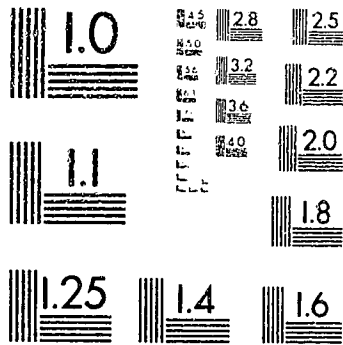


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UNIVERSITY OF ALBERTA

Homicide/Suicide: A Test of Status
Integration Theory

by

Valerie Hearn



A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

DEPARTMENT OF SOCIOLOGY

EDMONTON, ALBERTA

FALL 93



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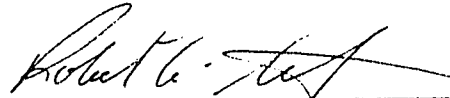
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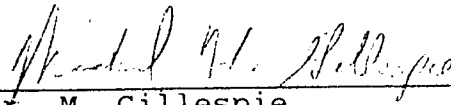
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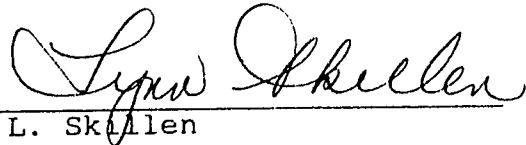
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF ARTS IN SOCIOLOGY.



Dr. R. Silverman



Dr. M. Gillespie



Dr. L. Skullen

Date: September 22, 1993

DEDICATION

I would like to dedicate this thesis to my husband Randy in recognition of his contribution through his love, support, and encouragement. I welcome this opportunity to express to him my gratitude and love for making this possible.

ABSTRACT

This study tests Gibbs' (1969) status integration theory as it relates to particular cases of suicide--those following homicide. The macrosociological theory of status integration is tested at a microsociological level through the analyses of homicide data generated by the Canadian Centre for Justice Statistics between the years 1961 and 1983. The hypothesis states: The more integrated the offender, in terms of his relationship to the victim, his occupation, education, status of employment, age, marital status, and the year in which the offence occurred, the more likely the offender will commit suicide as a result of the sudden and complete disintegration experienced as a consequence of the homicide. To analyze the data, a logistic regression model was employed. In addition to providing support for status integration theory, the results as demonstrated in the logistic regression model, enable us to predict, by way of probabilities, whether or not a homicide offender will kill himself based on his characteristics.

ACKNOWLEDGEMENTS

I would like to take this opportunity to express my gratitude to my supervisor, Dr. Robert Silverman, first, for suggesting this topic of study, and second, for his guidance, encouragement, and helpful comments throughout this project.

My thanks also go to Dr. Mike Gillespie, who generously gave of his time to guide me through the statistical analysis. His patience has been greatly appreciated.

I would also like to thank Dr. Lynne Skillen for taking the time to serve on my committee and for her valued comments and suggestions.

Finally, many thanks go to my family, friends, and co-workers who have all "kept me going" with their encouragement and support when it was most needed.

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CHAPTER ONE

Introduction

The failure of criminology to progress as a discipline...comes from the failure to take theory seriously in designing and implementing research. Too much emphasis is placed on the sophistication of methodological and analytical techniques, and too little attention is paid to the careful specification of the theoretical issue that is being addressed. No matter how sophisticated the research techniques, progress in criminology as a science cannot occur unless that research is based on explicit and intelligent theory (Bernard & Ritti, 1990:19).

When research is systematically based on existing theory, there is a genuine contribution to knowledge (Babbie, 1989). It is my aim to contribute to the knowledge of suicide by examining the act of suicide in an unusual and unique form--as it follows the act of homicide. In doing this, I hope that I will not only be able contribute to knowledge about suicide, but also to our understanding of a particular form of homicide, as it precedes suicide. This will be accomplished by developing a test of Gibbs' (1969) theory of status integration as it relates to suicide.

There have been very few studies conducted that examine suicide when it follows the act of homicide. This lack of research has been attributed to the rarity of the phenomenon (Berman, 1979), yet a review of the literature shows that this is not always such a rare occurrence. For example, in Canada over a 30 year period, approximately 10% of all

homicides end with the offender committing suicide (Silverman and Kennedy, 1993), and although this rate is much higher than the 4% found in Philadelphia (Wolfgang, 1957), it is considerably lower than that found in England and Denmark where the rates are 33% and 42% respectively (Allen, 1983)¹.

