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RISK MARKERS OF INTIMATE ASSAULTERS ON DANGER ASSESSMENT (DA) INSTRUMENT --- TOWARD A CROSS-CULTURAL UNDERSTANDING FROM TAIWAN SAMPLES

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RISK MARKERS OF INTIMATE ASSAULTERS ON DANGER ASSESSMENT (DA) INSTRUMENT --- TOWARD A CROSS-CULTURAL UNDERSTANDING FROM TAIWAN SAMPLES

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ABSTRACT

RISK MARKERS OF INTIMATE ASSAULTERS ON DANGER ASSESSMENT (DA) INSTRUMENT
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Taiwan passed the Domestic Violence Prevention Law in 1998 and implemented it in 1999. The main purpose of this law is to prevent intimate abuse. Taiwan has not designed a risk assessment tool yet. This research used the most famous risk assessment tool in the U.S., the Danger Assessment (DA). It was completed by female victims in Taiwan, to assess the severity risk markers of intimate abuse among a Taiwan sample. The physical violence part of the Conflict Tactics Scale (Brief CTS) was used to assess the amount of intimate violence behaviors. For ethical reasons, this study did not contact the abusers. The author sampled the reporting and willing victims in Domestic Violence Centers in two local areas in Taiwan during a 4-week period, and requested the social workers in the two Centers help victims to fill out the DA, the Brief CTS, and the Victim Questionnaire. Multiple regression analysis was used to test whether all of the items in the DA and the other risk markers in the Victim Questionnaire to identify predictors of

the severity of intimate assault in Taiwan. Brief CTS scores were used as dependent variables. It was found that the DA scores in this study were in a normal distribution, whereas the Brief CTS scores were in poisson distribution. By using poisson regression, it was found the DA could explain 29.26% of total variance in the amount of violence in the Brief CTS. In the predictive accuracy test for predicting the appearance of lethal violence, the area under the ROC curve of the DA was .753, which was a moderate and satisfactory accuracy, and the area under the ROC curve of the Brief CTS was .718, which was a lower moderate and still satisfactory accuracy. A cluster analysis found that the 4 clusters of intimate assaulters could be identified in Taiwan sample. They were termed: (1) "low-violent assaulter", (2) "medium-violent, and low-controlling assaulters", (3) "high-violent, high-lethal, and alcoholic assaulters", and (4) "high-violence, high controlling assaulters". Based on the findings of this study, it was proposed that "pathological behavior appearance theory" would help better understand the behavior patterns of different types of male intimate assaulters in Taiwan.

In Memory of My Parents

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1 INTRODUCTION

Statement of the Problem

According to the Women Life Situation Survey at Taiwan Province in 1992, about 17.8% of married women had been physically abused in Taiwan. Among them, about 0.2% responded that they could not tolerate it any more, whereas 16.4% responded it happened once in a while, and 1.2% responded it happened frequently (Department of Social Affair, Taiwan Province Government, 1991). This did reveal a very serious phenomenon among Taiwan married women. The spousal assaults identified by American studies show that abuse could seriously hurt both the physical and psychological health of women (Walker, 1984; Campbell, 1995), and even influence the mental health of the children raised in these abusive environments (Hotaling & Sugarman, 1986). In 1993, a Taiwanese woman who was repeatedly battered, Ms. Deng, killed her husband while he was asleep. Ms Deng was sentenced to 3 years in prison for the murder (Chou, 1995). However, this case caused heated discussions in Taiwan, and finally caused the Legislative Yuan (the Taiwan Congress) to pass the Domestic Violence Prevention Law indirectly in 1998. The main purpose of this law is to prevent intimate abuse, even

though it defines domestic violence as violence between any family members. Taiwan just began implementing this law as late as 1999, and there are many related prevention programs still being designed, such as the abusers' treatment program and risk assessment tools. Already established are civil protection order procedures, the abused women's 24-hour hotline, and local domestic violence prevention centers.

Taiwan has not designed a risk assessment tool yet. It may be appropriate to introduce some well-developed foreign risk assessment tools to Taiwan, reassess their validity specifically among the Taiwan sample, and then adjust them for Taiwan use. However, using foreign risk assessment tools would present some challenges because of the cultural differences between the culture of origin for these tools and the Taiwanese culture.

Anthropological and cross-cultural studies have shown that even though spousal assault is common around the world, there are still variations in its definition, acceptance, frequency, characteristics, and causes across different societies (Campbell, 1999). Therefore, exploring the cultural difference of the risk markers of intimate assault between America and Taiwan would be very important, especially if Taiwan wants to introduce the American risk assessment scale in Taiwan.

Purpose of This Study

The purpose of this study was to see if the Danger Assessment (DA) scale can be used to accurately predict the lethality of intimate assault cases in Taiwan. This study would be helpful in developing a risk assessment tool for Taiwan.

According to Campbell, there are two different types of risk assessment for intimate violence, recidivism risk assessment and lethality risk assessment. Recidivism risk assessment is the risk assessment for predicting the future recidivism rate, and lethality risk assessment is the risk assessment for predicting the severity of future assault or the so-called lethality (personal communication, March 24, 2000). Originally, the Danger Assessment scale was designed as the risk assessment for lethality in intimate assault. Moreover, the DA can be also used as the risk assessment for predicting future recidivism (Goodman, Dutton, & Bennett, 2000).

Assessing lethality of intimate assault is an extremely important issue, because the social service agencies and the police department need to intervene in the intimate assault cases and assure that the female victims' lives are protected. Therefore, this study would only focus on assessing the lethality risk for intimate assaulters in Taiwan.

Definition of the Terms

Intimate assaulters in this study was defined as a male using any intentional act or series of acts that was or were physical violence toward his intimate partner.

Risk markers of intimate abuse are the correlational factors associated with the risk of men who act violently against their female intimate partners (Aldarondo & Sugarman, 1996). It is noted here that the risk markers may not be the causal factors of intimate abuse.

Lethality risk in this study was defined as the risk that the male intimate assaulters used lethal violence toward their female intimate partners.

Study Questions in this Research

As mentioned earlier, assessing the lethality of intimate assault is an extremely important issue while the government intervenes in intimate assault cases and protects the victims' lives. This study would focus on developing a lethality risk assessment, which could be used in Taiwan in the future. This research would try to use the Danger Assessment (DA), the most famous risk assessment tool in America, in Taiwan areas and assess its performance for the Taiwan sample. Therefore, the study questions of this research would be: how accurate the DA is in assessing the lethality of Taiwan intimate assault cases and are there any other risk markers based on the cultural difference that can

be found in this research. Moreover, since it was previously found that inmate assaulters are not a homogeneous group and typologies have been developed (Holtzworth-Munroe & Stuart, 1994), it would be worthwhile to learn whether the different types of Taiwan intimate assaulters as well as their lethality risk could be identified in this study

CHAPTER 2 LITERATURE REVIEW

The Prevalence of Intimate Violence in the U.S. and Taiwan

The U.S. According to two landmark studies regarding family violence in the U.S., done by the Family Research Laboratory at the University of New Hampshire, the National Family Violence Survey of 1975 (using CTS Form A) and the National Family Violence Resurvey of 1985 (using CTS Form R), it was found that for the husband-to-wife violence in 1975 general violence happened among 121 couples and severe violence happen among 38 couples per 1000 couples, whereas in 1985 general violence happened among 113 couples and severe violence happened among 30 couples per 1000 couples (Straus & Gelles, 1986). The general violence in the CTS included threw, push, grab, shove, and slap, whereas the severe violence included kick, bit, hit, with fist or something, beat-up, choke, threatening with a knife or gun, and using knife or firing a gun.

Taiwan. Two official surveys for women's life were done by the Social Affair Department, Taiwan Province Government (1990, 1992) (not including Taipei City and Kaohsiung City) in 1990 and 1992, and the sample sizes were 2000 and 1800, respectively. It was found that in 1990 when married women were asked whether been

abused or not, 11.5% responded "once in a while", 0.9% responded "usually", and 0.1% responded "it was intolerable". Overall 12.5% of married women responded that they were abused by their husbands. The 1992 Survey found that 16.4%, 1.2%, and 0.2%, respectively, and overall, 17.8% of married women responded that they were abused by their husbands. It is noted that these two surveys in Taiwan did not use the CTS, so it could not be compared between Taiwan and the U.S. (Table 1).

Table 1 The Prevalence of Intimate Violence in the U.S. and Taiwan

U.S.		Taiwan	
1975	1985	1990	1992
N= 2143	N=3520	N= 2000	N= 1800
• General violence 12.1%	• General violence 11.3%	• Once in a while 11.5%	• Once in a while 16.4%
• Severe violence 0.38%	• Severe violence 3.0%	• Usually 0. 9%	• Usually 0. 2%
		• Almost intolerable 0.1%	• Almost intolerable 0.2%
Total 15.9%	Total 14.3%	Total 12.5%	Total 17.8%

Note. The U.S. data was from National Family Violence Survey of 1975 and National Family Violence Resurvey of 1985 (see Straus & Gelles, 1986). Taiwan data was from Taiwan Province Government (1990, 1992)

Risk Markers of Intimate Assault in Previous Studies

By sampling the battered women with and without homicidal behavior toward their male partners (sample sizes were 42 and 205, respectively), Browne (1984) concluded that an apparent relationship does not exist between lethality and a number of factors

common in battering relationship. When statistically comparing domestic violence homicide and abuse-only cases, Browne found a number of factors that distinguished these two subject populations: (1) frequency of violent incidents; (2) severity of injuries; (3) man's threats to kill; (4) woman's suicide threats; (5) man's drug use; (6) man's frequency of intoxication; (7) forced/threatened sexual acts.

Hotaling and Sugarman (1986) evaluated 97 potential risk marker of husband to wife violence by reviewing 52 case-comparison studies. They divided all of the risk markers into four categories: consistent risk (over 70% of studies support it), inconsistent risk (31% to 69% of studies support it), consistent non-risk (less than 30% of studies support it), and risk markers with insufficient data support (less than 3 studies support it). The risk markers were also classified into three dimensions: wife characteristics, husband characteristics, and couple characteristics. It was found as the following.

(1) Wife characteristics: (a) consistent risk marker: Only one was found—witnessing violence as a child or adolescent (73% of studies); (b) inconsistent risk marker: experiencing violence as a child or adolescent (69% of studies), drug abuse (60% of studies), low self-esteem (60%), low education level (54%), traditional sex role expectation (50%), young age (42%), race (38%), low assertiveness (33%), low personality integration (33%). (c) consistent non-risk markers: housewife status

(25%), alcohol usage (17%), and income (0%).

(2) Husband characteristics: (a) consistent risk markers: There were eight identified. They were sexually aggressive toward wife/partner (100%), violence toward their children (100%), witnessing violence as a child or adolescent (88%), occupational status (80%), alcohol usage (78%), low income (75%), low assertiveness (75%), and low educational level (73%); (b) inconsistent risk markers: experiencing violence as a child or adolescent (69%), unemployment (66%), criminal record (67%), self-esteem (60%), age (44%), and need for power (33%); (c) consistent non-risk marker: traditional sex-role expectation (25%).

(3) Couple characteristics: (a) consistent risk markers: There were five been identified. They were verbal argument frequency (100%), religion incompatibility (100%), low marital satisfaction (83%), marital status (83%), and family income/social class (78%); (b) inconsistent risk markers: educational incompatibility (67%), occupational incompatibility (67%), and length of relationship (40%); (c) consistent non-risk marker: decision-making power (25%) and number of children (14%).

Aldarondo and Sugarman (1996) evaluated the utility of specific risk markers of wife assault in understanding the cessation and persistence of violence against women over a 3-year period. Longitudinal data were used to identify violent men who ceased the

violence for 2 years and violent men who persisted in using violence, whereas a group of nonviolent men was used for comparison. Factor analysis indicate that marital conflict, socioeconomic status (SES), and witnessing violence in the family of origin were the most powerful discriminators of these groups. It was also found that high levels of marital conflict and low SES were associated not only with the occurrence of violence but also with the continuity of wife assault over time.

McFarlane, Parker, and Soeken (1995) did a stratified and prospective cohort study in urban public health prenatal clinics to determine the frequency, severity, and perpetrator of abuse during pregnancy as well as the occurrence of risk factors of homicide. All women subjects were administered the CTS, the DA, and the Index of Spouse Assault. The result showed the prevalence of physical abuse during pregnancy was 16%, almost one in every six women. In addition, they found women abused during pregnancy had significantly higher scores on all instruments and more risk factors of homicide when compared with women abused prior to but not during pregnancy. Therefore, they contended that abusing women during pregnancy is a significant risk marker for the amount of violence as well as the lethality.

In McFarlane, Campbell, Wilt, Sachs, Ulrich, and Xu (1999), one hundred forty-one femicide and 65 attempted femicide incidents were evaluated. They found a

statistically significant association existed between intimate partner physical assault and stalking of femicide victims as well as attempted femicide victims. Stalking is revealed to be correlated to lethal and near lethal violence against women and, coupled with physical assault, is significantly associated with murder and attempted murder. McFarlane et al highly suggested that stalking must be considered a risk marker for both femicide and attempted femicide.

Weisz, Tolman, and Saunders' (2000) findings were from a secondary data analysis comparing the accuracy of 177 battered women's predictions of whether they would be assaulted again to risk factors supported by previous studies. These battered women's predictions were associated with recurrence of severe violence in a bivariate analysis. These predictions also added significantly to the accuracy of established risk factors in two multivariate equations predicting severe reassault within a 4-month period. The results also showed that even though not all of the battered women made accurate predictions, this study supported that the use of battered women's predictions about the possibility of being re-abused in the future should be included in risk prediction.

Introduction of the DA and the CTS

The Danger Assessment (DA). The DA was developed by Jacquelyn Campbell,

a resident nurse and a nursing professor at the John Hopkins University. The DA was originally developed in 1984, and revised in 1995. There are 15 items that have to be responded from the victims. They are increased frequency of physical violence, increased severity of physical violence, occurrence of choking, presence of firearms, occurrence of forced intercourse, drugs usage, threatening to kill victim or victim's perception of capability to kill, drinking, controlling daily behavior of victims, physical assault while pregnant, violent jealousy, suicidal behavior or attempt of both parties, violence toward children, and violence outside the house (see Appendix 1). Campbell (1995) mentioned that in five studies the means of the DA have ranged from 5.5 to 8.7 in the sample of abused women (the presence of each item would be assigned a score of 1, and the absence would be 0.). Even thought the DA did not provide the formal cutoff point to decide whether the batterer is dangerous and may commit a homicide, Campbell mentioned that ten would be a good cutoff point for this purpose (Campbell, 2000). The reliability and validity of the DA would be discussed in the latter session.

Previous research on the 15 items of the DA were organized as the following. Regarding increased frequency of battering, men who have demonstrated assaultive behavior in either past or current intimate relationships are at risk for future violence (Fagan, Steward, & Hansen, 1983; Sonkin, 1987). It is also found that a pattern of recent

escalation in the frequency or severity of intimate assault is associated with imminent risk for violent recidivism (Hart, 1992; Sonkin,1987; and Stuart & Campbell, 1989).

Regarding increased severity of battering, it is found that a pattern of recent escalation of in the frequency or severity of intimate assault is associated with imminent risk for violent recidivism (Hart, 1992; Sonkin,1987; and Stuart & Campbell, 1989).

Presence of choking behavior was not be included in the DA until 1995. Choking is a behavior that obviously can result in victims' death. According to Campbell (2000), when compared attempted femicide and non-femicide intimate assault cases, it was found that the two groups did reach significant difference in this item (see Table 2).

Guns are the weapons used in the majority (64%) of homicides between family members in America (Rosenberg & Mercy, 1985). Their easy accessibility in this country has been linked with the high rates of homicide in the U.S. while compared with other countries. Rosenberg and Mercy (1985) further suggested that limiting the availability and access of guns to the population-at-large or certain high risk subsets is most likely to reduce killings among spouses and young men. However, as the author would mention in a cross-culture comparison session, since Taiwan is a firearm-control country and very few people can be allowed to own firearms, it may not be appropriate to use this item as a risk marker.

Table 2 Danger Experienced by Attempted Femicide and Partner Abuse Controls by DA

	Attempted	Control
1. physical violence increased in frequency	56%*	24%
2. physical violence increased in severity	62%*	18%
3. partner tried to choke victim	50%*	10%
4. a gun is presence in the house	34%*	16%
5. partner forced victim to have sex	39%*	12%
6. partner used street drugs	55%*	23%
7(1). Partner threatened to kill victim	57%*	14%
7(2). Victim believes partner is capable of killing her	54%*	24%
8. partner is drunk every day	42%*	12%
9. partner controls all victim's activities	60%*	32%
10. partner beat victim while pregnant	62%*	7.7%
11. partner is violently jealous of victim (says things" if I can't have you, no one can.")	79%*	32%
12. victim threatened/tried to commit suicide	7%	9%
13. partner threatened/tried to commit suicide	39%*	19%
14. partner is violent toward victim's children	7%	3%
15. partner is violent outside house	39%	37%

Note. * p<.05. From Campbell (2000) "*Issues in risk assessment in the field of intimate partner violence*" Paper presented at the meeting of 5th Annual BISC-MI (Batterer Intervention Services Coalition of Michigan) conference. Copyright 2000 by Campbell. Reprint by permission. Online available www.son.jhmi.edu/research/CNR/Homicide/main.htm

Regarding presence of forced sex, Campbell found that 59.5% of battered women had been repeatedly sexually abused in the relationship and an additional 13.9% had been raped by the batterer once. Typological studies showed that the most severe patterns involve sexual assault and extreme sexual jealousy (Gondolf, 1988; Snyder & Fruchtman, 1981).

Substance abuse is related to criminality and recidivism in general (e.g. Harris, Rice, & Quinsey, 1993; Monahan, 1981). Offenders with a history of family violence are

more likely than those with no such history to misuse substance as Dutton and Hart (1992) and Tolman and Bennett (1990) found. However, Campbell (1986) mentioned the use of marijuana is not considered a risk factor because of the lack of association of using this drug with violence in the literature.

In respect to presence of threatening to kill or victim's believing that batterer is capable of killing her, Campbell (1986) mentioned that based on her clinical and research experience, battered women are often the best judges of the abuser's potential for committing lethal violence, even though a minority of them may misjudge. According to Campbell (2000), this item did reach significant difference as shown in Table 1.

The relationship between alcohol usage and battering has been disputed in the literature. However, Hotaling and Sugarman (1986) found that 7 of 9 (78%) studies supported that alcohol usage is significantly associated with battering.

Regarding the presence of controlling most or all of victim's daily activities, the male batterers may use the various ways to control their inmate partners to ensure that they are all being kept in line. The ways may include how much money they can spend, when should they need to come home from working place, and how much mileage they regular drive from working place to home etc. Campbell (1986) included the controlling in the same category with jealousy. Both of them may be very similar in nature.

According to Campbell (2000), while compared attempt femicide and non-femicide intimate assault cases, it was found that the two groups did not reach significant difference in this item as shown in Table 2.

Concerning Battering during pregnancy, Hilberman and Munson (1977) and Walker (1979) found that the abuse may begin during pregnancy or increase during the prenatal period. Fagan, Steward, and Hansen (1983) reported that abuse during pregnancy was a strong predictor of both severity of injury to the women from abuse and extradomestic violence on the part of batterer. Furthermore, as mentioned earlier, McFarlane, Parker, and Soeken (1995) found that women abused during pregnancy had significantly higher scores on amount of violence in the CTS and more risk factors of homicide in the DA, when compared with women abused prior to but not during pregnancy. The possible reasons for including this item as a risk marker are the batterer might be suspicious that the fetus is not his, or this assault is very dangerous to pregnant women's bodies by nature (Campbell, personal communication, March 24, 2000).

Regarding to presence of violent and constant jealousy, Campbell (1981) found that male jealousy and male dominance were the reasons for homicide in 82.2% of the killing of women by men with who they had an intimate relationship. Berk, Berk, and Loseke (1983) also found that some evidence to support the contention that male dominance

increases the severity of violence.

In respect to presence of victim's threatening or trying to commit suicide, it was estimated that 10% of battered women attempt to commit suicide and that approximately 26% of suicidal women seen in hospitals were also battered (Stark & Flitcraft, 1985). Even though that correlation exists, the connection between wife battering and attempted or actual suicide was not been specifically explored by research (Campbell, 1986). According to Campbell (2000), while comparing attempted femicide and non-femicide intimate assault cases, it was found that the two groups could not reach significant difference in this item. Still, it may be worthy to trying this item in the Taiwan sample.

Regarding presence of abuser's threatening or trying to commit suicide, Campbell (2000) found that while comparing attempted femicide and non-femicide intimate assault cases, it was found that the two groups did reach significant difference in this item (39% versus 19%).

