep me clean	當我還是幼年時，我的父母不關心我的外表是否整潔。

(R) Reverse correlation

Child witnessed parental violence

The extent to which the respondent had witnessed violence demonstrated by either or both parents in childhood. The nature of violence includes psychological aggression, physical assault, or even injury to either or both parents.

Examples of violence acts asked:

a. Threw something at my partner that could hurt	a. 搵野掟對方，而可能會整傷對方
b. Twisted my partner's arm or hair	b. 曾扭對方嘅手臂或扯對方嘅頭髮
c. Pushed or shoved my partner	c. 曾推撞或推開對方
d. Grabbed my partner	d. 曾抓住對方
e. Slapped my partner	e. 曾掌摑對方
f. Used a knife or gun on my partner	f. 曾用刀或利器指向對方
g. Punched or hit my partner with something that could hurt	g. 曾用拳頭或搵野打對方，可能會整傷對方
h. Choked my partner	h. 曾勒住對方嘅頸
i. Slammed my partner against a wall	i. 曾把對方大力撞向牆壁
j. Beat up my partner	j. 曾經毆打對方
k. Burned or scalded my partner on purpose	k. 曾故意燒傷或燙傷對方
l. Kicked my partner	l. 曾經踢對方

Sexual abuse history

Previous experience of sexual assault reported by the respondent. The experiences may include being forced to look at or touched other's sex organ, sex organ being touched or looked at by other in unwilling situation, being forced to have sexual intercourse, or being forced to give in to acts that are now considered to be sexual assaults.

Examples of questions asked:

I have ever been forced to touch someone in a sexual way, or someone has touched me in a sexual way.	有人曾迫我望或摸他/她的私處(性器官)，或他/她強行望或摸我的私處(性器官)。
I have ever been forced to have sex with someone (have sex, anal or oral sex).	有人曾迫我發生性行為(性交、肛交或口交)。
Someone has done other behaviours that are considered as sexual coercion to me, besides the two behaviors described above.	有人曾對我做過除以上兩項，其他現在我認為是性侵犯的行為。

Criminal history

The extent to which the respondent has committed at least one of the following criminal & antisocial acts: involved in child abuse and/or spousal battering dispute, violating civil or criminal laws, criminal record, on probation order or restraining order, violation of protection order, history of reporting police, record of arrest or charge, violence outside the family (use violence or threat against others), violence inside family (nuclear or extended) e.g. in law conflict/violence, elderly abuse etc.

Examples of questions asked:

Have you ever involved in the case of child abuse?	你曾否涉及虐待孩子的個案中?
Has your partner ever involved in the case of child abuse?	你配偶曾否涉及虐待孩子的個案中?
Have you ever involved in the case of spouse battering?	你曾否涉及虐待配偶的個案中?
Has your partner ever involved in the case of spouse battering?	你配偶曾否涉及虐待配偶的個案中?
Have you ever been arrested? (Defendant or criminal record)?	你曾否涉及官非? (被告或留案底)
Has your partner ever been arrested? (Defendant or criminal record)	你配偶曾否涉及官非? (被告或留案底)
I have ever stolen other people's or my family member's money.	我曾偷別人或家人的錢。
I have ever hit or threatened to hit him/her.	我曾經打人或嚇人說要打他/她。

Self-esteem

The extent of worth the respondent sees in himself/herself. This can be expressed by aspects including the number of good qualities the respondent thinks he/she possesses, the things that he/she feels proud of, the level of self satisfaction that he/she has, and whether respondent considers his/her own worth as on the equal basis with others.

Examples of questions asked:

I feel that I am a person of worth, at least on an equal basis with others.	我認為自己是個有價值的人，至少與別人不相上下。
I feel that I have a number of good qualities.	我覺得我有許多優點。
All in all, I am inclined to feel that I am a failure.(R)	總的來說，我傾向於認為自己是一個失敗者。(R)
I am able to do things as well as most other people.	我做事可以做得和大多數人一樣好。
I feel I do not have much to be proud of. (R)	我覺得自己沒有甚麼值得自豪的地方。(R)
I take a positive attitude toward myself.	我對自己持有一種肯定的態度。
On the whole, I am satisfied with myself.	整體而言，我對自己感到滿意。
I wish I could have more respect for myself.	我要是能更看得起自己就好了。(R)
I certainly feel useless at times. (R)	有時我的確感到自己很沒用。(R)
At times I think I am no good at all.	我有時認為自己一無是處。(R)

(R) Reverse correlation

Violence Approval

The extent of which respondent accepts using physical force as a proper way to respond to situations including being hit by others, gaining control over partners in family dispute, disciplining children and punishing children who talk back or being in trouble.