In addition to providing a fresh approach to the study of suicide, the acts of homicide/suicide also contribute to the study of homicide. If we consider that most of what we know about homicide offenders comes from studies of those offenders who have been tried and convicted, we can see that our knowledge is incomplete for we do not consider the 10% (in Canada) and the even greater percentage (England with 33% and Denmark with 42%) of homicide cases that end with the suicide of the offender. Addressing this gap is critical, for studies show there are some important and major differences between the homicide/only offender and the homicide/suicide offender; their victims, and the methods used. Whereas most homicides are committed in the "heat of the moment", homicide/suicide appears to be pre-meditated and often an act of jealous rage, retribution, or despair (Berman, 1979; Selkin, 1976; and Allen, 1983).

In attempting to explain homicide/suicide, researchers have focused on psychological interpretations. Their

¹ The exceptionally low rate of 4% found in the United States is likely due to the high numbers of homicides committed by young males--those the least likely to commit suicide.

studies are mainly descriptive, with the data gathered from case studies based on relatives', neighbours' and friends' recollections. Although these studies are instrumental in furthering our knowledge regarding homicide/suicide, they do not provide us with testable hypotheses. It is my goal to address this need and to go one step further.

Based on information provided by existing studies, in combination with Gibbs' theory of status integration, I have developed hypotheses and tested them using Canadian homicide data spanning 22 years. It is anticipated that through my analyses, I will be able to predict (given the constraints of the data) those offenders most likely to commit suicide, thereby, providing a test of status integration theory and consequently expanding our knowledge of suicide, homicide, and homicide/suicide.

Chapter Two presents a literature review of homicide/suicide studies. Although the studies examined have varied results, there are some important and invariant factors that emerge. For example, it has been generally found that those who commit suicide after homicide tend to be older white males who are intimately involved with the victim². This is very important to note as these characteristics fit the suicide data better than the

² This does not hold true for all cultures: For example, Palmer (1980) points out that in England and Wales, females are more prone to suicide after homicide than those in the United States.

homicide data, and thus provide the basis for the theory chosen and discussed in the second chapter.

As stated in the opening quote by Bernard and Ritti (1990), it is imperative that explicit and intelligent theory play a major role in criminological research. It is because of the importance of theory in research a more detailed discussion of status integration theory is presented in Chapter Three. As the theory of status integration evolved from Durkheim's work on suicide, this section begins with an overview of his theory. As well, some of the more recent studies that have been conducted based on his theory are reviewed. Next, the theory of status integration, a theory formulated by Gibbs and Martin in 1958 in an attempt to overcome the problems found with Durkheim's methodology, is examined. A discussion of how the theory was derived and the rationale for its theorems is presented along with a review of some examples of its replications. In concluding this chapter, I point out the principal criticisms of status integration theory.

The purpose of this study is to test Gibbs' (1969) theory of status integration as it relates to particular cases of suicide--those following homicide. The method for testing the theory is discussed in Chapter Four. Here I provide the rationale for my particular test of status integration--how it (a microsociological perspective) relates to Gibbs' theory of status integration (a

macrosociological perspective). As well, the hypotheses are introduced and the variables chosen for the study are discussed, both in terms of validity and reliability. Concluding this chapter is a brief overview of the method of analysis.

Results of the test are presented and discussed in the fifth chapter.

In Chapter Six the significance of the findings is discussed in terms of their contribution to our overall understanding of acts of suicide and homicide and their contribution to status integration theory.

CHAPTER TWO

Literature Review

In one of the earliest studies of homicide/suicide, Wolfgang (1957) argued that the relationship between offender and victim was characterized by a strong emotional attachment that had existed for a long period of time³. He based his argument on police records which recorded the motives as follows: Out of 24 cases, ten involved a family quarrel, six jealousy, and three were acts of revenge.

Another early study conducted by West in 1965 has been one of the most thorough and comprehensive studies done in the area of homicide/suicide. His comparisons of homicide/only to homicide/suicide offenders illustrate the major differences between the two groups of offenders, the most important of which involves the relationship between the offender and victim. For example, he found that in his sample of 148 cases of homicide/suicide, less than 7% of males murdered outside of their families with the majority killing someone close to them--45.5% of the males killed a spouse; and 23.8% a girlfriend or lover. Supporting Wolfgang's (1957) and West's (1965) early findings, Palmer (1980:266) writes that: "Homicide-suicide, even more than

³ Interestingly, Wolfgang's argument formed nearly forty years ago provides the basis for my hypothesis.

homicide without suicide, involves victim and offender who have been in close relationship to each other". Further support is provided by Berman (1979) who found that in 100% of the cases he studied, the victim was known to the offender. Danto (1978) had similar findings and Allen (1983), in her study of 104 cases derived from the Los Angeles City Police Department, established that 71% of the murderers were husband or boyfriend of the victims.