Regarding presence of abusing child, Monahan (1981) found that the offenders with a history of violence are much more like to engage in future violence than those who do not have such history. It is also found that intimate assaulters with a history of physical or sexual assault against family members are at increased risk for violent recidivism (Gondolf, 1988; Hotaling and Sugarman, 1986). According to Campbell (2000), while

comparing attempted femicide and non-femicide intimate assault cases, it was found that the two groups could not reach significant difference in this item. Still, it may be worthy to trying this item in the Taiwan sample.

Presence of violence outside the home did not exist in the earlier version of the DA in 1986, but it was added to the 1995 version. Batterers with a history of violence have an increased risk for intimate assault, even if the past violence was not toward their intimate partner or other family members. Researchers and clinicians found that the so-called "generalized violence people", those who are violent both inside and outside of their homes, engage in more frequent and more severe intimate assault than do other intimate assaulters (Cadsky & Crawford, 1988; Fagan et al, 1983; Gondolf, 1988; Stuart & Campbell, 1989). According to Campbell (2000), while comparing attempt femicide and non-femicide intimate assault cases, it was found that the two groups could not reach significant difference in this item. Still, it may be worthy of trying this item in the Taiwan sample.

The Conflict Tactics Scale (CTS). The Conflict Tactics Scale (CTS), developed by Staus in 1974, is the most widely used measurement of physical violence among cohabiting family members, including the violence between intimate partners, couples,

parents-children, or siblings. The CTS is comprised of 19 items that assess tactics used in interpersonal conflicts (see Appendix 1 for original CTS). The items are presented on a continuum, which is from non-violence to severely violent tactics. Examples of violence items are "threw something at partner", "slap", kicked, bit, or hit with a fist", and " used a knife or fired a gun" etc. The CTS contains three types of conflict tactics, which are reasoning, physical aggression, and verbal aggression. The CTS also has high internal reliability (Straus, 1990a). Till 1995, there were about 400 studies using the CTS. In 1996, the CTS-2 was developed and increased to 78 items (Straus, Hamby, Boney-McCoy, and Sugarman, 1996).

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Studies Related to DA

The DA is one of the most commonly used risk assessment instruments for intimate assault cases. Although the predictive validity of the DA has yet to be established, it is one of the few instruments with any published empirical evaluation of psychometric properties such as test-retest and internal consistency reliability. As was shown in the five previous studies in table 3, the test-retest reliability ranged from .89 to .94. The internal consistency was found to have alpha ranging from .60 to .86. However, as pointed out in Campbell (1986, 1995), there is some controversy about whether internal consistency

reliability is an appropriate psychometric technique to use with an instrument wherein each item is considered to be an independent risk factor.

A study done by Campbell (2000) showed that only three items could not reach significant difference between femicide and partner abuser controls as shown in the following table. These three items are victim's threatening/trying to commit suicide (Item 12), partner's using violence toward children (Item 14), and partner's using violence outside house (Item 15).

Goodman, Dutton, and Bennett (2000) sampled 92 battered women from Washington D.C., who reported their cases to the court and were woulding to participate in the study. The DA and the CTS-2 were provided to them in the initial stage, and a three-month follow-up phone call was made to ask them whether they had been threatened or assaulted by their partner since the arrest. Forty-nine subjects were able to be recontacted. It was found that the DA, the CTS-2, and demographic variables did not differ from the initial time. Mean scores on the DA and the CTS-2 were 7.24. (SD=2.56) and 32.97 (SD=24.67). Twenty-two percent of recontacts reported their partners' reoffense since the arrest. While checking the odds ratios obtained in the logistic regression analysis, the authors concluded that both the DA and the CTS-2 significantly predicted reabuse, and that the former was a much stronger predictor. When considered

Table 3 Reliability and Validity in Danger Assessment (DA) Research

	Studies				
	1	2	3	4	5
N	79 abused	30 abused	52 abused	156 mixed	164 relationship problem
Setting		shelter	36% ER room 64% Inpatient OB/GYN	Prenatal	Community
Ethnicity		33% minority	62% minority	Black=71 White=46 Hispanic=39	Black=126 Nonblack=37
Reliability		Test-retest=.94 Alpha=.60	Test-retest=.89 Alpha=.67	Alpha=.86	Alpha=.66
Validity	Construct(r) CTS=5.5 Injury=.50 Tactics=.43	Construct (r) Injury=.48	None	Construct (r) ISA=.75 CTS=.46	Total sample(r) ISA-P=.66 ISA-P=.44
Mean	6.3	8.7	9.2 ER room 8.3 Inpatient OB/GYN	.3(non-abused) 3.5(abused) black=2.7 white=4.4 latino=4.1	5.5

Note. From Campbell (1995). Prediction of homicide of and by battered women. In J. C. Campbell (Ed.), Assessing dangerousness: Violence by Sexual offender, batterers, and child abusers (pp. 96-113). Thousand Oak, CA: Sage. Copy 1995 by Campbell. Reprinted by permission.

separately, an increment of one standard deviation on the DA was related to an approximate four-fold (4.18) increase in likelihood of re-abuse, whereas an increment of one standard deviation on the CTS-2 predicted only a 2.77 increase.

Issues in Measurement of Intimate Violence

Even though this study had defined the intimate asssaulter as shown in the previous

session, it is traditionally difficult to measure the battering, violence, or abuse between intimate partners. Since this study would use the CTS as the measurement tool to reassess the DA in Taiwan, it would be better to know how the developers of the CTS defined violence or abuse, and what were their concerns.

Dimensions of measuring violence. Murry Straus, the developer of the CTS, identified two of the most important dimensions on measuring violence—acts and injuries. (a) Acts: The severity of the assaultive acts, by which is meant the potential for producing an injury that requires medical treatment, and it can range from a slap to stabbing and shooting. (b) Injury: The level of physical injury actually inflicted, which can range from none to death (Staus, 1990c).

However, the conceptualization and operationalization of the abuse by the CTS is based on the identification of certain acts as being inherently "abusive", regardless of whether an injury occurs. The reasons for measuring based on acts, according to Straus (1990c), are the following six: (1) consistent with legal usage, (2) reflects humane values, (3) injury and assault loosely linked, (4) a more realistic measure of incidence rates, (5) psychological injury hard to measure, and (6) more useful for planning prevention programs.

Reliability and Validity of the CTS

Reliability. The internally consistent reliability of the CTS was examined using two techniques. For Form N, the alpha coefficient of reliability was computed. These coefficients were given in Table 4. The reliability of coefficients were high for the Verbal Aggression and Violence scale and low for the Reasoning scale.

Table 4 Alpha Reliability Coefficients for CTS

	Relationship	Reasoning	Verbal aggression	Physical aggression
Barling et al (1987)	Husband-wife	.50	.62	.88
Mitchell & Hodon (1983)	Husband-wife	--	--	.69
Straus (1987)	Husband-wife	.42	.77	.86
Winkler & Doherty (1983)	Husband-wife	.61	.81	.83

Note. From Straus, M. (1990a). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales (p.64). In M. A. Straus & R. J. Gelles (Eds.) *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families (pp.29-47).* New Brunswick, NJ: Transaction Publishers.

Validity. Evidence of concurrent validity is reported in a study by Bulcroft and Straus (1975), in which the CTS was completed by students in two sociology courses. The students responded for a referent period consisting of the last year they lived at home while in high school. They were asked to indicate how often during that year their father and mother had done each of the items in the CTS. The correlations are low for the Reasoning Scale and high for the Verbal Aggression Scale and Violence Scale (see Table

5). An analysis by Bulcreit and Staus (1975) suggested that the higher correlations for the two aggressive models of conflict are due to such acts being more dramatic and emotionally charged and, therefore, better remembered.

Table 5 Correlation of Spousal Report CTS Scores with Student Report CTS Scores

	Correlation (r) for:	
Conflict Tactics Scale	Husbands (n=57)	Wives (n=60)
Reasoning	.19	-.12
Verbal aggression	.51	.43
Violence	.64	.33

Note. From Straus, M. (1990a). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales (p.41). In M. A. Straus & R. J. Gelles (Eds.) *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families (pp.29-47).* New Brunswick, NJ: Transaction Publishers.

Criticism related to the CTS. There were about nine critics for the CTS as shown in the Straus (1990b). They were (1) restricted to conflict-related violence, (2) limited set of violent acts, (3) threats are counted as violence, (4) self-reports are inaccurate using a one-year period, (5) equates acts that differ greatly in seriousness, (6) conflict context is ignored, (7) ignored who initiates violence, (8) "minor" versus "severe" classification has no empirical basis and distorts gender difference, and (9) does not measure process and sequence.

Even though the CTS has limitations for measuring the amount of violence, it is

still the most widely used tool for measuring domestic violence, since it has satisfactory reliability and validity as mentioned earlier.

The CTS studies in oriental cultures. Tang (1994) explored the extent of spouse aggression in Chinese families in Hong Kong by using the CTS. Subjects were 216 female and 136 male undergraduate students who reported on the various forms of interparental aggression and violence. About 75% of the subjects reported interparental verbal or symbolic aggression and 14% indicated the use of physical violence between between parents. In general, compared to mothers, fathers engaged in more verbal aggression against their spouses, whereas mothers were than less likely as fathers to use actual physical force toward their spouses.

Causes and Theory of Intimate Assault in Taiwan

Even though this study did not directly focus on the causes of intimate assault, the causes and theory of intimate assault in Taiwan are worthy of exploring.

Causes found in Taiwan. Some studies on the causes of intimate assault in Taiwan were as follows.

Chen (1988) interviewed 12 abused wives and attributed the wife assault to eight causes. First, the husbands believed in the value of patriarchy, and saw the wives as their

personal property, which could be treated as they wish. Second, if wife battering was one of the traditions in the family of origin, men learned this behavior and used violence toward their wives to deal with their anger. Third, the husbands had affairs with another woman, and used violence toward their wives when conflict happened or for the purpose of driving their wives to agree to divorce. Fourth, the husbands were fond of gambling or abusing substances, and they would beat their wives when their wives could not provide the money for them to gamble or abuse substances. Fifth, the husbands have psychological problems, such as low self-esteem, and feel that their positions are lower than their wives, and therefore they used violence to prove their power and authority. Sixth, the husbands can not control their own emotions and behaviors. Seventh, the husbands had psychiatric problems and could not control their own behavior. Last, the husbands were military men, and they saw their wives as subordinates who can be treated as they wish.

Tang, J. (1993) interviewed 12 battered wives and attributed the wife battering to the following causes—husbands' having affairs, gambling, and alcoholism. Also the poor relationship between wives and their mother-in-laws was also found as one of the causes.

Chou (1993) sampled 56 battered wives from battered wives supporting agencies and asked them what they perceived as the causes of their being abused. The causes were

follows: They believed their husbands' reasons were having bad moods (18.1%), drinking (13.1%), being jealous (12.6%), job dissatisfaction (8.65%), having affairs (7.5%), losing money in gambling (6.5%), coming home late (5.5%), and abusing drug (1.5%). They believed the reason based on their family were wives' having conflicts with mother-in-laws (4.5%) and too many people in the family (2.5%). They believed the reason based on the couple were the couple's disagreement on some issues (11.1%). They believed the reasons based on the wife side were they spent too much time on their own business (2.5%) and they were neglectful toward their husbands since they were busy with chores (1.5%).

Theory in Taiwan. Straus' (1990d) System Theory, Carlson's (1964) Ecological Theory, and Dobash and Dobash's (1979) Feminist Explanatory Theory were the examples of American theories in intimate assault, and provided good perspectives to understanding on the intimate assault cases in the U.S. There was only one theory developed in Taiwan by Jo-chang Roda Chen. Chen developed a theory of spousal assault related to cohabitation with the mother-in-law of husband, Womb Theory. Based on her clinical experiences in treating the abused women, Chen found that the poor relationship between wives and their mother-in-laws might trigger the occurrence of wife assault and even cause wife abuse across the generations in these families. She theorized that the

reason might be that the male abusers would establish a strong but pathologically emotional connection with their mother, while the mothers were abused by their husbands, the abusers' fathers. Therefore, this phenomenon was described by Chen as the mothers using their "womb" to buildup emotional connections with their sons and prevent their sons' building a good relationship with their sons' wives, because they were afraid of losing these emotional connections and eventually losing their sons. By preventing losing their sons, the abused mothers would tend to trigger the discord between their sons and their daughter-in-law and eventually abuse their daughter-in-law emotionally and psychologically, or trigger their sons to physically abuse their wives. This phenomenon would pass on across the generations in these families, since the sons' wives would eventually replicate these patterns in how to treat their daughter-in-laws (Chen, 1997). This theory would provide a good understanding for the wife assault specifically in Chinese culture, since the Chinese culture traditionally encourages the sons having the obligation to live with their old parents. However, less and less daughter-in-laws in Taiwan would like to live with the husbands' old parents. Therefore, the Womb Theory might decrease in its ability to explain the discord among couples who did not live with the husbands' old parents.

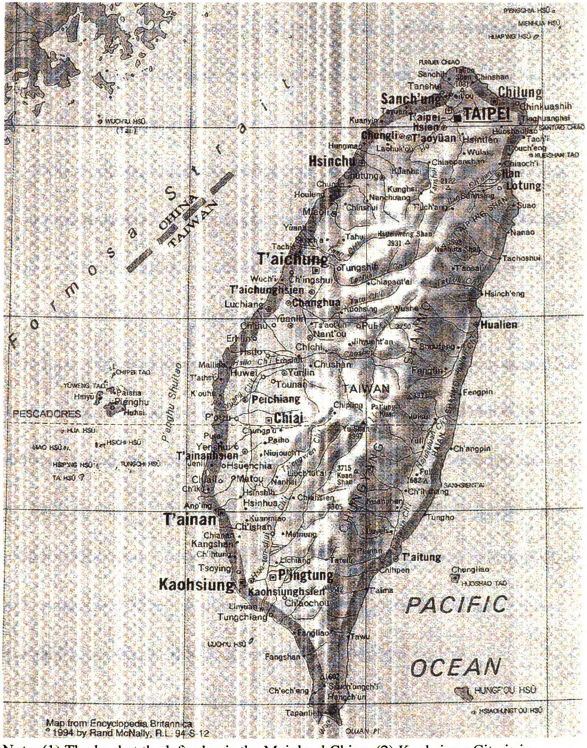
Diverse Ethnic Group in Taiwan

Taiwan has a population of 230 million, most of which lives in the Taiwan island with an area of 36,000 square kilometers (see Figure 1). Taiwan's population can be usually divided into four ethnic groups, Ming-nan, Hakka, mainlander, and aboriginal (Chen, 2000).

There are two groups of early Chinese immigrants. The first of them are the Fuchienese (also known as "Ming-nan"—means south of Fuchien Province in China), came from southern China's Fuchien Province, which is directly across the Taiwan Strait 400 years ago. They comprise 70 percent of the Taiwan population.

The second group of Chinese immigrants were the the Hakka. The Hakka came from south China shortly after the Ming-nan immigrated to Taiwan. The population of Hakka in Taiwan is about 3 million, which is 15% of Taiwan population. Today there are still Hakka-dominated areas in Taiwan, though this group of Chinese can also be found throughout Taiwan. They speak the Hakka dialect in addition to regular Taiwanese (a derivative of the Fuchien dialect) and Mandarin. Hakkas are in a number of ways culturally distinct from other Chinese people (Chu, 1998).

Figure 1 Map of Taiwan



Note. (1) The land at the left edge is the Mainland China. (2) Kaohsiung City is in southwestern Taiwan. Kaohsiunghsien, which is around Kaohsiung City, means Kaohsiung County.

The third group is comprised of Chinese from various parts of China who came to Taiwan after World War II, mostly in 1949, the time after the retreat of Kuomingtan (KMT, the ruling party of that time ruled by Chiang, Kai-shek). They comprise just under 15 percent of Taiwan population. They are referred to as "mainlanders".

The aboriginals or earliest inhabitants consist of 9 mountain aboriginal tribes and 9 plain aboriginal tribes. Most of the latter tribes have been civilized by the mainstream Chinese culture, and are hard to identify as their own cultures. The following would mainly focus on the mountain aboriginals. The mountain aboriginals are considered to be of Malay or Polynesian origin based on their languages and cultures. They comprise less than 2 percent of the Taiwan population (about 450 thousand people). There are 9 different mountain aboriginal tribes. Although the aboriginals speak languages that resemble Malay, rather than Chinese, they do not have a common language among them other than Japanese or Chinese. Many still live by hunting and fishing, but aboriginals are now working in other occupations especially those associated with tourism. They are generally poorer than the rest of population and their birth rate is lower.

Diverse Cultures of Marriage in Taiwan

Chinese Culture. As mentioned earlier, about 98% of Taiwanese population

are from Mainland China in a different time, so Taiwanese people have been keeping the traditional Chinese Culture, especially Confucianism, which was created by Confucius at about 2500 years ago and has been most influencing Chinese culture in the past 2000 years. Confucianism emphasizes the following values related to the family:

(1) Filial piety: There is a Chinese saying, "Filial piety is the first of hundreds of benevolence". It is one of the traditional Chinese cultural beliefs, which the Taiwan people still keep. The son as well as his wife needs to take good care of the parents while the parents are elderly, not to mentioned live together with the parents. Moreover, filial piety is the most basic requirement for a person to earn dignity from his community and government.

(2) Familial collectivism: The basic unit of ethnicity in traditional Chinese culture is seen as family (or even clan), instead of individual (Lee, 1978). Therefore, an individual needs to take good care of the family's reputation. Accordingly, the clan can be also viewed as one of the social control components, in addition to parents.

(3) Shame culture: Bendict (1946, cited from Chin, 1990, p322), an American anthropologist, identified that Chinese culture is a shame culture, whereas Western Culture is a guilty (sin) culture. Shame culture encourages accepted behaviors by external sanction, which is more of an informal social control and then internalizes it

to personal beliefs. Moreover, Chin (1990) proposed that shame comes from the concept of "禮 LI" (courtesy), which means routinized courtesy in family, groups, school, and government in Chinese culture. Everyone needs to follow "LI". If someone did not follow it, that would hurt the reputation not only of the individuals but also of the family or clan.

Gallin (1999) did a sociological review of 25 married women at a southern Taiwan village in the early 80s and found that only one reported to be treated well by her mother-in-law, whereas 12 of them reported to be bruised by the mother-in-law. She described the following, which are very close to the real situations in Taiwan.

- China's partrilineal kinship structure recognizes only male children as descent group members with rights to the family's property. In the past, and to a large extent today, residence was patrilocal.
- Females were considered as a liability—a household member who drained family resources when in childhood, whereas she needs to leave her natal home to live as a member of her husband's family, cutting her formal ties with her family of origin.
- In Chinese tradition, filial piety (Shiao) obligates the offspring to repay parents for nurturing them. Therefore, the wives are required to be subordinate to the parents-in-law.

- A young wife had to be socialized and integrated into the household, and in the division of labor this task fell to her mother-in-law. To enforce obedience, and perhaps to retaliate for her own lifelong subjugation, an older woman might well resort to physical abuse of a daughter-in-law with whom she was dissatisfied.
- Ten of the 25 married women reported that men also had beaten their wives to keep them in line. These men had acted as agents of their mothers, who had demanded they bend their wives to the older women's willingness.

It revealed that the relationship between wife and mother-in-law in Taiwan may be generally poorer that in the U.S. This situation can be one of the risk markers in Taiwan and deserves to be addressed in this study. However, as Campbell (1999) pointed out, wife battering may be, if anything, decreasing as extending family living arrangement become less common. As the researcher know, this has resulted from younger couples tending to live in the cities for work whereas the parents-in-laws like to live in rural areas, and also, young wives generally dislike living with the parents-in-laws.

Hakka Culture. The Hakka keep traditional Chinese Culture, but it is generally recognized that there are differences between Hakka and other Chinese such as "A close-knit people with their own distinctive customs and dialect, the Hakka have never been

completely assimilated into Chinese society—they maintained their cultural solidarity, intermarrying rarely with other Chinese..." (American Encyclopedia, 1991). Moreover, the Hakka are an extremely industrious, shrewd people, and tend to be very clannish as well. However, even though the above situations may change more or less in the modern era, the Hakka may still keep most of the above cultural beliefs to some extent.

Aboriginal Culture. There are 9 aboriginal tribes in Taiwan, and each of them have the different cultures and distinct languages. The 9 tribes are Ami, Atayal, Paiwan, Bunun, Rukai, Puyuma, Saisiyat, Tsao, and Yami. According to Hung (1993), the populations of each are 123000, 78000, 59700, 38000, 8000, 8000, 43000, and 4200, respectively. All of the aboriginal tribes still keep the hierarchy of their social class. Ami, Saisiyat, and Yami are maternal societies, which means the mother has the authority over the families and their property. In the past five years, they have been suffering from a high unemployment rate (about 15% or more males), since the government induces the cheaper immigrant laborers for the industry, instead of employing them.