Examples of questions asked:

When a boy is growing up, it's important for him to have a few fist fights	男孩子打架是很正常的。
When a girl is growing up, it's important for her to have a few fist fights	女孩子打架是很正常的。
A boy who is hit by another one should hit back	我認為當男孩子被人打時，他應該還手。
A girl who is hit by another one should hit back	我認為當女孩子被人打時，她應該還手。
I can think of a situation when I would approve of a husband slapping a wife's face	我認為丈夫掌摑妻子是可以接受的。
I can think of a situation when I would approve of a wife slapping a husband's face	我認為妻子掌摑丈夫是可以接受的。
It is sometimes necessary for parents to slap a teen who talks back or is getting into trouble	我認為當孩子駁咀或惹了麻煩時，父母掌摑他/她是可接受的。
It is sometimes necessary to discipline a child with corporal punishment	我認為若要管教孩子，有時體罰是需要的。
A woman who has been raped probably shared the responsibility	一個女性被強姦，她可能亦有責任
A wife should not refuse to have sex with husband.	妻子不應拒絕丈夫做愛的要求。

Anger Management

The extent to which respondent being able to recognize the signs of anger, self-talk and self-soothing to control anger.

Examples of questions asked:

I can calm myself down when I am upset.	當我心煩時，我可以讓自己平靜下來。
There is nothing I can do to control my feelings when my family member hassles me (R)	當我和家人爭辯時，我會無法控制自己的情緒。(R)
I can feel my blood rising when I start to get mad at my family. (R)	當我開始向家人發脾氣時，我會感到心跳加速(R)
When I'm mad at my family, I say what I think without thinking about the consequences. (R)	當我向家人發脾氣時，想到甚麼便說甚麼，從不顧及後果。(R)
When I feel myself getting angry at my family, I try to tell myself to calm down	當我感到開始向家人發脾氣時，我會叫自己冷靜下來。

(R) Reverse correlation

Stressful Conditions

The extent of stress and hassles experienced by the respondent. The sources of stress may originate from external stressors, interpersonal problems, and matters concerning self fulfillment.

Examples of questions asked:

Finding time for meals is hard for me	我忙得無法騰出時間用膳。
My housing is not satisfactory (e.g., too much noise, heating problems, run-down, problems with neighbors)	我的居住環境並不理想（例如嘈吵、熱、殘舊或與鄰居相處有問題等）。
My friends pressure me to do things I don't want to do	朋友逼我做一些我不想做的事。
People at work or school don't get along with me	我和同事或同學相處得不好。
My partner often nags me	我的配偶經常囉唆我。
People often interrupt me when I'm trying to get things done	當我要完成一件事情時，總是被別人擾亂。
I don't have enough money for my daily needs	我的收入不足夠應付日常開支
I don't like my work or classes	我不喜歡自己的工作或學習。
This is a very stressful time for me.	近期我感到壓力很大。
At times I feel out of control, like I'm losing it.	有時我感到無助及無能為力。

The extent of the respondent's acquisitive face orientation based on the intention to pursue recognition from others on his/her strengths and success, and to seek people's attention or even admiration to achieve the status of being a celebrity of respectable person.

Examples of questions asked:

Strengths be presented to others	自己的長處應該儘量表達出來讓人知道
Happy with people's attention/admiration	在社交場合,別人注意我甚至羨慕我,能令我覺得愉快
Like grand houses/offices/cars	我喜歡氣派的住房、辦公室、車子等
Success known to people	自己的成功還要讓別人知道才更有意思
Be the person who is admired by others	我喜歡在社交場合中成為眾人注意、羨慕的焦點
To be a celebrity	成為社會名流對我來講是一種值得追求的成就
Being supported and respected	我希望成為大家擁護的人物
Honor family and ancestors	我希望出人頭地,光宗耀祖
Admire prestigious/powerful/high status people	我羨慕在社會上有名望、權勢、或地位的人
Seize opportunity to be a leader	我通常願意去爭取成為團體的領導人物或上層人物

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Social desirability

The degree to which a respondent will tend to avoid admitting undesirable behavior, such as partner assault and other forms of crime. The scale is intended to measure things that are slightly undesirable but true of everyone. The higher the social desirability score the less likely the respondent is to disclose undesirable information on the self-report survey. A high score indicates that the respondent is more likely to deny socially undesirable behavior.