Although Selkin's (1975) number of cases was much smaller than Allen's, his study of 13 homicide-suicide cases drawn from the files of the Los Angeles and Denver coroners' offices, provided further evidence that a close relationship existed between offender and victim. In all but three of the cases, the offender and victim were married or lovers, and in all 13 of the cases, the event took place in familiar surroundings, such as the home--which suggests an existing relationship.

Palmer and Humphrey (1980) conducted a study in North Carolina where they compared homicide/suicide to homicide/only for the years 1972-1977. They found that of the 994 homicide/only cases, only 23% occurred between members of the same family. Fifty-four percent of the victims were friends or acquaintances and 22% were strangers. In contrast, 73% of the 66 homicide/suicide cases involved members of the same family. Of these, 62% (or 56 cases) were husbands who killed their wives,

providing further support for the earlier studies. A further 24% of the cases involved friends or acquaintances, and only 2% involved strangers.

Based on the consistent findings of the studies cited above, it is fair to conclude, that the act of homicide/suicide is an act that occurs mainly between people who have an intimate social relationship.

Not all the studies are consistent with their findings regarding the gender of the offenders however, and although my study will focus only on male offenders⁴, it is important to illustrate these differences. For example, West (1965) found that in England and Wales, women who killed their children committed suicide in 81% of the cases, whereas males who killed their children did so in only 58% of the cases. Allen (1983) found only 6.7% of the offenders in her study were female, which is considerably different from the 40% found in West's study.

When looking at the male/female differences among the victims of homicide in the homicide/suicide cases, the opposite is true. In almost all cases, the victims are female. For example, Palmer and Humphrey (1980) found in homicide/only cases, the victims were female in only 26% of

⁴ Unfortunately I am unable to adequately test the gender differences in this study due to the very small sample of female offenders. However, it could be argued, in the context of status integration theory, that the variation in the female rate of suicide may depend upon the amount of power (and thereby degree of status) held in a particular society.

the cases, whereas in homicide/suicide cases, 86% of the victims were female. West's (1965) study in England however, produced quite different results with the percentage of female victims similar in both homicide/only (61%) and homicide/suicide (70%).

Nonetheless, based on the majority of North American studies, we can safely argue that in cases of homicide/suicide, the homicide offender is more likely to be male, and the victim female, with the two intimately involved.

There are also other offender characteristics with which researchers concur. For instance, those who commit suicide tend to be older males, averaging between 35 and 45 years of age (Allen, 1983; Berman, 1979; Palmer & Humphrey, 1980; West, 1965; and Wolfgang, 1957). Based on these findings, Palmer and Humphrey (1980:117) argue homicide-suicide offenders, because they tend to be older, male, and white, fit the profile of a suicide rather than the profile of a homicide offender and therefore, studies surrounding homicide/suicide offenders should draw from theories of suicide rather than homicide.

Although the majority of researchers agree we should look to theories of suicide for the basis of any studies concerning homicide/suicide, (as done in this study), it is important to note that Berman (1979) disagrees with this reasoning. He maintains that when compared to suicide data,

his sample provides little similarity in terms of age, race, or sex as less than half of those studied would be considered a high risk for suicide when assessed by the Lettieri Scales⁵. In fact, he argues that the evidence points more toward homicidal thinking. In 60% of the cases there were clear plans to kill with 40% of the victims having received warnings of some sort. Further evidence for homicidal thinking, he claims, is seen with the use of two or more bullets (55% of the cases) which indicates a "clear plan to kill".

In the attempt to explain why some offenders kill themselves and others do not, the research to date has drawn on the discipline of psychology.

Berman (1979) studied 20 cases drawn from the death records of three eastern states⁶. He interprets his findings--which show 85% of his cases were of the "erotic-aggressive" type--to mean both the victim and the offender had a relationship where the roles were interchangeable. In other words, homicide/suicide is a dyadic death where both the offender and the victim play a role in the act. The

⁵ The Lettieri Scales is a lethality scale which assesses the potential for suicide. For example, there are categories such as age and sex: the potentiality for suicide is greater if the individual is male and over the age of 50.