Diverse Religions in Taiwan

As the synthetical study of Hotaling and Sugarman (1986) showed earlier, religious incompatibility was found in 100% of previous studies, including religious

incompatibility supported as being a risk marker of wife assault. Therefore, it would be worthy of exploring the diverse religions in Taiwan.

In terms of religions or religious beliefs, the Taiwanese people are quite eclectic and most people report adhering to more than one religion, except Christianity and Catholicism. The Majority of Taiwanese people, 65 percent according to a recent poll, believe in Taiwan folk religion, which can be seen in the southern division of Taoism in China. But, since Chinese immigrants also brought Confucianism, Taoism, and Buddhism to Taiwan, the majority of Taiwan people report being followers of one or all of these religions. The aboriginals do natural worship and various sacrifices. About 7% of population believe in Christianity or Catholicism (Chen, 2000).

Cultural Differences between the U.S. and Taiwan in Literature

Some differences on the dynamics of intimate violence between Taiwan and the U.S can be organized as follows.

Taiwan intimate violence cases might not have the same "honeymoon or loving respite phase" as the U.S. has. Walker (1979) studied battered women and found that there is a "cycle of violence" in intimate violence. There are three phases in this cycle of violence. First, there is tension building. In this phase, minor incidents of violence may

occur along with a buildup of anger. This phase may include verbal put-downs, jealousy, threats, and breaking things and can eventually escalate to the second phase. Second, in the acute or battering phase, major violent outbursts occur. This violence can be seen as the major earthquake. Following the second phase, the couple sometimes enters phase 3. Third, in the honeymoon or loving respite phase, the batterer is remorseful and afraid of losing his partner. He may promise anything, beg forgiveness, buy gifts, and basically be "the man she fell in love with." However, according to Tang and Tsai (1997), the majority of Taiwan abused women would not go to the shelters, and, instead, they would go to the family of origin or house of their own siblings. Then, the typical abusive men would intimidate the wives' relatives to let go or even plead with their wives to come back. After their wives come back with them, the abuse continues. Therefore, Tang and Tsai (1997) concluded that it may not necessarily have a "honeymoon and respite phase" in Taiwan cases, and instead, the abuse happens as a cycle of escape-and-violence inside or outside the house.

Furthermore, Tang and Tsai (1997) pointed out that some Taiwan intimate abusers may also aim their violence toward elderly persons, such as their own parents or parents-in-law, who live in the same house. However, this might not be the case for the U.S. families, since most of American families do not live with their elderly parents.

Based on their cases, Tang and Tsai (1997) pointed out that physical or psychological victimization in childhood was not always found in the Taiwan intimate abusers' history, and instead, they found some of them were "spoiled" by their parents. Hotaling and Sugarman (1986) synthesized 52 previous studies and stated that while not a consistent risk marker, experiencing violence from parents/caregivers has been found to discriminate batterers and nonbatterers in the majority of studies.

Regarding firearm to be used in the intimate assault, Hart (1988) and Straus (1991) indicated that the presence of weapons is one of the life-threatening risk factors among intimate abusers. Moreover, the Danger Assessment scale (Campbell, 1995) also included this factor in assessing the lethality among intimate assaults. However, since Taiwan is a firearm-control country, the people are not permitted to own guns, except for special permission to own a rifle for the purpose of hunting or shooting practice for competitions. Therefore, this risk factor for lethality may not fit for Taiwan intimate assault cases.

Poor relationship between wife and mother-in-law could encourage wife assault in Taiwan. Since wives in Taiwan must be obedient to their spouse and parents-in-law, Taiwanese women may be abused to be kept in line.

Feminist theory may not totally fit in Taiwanese wife assault cases. According to Campbell (1999, p267) both cross-cultural and individual studies make it clear that there

is not a simple linear correlation between female status in a society or in a couple and rates of wife assault (Campbell, 1985). In fact, there may be a curvilinear relationship, with wife battering being relatively low in societies where women's status is the lowest, since there are other norms that effectively control women (Campbell, 1985). Women's status and power are complex variables with many different manifestations. On the other hand, theoretically when women have power in the varied cultures outside of the home, either economic (Wape, Mayotte etc, the culture names) or magical (Kalai and Ujelang etc), it does seem to provide some protection against wife beating that supports of the feminist case. It can be true in some cultures, but seems not to be in Taiwan. There is some negative evidence in Taiwan where societal development has afforded economic possibilities for wives but battering continues (Gallin, 1999). Campbell (1999) postulated that the strong continuing ethic of females as property and the societal norms supporting the beating of wives in those cultures is so far overcoming any development of autonomy in women of Taiwan.

Development of Risk Assessment of Violent Offenders

Risk assessment has been done for over centuries. However, based on Bonta (1996), it was not until 1928 that scientists started to develop risk assessment tools based on

scientific methods. Bonta (1996) called the risk assessment done by 1928 first-generation risk assessment, which was done using the subjectivity of professionals. The most serious weakness of this approach is that the rules of collecting information and formulating interpretations of the data are subject to considerable personal discretion, and make accountability and fairness difficult. The second-generation risk assessments are the objective and empirical risk assessment. This kind of risk assessment can be tracked back to Burgess's (1928) study of over 3,000 parolees. Burgess identified 21 factors that differentiated parole successes from parole failures and he used these factors to construct a risk scale. Then Glueck and Glueck (1950) also developed a risk assessment scale for delinquent behavior based on the variables they found that could differentiate the delinquents from the nondelinquents. However, their major weakness, based on Bonta (1996), was that the instruments provided little direction for treatment and most of them only contained the historical/static factors such as criminal history. Finally, Bonta (1996) contended that the third-generation risk assessment has to be developed for the purpose of connecting the treatment implication based on the risk assessment. He developed the concept of criminogenic need, which is the need that cause criminals to commit crimes and generalized the criminal behavior. Criminogenic need is a dynamic factor, and the likelihood of committing crimes could change if the criminogenic need is altered.

Moreover, in 1994, Monahan and Steadman (1994) called for a new generation of risk assessment, which should be based on the actuarial method. Monahan et al (1994) noted that actuarial assessment observes the relationship between specific cues or risk factors and the occurrence of violent behavior.

Generally predictors of convenience are rarely those that would be chosen on theoretical grounds. However, Quinsey, Harris, Rice, and Cormier (1998) submitted an example that if the prediction based on a theory of horse race performance related the characteristics of the horses (such as lung capacity or training method) while predicting the winner in a horse race, it would improve understanding more than an atheoretical actuarial approach. Therefore, Quinsey et al (1998) concluded that there is no reason why theoretically relevant predictors could not be used in an actuarial model. Therefore, there is no concrete theoretical approach for identifying risk marker.

Typologies of Male Intimate Assaulters

After reviewing the previous typologies of male batterers by means of either rational-deductive (9 studies) or empirical-inductive (6 studies) methodology, Holtzworth-Munroe and Stuart (1994) identified three dimensions to distinguish the different types of male batterers. The three dimensions were severity of marital violence,

generality of the violence (toward the wife only or toward the others also), and psychopathology/personality disorders. After this identification, they proposed a typology consisting of 3 subtypes of male batterers, which were family only batterers, dysphoric/borderline batterers, and generally violent/antisocial batterers. Accordingly, they presented a development model of marital violence to theoretically explain how the three subtypes of male batterers differed in this model. First, family only batterers engaged in the least severe marital violence and are the least likely to engage in psychological and sexual abuse. The violence of this group is generally restricted to family members; these men are the least likely to engage in violence outside the home or to have related legal problems. They show little psychopathology and either no personality disorder or a passive-dependent personality disorder. Second, dysphoric/borderline batterers are found to engage in moderate to severe wife abuse, including psychological and sexual abuse. This group's violence is primarily confined to family, although some extrafamilial violence and criminal behavior may be presented. These men are the most dysphoric, psychological distressed, and emotionally volatile. They may evidence borderline and schizoidal personality disorder characteristics and may have problems with alcohol and drug abuse. Third, generally violent/antisocial batterers engage in moderate to severe marital violence, including psychological and

sexual abuse. These men should engage in the most extrafamilial aggression and have the most extensive history of related criminal behavior and legal involvement. They are likely to have problems with alcohol and drug abuse, and they are the most likely to have an antisocial disorder or psychopath.

In 2000, Holtzworth-Munroe and her colleagues had tested this proposed typology on a sample of 102 male batterers by cluster analysis, and found that in addition to the three subtypes, a fourth subtype was identified and named as "low-level antisocial batterers", which were between family only batterers and generally violent batterers (Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, in press).

CHAPTER 3 METHOD

Hypotheses

Because this study introduced the Danger Assessment scale into Taiwan and because the author found some differences in the literature review, it might be necessary to consider the cultural difference between Taiwan and America. The hypotheses of this study were as follows.

1. It was hypothesized that the Danger Assessment scale could significantly predict the amount of violence measured by the Brief Conflict Tactics Scale among the intimate violence cases in Taiwan. The Danger Assessment scale included increased frequency of physical violence, increased severity of physical violence, occurrence of choking, presence of firearms, occurrence of forced intercourse, drugs usage, threatening to kill victim or victim's perception of capability to kill, drinking, controlling daily behavior of victims, physical assault while pregnant, violent jealousy, suicidal behavior or attempt of both parties, violence toward children, and violence outside the house. Item 4 (owning a gun) would be excluded, since it asks whether people have a gun at home or not, and Taiwan is a firearm-control country and accessing to a gun is relatively

difficult in Taiwan. The Brief Conflict Tactics Scale used to measure the amount of violence, included "throwing object", "pushing, grabbing, or shoving", "slapping", "kicking, biting, or hitting with a fist", "hitting or trying to hit with something", "beating up", "choking", "threatening with a knife", and "using a knife and any other killing behaviors except choking", in all 9 previously mentioned physically violent behaviors.

2. It was hypothesized that the Danger Assessment scale could significantly predict the lethal violence among the intimate violence cases in Taiwan.
3. It was hypothesized that other variables, such as victims' perception of future abuse, abusers' stalking behavior, abusers' threatening to hurt the victims' family of origin, and abusers' threatening to hurt the children, which are not included in the Danger Assessment scale could also significantly predict the amount of intimate violence as well as lethal violence of the abusers.
4. Finally it was hypothesized that DA could be used to identify traits that distinguish different types of male intimate abusers.

Measurement Tools

This study administered the Brief CTS to the female victims to measure the amount

of violence their intimate partners inflicted on them. Originally, there are 19 items in the CTS-Form R (see Appendix 1), and all of them are in the three categories. Item 1 through Item 3 ("discussed an issue calmly", "got information to back up his side of things", and "brought in, or tried to bring in, someone to help settle things") belong to the "reasoning" category, Item 4 through Item 10 ("insulted or swore at you", "sulked or refused to talk about an issue", "stomped out of the room or house or yard", "cried", "did or said something to spite you", "threatened to hit or throw something at you", and "threw or smashed or hit or kicked something") belong to the "verbal aggression" category, and Item 11 through Item 19 ("threw something at you", "pushed, grabbed, or shoved you", "slapped you", "kicked, bit, or hit you with a fist", "hit or tried to hit you with something", "beat you up", "choked you", and "threatened you with a knife") belong to the "physical aggression" category. Since the nature of the DA scale is to focus on physical aggression, this study would only focus on physical aggression. Therefore, the researcher only included Item 11 through Item 19 ("threw something at you", "pushed, grabbed, or shoved you", "slapped you", "kicked, bit, or hit you with a fist", "hit or tried to hit you with something", "beat you up", "choked you", and "threatened you with a knife") of the original CTS for a total of 9 items on the Brief CTS. Then this study would follow the following rationales to score the Brief CTS:

1. Item 1 through Item 3 ("threw something at you", "pushed, grabbed, or shoved you", and "slapped you") can be viewed as "minor violence", whereas Item 4 through Item 9 ("kicked, bit, or hit you with a fist", "hit or tried to hit you with something", "beat you up", "choked you", and "threatened you with a knife") can be viewed as "severe violence" (Straus 1990a).
2. Scoring in accordance with the frequencies: In the Brief CTS, the answer of 0 represented never in the past year, 1 represented 1 time in the past year, 2 represented 2 times in the past year, 3 represented 3 to 5 times in the past years, 4 represented 6 to 10 times in the past year, 5 represented 11 to 20 times in the past year, and 6 represented over 20 times in the past year of a particular violent behavior (Straus, 1990a).
3. According to Straus (1990e), the weighting methods for each violent behavior in the Brief CTS are to multiply the frequency of each violent behavior by the following weights. The weights for each item are "throwing something"=1, "pushing, grabbing, or shoving"=1 , "slapping"=1, "kicking, biting, or hitting a fist"=2, "hitting or trying to hit with something"=3, "beating up"=5, "choking"=5, "threatening with a knife"=6, and "using a knife"=8.

The Danger Assessment (DA) scale was translated to a Chinese version and provided to the victims in this study. However, Part A of the DA scale, a part requiring

the victims respond on the times of being abused in each month of the previous year, would be excluded, because this study did not used chronicled data. Moreover, Item 4 (owning a gun), would be excluded, since Taiwan is a firearm-control country and civilians have very limited chances to access firearms.

In addition, the researcher created a Victim Questionnaire for female victims for the purpose of collecting demographic information and testing some other risk markers supported by previous researches, such as cultural and religious differences between intimate partners, employment status, income level, educational level, victims' self-assessing on danger, and being stalked etc.

Sampling Process and Data Collecting Method

Sampling process. Kaohsiung City and Kaohsiung County are adjacent each other in southern Taiwan. Both areas were reported as the two highest areas of intimate assault in Taiwan based on the reported case amount of local Domestic Violence Prevention Centers, even though both areas are not the city or county with the highest population in Taiwan. Kaohsiung City, with a population of 1.4 million, is the second biggest city in Taiwan, whereas Taipei City is the biggest city in Taiwan with a population of 2.6 million. Kaohsiung County, with a population of 1.2 million, is the 7th

biggest local area (including cities and counties), whereas Taipei County, with a population of 3.5 million, is the biggest local area in Taiwan (Taiwan Ministry of Interior, 2000). According to telephone interviews with the directors of the Domestic Violence Centers in Kaohsiung City and Kaohsiung County, the monthly case amount of intimate violence is 250 and 230, respectively, in the 24-hour hotline, and 95 and 115,respectively, would be new-open cases in both agencies, based on the victims' willingness for further help and the seriousness of the assault (personal communication, May 22, 2000). The sampling process of this study would try to collect the intimate abuse cases from the two government agencies, because they can continuously meet with the victim and learn more information about their families and their partners. However, it needs to be noted that this resource could be biased, since it may automatically be screened by the severity and the nature of the intimate abuse (such as the parents-in-law may not want victim to report the violence or they may want the victim to drop the case). The time period for data collecting would be from December 17, 2000 to January 12, 2001. In total, there would be four weeks for the data collection in this study.

Data collecting method. The DA, the Brief CTS, and the Victim Questionnaire would be provided to victim when the victim sought further service and the social

workers in Domestic Violence Centers started the intake process. Social workers were trained how to administrate the instruments skillfully and ethnically. The participants of this study were treated based on ethical guideline of American Psychological Association (APA). (see **Consent Form for respondents** and **Ethical Response Sheet for Social Workers** in Appendix 5 and Appendix 6, respectively).

Translation Procedures and Reliability Test of Research Instruments

In this study, two research instruments were used. Conflict Tactics Scale (CTS) was simplified to Brief CTS as of only measuring the severe violent behaviors. Danger Assessment (DA) remained almost the same, except for deleting whether there is a firearm in the house (Item 4).

Translation Procedures of Research Instruments. The author was granted the permission of translating and using the Brief Conflict Tactics Scale and the Danger Assessment in this study by their original developers, Murry Straus and Jacquelyn Campbell, respectively. After the author's translation, four Taiwan Ph. D. Students at Michigan State University (majors in Educational Measurement, English, Counseling Psychology, and Sociology) were invited to check the content validity and face validity of the translated instruments. They graded each item of the two translated instruments on a

four-level scale based on how appropriate and how fluent each item was translated. In the grading, four meant very appropriate or fluent, three meant appropriate or fluent, two meant inappropriate or not fluent and change is necessary, and one meant very inappropriate or not fluent at all and deletion is necessary. The author changed some items of the two translated instruments based on their grading and suggestions on how to make appropriate translations.

Reliability Test of Translated Research Instruments. After checking content validity and face validity, the author requested the social workers in Kaohsiung City Domestic Violence Prevention Center and Kaohsiung County Domestic Violence Prevention Center administer the instruments to a total of 30 cases from both Center to test the reliability. Eleven cases were collected in Kaohsiung County and 19 cases were collected in Kaohsiung City. The Cronbach's alpha was used for testing the reliability based on the total of 30 cases. It was noted that Cronbach's alpha is a model of internal consistency, based on the average inter-item correlation (SPSS, 1999a).

(1) Danger Assessment scale: The reliability test of translated Danger Assessment was shown in Table 6. It was found that Cronbach's alpha is .73, which is in the satisfactory range of such measurement. Usually the satisfactory minimum in corrected item-total correlation is .20 and it was found that Item 6 (.14), Item 1 (.19)

and Item 12 (.19) are slightly under the limit, but the author still decided to keep these three items, since they are not significantly below.

Table 6 Reliability Test of Chinese Version Danger Assessment

Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Squared multiple correlation	Alpha if item deleted
da_1 increase frequency	5.80	9.13	.19	.46	.73
da_2 increase severity	6.10	8.09	.52	.43	.69
da_3 choking	6.07	8.69	.30	.54	.72
da_5 forced sex	5.83	8.42	.45	.60	.70
da_6 drug abuse	6.40	9.42	.14	.40	.73
da_7 threat to kill or believe to be killed	5.87	8.26	.49	.66	.70
da_8 alcohol abuse	6.00	7.79	.64	.72	.68
da_9 control daily life	5.93	8.90	.24	.40	.73
da_10 assault when pregnant	6.17	8.98	.22	.61	.73
da_11 violent jealousy	6.03	8.17	.49	.50	.70
da_12 she want suicide	6.20	9.06	.19	.54	.73
da_13 he wanted suicide	6.33	9.06	.25	.45	.72
da_14 violence to child	6.03	8.52	.36	.55	.71
da_15 violent outside	6.17	8.83	.26	.29	.72

Note. (1) Cronbach's alpha = .73; (2) Item 4 (owning the gun) was excluded, because Taiwan is a firearm control country and people have very limited access to gun.

(2) Brief Conflict Tactics Scale: The reliability test of the translated Brief Conflict Tactics Scale was shown in Table 7. It was found that Cronbach's alpha was .90, which was in the satisfactory range of such measurement. Moreover, not any one item-total correlation in the Brief Conflict Tactics Scale was below .20, which meant all items were in the acceptable range under this reliability test. Therefore, all items of Brief Conflict Tactics Scale were kept in the study.

Table 7 Reliability Test of Chinese Version Brief Conflict Tactics Scale

Item		Scale mean if item deleted	Scale variance if item deleted	Corrected item-total correlation	Alpha if item deleted
CTS_1	throw object	15.57	98.33	.59	.89
CTS_2	push, grab, or shove	15.36	103.28	.75	.88
CTS_3	slapping	16.61	98.32	.66	.88
CTS_4	kick, bit, or hit with a fist	15.54	95.96	.79	.87
CTS_5	hit or try to hit with something	15.90	91.95	.85	.87
CTS_6	beat up	16.18	93.93	.83	.87
CTS_7	choke	17.39	100.32	.65	.88
CTS_8	threat with a knife	18.11	111.65	.56	.89
CTS_9	use a knife	18.50	122.63	.24	.91

Note. (1) Cronbach's alpha = .90; (2) Number of cases was 28, since two cases missed.

Measurement

1. Multiple Regression

(1) Dependent variable: The dependent variable would be from the Brief CTS outcome. The researcher would sum up all of the 9 items after weighting each item, and use this total as the dependent variable for multiple regression. However, since it was found that the results from the scale was extremely skewed, which was the poisson distribution, so it would be better to do the poisson regression for dealing with the extreme outliers. The author would use STATA 6.0 to accomplish this task. Other than poisson regression, the author would use SPSS 10.0 to accomplish most of the statistical works in this study.

(2) Independent variables: The independent variables would be the risk markers in the

DA and the risk markers in the Victim Questionnaire supported by previous studies, such as victims' self assessing danger, male partners' stalking behavior, etc.

2. Receiver Operative Characteristics (ROC) curve: The author would use the ROC curve to estimate the predictive accuracy on the DA and the Brief CTS's prediction toward the appearance of lethal violence.

3. Principle Component Analysis and Cluster Analysis: The author would use the principle component analysis to identify the key variable(s) in the DA, and try to use it/them to distinguish the subtype of male intimate abusers. Moreover, the author would use the cluster analysis to test whether the key variable(s) could be the criterion (criteria) to distinguish the subtypes of male intimate abusers.