Examples of questions asked:

I sometimes try to get even rather than forgive and forget (R)	我有時會企圖報復，而不會原諒或忘記。(R)
There have been occasions when I took advantage of someone (R)	有時我會佔人家的便宜。(R)
There have been times when I was quite jealous of the good fortune of others (R)	有時我會妒忌其他人的幸運。(R)
I sometimes feel resentful when I don't get my way (R)	當我事事不如意時，便會感到憤怒。(R)
I am sometimes irritated by people who ask favors of me (R)	若有人請求我幫忙，我會感到厭煩。(R)
There have been times when I have felt like rebelling against people in authority even though I knew they were right (R)	我曾經想挑戰某些權威人士，即使心裡知道他/她們是對的。(R)
I have never deliberately said something that hurt someone's feelings	我從未故意說些傷害別人的說話。
No matter who I am talking to I am always a good listener	無論與誰交談，我總是個好的聆聽者。
On a few occasions, I have given up doing something because I have thought too little of my ability(R)	有些情況下，我認為自己能力不足，而放棄了做一些事情。(R)
I have never been irked when people expressed ideas very different from my own	若有人提出的意見跟我的非常不同，我從不會感到厭煩。
It is sometimes hard for me to go on with my work if I am not encouraged (R)	若沒有人鼓勵我，有時我會覺得無法堅持自己的工作。(R)
I am always courteous, even to people who are disagreeable	我總是以禮待人，即使對方與我合不來。
I'm always willing to admit it when I make a mistake	我總是願意承認自己的錯誤。

(R) Reverse correlation

Jealousy

Extreme concern about the possible sexual and social exclusiveness of partner

Examples of questions asked:

I would hate it if my partner confided in someone besides me	若我的配偶只向別人傾吐內心秘密，我會覺得很不滿。
I would hate it if my partner paid a lot of attention to someone besides me	若我的配偶非常留心或關心某些人時，我會感到不高興。
I would hate it if someone else paid a lot of attention to my partner	若其他人特別注意或關心我的配偶時，我會感到不高興。
I'd feel jealous if my partner were helpful to someone of the same sex as me	若我的配偶積極幫助另一位與我同性別的人士，我會感到嫉妒。
I would be mad if my partner flirted with someone else	若我的配偶與其他人打情罵俏，我會發怒。
I would be upset if someone hugged my partner a little too long	若其他人擁抱我的配偶太久，我會很不高興。
I would be upset if my partner hugged someone a little too long	若我的配偶擁抱某些人太久，我會很不高興。
I would feel betrayed if my partner was too busy to spend time with me	若我的配偶太忙沒時間陪我，我會有被遺棄的感覺。

Negative Attribution

The extent of which the respondent blames partner when things go wrong. The respondent holds partner responsible for the irritation and annoyance demonstrated in dispute, and suspects partner may has intention other than showing love and care when being treated nicely.

Examples of questions asked:

It is usually my partner's fault when I get mad	當我發嬲時，通常都是我的配偶犯錯。
My partner does things just to annoy me	我的配偶會做些煩擾我的事。
My partner likes to make me mad	我的配偶喜歡刺激我。
When my partner is nice to me I wonder what my partner wants	當我的配偶對我獻殷勤時，我會想他/她究竟有甚麼企圖。

Shifting responsibility

The extent of which the respondent believes victim shares part of the responsibility for the violence.

Examples of questions asked:

Wife being abuse, both partners should share responsibility	妻子被丈夫打，雙方都有責任。或 配偶之間出現暴力，雙方都有責任。

Domination

The extent of control possessed by the respondent over partner in the hierarchical relationship.

Examples of questions asked:

Sometimes I have to remind my partner of who's boss	有時我會提醒配偶應該聽從我的。
I generally have the final say when my partner and I disagree	我和我的配偶意見分歧時，通常我都有話事權。
My partner needs to remember that I am in charge	我的配偶需要緊記我才是作主的。
My partner is basically a bad person	我的配偶性格惡劣。
People usually don't like my partner	別人大多不喜歡我的配偶。
My partner doesn't have enough sense to make important decisions	我的配偶缺乏足夠的智慧去作出重要的決定。
I have a right to know everything my partner does	我有權知道配偶所做的一切。
I insist on knowing where my partner is at all times	我要每時每刻知道我的配偶身在何處。
I have a right to be involved with anything my partner does	我有權介入我的配偶所做的任何事。

Relationship Distress

The areas of dissatisfaction with the relationship the respondent has, which can be characterized by high conflict and few positive interactions.