⁶For his study, Berman took the annual average of 18 cases (calculated over three years) which he generalized to a total of 400 - 450 cases per year over all of the United States. (Note: this number works out to less than the 4% found by Wolfgang in 1957).

couple had a relationship where they were dependent on each other for both abuse and affection--they had "chronic love-hate patterns". Characteristic of this type of relationship is the occurrence of separations, threats and accusations of infidelity. The numerous occurrences eventually lead to the point where control is lost and "both the source of nurturance and the object of nurturance are destroyed" (p. 21).

Allen (1983) in her study of 104 cases argues in a similar vein. The most common reason for the homicide/suicide she maintains, is the "...unbalanced, inharmonious, quarrelsome love relationship between husband and wife, or lovers" (p. 158). She also holds that depression is a factor. Although she concedes that the information available was not reliable enough to make any sound arguments, she did find in 18% of the cases, the police officer reported despondency or depression as the reason for the event⁷. Of further interest, Allen reports that of the depressed suicides, just over a quarter (26%) of them had serious physical illnesses--most of which occurred with the older offenders.

Allen feels that the homicide/suicide offenders are less deviant than the typical murderers as most are married

⁷ West also found 18% of his cases involved depression and he was able to review the psychiatric histories and records.

or otherwise "dyadically involved" and have no criminal past. She believes that most commit the act out of despair rather than hostility "...perhaps due to an excessive frustration and enormous guilt arising from a greater degree of social consciousness" (p. 165). This theory is not unlike West's (1965:141) which states:

A prediction the murder-suicide incidents would tend to be confined to persons acting under extreme pressure or provocation follows from the hypothesis that such crimes are the work of offenders who ordinarily keep their violence in check.

Allen further maintains that the majority of couples involved in homicide/suicide are couples that are unable to live together productively. They reach the point of "impulsive hostility" after continuous discord and quarrelling which is followed by remorse and guilt. The smaller remaining group of offenders, she explains, commit the act due to depression and illness which is seen to be a form of euthanasia or suicidal pact.

Selkin (1976) claims that in almost all of his 13 cases, frustration of sex-role needs or unmet goals is the precipitator of the act. He argues that the offender kills himself after killing the victim because the homicide/suicide is a result of an ego-split within the offender. He explains that this split occurs when the offender's deepest ties are threatened, often as a consequence of alcohol or drug use. The self is split into a good and a bad self, with the bad self projected onto the

victim and the good self onto the children (or other survivors) who are to be rescued. In addition to the ego-split, the offender feels he can no longer relate to the victim. As well, he knows he will be rejected by the survivors and portrayed as powerless when arrested and tried, and therefore, has no other choice than to kill himself.

Goldney (1977) found depression to be the most important factor in his study of homicide-suicide. Of the four cases taken from coroners' records he found that three had suffered from severe depression and one was morbidly jealous.

West (1965) found that mental illness existed in many of his cases: Of the 78 cases studied, 28 had been diagnosed as depressive; four as schizophrenic; two were seen to be morbidly jealous; four were labelled as aggressive psychopaths; and seven were seen to have severe neurotic instability. However, he does point out that these figures do not differ all that much from those of homicide/only cases. As well, the comparisons between the American findings of Wolfgang (1957) and his own are misleading due to the high proportion of women offenders found in England--he states that women who kill are much more likely to be insane.

Danto (1978) presents a comprehensive overview of studies that have been conducted, the majority of which

focus on psychological explanations. He uses West's (1965) study to illustrate one psychological explanation: many of the offenders experienced failing health. For these people, he suggests that the homicide/suicide might be an unconscious effort to deny the reality of their approaching death; by killing a loved one first, and then killing themselves, they are assured that they will be together forever.

Danto (1978) also offers another explanation through Abrahamsen's (1973) study. In this study, Abrahamsen argues that homicide/suicide is a result of the offender's fear of death by suicide. He states that the killer is afraid of dying, and therefore has to kill someone else first to overcome the fear.

Similar to Abrahamsen's theory, Menninger (1938:146 as cited by Danto, 1978) argues that one may commit murder in order that he can atone the murder through killing himself: "...no suicide is consummated unless there is a wish to kill, a wish to be killed and a wish to die".