CHAPTER 4 RESULTS

Demographic Analysis

Samples in the two areas. The author set a time period for social workers in the two areas to collect data from the intimate violence victims. The time period was set as from December 17, 2000 through January 12, 2001, totally 27 days. During this period, 122 interviews were conducted. However, one was excluded because of not enough response in the questionnaire and scales. Therefore, 121 respondents would be counted in this study (Table 8).

Table 8 Populations, Numbers of Monthly/Yearly Cases, and Numbers of Samples in Kaohsiung City and Kaohsiung County

\Areas	Kaohsiung City	Kaohsiung County
Population (December 2000)	1,490,560	1,234,707
Number of monthly/yearly cases(Year 2000)	250/3000	173/2081
Number of samples in this study/number of case happened	82/135 (60.7%) (12/17/2000~1/12/2001)	39/210 (18.6%) (12/17/2000~1/19/2001)
	121	

Note. (1) The data collecting period in Kaohsiung County was extended 7 more days, since the local social workers had tight schedules with other social welfare services during the time. (2) Populations in both areas were from Taiwan Ministry of Interior (2001).

General descriptions in female victim samples. In the female victims, it was

found that the average age of victims in this study was 35.44. Regarding ethnicity, 77.5% were Min-nan, 8.3% were Hahkka, 5% were 2nd generation mainlander, and 4.2% were aboriginal. It was noted that 2.5% were from China, and 2.5% were foreigners (two from Indonesia and one from America). Regarding educational level of total victims, it was found 1.7% were illiterate, 20.8% were in elementary school level, 20.6% were in junior high school level, 47.5% were in senior high school level, 3.3% were in junior college level, 5.8% were in 4-year college level, 0.8% were in graduate school level. Regarding religion of total victims, it was found that 29.8% had no religion, 40.5% believed in Buddhism, 21.5% believed in Taoism, 2.5% believed in Onelawism, 4.1% believed in Christianity, none believed in Catholicism, 1.7% believed in other religions. Regarding employment status of total victim, it was found that 38.7% were in housewife or unemployment status, 52.1% were in full-time employment status, and 9.2% were in part-time employment status. Regarding the marital status of all subjects, 88.3% were married, 6.7% were divorced but cohabited, and 5.0% were cohabited without marriage (Table 9).

General descriptions in male abuser samples. In the male abusers, it was found that the average age of male abusers in this study was 39.86. Regarding ethnicity, 70.1% were Min-nan, 10.3% were Hahkka, 0.9% were 1st generation mainlander, 12.8% were 2nd generation mainlander, and 3.4% were aboriginal. It was noted that 2.5% were from

China, and 2.5% were foreigners (two from Indonesia and one from America). Regarding educational level of total abusers, it was found 0.8% were illiterate, 13.6% were in elementary school level, 26.3% were in junior high school level, 45.8% were in senior high school level, 8.5% were in junior college level, 4.2% were in 4-year college level, 0.8% were in graduate school level. Regarding religion of total abusers, it was found that 41.0% had no religion, 23.1% believed in Buddhism, 26.5% believed in Taoism, 1.7% believed in Onelawism, 6.0% believed in Christianity, and 1.7% believed in Catholicism. Regarding employment status of total abusers, it was found that 20.2% were in unemployment status, 67.5% were in full-time employment status, and 12.3% were in part-time employment status (Table 10).

Table 9 Demographic Descriptions of Female Victim Respondents in This Study

	Kaohsiung City	Kaohsiung County	Total	
Number of sample	81	39	121	
Age	36.93	36.71	35.44	
Ethnicity				
Min-nan	62(76.5%)	31(79.5%)	93(77.5%)	
Hahkka	7(8.6%)	3(7.7%)	10(8.3%)	
1st gen mainlander	0	0	0	
2nd gen mainlander	3(3.7%)	3(7.7%)	6(5.0%)	
3rd gen mainlander	0	0	0	
Aboriginal	34(4.9%)	1(2.6%)	5(4.2%)	
From China	3(3.7%)	0	3(2.5%)	
Foreigner	2(2.5%)	1(2.6%)	3(2.5%)	
Educational level				
Illiterate	0	2(5.1%)	2(1.7%)	
Elementary school	17(21.0%)	7(17.9%)	24(20.8%)	
Junior high school	17(21.0%)	8(20.5%)	25(47.5%)	
Senior high school	35(43.2%)	22(56.4%)	57(47.5%)	
Junior college	4(4.9%)	0	4(3.3%)	
4-year college	7(8.6%)	0	7(5.8%)	
Graduate school	1(1.2%)	0	1(0.8%)	
Religion				
None	23(28.0%)	13(33.3%)	36(29.8%)	
Buddhism	35(42.7%)	14(35.9%)	49(40.5%)	
Taoism	18(22.0%)	8(20.5%)	26(21.5%)	
Onelawism	1(1.2%)	22(56.4%)	3(2.5%)	
Christianity	5(6.1%)	0	5(4.1%)	
Catholic	0	0	0	
Other	0	2(5.1%)	2(1.7%)	
Employment status				
Housewife/unemployed	31(38.3%)	15(39.5%)	46(38.7%)	
Full-time job	43(53.0%)	19(50.0%)	62(52.1%)	73(61.3%)
Part-time job	7(18.6%)	4(10.5%)	11(9.2%)	
Marital status				
Married	70(85.4%)	36(94.7%)	106(88.3%)	
Divorced but cohabited	7(8.5%)	1(2.6%)	8(6.7%)	
Cohabited w/o married	5(6.1%)	1(2.6%)	6(5.0%)	

Table 10 Demographic Descriptions of Male Abuser Respondents in This Study

	Kaohsiung City	Kaohsiung County	Total	
Number of sample	81	39	121	
Age	40.56	38.37	39.86	
Ethnicity				
Min-nan	63(78.8%)	19(51.4%)	82(70.1%)	
Hahkka	3(3.8%)	9(24.3%)	12(10.3%)	
1st gen mainlander	1(1.3%)	0	1(.9%)	
2nd gen mainlander	8(10.0%)	7(18.9%)	15(12.8%)	
3rd gen mainlander	3(3.8%)	1(2.7%)	0	
Aboriginal	2(2.5%)	1(2.7%)	4(3.4%)	
From China	0	0	0	
Foreigner	0	0	0	
Educational level				
Illiterate	0	1(2.6%)	1(.8%)	
Elementary school	12(15.0%)	4(10.5%)	16(13.6%)	
Junior high school	23(28.8%)	8(21.1%)	31(26.3%)	
Senior high school	33(41.3%)	21(55.3%)	54(45.8%)	
Junior college	7(8.8%)	3(7.9%)	10(8.5%)	
4-year college	4(5.0%)	1(2.6%)	5(4.2%)	
Graduate school	1(1.3%)	0	1(.8%)	
Religion				
None	33(40.7%)	15(41.7%)	48(41.0%)	
Buddhism	21(25.9%)	6(16.7%)	27(23.1%)	
Taoism	16(19.8%)	15(41.7%)	31(26.5%)	
Onelawism	2(2.5%)	0	2(1.7%)	
Christianity	7(8.6%)	0	7(6.0%)	
Catholic	2(2.5%)	0	2(1.7%)	
Other	0	0	0	
Occupation				
Full-time job	49(64.5%)	28(73.7%)	77(67.5%)	91(79.8%)
Part-time job	8(10.5%)	6(15.8%)	14(12.3%)	
unemployed	19(25.5%)	4(10.5%)	23(20.2%)	

General Finding in DA and Brief CTS Scores

General finding in DA scores. There were two changes in the translated DA version. The original Item 6, "partner threatened to kill victim or victim believes partner is capable of killing her" was divided into two items. These were "partner threatened to kill victim"(Item 6(1)) and "victim believes partner is capable of killing her"(Item 6(2)), respectively, since the former was objective truth and the latter was personal subjective belief suggested by local social workers after doing the pretest. Another change was the exclusion of the original Item 4 "a gun is present in the house". The reason for this exclusion was that Taiwan is a firearm-control country and people have very limited access to own firearms. Because of these two changes, there might be problems to compare the DA in this study to the American studies.

It was found that the mean in DA was 6.04 (with standard deviation of 3.01), which was close to the mean of 6.3 in Study 1 of Table 3 (a study sampling from general abuse cases, instead of from shelter and emergency room or impatient settings). However, it had to be cautious in interpreting any meaning because the DA versions used in the two studies were different, even thought both versions of DA had the same amount of items.

The histogram of DA scores showed that distribution was close to normal

distribution. After normality test by Q-Q plot[1] and Kolmogorov-Smirnov test (Kolmogorov-Smirnov = .071, p=.20 confirmed its normal distribution), it showed that the DA scores in this study were in a normal distribution, which was a symmetric and bell-shaped distribution.

In addition, it was found that the correlation between the DA and the Brief CTS was .45 (p=.000), which meant that the DA had a moderate criterion validity related to the Brief CTS, and vise versa.

General finding in Brief CTS scores. As mentioned in Chapter 3, the Brief CTS in this study included only 9 "physical aggression" items from the original CTS and the scoring method was based on the different weighting in each violent behavior item. The frequencies and percentage of 9 items in Brief CTS were shown at Table 11.

Even though the mean of Brief CTS was 50.12, it was found that the distribution of the Brief CTS in samples was Poisson Distribution, which is a skewed distribution appropriate and useful for phenomena that have a very small probability of occurring on any particular trial, but for which an extremely large number of trials are available (SPSS, 1999b). During normality tests, the Kolmogorov-Smirnov value was .223 (p<.000) and the Q-Q Plot showed that the points did not cluster around the straight line, both of which

[1] If the sample is from a normal distribution, points would cluster around a straight line in Q-Q Plot (SPSS,

suggested that the Brief CTS scores in the whole samples were not in a normal distribution, which would violate the basic assumption of lineal multiple regression while doing the prediction.

Table 11 Frequency and Percentage in 9 Brief CTS Items

	never	Once	twice	3-5 times	6-10 times	11-20 times	More than 20	(total)
1. threw something at me	27 (22.3%)	8 (6.6%)	22 (18.2%)	30 (24.8%)	18 (14.9%)	6 (5.0%)	10 (8.3%)	121 (100%)
2. pushed, grabbed, or shoved me	19 (15.7%)	12 (9.9%)	23 (19%)	34 (28.1%)	19 (15.7%)	11 (9.1%)	3 (2.5%)	121 (100%)
3. slapped me	42 (34.7%)	18 (14.9%)	22 (18.2%)	20 (16.5%)	11 (9.1%)	4 (3.3%)	4 (3.3%)	121 (100%)
4. kicked, bit, or hit me with a fist	26 (21.5%)	19 (15.7%)	18 (14.9%)	34 (28.1%)	12 (9.9%)	4 (3.3%)	8 (6.6%)	121 (100%)
5. hit or tried to hit me with something	56 (46.3%)	14 (11.6%)	12 (9.9%)	23 (19.0%)	8 (6.6%)	3 (2.5%)	4 (3.3%)	120 (100%)
6. beat me up (beat me continuously in one episode)	53 (43.8%)	20 (16.5%)	22 (18.2%)	16 (13.2%)	4 (3.3%)	3 (2.5%)	3 (2.5%)	121 (100%)
7. choked me	77 (63.6%)	28 (23.1%)	5 (4.1%)	7 (5.8%)	4 (3.3%)	0 (0%)	0 (0%)	121 (100%)
8. threatened me with a knife	98 (81.0%)	16 (13.2%)	3 (2.5%)	3 (2.5%)	1 (0.8%)	0 (0%)	0 (0%)	121 (100%)
9. used a knife or any killing behavior except choking	104 (86%)	13 (10.7%)	2 (1.7%)	2 (1.7%)	0 (0%)	0 (0%)	0 (0%)	121 (100%)

Note. There was one missing value in Item 5, so the total was 120.

Amount of violence and demographic data. The relationships between the amount of violence and the demographic data would be explored as the following.

Regarding abusers' age, after doing the Pearson correlation, it was found that the

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1999b)

correlation between amount of violence and abusers' age was significantly positive but weak (r= .189, p=. 038). Therefore, it meant the older the assaulters, the larger amount of violence toward their intimate partners, which was very different from the findings of most other violent behaviors. The reasons might be that the nature of intimate violence is different from other types of crime or the younger victims might not stand the intimate violence then the older victims in Taiwan. However, all of the abusers' education, employment status, and ethnicity did not have significant relationship to the abusers' amount of violence (Table 12). Moreover, it was found there was no significant correlation between the age difference between couples and the amount of violence. All of the above showed that other than the age of the abusers, most of the demographic data could not significantly relate to the intimate assault, which meant there were some other nondemographic variables more related to inmate assault than demographic variables.

Regarding the victims' demographic data, it was found that their employment status and ethnicity did not have significant relationship with the amount of violence, except age of victims (r= .189, p=. 038), which meant the older victims reported significantly more violent than the younger victims. It might be assumed that the older victims were more conservative and had less willingness to report the intimate violence unless the violence was too much. Since it was found that test of homogeneity of

variances on Brief CTS scores among levels of education reached significance, which meant variances among different level of education were significantly heterogeneous, it was not appropriate to do the ANOVA test (Levene = 5.465, p =.000)

Table 12 Amount of Violence and its Relationship to Demographic Data

	r or F	p
Abusers' age	r = .189	.038*
age difference b/w couples	r = -.013	.886
abusers' level of education	F= 1.509	.182
abusers' employment status	F=38.9	.679
abusers' ethnicity	F=.914	.475
victims' age	r =.192	.036*
victims' level of education	NA	NA
victims' employment status	F=1.443	.240
victims' ethnicity	F=1.148	.340

Note. (1) * p<.05 ;(2) NA meant not available, because it was not homogeneous on variances.

Differences of 15 DA Items between Assaulters with and without Lethal Violence

Since the Danger Assessment scale was originally developed in the America and was designed for assessing the lethality of intimate abuse, comparing its use in Taiwan and in America would be focus the comparison of abusers with and without lethal violence in both areas. It was found that Item 2 (increased severity of violence), Item 3 (choking), Item 6(1)(he threatened to kill), and Item 12(he threatened to commit suicide), were significantly different between the male intimate abusers with and without lethal

violence among the Taiwan samples (Table 13). Therefore, all of these four items could be good predictors of lethal violence in Taiwan.

Table 13 Mean Differences between Abusers with and without Lethal Violence in 15 DA Items among Taiwan Sample by T-test

	Taiwan Sample		
	Abusers with lethal violence (N=50)	Abusers without lethal violence (N=71)	p in t-test
1. increased frequency of violence	.56	.44	.184
2. increased severity of violence	.65	.46	.035*
3. choking	.78	.17	.000***
4. forced sex	.52	.46	.554
5. drug abuse	.02	.0845	.099
6(1). he threatened to kill	.70	.51	.032*
6(2). she believes to be killed	.56	.42	.138
7. alcohol abuse	.44	.34	.259
8. control daily life	.56	.55	.908
9. assault while pregnant	.41	.28	.170
10. violent jealousy	.56	.41	.098
11. she threatened/tried to commit suicide	.52	.45	.457
12. he threatened/tried to commit suicide	.36	.15	.013*
13. violent to child	.42	.41	.951
14 violent outside	.33	.27	.489

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

Predicting Amount of Violence in Brief CTS by DA (Poisson regression)

Predicted amount of violence in Brief CTS by DA As mentioned earlier, the CTS scores were in poisson distribution. For predicting poisson distribution scores, it should not use the regular regression model i.e. ordinary least square regression, which

were based on normal distribution. Instead, only non-parametric regression techniques can be used, such as TOBIT or Poisson Regression. TOBIT was suggested by Straus & Gelles (1990, p453) as one technique to do the regression on the severity weighted scale as in the Brief CTS, but TOBIT was noted to be used only in continuous variables (Maddala, 1983; Long, 1997). Poisson regression is the regression model using maximum-likelihood estimation (MLE) to predict the count data in the poisson distribution. The author was convinced that the weighted amount of violent behavior should be still a discrete variable. Therefore, in this study, the author would use Poisson Regression for predicting the amount of violence (Brief CTS) by the Danger Assessment scale.

After predicting the amount of violence (Brief CTS) by 15 items in the Danger Assessment scale by poisson regression, it was found that Item 5, Item 10, and Item 12 did not reach the significance in the prediction (p values were .76, .58, and .39, respectively), and the R-square was .2965, which meant the 15 DA items could explain 29.65% of variance in the amount of violence by the Brief CTS (Table 14). Meanwhile, after doing the forward stepwise regression analyses on 15 DA items to Predict the Amount of Violence in Brief CTS, it was confirmed that the above three items should be excluded, because their predictions did not reach significant level (p values

were .125, .364, and .478, respectively)(Table 15). After excluding those three items, the other 12 items in the DA could was found the R-square was .2916, which meant that the 12 items in the DA could explain 29.16% of variance of the amount of violence by the Brief CTS (Table 16). However, it was found that 4 negative regression coefficient existed, which might not be reasonable. There might be several reasons for this situation. First, the number of samples in this study might not be large enough for the 15 independent variables in the DA to run the regression. Normally, it is better to add 20 subjects while add each independent variable (Wei Pan, personal communication, March 8, 2000). Second, the collinearity among these independent variables might exist and it is difficult to explain some unreasonable phenomenon, such as creating negative regression coefficients or/and causing some supposedly important predictors not to reach significant level in their responded regression coefficient (Cohen, 1983, p115).

Several methods were suggested to solve the collinearity in Chen (1997, p8-12), such as reducing the number of independent variables, using ridge regression, and using principle component analysis and then using these principle components as independent variables to predict the outcome variable. Of these solutions, the author would choose to use the factor analysis to find the principle components among these 12 DA items. Five principle components existed (Table 17) and each of them reached the significant level in

prediction toward the amount of violence and regression coefficients were all positive, which meant the more tendency on the components the more the amount of violence presented (Table 18). Among those five components, five DA items (threaten to kill, belief to be killed, violent outside, alcohol abuse, and forced sex) were grouped in Component 1, two DA items (increase severity of violence and increase frequency of violence) were grouped in Component 2, one DA item (choking) was in Component 3, two DA items (violence to child and assault when pregnant) were grouped in Component 4, two DA items (she wanted suicide and he wanted suicide) were grouped in Component 5. The R-square in this regression was .2686, which meant those 5 components could explain 26.86% of variance in the amount of violence.

Furthermore, it was found that the correlation between the scores of the DA and Brief CTS reached significant level ($r = .432$, $p = .000$).

Table 14 Predicting the Amount of Violence (Brief CTS) by 15 Items in Danger Assessment by Poisson Regression

Cts	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
da_1 increase frequency	.57	.03	18.60	0.00	.51	.63
da_2 increase severity	-.10	.03	-3.18	0.00	-.17	-.04
da_3 choking	.48	.03	16.14	0.00	.42	.54
da_4 forced sex	-.10	.03	-3.08	0.00	-.16	-.04
da_5 drug abuse	.019	.06	0.30	0.76	-.11	.14
da_6_1 threat to kill	.28	.04	6.81	0.00	.20	.36
da_6_2 believe to be killed	.23	.04	6.57	0.00	.16	.30
da_7 alcohol abuse	.34	.03	11.12	0.00	.28	.40
da_8 control daily life	.02	.03	0.55	0.58	-.05	.08
da_9 assault when pregnant	-.00	.00	-4.83	0.00	-.00	-.00
da_10 violent jealousy	-.03	.03	-0.94	0.35	-.09	.03
da_11 she want suicide	.18	.03	6.28	0.00	.12	.23
da_12 he want suicide	-.078	.03	-2.38	0.02	-.14	-.014
da_13 violent to child	.22	.03	7.87	0.00	.17	.28
da_14 violence outside	.20	.04	5.95	0.00	.14	.27
_cons	2.79	.04	70.63	0.00	2.71	2.87

Note. Number of obs = 116 (since missing values were excluded); LR chi2(15) = 1877.57; Prob > chi2 = 0.0000; Log likelihood = -2227.0846; Pseudo R-square = 0.2965

Table 15 Forward Stepwise Regression Analyses on 15 DA Items to Predict the Amount of Violence in Brief CTS

	R-square	Stepwise change in R-square	b-value	p	Suggest to add or Exclude
DA1 increase frequency of violence	.0631		.520	.000	Add
DA2 increase severity of violence	.0664	.0051	-.090	.003	Add
DA3 choking	.1622	.0958	.646	.000	Add
DA4 forced sex	.1664	.0042	.141	.000	Add
DA5 drug abuse	.1668	.0004	-.094	.125	Exclude
DA6(1) threatened to kill	.2260	.0592	.593	.000	Add
DA6(2) believed to be killed	.2410	.0150	.317	.000	Add
DA7 alcohol abuse	.2719	.0309	.398	.000	Add
DA8 control daily life	.2720	.0001	-.025	.364	Exclude
DA9 assault when pregnant	.2736	.0016	-.003	.003	Add
DA10 violent jealousy	.2768	.0032	-.023	.478	Exclude
DA11 she wanted suicide	.2822	.0054	.016	.000	Add
DA12 he wanted suicide	.2834	.0012	-.088	.006	Add
DA13 violence to child	.2910	.0076	.199	.000	Add
DA14 violent outside	.2965	.0055	.200	.000	Add

Table 16 Predicting the Amount of Violence (Brief CTS) by 12 Items in Danger Assessment scale by Poisson Regression (excluded Item 5, 8, and 10,)

Cts	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
da_1 increase frequency	.58	.03	19.19	0.00	.52	.64
da_2 increase severity	-.08	.03	-2.63	0.01	-.14	-.02
da_3 choking	.50	.03	17.48	0.00	.44	.55
da_4 forced sex	-.07	.03	-2.41	0.02	-.13	-.01
da_6_1 threat to kill	.28	.04	6.94	0.00	.20	.36
da_6_2 believe to be killed	.21	.03	6.12	0.00	.14	.28
da_7 alcohol abuse	.32	.03	10.39	0.00	.26	.38
da_9 assault when pregnant	-.01	.00	-4.87	0.00	-.01	-.01
da_11 she want suicide	.19	.03	6.88	0.00	.14	.25
da_12 he want suicide	-.07	.03	-2.39	0.02	-.13	-.01
da_13 violent to child	.20	.03	7.33	0.00	.15	.25
da_14 violence outside	.18	.03	5.57	0.00	.12	.25
_cons	2.76	.04	72.63	0.00	2.69	2.84

Note. Number of obs = 118(since missing values were excluded); LR chi2(12) = 1881.94; Prob > chi2 = 0.0000; Log likelihood = -2286.164; Pseudo R-square = 0.2916.