Examples of questions asked:

I and my partner did not get along well	我和配偶相處得不好。
My partner treats me well. (R)	我的配偶對我很好。(R)
My partner and I have a very good relationship. (R)	我和我的配偶的感情很好。(R)
My sex life with my partner is good. (R)	我與配偶有很好的性生活。(R)
I have a good social life with my partner. (R)	我與配偶有很好的社交生活。(R)
My relationship with my partner is worth the effort I put into it. (R)	為了與配偶的關係，我會付出努力。(R)
I have thought seriously about ending my relationship with my partner	我曾經很認真地考慮過與我的配偶分手。
There are more bad things than good things in my relationship with my partner	在我和配偶的關係中，不好的事情比好的事情多。
Uncontrolled anger can be a problem in my family	我的脾氣不受控，引至家庭問題。

(R) Reverse correlation

Social support

The extent of which the respondent feels being isolated in life and having no one to offer help when he/she is in need.

Examples of questions asked:

I only have a few friends / family to help with the baby (my children) (R)	我只有少數親友，可以幫忙照顧我的孩子。(R)
I feel very isolated. (R)	我感到非常孤獨。(R)
Someone I'm close to makes me feel confident in myself.	有些我熟絡的人，會鼓勵我。
There is someone I can talk to openly about anything.	我有傾訴的對象，令我暢所欲言。
There is someone I can talk to about problems in my relationship.	我有傾訴的對象，去傾訴與配偶之間的問題。
I have someone to borrow money from in an emergency.	在急需時，有人會借錢給我。
I have someone to take care of my child / children for several hours if needed.	如果有需要，有人能幫忙照顧我的孩子幾個小時。
I have someone who helps me around the house.	有人幫我打理家務。
I have someone I can count on in times of need.	如果有需要，我有可以依靠的人。

(R) Reverse correlation

Extended Family Influence

The extent of which the respondent being aware of the influence of extended family member(s) on everyday life.

Examples of questions asked:

There is an extended family member who attempts to compel me to accept his/her opinions.	有一位家族成員(例如姻親或親戚)嘗試強制我的家庭接納他/她的意見。
There is an extended family member who disturbs my family life.	有一位家族成員干擾我的家庭生活。
There is an extended family member who criticises the ways I take care of my children.	有一位家族成員批評我照顧孩子的方式。
The extended family members often mention about my family affairs.	家族的成員經常講及我的家事。

In-law conflict

The respondent's experience of in-law conflict including argument or fighting and the number of incidents.

Suicidal ideation

The extent of which the respondent has thought of committing suicide.

Examples of questions asked when the respondent reported having suicidal thought:

Have you thought about committing suicide in the past year?	在過去一年內，你曾否想過自殺?
Do you think your family members would be happier if you die?	你曾否覺得如果你死了，你的家人或朋友會過得開心些。
Have thought about the method of committing suicide?	曾經想過自殺的方法。
Have thought about bringing family together in committing suicide	曾經想過如果自殺，就會帶埋家人一齊去。
Worry about family member if you die	擔心如果自殺，家人無人照顧。

Substance abuse

Excessive use of alcohol or other mine-altering drugs

Examples of questions asked:

I sometimes drink enough to feel really high or drunk	有時我會喝很多酒，使自己情緒高漲甚至醉倒。
I always got drunk	我經常喝醉酒
Sometimes I can't remember what happened the night before because of drinking	有時酒醒後，我無法想起醉酒時發生的事。
In the past, I used coke, crack, or harder drugs (like uppers, heroin, or opiates) more than once or twice	我曾服用可卡因、海洛英或鴉片等硬性毒品。
I worry that I have a drug problem	我擔心自己有藥物濫用問題。
I have overdosed on drugs or had a severe health problem because of taking drugs to high	我曾經為獲得興奮的感覺而服藥過量，並造成嚴重健康問題。
I have been treated for a drug problem	我曾經因為藥物濫用而接受治療。

Depressive symptoms

The extent of disturbances in mood and dysphoric cognitions a respondent is suffering. This can be measured by the positive and negative feelings respondent has about life.

Examples of questions asked:

I usually wake up feeling pretty good (R)	我起床時通常感到心情愉快。(R)
I sometimes wonder why I bother to go on living	有時候，我感到生命是沒有意義的。
I am generally in a good mood (R)	我常常覺得心情愉快。(R)
I think good things will happen to me in the future (R)	我相信將來會有好事發生在我身上。(R)
I feel sad quite often	我經常感到傷感。
My life is generally going well (R)	我的生活過得不錯。(R)
I enjoy my day-to-day life (R)	我很享受每天的生活。(R)
I have thought about killing myself	我曾經想過自殺。