Danto uses Menninger's (1938) argument as the foundation for his theory, although he adds that the suicide is more than "a slight atonement", instead, it allows the murderer to escape from his conscience. He goes on to argue that the killing of another allows him to conquer a more powerful object "both as a punishment and as a way of proclaiming ultimate power over life for both victim and

self"--the suicide is the ultimate act of power. He goes on to argue that from a psychodynamic perspective, the murderer may find that suicide will provide him with a means of dealing with separation anxiety--it allows him to reunite with the victim--a further act of atonement, even a form of self-punishment and also allows him to achieve a sense of "absolute power over life and death for both" (p. 147). In other words, Danto claims the offender, through killing the victim, is making the "ultimate declaration of possession" similar to the Egyptian kings of past who took their "prized possessions" with them to their tombs as an effort to keep with them that which they found most dear (p.141).

Danto concludes by looking to Freudian theory as a general explanation for the phenomenon:

Freud approached the subject of murder and suicide from the standpoint of instincts, reflections of the life instinct called Eros, and the death instinct, called Thanatos. The portion of the death instinct directed toward the outside world, he called aggression, which he felt, protected the organism from self-destruction. If the expression of aggression was thwarted, a tendency to self-destruction would be enhanced (p.147).

Danto points out that despite any and all conflicting theories surrounding homicide/suicide, there is one incontrovertible fact: "suicidal and homicidal impulses do operate within a thin dividing line...[a] seemingly trivial but significant factor can pull the force of aggression in the direction of either homicide or suicide." (p. 147).

Although Wolfgang's (1957) research was conducted over

30 years ago, it was his work that first alerted researchers to certain patterns of behaviour as found in cases of homicide/suicide. In fact, it is these patterns of behaviour and his suggestions for future hypotheses testing that forms the basis for testing the status integration theory.

Noting the lack of empirical data surrounding the act of homicide-suicide, Wolfgang set out to empirically test some basic psychoanalytic assumptions using 24 cases of homicide/suicide. Making up this sample, were 11 black men, 11 white men, 1 white woman and 1 black woman. Based on this sample, he compared the percentage of white men in cases of homicide/suicide to cases of homicide/only and found that white men were much less represented in cases of homicide/only, making up only 25% of the cases. It was this observation that formed the basis of his first hypothesis: People of higher status commit suicide more frequently than those of lower status. He argues that this would also explain the lower rates of suicide for women as they, like black men, occupy a greater proportion of the lower statuses⁸.

Wolfgang also examined the methods of killing. It was his contention that because the homicides and suicides were

⁸ It is important to note that Wolfgang may be using the term "status" loosely in terms of position: women have less power than men, however, this does not necessarily mean they have less status.

both violent, they could be considered part of the same act and were the result of frustration and aggression. To provide support for this hypothesis, he quantitatively delineated violent vs less violent death (i.e a death was considered violent if there were two or more acts such as stabs or shots). Using this definition Wolfgang found 20 of the 26 victims to have been violently killed. The methods of killing were: shooting 15, stabbing 6, asphyxiation by gas 2, strangulation 1, beating 1, poisoning 1. The methods of suicide were: shooting 10, jumping from a bridge 3, asphyxiation of gas 3, stabbing 2, slashing of throat or wrists 2, hanging 2, and poisoning 2. Based on these results, Wolfgang (1957:211) writes:

It may be contended further that so strongly felt was the offender's frustration that a single assaultive act or even a series of assaultive acts--against another person was not sufficient to alleviate his aggressive impulse or reactions; and, when the external object contributing to frustration (the victim) was eliminated, he turned inward--to self--as the only additional outlet for his remaining aggression.

Wolfgang also supports the guilt hypothesis. (Note: This hypothesis closely corresponds with Durkheim's social integration theory and Gibbs' theory of status integration to be discussed in the next chapter). This hypothesis states that some individuals suffer such a threat to self-esteem, they have to punish themselves through killing themselves. Wolfgang argues that because the majority of the offenders were law-abiding citizens who "lived normally within the framework of the general and predominant societal

attitudes and value system" they turn to suicide as a means of showing agreement with the social norms that they have internalized (p. 212). He writes:

...because the homicide-suicide offender is significantly less likely than the homicide offender in general to have a previous arrest record, he (the homicide-suicide offender) had a superego more strongly developed, more directly patterned along the lines of the prevailing middle class values, and hence had stronger guilt feelings (p. 213).