Table 17 Five Principle Components among the 12 Items in Danger Assessment scale

Component Matrix [a]

	Component				
	1	2	3	4	5
da6(1)threat to kill	.704	.227	-.419		
da14_violent outside	.652	-.211	-.292		-.320
da6(2)belief be killed	.639	.341	-.407	.247	.150
da7_alcohol abuse	.548	-.479	.212		-.160
da4_force sex	.453	-.291	.280	-.387	-.319
da2_increase sever or not	.162	.765	.353		
da1_increase freq or not	.147	.627	.396	-.149	-.439
da3_choke	.343		.422		.185
da13_violent to child	.270		.245	.674	.159
da9_assault when pregnant	.255	-.423	.384	.455	
da11_she try suicide	.351	.111	.121	-.388	.598
da12_he wanted suicide	.333		.104	-.382	.416

Extraction Method: Principal Component Analysis by varimax rotation.

a. 5 components extracted.

Table 18 Predicting the Amount of Violence (Brief CTS) by 5 principle components among the 12 Items in Danger Assessment scale by Poisson Regression

Cts	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Component1	.28	.01	19.83	0.00	.25	.30
Component2	.27	.01	21.13	0.00	.25	.30
Component3	.24	.01	17.52	0.00	.21	.26
Component4	.29	.01	23.27	0.00	.27	.32
Component5	.15	.01	11.68	0.00	.12	.17
_cons	3.79	.015	253.02	0.00	3.76	3.82

Note. Number of obs = 114(since missing values were excluded); LR chi2(5) = 1707.76; Prob > chi2 = 0.0000; Log likelihood = -2325.3984; Pseudo R-SQUARE = 0.2686.

Lethal Violence and Its Analyses

Lethal violence and areas The lethal violence was directly recoded from the Brief CTS's Item 7 (choking) and Item 9 (used a knife or any killing behavior except choking, which was extended from using a knife or firing a gun in original CTS). During the cross analysis between lethal violence and areas, the total subjects were split into three areas, which were Kaohsiung City, Fonshan Township, and the rural area in Kaohsiung County. Fonshan was single out, because it is a very prosperous township adjacent to Kaohsiung City and it is much more like a city area than rural area even thought it is in Kaohsiung County. It was found that the appearance of lethal violence were significantly different within the city, suburban town, and rural areas as shown in Table 19 (chi-square = 7.058, p=.029). There might be two possible reasons. First, it is more conservative in the rural areas, since the victims might be more willing to report domestic violence only when it

was very severe to them. Second, rural areas might not have the resource to report their victimization or to learn about the recent implementation of new Domestic Violence Prevention Law.

Table 19 area * lethal violence or not Crosstabulation

area * lethal violence or not Crosstabulation

			lethal violence or not		
			no	yes	Total
area	K city	Count	54	28	82
		% within area	65.9%	34.1%	100.0%
	K county_fonshan	Count	8	6	14
		% within area	57.1%	42.9%	100.0%
	K county_rural area	Count	9	16	25
		% within area	36.0%	64.0%	100.0%
Total		Count	71	50	121
		% within area	58.7%	41.3%	100.0%

Note. Chi-square = 7.058, p= .029*

Lethal violence and demographic data. The relationships between the times of lethal violence and the demographic data would be explored as the following.

It was found that all of the abusers' age, level of education, employment, and ethnicity could not have significant relationship with the times of lethal violence (Table 20). Moreover, the age difference between the couples did not have significant correlation to the times of lethal violence.

Regarding the victims' demographic data, it was found all of the victims' age, level of education, employment status, or ethnicity did not have a significant relationship with

the times of lethal violence (Table 20).

Table 20 Time of Lethal Violence and its Relationship to Demographic Data

	r or F	p
abusers' age	r = -.016	.861
age difference b/w couples	r = -.067	.473
abusers' level of education	F= .738	.620
abusers' employment status	F=.275	.760
abusers' ethnicity	F=.321	.900
victims' age	r =.007	.937
victims' level of education	F= .458	.838
victims' employment status	F=1.229	.296
victims' ethnicity	F=.491	.782

Lethal violence and DA and Brief CTS. Even though the lethal violence was recoded from the Brief CTS, it was still worthy to explore the mean differences of the scores on the DA and Brief CTS between the intimate abuses with and without lethal violence. It was found that e mean differences of the scores on the DA and Brief CTS between the intimate abuses with and without lethal violence were significant (t = 3.598, p = .001; t= 3.826, p = .000, respectively) (Table 21). However, it had to be noted that the range of both groups in scores of the DA and Brief CTS were still large. It was showed in Table that the highest Brief CTS score in abuses without lethal violence was 207, which meant this abuser might only use high amount of minor violence (Item 1 through 6, and Item 8) but not for any lethal violence.

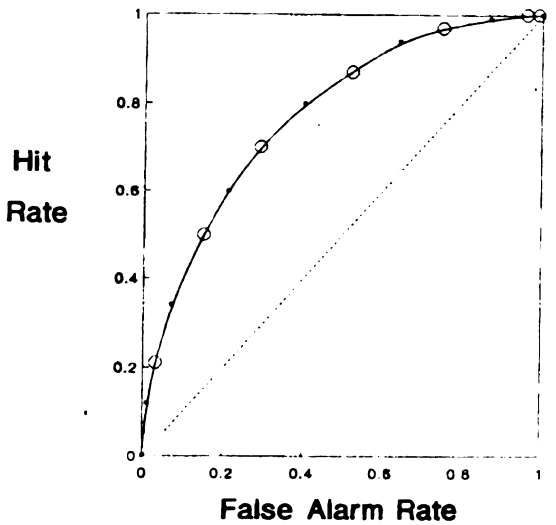
Table 21 Mean Differences of Brief CTS and DA between Abusers with and without lethal violence

	(number of samples)	Brief CTS	DA
Abuser with lethal violence	50	72.42 (13~349)	1. 34 (1~13)
Abuser without lethal violence	71	34.42 (0~207)	4.38 (0~12)
	(total = 121)	t=3.598 p= .001**	t = 3.826 p =.000***

Predicting lethal violence by DA and Brief CTS through ROC. Two measures were used to describe the predictive accuracy of the risk scale: (a) r, the correlation coefficient, and (b) the area under the receiver operating characteristic (ROC) curve (Hanson, 1997). Receiver operating characteristic (ROC) was first developed in communication technology and in signal detection theory in psychophysics. Not until the mid-90s, was the ROC applied in predicting violence (Quinsey, Harris, Rice, & Cormier, 1998). The ROC curve is a useful way to evaluate the performance of classification schemes in which there is one variable with two categories by which subjects are classified. The area under the ROC curve was used as the primary measure of predictive accuracy (Mossman, 1994; Rice & Harris, 1995). The ROC curve plots the hits (accurately identified recidivists) and false alarms at each level of the risk scale. The area under the ROC curve can range from .50 to 1.0, with 1.0 indicating perfect prediction (no overlap between recidivists and non-recidivists) and .50 indicating

prediction no better than chance (Figure 2; note: The diagonal of this figure is .50, which means guess by chance). In general, the ROC area can be interpreted as the probability that a randomly selected recidivist would have a more deviant score than a randomly selected nonrecidivist. The ROC area has advantages over other commonly-used measures of predictive accuracy (e.g., percent agreement, correlation coefficients) since it is not constrained by base rates or selection ratios (Hanson & Thornton, 1999).

Figure 2 Receiver Operative Characteristic (ROC)



Note. (1) Hit rate is true positive of the prediction, and false alarm is false positive of prediction. (2) From Quinsey, V. L., Harris, G. T., Rice, M. E., & Cormier, C. A. (1998). *Violent offenders: Appraising and managing risk.* Washington, DC: American Psychological Association.

In this study, whether or not the lethal violence presented was reported by the victims would be predicted by the DA scale through the predictive accuracy of the ROC curve. It was found that the area under the ROC curve of the DA was .753, which was moderate and satisfactory accuracy, and the area under the ROC curve of the Brief CTS was .718, which was a lower moderate and still a satisfactory accuracy (see Figure 3 and Table 22), even though the lethal violence was directly recoded from the Brief CTS's Item 7 (choking) and Item 9 (used a knife or any killing behavior except choking). The reason for this situation would be that the weighing system of physical violence in the CTS could not clearly differentiate the lethal violence and non-lethal violence, even though the more severe violence was weighted higher.

Figure 3 Predicting Lethal Violence by DA and CTS in ROC Curve Prediction Accuracy

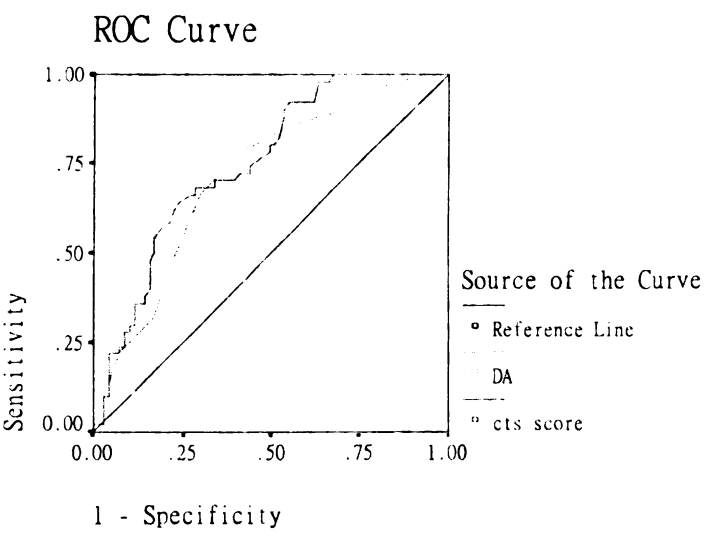


Table 22 Area Under the ROC Curves for Predicting Lethal Violence by CTS and DA

Area Under the Curve

Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
				Lower Bound	Upper Bound
cts score	.753	.043	.000	.668	.838
DA	.718	.047	.000	.627	.810

The test result variable(s): cts score , DA has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

a. Under the nonparametric assumption

b. Null hypothesis: true area = 0.5

Predicting lethal violence by DA and Brief CTS through correlation coefficient. It was found that the correlation coefficient between lethal violence and DA was .364 ($p<.000$), and the correlation coefficient between lethal violence and Brief CTS was .333 ($p<.000$) (Table 23).

Table 23 Bivariate Correlation within CTS, DA, Lethal Violence

Correlations

		cts score	DA	lethal violence or not
cts score	Pearson Correlation	1.000	.450**	.333**
	Sig. (2-tailed)	.	.000	.000
	N	121	121	121
DA	Pearson Correlation	.450**	1.000	.364**
	Sig. (2-tailed)	.000	.	.000
	N	121	121	121
lethal violence or not	Pearson Correlation	.333**	.364**	1.000
	Sig. (2-tailed)	.000	.000	.
	N	121	121	121

**. Correlation is significant at the 0.01 level (2-tailed).

Predicting lethal violence by cutoffs in Brief CTS. It would be worthy to categorize the abusers based on the amount of violence for the purpose of helping social

workers identify the lethality risk to domestic violence victims. The author created three categories as shown in Table 24. The cutoffs were selected as 25%, 66%, 50%, and 75% of the Brief CTS scores, which were 15, 32, 43, and 60, respectively (Table 25).

Table 24 Three Categories for Stratifying the CTS Scores

Three Categorizing Ways	Level of amount of violence	Cutoff in CTS	% of lethal violence	Chi-square
CTS_66 (cutoff at 66%)	low violent amount abuser	Lowest –42	27.5%	18.60***
	high violent amount abuser	43-highest	68.3%	
CTS_CU3 (cutoff at 25% & 75%)	low violent amount abuser	Lowest-14	12.9%	17.39***
	mid violent amount abuser	15-59	44.1%	
	high violent amount abuser	60-highest	64.5%	
CTS_CU3A (cutoff at 50% & 75%)	low violent amount abuser	Lowest-31	24.2%	16.11***
	mid violent amount abuser	32-59	53.6%	
	high violent amount abuser	60-highest	64.5%	

Note. ***p< .001

Table 25 Descriptions in Scores of Brief CTS and DA

Statistics

		cts score	DA
N	Valid	121	121
	Missing	0	0
Mean		50.12	6.04
Median		32.00	6.00
Mode		0[a]	7
Std. Deviation		56.41	3.01
Percentiles	25	15.00	4.00
	50	32.00	6.00
	66	43.52	7.00
	75	60.00	8.00

a. Multiple modes exist. The smallest value is shown

Figure 4 Predicting Lethal Violence by three Categories of CTS in ROC Curve Prediction Accuracy

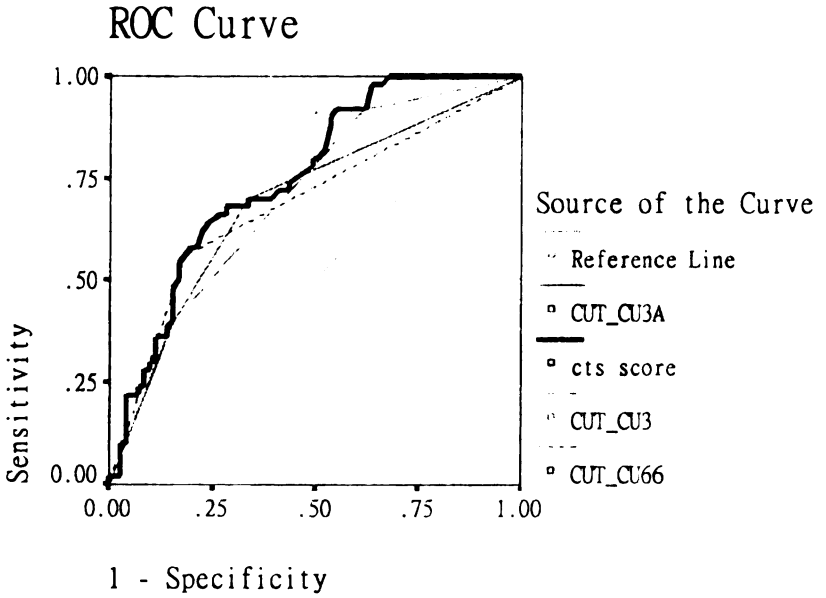


Table 26 Areas under ROC Curves for three Categories in CTS Scores to Predict the Appearance of Lethal Violence

Area Under the Curve

Test Result	Area
CUT_CU66	.688
CUT_CU3	.703
cts score	.753
CUT_CU3A	.694

The test result variable(s): CUT_CU66, CUT_CU3, cts score , CUT_CU3A has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

After comparing the three categories' predicting the appearance of lethal violence, the CUT_CU3 category, which cutoffs were at 25% and 75%, had the largest ROC area with .703 (Table 26 and Figure 4). Therefore, this way would be recommended for future

use in Taiwan.

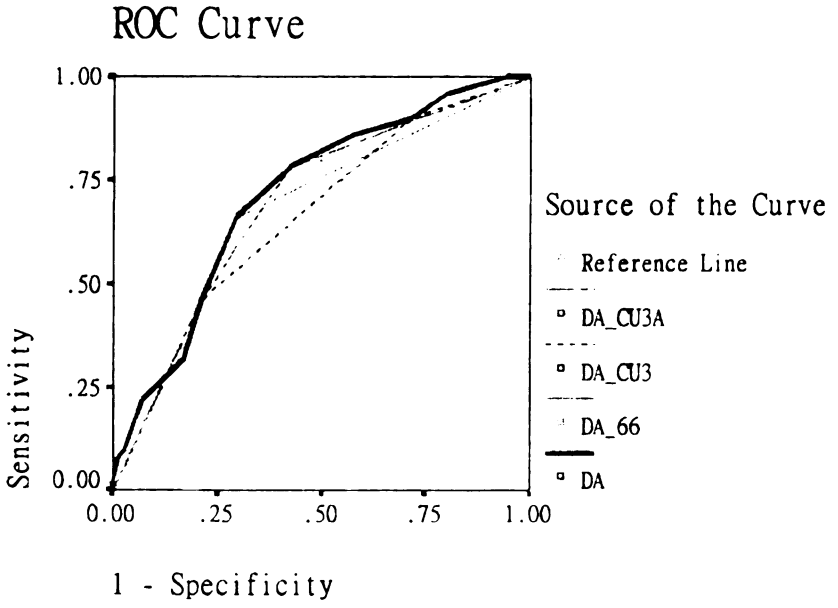
Predicting lethal violence by cutoffs in DA. The author created three categories as shown in Table 27. The cutoffs were selected as 25%, 66%, 50%, and 75% of the Danger Assessment scale which were 4, 6, 7, and 8, respectively (see Table 25).

Table 27 Three Categories for Stratifying CTS Scores

Three Categories	Level of amount of violence	Cutoff in DA	% of lethal violence	Chi-square
DA_66 (cutoff at 66%)	Low violent amount abuser	Lowest –6	25.4%	15.75***
	High violent amount abuser	7-highest	61.1%	
DA_CU3 (cutoff at 25% & 75%)	Low violent amount abuser	Lowest-3	20.0%	10.742**
	Mid violent amount abuser	4-7	37.9%	
	High violent amount abuser	8-highest	60.5%	
DA_CU3A (cutoff at 50% & 75%)	low violent amount abuser	Lowest-5	21.2%	15.86***
	mid violent amount abuser	6-7	51.6%	
	high violent amount abuser	8-highest	60.5%	

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

Figure 5 Predicting Lethal Violence by three Categories of DA Scores in ROC Curve Prediction Accuracy



Diagonal segments are produced by ties.

Table 28 Areas under ROC Curves for three Categories in DA Scores

Area Under the Curve

Test Result	Area
DA	.714
DA_66	.682
DA_CU3	.661
DA_CU3A	.694

The test result variable(s): DA, DA_66, DA_CU3, DA_CU3A has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

After comparing the three categories' predicting the appearance of lethal violence, the DA_CU3A way, which cutoffs were at 50% and 75%, had the largest ROC area with .694 (Table 28 and Figure 5). Therefore, this way would be recommended for future

use in Taiwan.

Predicting lethal violence by refined DA. It would be worthy to examine the DA's prediction toward lethal violence by logistic regression. The R-square, which is a coefficient of determination, was found to be .3983, which meant the DA could explain 39.83% of the variance in the appearance of lethal violence. However, it was also found that only Item 3 and Item 12 in the revised and translated DA reached the significant level of .05. There might be several reasons for this situation. First, the number of samples in this study might not large enough for the 15 independent variables in the DA to run the regression. Normally, it is better to add 20 subjects while add each independent variable (Wei Pan, personal communication, March 8, 2000). Second, the collinearity among these independent variables might exist and it is difficult to explain some unreasonable phenomenon, such as creating negative regression coefficients or/and causing some supposedly important predictors not to reach significant level in their responded regression coefficient (Cohen, 1983, p115) Regarding the collinearity, it was confirmed in that , of a total of 105 bivariate correlation among 15 DA items, 20 bivariate correlation reached significant level (Table 29). Third, both dependent and independent variables were dummy variables, which cause more problems in accuracy of prediction than continuous variables would do.