(R) Reverse correlation

Appendix 2: Information sheet and consent form

<div align="center">

受 訪 者 須 知 及 同 意 書

</div>

研 究 題 目

探 究 時 下 家 庭 處 理 衝 突 的 情 況

概 要

我 們 誠 邀 你 參 加 這 項 由 社 會 福 利 署 委 託 香 港 大 學 主 辦 有 關 探 究 處 理 家 庭 衝 突 的 情 況 的 研 究 。 本 研 究 的 結 果 可 提 供 一 些 寶 貴 資 料 ， 以 助 我 們 評 估 家 庭 衝 突 的 潛 在 危 機 。

研 究 過 程

如 果 你 同 意 參 加 本 計 劃 ， 你 會 被 邀 請 完 成 一 份 個 人 資 料 的 問 卷 及 一 份 有 關 處 理 衝 突 的 問 卷 (大 約 1 5 - 30 分 鐘)。

研 究 的 益 處

由 於 一 般 人 對 香 港 家 庭 衝 突 的 潛 在 危 機 了 解 並 不 多 ， 你 所 提 供 的 資 料 將 可 幫 助 有 關 方 面 的 專 業 人 士 探 討 問 題 的 性 質 ， 以 及 了 解 應 提 供 那 類 支 援 服 務 。

保 密 性 及 參 加 者 的 權 利

社 工 會 確 保 你 給 予 我 們 的 所 有 資 料 受 嚴 格 保 密 。 研 究 結 果 可 用 於 發 表 報 告 ， 你 的 名 字 將 被 保 密 。 是 否 參 加 這 項 研 究 完 全 是 自 願 性 質 。 在 同 意 參 加 本 研 究 後 ， 如 你 希 望 改 變 主 意 ， 你 可 自 由 地 退 出 而 不 需 要 提 供 任 何 理 由 。 這 不 會 影 響 到 你 所 接 受 的 服 務 。

探究時下家庭處理衝突的情況

同 意 書

社工已向我詳細解釋本研究計劃之目的，我明白此項研究旨在探究處理家庭衝突的情況。

如果我參加此計劃，我會被邀請完成一份個人資料的問卷及一份有關處理衝突的問卷(大約 1 5 - 30 分鐘)。

我明白我有權利可隨時退出此計劃而不會對我所接受的服務造成不利影響。我亦明白我所提供的所有資料僅能用於此研究計劃而不會用於任何其他研究。

我有權對此項研究提出任何疑問。我同意參加此研究計劃。

參加者簽署: _____　日期: _____

參加者姓名　: _____

社工簽署:_____　日期 : _____

社工姓名　:_____

服務單位　: _____　服務機構: _____

Appendix 3: Screening questions

Form A for perpetrator of spouse battering

1. 在過去一年，你是否曾打、掌摑、腳踢配偶/前配偶(已婚或同居)？

                                                [1] 是 ☐   [2] 否 ☐

2. 在過去一年，你是否曾強迫配偶/前配偶(已婚或同居)進行性行為？

                                                [1] 是 ☐   [2] 否☐

Note:

For cases reporting [Yes] in either one of the two items, they are eligible to be the subjects recruited in FCPSUs and refuge centre for women.

For cases reporting [No] in both items, they are eligible to be the subjects recruited in IFSCs/ISCs.

Form B for victim of spouse battering

1. 在過去一年，你是否曾被配偶/前配偶(已婚或同居) 打、掌摑、腳踢或傷害身體？

                                                [1] 是 ☐   [2] 否 ☐

2. 在過去一年，你是否曾被配偶/前配偶(已婚或同居)強迫進行性行為？

                                                [1] 是 ☐   [2] 否☐

Note:

For cases reporting [Yes] in either one of the two items, they are eligible to be the subjects recruited in FCPSUs and refuge centre for women.

For cases reporting [No] in both items, they are eligible to be the subjects recruited in IFSCs/ISCs.

Form C for perpetrator of child abuse

在過去一年，你是否曾打、掌摑、腳踢子女？   [1] 是 ☐   [2] 否 ☐

Note:

For cases reporting [Yes], they are eligible to be the subjects recruited in FCPSUs and refuge centre for women.

For cases reporting [No], they are eligible to be the subjects recruited in IFSCs/ISCs.

Appendix 4: Feedback form (for social workers)

1. How long did it take to complete the questionnaire (in minutes)?

	甲問卷	乙問卷	丙問卷
QA			
QB			
QC			

2. Did the subject give any feedback after the completion of the questionnaire?

3. Please provide any feedback about the administration of the risk assessment tool.

4. Please provide any feedback about the administration of the questionnaire in general.

To be filled by social worker:

Code of the subject: _____

Name of social worker: _____   Contact no.: _____

Date: _____