Several methods were suggested to solve the collinearity in Chen (1997, p8-12), such as reducing the number of independent variables, using ridge regression, and using principle component analysis and then using these principle components as independent variables. Of these solutions, the author would choose to reduce the number of independent variables. After comparing several ways of reducing the number of independent variables, four items (Item 1, 3, 6(1), and 12. See Table 30. It was noted that Item 4 was excluded, since it could not reach significance between abusers with and without lethal violence as previously mentioned) in the DA remained as the independent variables to run the logistic regression, which was found the R-square was .3523, which meant they could explain 35.23% of the variance of the appearance of lethal violence (Table 31). Based on this finding, a Brief DA with these four items (Item 1, 3, 6(1), 12) could be formed. These four items were chosen because their significant levels were relatively small (the cutoff for screening the DA items was .20, since sample size in this study was not big enough).

After doing the ROC accuracy test on a new variable composed by these four items, the area under the curve of this composed variable was .801, which was still smaller than the area under the curve of Item 3 (choking behavior) (.805), even thought choking behavior is not the only category in lethal violence.

Table 29 Pearson R of Bivariate Correlations among 15 DA Items

	da_1 increase frequency	da_2 increase severity	da_3 choking	da_4 forced sex	da_5 drug abuse	da_6_1 threat to kill	da_6_2 believe to be killed	da_7 alcohol abuse	da_8 control daily life	da_9 assault when pregnant	da_10 violent jealousy	da_11 she want suicide	da_12 he want suicide	da_13 violent to child	da_14 violence outside
da_1 increase frequency		.50**	-.03	.11	-.10	.08	.02	-.08	.14	-.10	.04	.06	.03	-.01	-.01
da_2 increase severity			.07	-.07	-.13	.10	.16	-.16	.17	-.09	-.02	.09	.09	.11	-.07
da_3 choking				.17	-.07	.14	.09	.16	-.08	.17	.17	.09	.03	.03	.02
da_4 forced sex					.04	.15	.02	.29**	.24**	.04	.26**	.16	.07	.03	.29**
da_5 drug abuse						-.01	-.10	.10	.01	-.08	.05	-.03	.03	-.21*	.08
da_6_1threat to kill							.60**	.17	.09	-.01	.31**	.13	.12	.12	.42**
da_6_2believe to be killed								.10	.10	-.01	.19*	.07	.12	.23*	.30**
da_7 alcohol abuse									.09	.27**	.22*	.10	.12	.13	.36**
da_8 control daily life										.04	.45**	-.01	.19*	.09	.25**
da_9 assault when pregnant											.11	-.04	.05	.20*	.13
da_10 violent jealousy												.14	.15	.08	.26**
da_11 she want suicide													.20**	.04	.08
da_12 he want suicide														-.01	.15
da_13 violent to child															.05
da_14 violence outside															

Note. *<.05, **<.01

Table 30 Predicting the Appearance of Lethal Violence by 15 Items in Danger Assessment by Logistic Regression

Lethal violence	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
da_1 increase frequency	2.38	1.48	1.40	0.16	.71	8.03
da_2 increase severity	1.63	1.04	0.77	0.44	.47	5.66
da_3 choking	33.25	22.94	5.08	0.00	8.60	128.54
da_4 forced sex	.45	.27	-1.32	0.19	.14	1.47
da_5 drug abuse	.21	.36	-0.91	0.36	.01	6.00
da_6_1threat to kill	1.93	1.50	0.85	0.40	.42	8.81
da_6_2believe to be killed	.90	.65	-0.14	0.89	.22	3.71
da_7 alcohol abuse	1.61	.98	0.79	0.43	.49	5.30
da_8 control daily life	1.27	.87	0.35	0.73	.33	4.85
da_9 assault when pregnant	.99	.02	-0.65	0.52	.95	1.02
da_10 violent jealousy	1.44	.93	0.56	0.58	.40	5.10
da_11 she want suicide	.73	.41	-0.57	0.57	.24	2.18
da_12 he want suicide	7.03	5.04	2.72	0.01	1.72	28.67
da_13 violent to child	.73	.41	-0.56	0.57	.25	2.17
da_14 violence outside	.87	.59	-0.20	0.84	.23	3.32

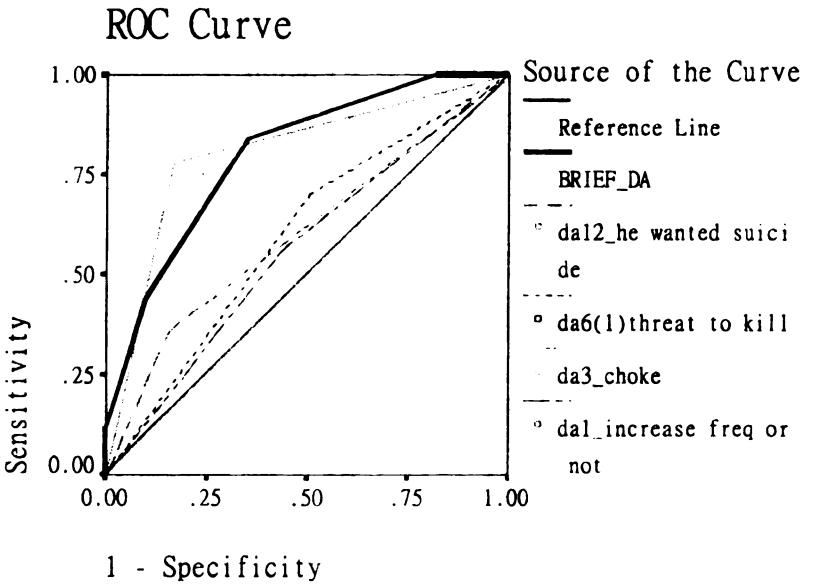
Note. LR chi2(15) = 62.05, Prob > chi2 = 0.0000, Log likelihood = -46.86906, Pseudo R-square = 0.3983

Table 31 Predicting the Appearance of Lethal Violence by 4 Items in Danger Assessment by Logistic Regression

Lethal violence	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf.	Interval]
da_1 increase frequency	2.55	1.32	1.81	0.07	.92	7.03
da_3 choking	21.53	11.62	5.69	0.00	7.48	61.99
da_6_1 threat to kill	1.67	.85	1.02	0.31	.62	4.50
da_12 he want suicide	4.45	2.66	2.50	0.01	1.38	14.36

Note. Number of obs = 121, LR chi2(4) = 57.81, Prob > chi2 = 0.0000, Log likelihood = -53.133535, Pseudo R-square = 0.3523.

Figure 6 ROC Curves for Predicting Lethal Violence by Item 1, 3, 6(1), & 12 in DA



Diagonal segments are produced by ties.

Table 32 Area under ROC Curves for Predicting Lethal Violence by Item 1, 3, 6(1), & 12 in DA

Area Under the Curve

Test Result	Area
dal_increase freq or not	.562
da3_choke	.805
da6(1)threat to kill	.596
dal2_he wanted suicide	.603
BRIEF_DA	.801

The test result variable(s): dal_increase freq or not, da3_choke, da6(1)threat to kill, dal2_he wanted suicide, BRIEF_DA has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

For the purpose of finding the difference between logistic regression and poisson regression, the author recoded the times of presenting lethal violence from the Brief CTS

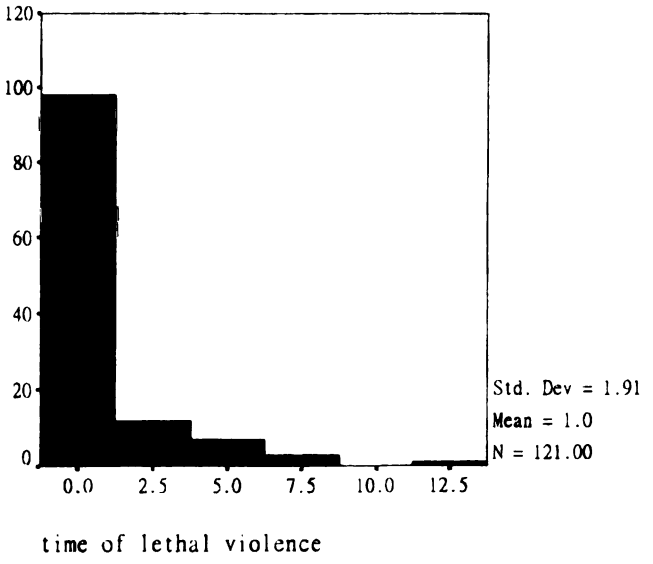
(Item 7 "choking" and Item 9 "using knife toward you and any other killing behavior" were included. Item 8 "threatened you with a knife" was excluded, it did not reach killing behavior), in addition to the appearance of lethal violence. It was found, however, after doing the possion regression to predict the times of lethal violence by 15 DA items, the R-square lowered to .1973 (Table 33), while the R-square was .3983 after doing the logistic regression to predict the appearance of lethal violence by the same 15 DA items. The reason for this situation might result from the three same reasons as previously pointed out-- too small sample size, the problem of collinearity or the problem of dummy variables. Moreover, the times of lethal violence was found as a skewed distribution (Figure 7), which might also cause poisson regression lower its R-square, compared the use of logistic regression, which could balance the skewed distribution.

Table 33 Predicting the Times of Lethal Violence by 15 Items in Danger Assessment by Poisson Regression

Lethal violence	Odds Ratio	Std. Err.	z	P>|z|	[95% Conf. Interval]	
da_1 increase frequency	.29	.22	1.33	0.19	-.14	.71
da_2 increase severity	-.16	.23	-0.70	0.49	-.61	.30
da_3 choking	1.15	.23	5.05	0.00	.70	1.60
da_4 forced sex	-.35	.23	-1.54	0.12	-.80	.09
da_5 drug abuse	-1.29	.74	-1.68	0.09	-2.69	.21
da_6_1 threat to kill	.75	.31	2.46	0.01	.153	1.36
da_6_2 believe to be killed	.22	.24	0.89	0.4	-.25	.70
da_7 alcohol abuse	.35	.22	1.56	0.11	-.08	.79
da_8 control daily life	.18	.25	0.73	0.47	-.31	.67
da_9 assault when pregnant	-.016	.012	-1.37	0.17	-.04	.01
da_10 violent jealousy	.30	.23	1.29	0.20	-.16	.76
da_11 she want suicide	.24	.21	1.15	0.25	-.17	.64
da_12 he want suicide	-.10	.23	-0.42	0.67	-.56	.36
da_13 violent to child	-.17	.20	-0.87	0.38	-.57	.22
da_13 violent to child	-.06	.25	-0.24	0.81	-.54	.426
_cons	-1.60	.32	-5.03	0.00	-2.22	-.98

Note. Number of obs = 116; LR chi2(15) = 80.48; Prob > chi2 = 0.0000 ; Log likelihood = -163.71767; Pseudo R-SQUARE = 0.1973.

Figure 7 Histogram of Times of Lethal Violence in Taiwan Samples



Six Other Important Variables in Domestic Violence

Time percentage of being abused after cohabiting. It was found that the mean of the time percentage of being abused after cohabiting was .79 years with the minimum of .01 years and maximum of 20 years. Moreover, it would be worthy to explore whether or not the time percentage of being abused after cohabitation could predict the amount of violence and the appearance of lethal violence. (a) Whether or not the time percentage of being abused after cohabitation could predict the amount of violence: It was found that the correlation between the two variables was not significant (r= .003, p = .975), poisson regression coefficient was not significant (b= .003, p= .690, R-square =.00). (b) Whether or not the time percentage of being abused after cohabitation could predict the appearance of lethal violence: It was found that the correlation between the two variables was not significant (t= .917, p = .361), logistic regression coefficient was not significant (b= -.221, p=.537, R-square =.01), and the area under the ROC curve was .469 (which meant this prediction was worse than guess by chance) (see Table 38).

Victims' self assessment on chance of being re-abused in the future. On a scale of 0 to 10, the mean of victims' self assessment on the chance of being re-abused in the future was 6.17 with the responses in the minimum of 0 and maximum of 10, which was not a normal distribution (Kolmogorov-Smirnov= .167, p=.000). Moreover, it would be

worthy to explore whether or not the amount of violence and the appearance of lethal violence could predict victims' self assessment on the chance of being re-abused. (a) Whether or not victims' self assessment on the chance of being re-abused could predict the amount of violence: It was found that the correlation between the two variables was significant (r= .267, p = .003), poisson regression coefficient was significant (b= .002 (exp[.002]= 1.002), p=.000, R-square =.028). (b) Whether victims' self assessment on the chance of being abused could predict the appearance of lethal violence: It was found that the correlation between the two variables was not significant (t= 1.718, p = .088), but logistic regression coefficient was significant (b= 1.148, p= .031, R-square= .030). Therefore, the above results showed that both the amount of violence and the appearance of lethal violence could significantly predict the victim's self assessment on the chance of being re-abused (Table 38).

Abusers' stalking behavior. While asked whether or not the victims were stalked by the abusers in the last one-year period, 39 (32.2%) victims responded they had been stalked in the last year, and 52 (43%) responded none, while 28 (23.1%) responded they did not know (Table 34). It was worthy to explore if times of being stalked could predict the amount of violence and the times of appearing lethal violence. (a) Whether or not the times of being stalked could predict the amount of violence: It was found that the

correlation between the two variables was not significant (r= -.016, p = .879), poisson regression coefficient was not significant (b= -.027 (exp[-.027]= .97), p=.106, R-square =.001). (b) Whether or not being stalked could predict the appearance of lethal violence: It was found that the correlation between the two variables was significant (Chi-square=2.052 p= .358) and the logistic regression coefficient was not significant (b= 1.36, p= .208). However, while predicting the times of lethal violence by poisson regression, it was found that the poisson regression coefficient was significant (b= .387 (exp[.387]= 1.42), p=.001, R-square =.034), and the area under the ROC curve was .565 (which meant this prediction accuracy was low) (Table 38).

Table 34 The Victims' Responses on Whether Been Stalked or Not

stalking or not

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no in last yr	52	43.0	43.7	43.7
	1~2 last yr	15	12.4	12.6	56.3
	at least 3 last yr	24	19.8	20.2	76.5
	don't know	28	23.1	23.5	100.0
	Total	119	98.3	100.0	
Missing	System	2	1.7		
Total		121	100.0		

Abusers' threatening to hurt the victims' family of origin. Whether or not the abusers threatened to hurt the victims' family of origin and the kids to prevent the victims' leaving them was suggested by a medical doctor in Kaohsiung City, Chih-chung

Huang. In his clinical practice for the female victims, he found these two items might be related to the amount of violence and/or the appearance of lethal violence and deserves to be explored (personal communication, August 17, 2000). It was found that 45 (37.2%) victims responded their abusive partners did threaten to hurt their family of origin to prevent the victims' leaving them, while 75 (63.0%) responded not (Table 35). It was worthy to explore threatening to hurt victim's family of origin could predict the amount of violence and the time of appearing lethal violence. (a) Whether threatening to hurt victim's family of origin could predict the amount of violence: It was found that the correlation between the two variables was not significant (t= .182, p = .856), poisson regression coefficient was not significant (b= -.408 (exp[-.408]= .66), p=.127). (b) Whether or not threatening to hurt victim's family of origin could predict the appearance of lethal violence: It was found that the correlation between the two variables was not significant (Chi-square=.057, p= .811), logistic regression coefficient was not significant (b= 1.096 , p=.811).

Table 35 Whether or Not the Abusers Threatened to Hurt Victims' Family of Origin

HURPALW

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	75	62.0	62.5	62.5
	yes	45	37.2	37.5	100.0
	Total	120	99.2	100.0	
Missing	System	1	.8		
Total		121	100.0		

Abusers' threatening to hurt the kids. It was worthy to explore if abusers' threatening to hurt kids could predict the amount of violence and the appearance of appearing lethal violence. (a) Whether threatening to hurt kids could predict the amount of violence: It was found that the correlation between the two variables was not significant (t= .555, p = .580), poisson regression coefficient was significant (b= -.132 (exp[-.132]= .87), p=.000, R-square =.0031), which meant that the previous assumption could be supported, and the abuser who did threaten to hurt kids had more amount of violence. (b) Whether or not threatening to hurt kids could predict the appearance of lethal violence: It was found that the correlation between the two variables was not significant (Chi-square= .402, p= .526), logistic regression coefficient was not significant (b= 1.299 , p=.562) (Table 38).

Living with mother-in-law and having a bad relationship with her. Gallin (1999) pointed out that most of Taiwan wives in her sample in south Taiwan villages (24 out of

25) could not be treated well by their mother-in-law, even about half of them reported to be bruised by their mother-in-law while living with them. Chen (1997), moreover, submitted the womb theory, which assumed that the poor relationship between wives and mother-in-laws might cause the mother-in-laws trigger their sons to abuse their wives.

After collecting the data from the 2 centers, the author requested the social workers the supplementary data on whether the victims lived with their mother-in-laws and had a bad relationship with them while they were abused. It was found that 31.0% of victims living in the urban area lived with their mother-in-laws, while 28.6% of victims living in the rural area did, but the difference did not reach significance (chi-square = .048, p= .862)(Table 36). This situation was very different from American families, since normally the American couples did not live with their mother-in-law. It was worthy to explore if the victims' living with mother-in-law and having a bad relationship with her could correlate to or predict the amount of violence and the appearance of appearing lethal violence of their male partners. (a) Whether the victims' living with mother-in-law and having a bad relationship with her could correlate to the amount of violence: It was found that the victims' having argument with mother-in-laws received lower amount of violence (M= 42.72) than the victims' having no argument with mother-in-laws(M= 51.88), but this difference did not reach significance. After comparing the victims who

had no argument with mother-in-laws, argued and lived with mother-in-laws, and argued but not lived with mother-in-laws, it was found that the means of amount of violence among them did not reach significance (F= 1.234, p = .295). Therefore, the assumption of womb theory that the victims' having higher conflict with mother-in-law triggered the higher amount of violence could not be supported. (b) Whether the victims' living and having bad relationship with mother-in-laws could correlate the appearance of lethal violence: It was found that the relationship between the victims with and without argument with mother-in-laws and the appearance of lethal violence did not reach significance (chi-square = .273, p = .303). After comparing the victims who no-argument with mother-in-laws, argued and lived with mother-in-laws, and argued but not lived with mother-in-laws, it was found that the means of amount of violence among them did not reach significance (chi-square = 2.487, p = .288) (see Table 37).

Table 36 Whether the Victims Lived with their Mother-in-laws in Urban and Rural Areas

urban/rural * cohabit with mother in law Crosstabulation

			cohabit with mother in law		
			no	yes	Total
urban/rural	urban	Count	60	27	87
		% within urban/rural	69.0%	31.0%	100.0%
	rural	Count	15	6	21
		% within urban/rural	71.4%	28.6%	100.0%
Total		Count	75	33	108
		% within urban/rural	69.4%	30.6%	100.0%

Note. chi-square = .048, p= .862

Table 37 Whether Victims' Living and Arguing with Mother-in-laws Correlate the Amount of Violence and Appearance of Lethal Violence

		Argue w/ mother-in-law		Argue w/mother-in-law		
		Yes (n=36)	no (n=85)	yes		No (n=85)
Brief CTS		42.72	51.88	Live with (n=14)	Not live with (n=22)	
				27.93	52.14	51.88
T/F test		t = .812 p= .413		F=1.139 p= .324		
Appearing lethal violence	No	57	12	10	15	46
	Yes	44	5	4	7	39
Chi-square		Chi-square = .273 p= .303		Chi-square = 2.487 p= .288		

Table 38 Six Other Variables' Correlation and Prediction on the Amount of Violence and Appearance of Lethal Violence

Predictor \ outcome variable	Amount of violence	Appearance of lethal violence
1.time % of being abused after cohabitation	r=.003, p=.975 b=.003, p=.690	t= .917, p= .361 b= -.221, p= .517
2.Victim's assessing on chance of future re-abuse	r=.267, p=.003** b=.079, p= .092	t= 1.718, p= .088 b= .148 , p= .030* (R-square = .030)
3.Abusers' stalking behavior	r=-.016, p=.879 b=-.027, p=.106	Chi-square=2.052 p= .358 b= 1.36, p= .208 [b= .198, p=.001**, R-square=.034, while using poisson regression to predict times of lethal violence]
4.Abusers' threatening to hurt victims' family of origin	t= .182, p=.856 b= -.408, p=.127	Chi-square=.057, p= .811 b= 1.096, p=.811
5.Abusers' threatening to hurt the child	t= .555, p= .580 b= -.132 (exp[-.132]=.88), p= .000*** (R-square =.0031)	Chi-square=.402, p= .526 b= 1.299, p= .562
6. living and having bad relationship with mother-in-law	t= .237, p= .303	Chi-square=2.487, p= .288 b= .649, p=.134

Note. (1) Exp meant exponential. See Long (1997). (2) *<.05, **<.01, ***<.001

After doing the forward stepwise poisson regression by adding the above first 5 items in the 12 valid DA items to predict the amount of violence, it was also found that the R-square was from .2916 to .4651. However, the time percentage of abuse after cohabitation was excluded, since it decreased the R-square. Moreover, the slopes of the times of stalking, threatening to hurt her family of origin, and threatening to hurt the kids were all positive and significant, which meant the higher of them the higher amount of violence. This result would be more credible than the regression with individual independent variable (see Table 39).

Table 39 Forward Stepwise Poisson Regression Analyses on the 12 DA Items to Predict the Amount of Violence in Brief CTS

	R-square	Stepwise change in R-square	b-value	p	Add or Exclude
12 DA Items (excluding Item 5, 8, &10)	.2916				
(Forward stepwise by adding the following 5 items)					
1.Percentage of abuse after cohabitation	.2876	-.0040	-.037	.000 ***	Exclude
2.Chance of future re-abuse assessed by victims	.3100	.0224	.055 (exp[.055]=1.06)	.000 ***	Add
3.Time of stalks	.3712	.0612	-.155 (exp[-.155]=.86)	.000 ***	Add
4.Threaten to hurt her family of origin	.4405	.0693	-.493 (exp[-.493]=.61)	.000 ***	Add
5.Threaten to hurt kids	.4651	.0246	-.321 (exp[-.321]=.73)	.000 ***	Add

Note. (1) Exp meant exponential. See Long (1997); (2) *** p<.001

Whether Violent Outside Could Be a Criterion to Distinguish the Different Types of Batterers

As mentioned in the literature review, Holtzworth-Munroe et al (1994) identified that whether the batterers were violent outside was one of the three dimensions to distinguish the different types of male batterers. Based on Holtzworth-Munroe et al (1994), the author tried to learn whether or not the generality of violence could be the good criterion to distinguish the male batterers. It was found that generality of violence had a significant positive correlation with six items in the DA. They included forced sex, threatening to kill, belief of being killed, alcohol abuse, controlling daily life, and violent jealousy (Table 40).

Table 40 Correlation Between Whether Violent Outside and Other DA 14 Items

	Whether Violent Outside						
	DA_1 increase frequency of violence	DA_2 increase severity of violence	DA_3 choking	DA_4 Forced sex	DA_5 drug abuse	DA_6(1) threat to kill	DA_6(2) belief of being killed
r	.462	-.008	.042	.286	.075	.412	.297
p	.648	.934	.651	.003**	.466	.000***	.001**
	Whether Violent Outside						
	DA_7 alcohol abuse	DA_8 control daily life	DA_9 assault when pregnant	DA_10 Violent jealousy	DA_11 she wanted to suicide	DA_12 he wanted suicide	DA_13 Violent to child
r	.361	.259	.127	.257	.076	.152	.048
p	.000***	.004**	.178	.005**	.407	.098	.602

Note. (1) All above variables were regarded as continuous variables for testing their bivariate correlation, even thought they were dummy variables. (2) *<.05, **<.01, ***<.001

Moreover, after comparing means on the brief CTS, the DA, and times of lethal violence between the abusers with and without outside violence (DA Item 14), it was found that the abusers with outside violence had significantly higher amount of violence then the abusers without outside violence. Such situation also happened on the DA scores, the mean difference between the two groups was 2.89, which meant that about 2 other items were responded positively in addition to the item of presence of outside violence. However, it was found that the two groups could not reach significant difference on the times of lethal violence, which might be predicted mainly by the five other items in DA (Item 1, 3, 4, 6(1), and 12) shown in the previous session (Table 41). Therefore, it might be said that whether abusers' presenting outside violence could be a good criterion to distinguish the subtypes of male batterers, but might not be a good predictor for predicting the lethal violence.

Table 41 Comparing Means on Brief CTS, DA, and Times of Lethal Violence between the Abusers with and without Outside Violence

		Mean	T	p
Brief CTS	Had outside violence	69.60	-2.024	.049*
	No outside violence	42.31		
DA	Had outside violence	8.11	-5.306	.000***
	No outside violence	5.22		
Time of lethal violence	Had outside violence	1.26	-1.035	.303
	No outside violence	.86		

Cluster Analysis of Intimate Abusers by the 15 DA Items

After doing Ward's method of hierarchical cluster analysis with squared Euclidean distance among all respondents to the 15 DA items and setting the cluster solution from 2 through 5, it was found that the 4 clusters best fit the data.

After using the stepwise discriminant analysis, it was found that 96.4% of total original grouped cases were correctly classified in the predicted group membership. Among them, 97.7% of original grouped cases were correctly classified in Cluster 1, 94.1% in Cluster 2, 94.7% in Cluster 3, and 96.6% in Cluster 4 (Table 42). However, it was noted that nine respondents were not grouped in this cluster analysis.

Based on the demographic data, it was found that the differences of abusers' age, levels of education, and employment status among 4 clusters could not reach significance. However, it was found that Cluster 1 had the lowest scores in the amount of violence, times of lethal violence, the DA scores, and outside violence, so it could be named "low-violent assaulter". Cluster 2 had medium scores in the amount of violence, and lethal violence, but had the highest scores in increased frequency of violence, increased severity of violence, and violence to children. Cluster 2 also had the lowest scores in control daily life and violent jealousy, so it would be appropriate to name it as "medium-violent, and low-controlling assaulters". Cluster 3 had the highest scores in amount of violence, lethal

violence, choking, forced sex, alcohol abuse, and assault when pregnant. It was also found that all batterers in Cluster 3 had alcohol abuse problem, so it would be appropriate to name them "high-violent, high-lethal, and alcoholic assaulters". Cluster 4 had the second highest scores in amount of violence and the times of lethal violence, and also had the highest scores in the DA total, threat to kill, control daily life, violent jealousy, threat to commit suicide, and violence outside. It was also found that all of batterers in Cluster 4 had threatened to kill her and controlled her daily life. Cluster 4 was to be named as "high-violence, high controlling assaulters" (Table 43).

Regarding years of abuse, it was found that the Cluster 3 had the longest history of abuse after cohabitation (M= 12.53 years), and the differences among 4 clusters reached significance (F = 2.892, p= .039). However, the difference of the time percentage of abuse after cohabitation did not reach significance (F= .917, p=.435), but the it was found that the Cluster 4 started to abuse their partners before cohabitation (M= 126%), which may mean that their high level of controlling convinced their female partners that the abusers did love them, even though they had the high amount of violence. Regarding the victims' assessment on chance of being re-abused in the future, the differences among the 4 clusters reached significance and Cluster 1 was the lowest. The four clusters did not show difference on the stalking behaviors (chi-square = 7.514, p= .584). It might be

because this item categorized the times (such as none, 1 to 2 times, at least 3 times, or don't know), and lost the real numbers the victims experienced or it might be because stalking behaviors did not differentiate the 4 clusters of intimate assaulters. It was found that threat to hurt the victims' family of origins to prevent victims' leaving could significantly differentiate the 4 clusters (chi-square = 9.962, p= .019), among which Cluster 3 had the relatively higher chance to do it (66.7%). However, it was found that the 4 clusters could not be significantly differentiated by abusers' threat to hurt kids to prevent victims' leaving (chi-square = 4.233, p = .237).

Table 42 Classification Results in Stepwise Discriminant Analysis

Classification Results [b,c]

		Ward Method	Predicted Group Membership				Total
			1	2	3	4	
Original	Count	1	46	1	0	0	47
		2	1	16	0	0	17
		3	0	0	18	1	19
		4	0	0	1	28	29
	%	1	97.9	2.1	.0	.0	100.0
		2	5.9	94.1	.0	.0	100.0
		3	.0	.0	94.7	5.3	100.0
		4	.0	.0	3.4	96.6	100.0
Cross-validated[a]	Count	1	42	3	1	1	47
		2	1	14	0	2	17
		3	1	2	15	1	19
		4	0	0	1	28	29
	%	1	89.4	6.4	2.1	2.1	100.0
		2	5.9	82.4	.0	11.8	100.0
		3	5.3	10.5	78.9	5.3	100.0
		4	.0	.0	3.4	96.6	100.0

a. Cross validation is done only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

b. 96.4% of original grouped cases correctly classified.

c. 88.4% of cross-validated grouped cases correctly classified.

Table 43 Difference of Variables Among the 4 Clusters on CTS, Lethal Violence, DA, 15 DA Items, and Other Variables

	four clusters				ANOVA	
	1	2	3	4	F	p
Numbers of respondents	47 (38.8%)	17 (14.0%)	19 (15.7%)	29 (13.9%)		
age of abusers	38.76	42.53	41.11	39.66	.773	.512
levels of education (chi-square)					16.454	.561
employment status(chi-square)					8.162	.227
amount of violence (CTS)	26.28	55.41	78.42	71.28	6.360	.001**
lethal violence or not	.32	.53	.63	.41	2.119	.102
time of lethal violence	.51	.88	2.11	1.28	3.367	.021*
DA	3.89	6.35	8.26	8.62	37.360	.000**
da1. increased freq of violence	.40	.71	.26	.66	4.171	.008**
da2. increased severity of violence	.38	.88	.16	.86	17.061	.000**
da3. Choking	.32	.59	.68	.34	3.517	.018*
da4. forced sex	.36	.35	.74	.59	3.553	.017*
da5. drug abuse	.06	.00	.11	.03	.745	.528
da6(1). he threatened to kill	.21	.71	.89	1.00	36.906	.000**
da6(2). she believes to be killed	.17	.76	.47	.86	20.351	.000**
da7. alcohol abuse	.19	.18	1.00	.38	21.014	.000**
da8. control daily life	.40	.18	.37	1.00	19.281	.000**
da9. assault while pregnant	.30	.18	.74	.24	6.445	.000**
da10. violent jealousy	.36	.00	.68	.79	14.982	.000**
da11. she threatened/tried to commit suicide	.28	.76	.74	.45	7.101	.000**
da12. he threatened/tried to commit suicide	.21	.24	.26	.31	.307	.820
da13. violent to child	.21	.71	.58	.48	6.190	.001**
da14 violent outside	.04	.12	.58	.59	17.621	.000**
Years of abuse after cohabit	6.49	8.55	12.53	7.35	2.892	.039*
Time % of abuse after cohabit	.54	.56	.91	1.26	.917	.435
Victims' assessing on future re-abuse in the scale of 0 to 10	4.89	7.06	6.42	7.55	6.302	.001**
Stalking (3 categories, chi-square)					7.514	.584
Threat to hurt victims' family of origins or not to prevent victims' leave(chi-square)	(27.7%)	(29.4%)	(66.7%)	(48.3%)	9.962	.019*
Threat to hurt kid or not to prevent victims' leave(chi-square)	(17.0%)	(29.4%)	(27.8%)	(48.3%)	4.233	.237

Note. (1) Nine respondents were not grouped in the cluster analysis. (2) *p<.05, **p<0.01

Factor Analysis of Abusers' Pathological Behaviors in DA

For exploring the components of abusers' pathological behavior directly from the DA, the author conducted the principle component analysis of factor analysis in the 13 DA items related abusers' behaviors (excluding DA 6(2) "she believed to be killed" and DA 11 "she wanted suicide"). Four components were identified in this process (see Table 44). Component 1 included alcohol abuse, force sex, choking, threat to kill, and violence outside, which almost related to violence. Alcohol abuse might not directly relate to violence, but alcohol abuse of intimate abusers was for self-medication to inhibit violence. Therefore, alcohol was violent in nature in the intimate assaulter population (Andrew Barclay, personal communication, April 17, 2001). Component 2 included control daily life, violent jealousy, and he wanted suicide, which almost related to insecure behavior, since intimate abusers' feeling insecure toward themselves might project to their partners and then crash together toward the suicidal thought. Component 3 included the increase severity of violence and increase frequency of violence, which might have a underlying meaning of the violence feeding on itself, since once the insecure and abusive men used violence, it might have to use more and more violence to feed their psychological need. Component 4 included violence to child and assault when victims were pregnant, which might come from the abusers' insecure pattern and is similar to animals' gene control

behavior. Animals would kill the newborn animals, which did not contain their gene. Based on this assumption, the batterers might not believe the fetus or kids might not contain their gene (Andrew Barclay, personal communication, April 17, 2001).

Table 44 Factor Analysis of Abusers' Pathological Behaviors in DA Items related to Abuser's Behaviors (excluding Item 6(2) and 11)

Rotated Component Matrix [a]

	Component			
	1	2	3	4
da7_alcohol abuse	.645	.129	-.260	.156
da4_force sex	.643	.190		-.105
da3_choke	.629	-.358	.157	.261
da6(1)threat to kill	.526	.232	.225	
da14_violent outside	.525	.450	-.134	-.118
da8_control daily life		.812	.165	
da10_violent jealousy	.333	.603		
da12_he wanted suicide		.484		
da2_increase sever or not		.111	.804	.164
da1_increase freq or not		.119	.762	
da13_violent to child		.117		.719
da5_drug abuse		.140	-.206	-.617
da9_assault when pregnant	.197	.133	-.390	.611

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Civil Protection Order

Whether having a protection order. It was found that of the 121 samples, only 10 (8.3%) victims had civil protection orders (no matter temporary or regular protection order), 34(28.1%) victims were in the protection order application process (temporary

protection order only), and 76(62.8%) victims did not apply for the protection order (Table 45). In Taiwan, the temporary or regular protection orders are civil matters, and it had to be applied for based on the victims' willingness, except for the emergent protection order, which the prosecutor, police officer, and public social worker can directly apply for. It had to be noted that there was a limitation on any interpretation of protection order related questions, since the samples were unavoidably focused on newly opened cases. The ten samples having temporary or regular protection orders were old clients experiencing the re-abuse by their male partners in the time period set in this study.

Table 45 Whether the Victims Have Protection Order

whether have protection order

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	has PO	10	8.3	8.3	8.3
	in PO apply process	34	28.1	28.3	36.7
	not apply PO yet	76	62.8	63.3	100.0
	Total	120	99.2	100.0	
Missing	System	1	.8		
Total		121	100.0		

The perception of effect of protection orders. Of the 10 victims owning the protection orders, 6 (60%) of them responded that the protection order was effective in preventing their being re-abused by the abusers, 3 (30%) of them responded it was "so

so" in its effectiveness, and 1 (10%) of them responded it was not effective. It was found that there was no significant difference in the CTS, the DA, and the times of lethal violence among victims' different perceptions on effectiveness of protection order (Table 46). However, it was found that the victims who experienced no lethal violence responded that the protection order was effective, while the victims experienced lethal violence responded that the protection order was not effective or "so so", which confirmed its significant correlation after testing chi-square (chi-square = .6.528, p = .038). It could be related to the learned helpless, which comes from experiencing the serious domestic violence and from being exposed to domestic violence for a long period of time which makes the feeling increasingly helpless. Learned helpless is one of important criteria of battered women syndrome pointed out by Walker (1984). On the other hand, it could be also possible that the male partners were very violent and their violence could not be stopped by the protection orders. It had to be noted that there was limitation on any explanation on the effectiveness of the protection order perceived by the victims, since the samples were mainly focused on newly opened cases.

Table 46 ANOVA on CTS, DA, and Times of Lethal Violence among Victims' different perception on effectiveness of protection order

			CTS	DA	Times of lethal violence
Victims' perception on effectiveness of protection order	Not effective	Mean	60	9	2
		Number	1	1	1
	So so	Mean	88.33	8.67	3.67
		Number	6	6	6
	Effective	Mean	35.67	7.33	0
		Number	3	3	3
ANOVA		F	1.526	.399	.899
		p	.282	.686	.449

Whether or not the abusers violated the protection order. Of the ten victims having protection orders, seven (70%) responded their male partners did violate the protection orders, while three (30%) responded not. When asked the ways of violating protection orders through multiple items, the previous seven samples had fourteen responses. There were 14 ways of violating protection orders. Three (42.9% of responded victim) were re-beaten, 4 (57.1%) were re-threatened, 5 (71.4%) were harassed by phone, and 2 (28.6%) had come close to the victims. While comparing the means between the appearance and non-appearance groups on the CTS, the DA, and times of lethal violence, no significant difference was found ($t = .527$, $p = .635$; $t=-1.156$, $p=.331$; $t.723$, $p=.522$, respectively), which might result because the number of respondents in the sample, 7, was too small.

Victims' worries about the civil protection order. Of the total 121 samples, 84 responded with their worries about the protection order in the multiple response format. The most common worry was that the protection order might stimulate the abusers' anger (68.6%), then unsound protection (34.9%), the application process being too slow (30.2%), worrying about child's safety (22.1%), and worrying they can not see the child (14.0%), and others (9.3%). The category "others" included worrying about presenting in the court, worrying about hurting the relationship, worrying about the abuser's killing all the families and himself, worrying about hurting the male abuser, and worrying about having no living fee (Table 47).

Table 47 Victims' Worries about the Protection Order in Multiple Response Scale

Worries on protection order	count	%of response	% of clients
Unsound protection	30	19.5	34.9
Stimulate anger	59	38.3	68.6
too slow	26	16.9	30.2
worry child safety	19	12.3	22.1
worry can't see child	12	7.8	14.0
others	8	5.2	9.3
Total responses	154	100.0	179.1
35 missing cases; 86 valid cases			

Victims' suggestions for civil protection orders. When asked whether or not they had suggestions (up to two) about the protection orders, 15 victims provided 20

suggestions. Of the twenty suggestions, four were suggestions on decreasing the time for the judicial review during application process for protection order, two were regarding the necessity of the treatment program for the batterers, and another two were regarding that child visitation had to be warranted or the child custody had to belong to the victims. The rest of the suggestions were suggested once each. They were that the term of protection order is not long enough, protection orders should connect to the divorce plea process, victims should be allowed to waive the right to appear in court during application process, arresting the abuser if he violated the protection order should not be limited only when the abuse was witnessed by the police and only when the abuse was witnessed by the third party, and the protection order should be applied for actively by the official agencies.

CHAPTER 5 DISCUSSION

Summary of the Findings

The purpose of this study was to see whether or not the Danger Assessment (DA) scale and some other variables could be used to accurately predict the amount of violence as well as the lethality of intimate assault cases in Taiwan, and to preliminarily explore the batterer typology in Taiwan intimate assaulters. The results of testing the four hypotheses of this study organized as the following.

(1) The correlation between the scores of the DA and the amount of violence in the Brief CTS reached significant level. By using poisson regression, it was found the DA could explain 29.26% of total variance in the amount of violence on the Brief CTS. However, it was found that three items in the DA, Item 5 (drug abuse), Item 8 (control daily life), and Item 10(violent jealousy), could not significantly predict the amount of violence in the Taiwan sample.

(2) In the predictive accuracy test of predicting lethal violence, the area under the ROC curve of the DA was .753, which was moderate and satisfactory accuracy, and the area under the ROC curve of the Brief CTS was .718, which was a lower moderate

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and still a satisfactory accuracy. It was found that the correlation coefficient between lethal violence and the DA was .364 (p=.000), and the correlation coefficient between lethal violence and the Brief CTS was .333 (p=.000). While using 15 DA items to predict the appearance of lethal violence in logistic regression, it was found that the 15 DA items could explain 39.83% of total variance in the appearance of lethal violence. However, a 5-item Brief DA was established since the 15-item DA was suspicious to have the collinearity problem while predicting lethal violence. It was found that the 5-Item Brief DA could explain 38.65% of total variance in the appearance of lethal violence.

(3) Of the 6 other important variables (they were time percentage of being abused after cohabitation, victims' assessment on the chance of future re-abuse, abusers' stalking behavior, abusers' threatening to hurt the victims' family of origin to prevent victims' leaving, the abusers' threatening to hurt the kid to prevent victims' leaving, and victims' arguing with mother-in-laws), it was found that only victims' assessment on the chance of future re-abuse and the abusers' threatening to hurt the kid to prevent victims' leaving could significantly predict the amount of violence. Moreover, it was found that only victims' assessment on the chance of future re-abuse could significantly predict the abusers' appearance of lethal violence. It was also found that

the victims' having argument with mother-in-laws did not have a significant relationship with the amount of violence, so the previous assumption that the victims' having higher conflict with mother-in-law triggered the higher amount of violence could not be supported.

(4) In cluster analysis, it was found that the 4 clusters of intimate assaulters could be identified in Taiwan sample. They could be named as "low-violent assaulters", "medium-violent, and low-controlling assaulters", "high-violent, high-lethal, and "alcoholic assaulters", and "high-violence, high controlling assaulters".

In addition, in factor analysis in the 13 DA items related abusers' behaviors (excluding DA 6(2) "she believed to be killed" and DA 11 "she wanted suicide"), four components were identified. Component 1 included alcohol abuse, force sex, choking, threat to kill, and violence outside, which almost related to violence. Component 2 included control daily life, violent jealousy, and he wanted suicide, which almost related to insecure behavior. Component 3 included the increase severity of violence and increase frequency of violence, which might have an underlying meaning of the violence feeding on itself. Component 4 included violence to child and assault when victims were pregnant, which might come from the abusers' insecure pattern and is similar to animals' gene control behavior.

Toward an Understanding of the Risk Assessment in Taiwan Male Intimate Assaulters: A Grounded Theory

As mentioned earlier, even till now there is no concrete theoretical approach for identifying risk marker of offenders. However, Quinsey et al (1998) argued that there is no reason why theoretically relevant predictors could not be used in an actuarial model. Based on the findings of this study, the author proposed a theory to help better understand the risk assessment on the behavior patterns of male intimate abusers in Taiwan. This proposed theory was named the **pathological behavior appearance theory**, which meant that the appearance of different kinds of pathological behaviors could be the traits of different types/clusters of intimate assaulters and, moreover, some pathological behaviors could be clustered. Furthermore, some specific portions of abusers' pathological behaviors could be good predictors for the amount of intimate violence (such as all DA items, except drug abuse, control daily life, and violent jealousy) and for the appearance of lethal violence during the intimate assault (such as increasing the frequency of violence, choking, he threaten to kill, he threatened/tried to commit suicide) or even for the future recidivism of intimate assault (such as the predictors used in Spousal Assault Risk Assessment, see Kropp, Hart, Webster, & Eaves (1999)).

Moreover, as found in this study, the assumption of womb theory that the victims' having higher conflict with mother-in-law triggered the higher amount of violence could not be supported. Maybe the womb theory could be a good theory to explain the phenomenon of how intimate assault happened in some Taiwan families, but not all Taiwan families, nor for the risk assessment on amount of violence and lethal violence in Taiwan intimate assault cases. There might be some other important variables existed and good for risk assessment of intimate assaulters. Based on this study, the different clusters of male intimate assaulters in pathological behavior patterns were preliminarily identified. It was found that whether the outside violence appeared could be the criteria to differentiate the clusters among Taiwan male intimate abusers found in this study. Moreover, it was found that the amount of violence in the Brief CTS, and 13 DA items (excluding drug abuse and abuser' threat to suicide) were significantly different among the 4 clusters. However, the further typology study of male intimate abusers based on pathological behaviors among male intimate abusers would still be encouraged.

Treatment Implication for Different Types of Intimate Assaulters

Healey, Smith, and O'Sullivan (1998) conducted a nationwide study for evaluating the intimate abuser treatment programs in the U.S. They concluded that "one-size-fits-all"

intervention can not accommodate the diverse population of batterers, so new directions of treatment programs had to be encouraged. One of the new directions was that the intervention has to be based on the batterer typologies, such as longer supervision and/or treatments might be required for the higher risk offenders. Even though that, does that mean the prolonged treatment can eventually cure the higher risk intimate assaulters? Based on his clinical experience, Dutton (1995a, p174) pointed out that for batterers with borderline personalities, more thorough or longer treatment is probably required, and for batterers with psychopathic personalities, such as vagal sign reactors (those who become internally calmer and more focused while they batter their wives), treatment may be unproductive.

Dutton (1995b, p250), moreover, argued that in order to devise a form of therapy to be used as a condition of probation for men convicted of intimate assault, certain sets of requirements must be met, such as the therapy had to be compatible with criminal justice philosophy, which emphasizes personal responsibility for action. Then, he argued that traditional feminist treatment programs, such as the Duluth model (noted by author), might not work well on the high risk intimate abusers, because they might not change easily by gender equality education or be easily scared by criminal justice intervention. He proposed that cognitive-behavioral therapy, which is based on the social learning

theory, might be a good way to intervene and help the intimate abusers stop their violence, because the social learning theory not only acknowledges the formative role of situational events in shaping habit patterns, but also stresses choice and responsibility for individual actions. Moreover, Paul Gendreau (1996), a Canadian correctional psychologist, submitted that relapse prevention is one of the eight principles of effective intervention with offenders. Relapse prevention (RP) was developed by Marlatt and Gordon (1985) and was originally for helping the substance abuse clients to keep sober. The rationale of RP was using cognitive-behavioral therapy to help the client identify relapse/reoffense as a cycle underlying the clients' behavioral pattern and eventually to disconnect it by making better choices about every thought and behavior.

However, if the criminal justice system treats people convicted of similar crimes differently it might raise questions about justice. Therefore, three crucial mechanisms would need to be developed, and they are expert witness, risk assessment scale, and prolonging treatment in an appropriate manner. The expert witness may be the psychologists, psychiatrists, counselors, social workers, or any other mental health professionals, who can address the batterers' specific problems and assess their risk based on their clinical experience. However, it would be much more accurate if the clinicians can use actuarial risk assessment scales to assess the potential risk posed by the offenders

(Hanson, 1997). Regarding the prolonging treatment for the higher risk batterers, treatment programs in Colorado's 18th Judicial District, close to Denver, provide a good example in which the treatment providers can prolong the treatment term based on the support of probation officers and judges if they found the batterer was a risk in their checklist (Healey, et al 1998). However, one could challenge that putting the prolonged batterers in the same group as the lower risk batterer might possibly cause the prolonged batterers to be angry and unproductive if they saw the low risk ones were allowed to leave earlier than them. The Total Health Education Counseling Center, Lansing, Michigan, provided another good example of dealing with this problem as the author observed. After participating in the 26-week therapeutic group with relapse prevention and maturity model, the batterers could be transferred to the graduate groups, which required them to participate 1 or 2 times a month based on the probation order till their probation terms finish. The members in graduate groups can present the recent situations they have been in, and then discuss with the counselor or the other members alternative ways to deal with the situations based on the relapse prevention language. During the time of prolonged treatment, the treatment providers could observe whether the clients make progress and, as the author observed, most of the batterers showed much more willingness and felt much more comfortable while in this group. In the other words,

based on the attachment theory, they can try to build a secure attachment with the treatment providers, which eventually leads to progress, even though some of them might naturally have an insecure pattern of attachment.

.Advantages of this Study

There were some advantages of this study as the following. First, this study could introduce the American risk assessment scale and variables to Taiwan, and help to understand the feasibility of using them in Taiwan. Second, multiple predictive accuracy tests were used in this study to help gain more knowledge about the predictive accuracy of the DA and the Brief CTS. Finally, by using cluster analysis and factor analysis, it was found that some important components and clusters were discovered, which did help the researcher to learn more about the nature of different types of male intimate assaulters.

Disadvantages of this Study

There were some disadvantages of this study as the following. First, this study did not involve the male partner's side of the story. It is reasonable to assume that the female victim's sides of the stories are subjective and biased. However, for ethical reasons and the reason of victims' safety, it may be better not to pair the abusers in this study. Second,

verbal aggression did not be included in the measurement of intimate abuse. It is reasonable to assume that verbal aggressions and physical aggressions from abusive partners are equally harmful to the abused intimates. However, since the Danger Assessment (DA) is focused on physical aggression, this study would only focus on physical aggression. Third, it might be worthwhile to explore whether the male abusers had a mental problem, such as s psychotic disorder, paranoid disorder, or even personality disorders, which were all included in the Spousal Assault Risk Assessment, SARA, a risk assessment that mainly targeted the recidivism risk factors (Kropp, Hart, Webster, Eaves, 1999). However, there were problems with collecting this information while they collected from the victims because the victims might exaggerate the abusers' mental problem (Holtzworth-Monroe, personal communication, August 6, 2000) and the local social workers might have limited training to recognize the abusers' mental problems and also they might have a limited chance to contact the abusers.

Suggestions for Future Study

For the future study, the author sincerely considered the following suggestions. First, since there were two different types of risk assessment identified in the criminal justice field. One was risk assessment for lethality and the other was risk assessment for

the recidivism. Prediction for the abusers' recidivism would be very important in judicial decision making, in addition to lethal risk assessment. It was suggested that the recidivist risk assessment should be comparably emphasized in the research arena and practical arena. Second, this study did not explore more of the psychological characteristics of male intimate abusers, because the samples were all focused on female victims. The better research sample for understanding the psychological characteristics of abusers would be at the batterer treatment settings. It was suggested that it would be better to conduct the research during the beginning phase of the treatment or by the time of starting treatment. Otherwise, during and after the treatment, the abusers might have some changes in their original thinking patterns or psychological patterns. Third, future research was encouraged to learn more about the typology of male intimate abusers in Taiwan based on the cluster analysis. Since it would be easier for social service agents and police officers to identify the different types of inmate abusers and help to make a safe and swift decision while dealing with the intimate assault cases. Fourth, in Taiwan, the temporary or regular protection orders are civil matters, and it has to be applied based on the victims' willingness, except the emergent protection order, for which the prosecutor, police officer, and public social worker can directly apply only in very emergent situations. Recently, it was discussed by Taiwan feminist groups that it was

better to change the civil protection order into the criminal protection order. Otherwise, it was a long process, about 2-3 months, to turn a civil protection order into criminal procedure, when the abusers violate the civil protection order. Based on the findings of this study, it was found that 68.6% of clients worried about the stimulation of abusers' anger if they applied for the protection order. If the protection order could be turned to criminal matters, the prosecutors and the probation/parole officers could be directly involved in the intimate assault cases, which could be a good solution to provide more sound protection as well as a swift avenue to prevent the abusers' re-abuse.

APPENDICES

Appendix 1

Conflict Tactics Scale—Form R (CTS- Form R)

Subject ID#_____

[Directions] It is normal for couple or intimate partners to have conflict. There are a lot of different things that you and your partner can do when you both have conflict or disagreement. We would like you to try and remember what your male partner went on during the past year when both of you had disagreement. Please circle a number for each of the things listed below to show how often your male partner did it IN THE PAST YEAR.

	Present time(s) in the past year 0=never 1=once 2.=twice 3=3-5times 4=6-10times 5=11-20times 6=more than 20						
1. discussed an issue calmly	0	1	2	3	4	5	6
2. got information to back up his side of things	0	1	2	3	4	5	6
3. brought in, or tried to bring in, someone to help settle things	0	1	2	3	4	5	6
4. insulted or swore at you	0	1	2	3	4	5	6
5. sulked or refused to talk about an issue	0	1	2	3	4	5	6
6. stomped out of the room or house or yard	0	1	2	3	4	5	6
7. cried	0	1	2	3	4	5	6
8. did or said something to spite you	0	1	2	3	4	5	6
9. threatened to hit or throw something at you	0	1	2	3	4	5	6
10. threw or smashed or hit or kicked something	0	1	2	3	4	5	6
11. threw something at you	0	1	2	3	4	5	6
12. pushed, grabbed, or shoved you	0	1	2	3	4	5	6
13. slapped you	0	1	2	3	4	5	6
14. kicked, bit, or hit you with a fist	0	1	2	3	4	5	6
15. hit or tried to hit you with something	0	1	2	3	4	5	6
16. beat you up (beat me continuously in one episode)	0	1	2	3	4	5	6
17. choked you	0	1	2	3	4	5	6
18. threatened you with a knife	0	1	2	3	4	5	6
19. used a knife or fired a gun	0	1	2	3	4	5	6

Note. from Straus, M. (1990a). Measuring intrafamily conflict and violence: The Conflict Tactics (CT) Scales. In M. A. Straus & R. J. Gelles (Eds.) *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families (pp.29-47).* New Brunswick, NJ: Transaction Publishers.

Appendix 2

Danger Assessment (DA)

Subject ID#_____

Please answer the following questions "yes" or "no"

____ 1. physical violence increased in frequency
____ 2. physical violence increased in severity
____ 3. partner tried to choke victim
____ 4. partner forced victim to have sex
____ 5. partner used street drugs
____ 6(1). Partner threatened to kill victim[2]
____ 6(2) Victim believes partner is capable of killing her
____ 7. partner is drunk every day
____ 8. partner controls all victim's activities
____ 9.partner beat victim while pregnant
____ 10.partner is violently jealous of victim (says things" if I can't have you, no one can.")
____ 11.victim threatened/tried to commit suicide
____ 12.partner threatened/tried to commit suicide
____ 13.partner is violent toward victim's children
____ 14.partner is violent outside house

[2] The original Item 6 is "Partner threatened to kill victim or victim believes partner is capable of killing her". Originally, there are 15 items in DA, but Item 4 was deleted, since Taiwan is a firearm-control country. Original Item 4 is "a gun is presence in the house".

Appendix 3

Brief Conflict Tactics Scale (Brief CTS)

Subject ID#_____

[Directions] It is normal for couple or intimate partners to have conflict. There are a lot of different things that you and your partner can do when you both have conflict or disagreement. We would like you to try and remember what your male partner went on during the past year when both of you had disagreement. Please circle a number for each of the things listed below to show how often your male partner did it IN THE PAST YEAR.

	Present time(s) in the past year 0=never 1=once 2.=twice 3=3-5times 4=6-10times 5=11-20times 6=more than 20						
1. threw something at me	0	1	2	3	4	5	6
2. pushed, grabbed, or shoved me	0	1	2	3	4	5	6
3. slapped me	0	1	2	3	4	5	6
4. kicked, bit, or hit me with a fist	0	1	2	3	4	5	6
5. hit or tried to hit me with something	0	1	2	3	4	5	6
6. beat me up (beat me continuously in one episode)	0	1	2	3	4	5	6
7. choked me	0	1	2	3	4	5	6
8. threatened me with a knife	0	1	2	3	4	5	6
9. used a knife or any killing behavior except choking	0	1	2	3	4	5	6

Appendix 4

Victim Questionnaire

Number of Subject_____ Interviewer's Name_____ Agency_____
Date of filling_____

1. Demographic Information:
   (1) Year of Birth_____ (age_____)
   (2) Place of Birth_____(city/county)
   (3) Current habitation_____
   (4) Culture or Ethnicity (according to your father): __Min-nan; ___Hakka;___First generation from Mainland China; __Second generation from Mainland China;__ Third generation from Mainland China;__ Aboriginal (specify_____); ___ others (specify___)
   (5) Educational level:___ (a) illiterate; (b)elementary school level; (c) junior high school; (d) senior high school; (e) community college; (f) four-year university; (g) graduate school
   (6) Religion:
   ___① I do believe in religion (on_____); ②I do not believe in religion

2. Information about **ABUSER**
   (1) Is he your_____①husband; ②cohabiting partner; ③other_____
   (2) How old is he?_____
   (3) Place of birth?_____
   (4) Current habitation_____
   (5) Culture or Ethnicity (according to your father): __Min-nan; ___Hakka;___First generation from Mainland China; __Second generation from Mainland China;__ Third generation from Mainland China;__ Aboriginal (specify_____); ___ others (specify___)
   (6) Educational level:___ (a) illiterate; (b)elementary school level; (c) junior high school; (d) senior high school; (e) community college; (f) four-year university; (g) graduate school
   (7) Religion:
   ___① He does believe in religion (on_____); ②He doesn't believe in religion

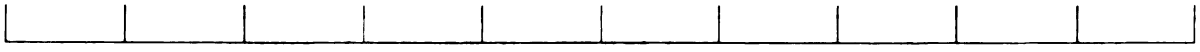
   (8) Current employment status: ① unemployment (for how long ___year___month);②part time employee;③ part time employee

3. History of Intimate relationship
   (1) Your current marital status: ①married;②divorce;③married and living separately;④single and live with boyfriend; ⑤other _____
   (2) How long have you live with your this current partner ____ year(_____month)

4. Employment and Economic situation:
   (1) what is your current employment status: ①housewife; ②unemployment (for how long: ___year ___month;③ part time employee; ④ part time employee
   (2) What is the month family income in your family with your partner? ①below 20000;②20000-40000;③40000-80000;④80000-100000;⑤over 100000
5. How likely would you say that your partner would become violent with you during the dispute in the next year? (Please circle one number which is close to your idea.)

(0: no chance to happen) (10:it's sure to happen)

0 1 2 3 4 5 6 7 8 9 10



6. Did your partner stalk you after you both having a bad relationship?___
   ①3 or more than 3 times during last year;②one or two times during last year;③never ④ not that I know of.
7. Relationship with Your Mother-in-law
   (1) Do you live with your mother-in-law? __ Yes ; __ No
   (2) How does your mother-in-law like you? __ like you very much; __ like you a bit; __ so so; __ dislike you; __ dislike you very much
   (3) To what degree do you think your relationship with your mother-in-law trigger your being abused by your partner? __ very much; __much; __so so; __not very much; __not at all
8. Civil Protection Order
   (1) Do you have a civil protection order?
   __ Yes (if yes, further answer ..) Do you think it is effective to protect you? __①very effective②somewhat effective ③ so so ④ somewhat ineffective ⑤not at all
   ___In the applying process
   __ No
   (2) What is/would be your concern in applying the civil protection order? (pick one or more)
   ☐ the protection is not sound enough
   ☐ applying protection order may stimulate your partner's anger
   ☐ it takes to much time to apply
   ☐ the protection is not good enough
   ☐ worry about kids' safety
   ☐ worry on not being able to see the kids
   ☐ others_____
   (3) Do you have any suggestion for the civil protection order? (Please write down if you have any suggestion.)
   ①_____
   ②_____

Appendix 5 **Consent Form for Victim**

Dear Perspective Participant:

This research is to reassess the severity risk markers of intimate abuse among two American Tools in Taiwan intimate abuse sample. The tools are the Danger Assessment (DA) and the Brief Conflict Tactics Scale (CTS). In addition to both of the above, there is a Victim Questionnaire for you regarding you and your partner's information to let us identify some possibly potential risk markers.

The DA may take you about 10 minutes to fill out, the Brief CTS 5 minutes, and the Victim Questionnaire 15 minutes. The following are the conditions of confidentiality policy of this research. Please read through the following.

1. Your name would not be linked to your response. No one except the responded social worker is able to access the identification of your response.
2. If you have any concern regarding this research, you can contact either of the following people.
   (1) The names and telephone numbers of principle investigators are
   - Dr. Charles Corley Telephone: 012-1-517-353-5225
     Address School of Criminal Justice
     Michigan State University
     East Lansing, Michigan 48824 U.S.A.
   - Min-chieh Lin Telephone: 012-1-517-355-2770
     Address School of Criminal Justice
     Michigan State University
     East Lansing, Michigan 48824 U.S.A.

   (2) The name and telephone number of Chair for University Committee on Research Involving Human Subjects (UCRIHS) at Michigan State University are:
   - Dr. David Wright Telephone: 012-517-355-2180
     Address University Committee on Research Involving Human Subjects
     246 Administration Building
     Michigan State University
     East Lansing, Michigan 48824 U.S.A.
3. You would indicate your voluntary agreement to participate by completing and returning these three tools. You may decide not to answer any question or not to respond to all instruments. You can keep this form and contact either one of the above persons, if you have any concern.

Appendix 6 **Consent Form for Social Workers**

Dear Perspective Responded Social Worker:

This research is to reassess the severity risk markers of intimate abuse in Taiwan intimate abuse sample by the risk markers supported by studies in north American. We may need your help to assist the intimate assault victims to fill out either in person or by phone. It may take you or the victim about 30 minutes to fill them out. Be aware some psychological uncomfortable reaction may reveal among the your client. Please give empathy to them or pacify them if necessary or stop to continue if necessary.

The following are the conditions of confidentiality policy of this research.

1. The identification of victims' response is confidential. No one except the responded social worker is able to access the identification of victims' response.
2. If you have any concern regarding this research, you can contact either of the following people.
   (1) The names and telephone numbers of principle investigators are

- Dr. Charles Corley Telephone: 012-1-517-353-5225
  Address School of Criminal Justice
  Michigan State University
  East Lansing, Michigan 48824 U.S.A.
- Min-chieh Lin Telephone: 012-1-517-355-2770
  Address School of Criminal Justice
  Michigan State University
  East Lansing, Michigan 48824 U.S.A.

   (2) The name and telephone number of Chair for University Committee on Research Involving Human Subjects (UCRIHS) at Michigan State University are:

- Dr. David Wright Telephone: 012-517-355-2180
  Address University Committee on Research Involving Human Subjects
  246 Administration Building
  Michigan State University
  East Lansing, Michigan 48824 U.S.A.

3. You would indicate your volunteer agreement to participate by assisting victims to complete and return these three tools. You may decide not to help your client to answer any question or not to help your client to respond to all instruments. You can keep this form and contact either one of the above persons, if you have any concern.

=====Please cut the following area off and return to researcher, after you sign your name.=======

I know I understand the confidentiality policy of Min-chieh Lin's research from Michigan State University, and I also guarantee that I would not release any piece of the response that victim made in the three tools to anyone.

Signature of Social Worker _____ Date _____

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