In reviewing the studies of homicide/suicide it is glaringly apparent there is a lack of sophisticated empirical research in this area. The studies done are mainly descriptive, oftentimes based on very small samples. For example, Wolfgang's (1957) study, although one of the first and most cited, was based on a sample of 24 cases. Berman (1979) had even less with 20 cases and Selkin (1976) had only 13 cases on which to base his study. Goldney (1977) had the smallest sample, four cases.

On the other hand, some of the studies reviewed did have larger samples: Allen (1979) derived her results from 104 cases; West's (1965) study was based on 78; and Palmer and Humphrey (1980) were able to study 90 homicide/suicide cases.

In addition to the small samples, the existing studies are mainly descriptive in nature (i.e. the offender and victim characteristics; method of offence; and motive) and they usually draw upon psychology for explanation. There is no denying that psychological explanations are valuable,

however, they are very difficult to test empirically. For example, how can we test Selkins (1976) ego-split theory, or Abrahamsen's (1973) contention that the offender, as a result of his fear of dying, has to kill another first? Similarly, can we empirically demonstrate that the murder/suicide was committed because the offender wanted to kill another and therefore had to kill himself as well, as a form of atonement (Menniger, 1938)? Danto's (1978) notion that the act of homicide/suicide is the ultimate act of power for one over another is equally untestable.

The explanations offered may also be controversial in nature, especially in light of domestic violence theory. For example, Berman (1979) argues the victims (mainly women) play an equal role in their death. However, if the roles of women and men are equal in cases of homicide/suicide why is it almost always the case that women are the victims in the homicide?

Allen (1983) and West (1965) with their observations that homicide/suicide offenders are less deviant than the typical murderer do not consider the domestic violence literature. Allen argues that the offenders are less deviant because they have no criminal past. However, it is widely known that, until recently, it was rare for the police and the justice system to charge and/or convict men who assault their wives. Can we then assume that because an offender does not have a criminal record he is less deviant

than one who commits homicide during a "bar room brawl".

The existing homicide/suicide studies prove valuable in that they provide us with a solid foundation on which to build this study. For example, we find that the research shows some important and major differences between the typical homicide offender and the homicide/suicide offender, their victims, and their motives. Those who commit suicide following homicide tend to be older males between 35 and 45 years of age (Allen, 1983; Berman, 1979; Palmer & Humphrey, 1980; West, 1965; and Wolfgang, 1957); their victims are most likely to be female, just slightly younger than themselves; and in the majority of cases the victims were intimately involved with the offender (Berman, 1979; Danto, 1978; Selkin, 1976; Goldney, 1977; Allen, 1983; West, 1965; and Wolfgang, 1957).

These studies also illustrate a common theme which leads to the theory of status integration: the tie found between the offender and victim. They also demonstrate that we must look to a theory of suicide (rather than homicide) in the search for a testable explanation for homicide/suicide.

CHAPTER THREE

Theory

The discussion of status integration theory begins by examining Durkheim's landmark work on suicide and his theory of social integration. Since his book Le Suicide (1897), his work has generated studies too numerous to cite-- studies that have attempted replications of his original work; studies that have been able to improve upon his methodology through the aid of sophisticated statistical analysis; and studies that have adapted and refined his original theory to fit today's more critical standards.

Because Durkheim's work on suicide is so central to all studies of suicide, I will begin this chapter with a fairly detailed description of his theory of social integration. I will focus on only two of his four types of suicide, anomic and egoistic, as they are the most applicable to this study. Included in this section will be some examples of more recent studies that have tested his theory.

Following the discussion of Durkheim's theory I move to a discussion of status integration--a derivative of social integration theory. Gibbs and Martin (1958) formulated this theory in an attempt to overcome the problems found with Durkheim's methodology.

Durkheim and Social Integration

[T]he social suicide-rate can be explained only sociologically. At any given moment the moral constitution of society establishes the contingent of voluntary deaths. There is, therefore, for each people a collective force of a definite amount of energy, impelling men to self-destruction. The victim's acts which at first seem to express only his personal temperament are really the supplement and prolongation of a social condition which they express externally (Durkheim, 1951:299).

For Durkheim, suicide is a social fact, it is a consequence of social disintegration. Social disintegration occurs when society experiences rapid changes, be they economic, political, or technological. Suicide also occurs when individuals feel a lesser tie to societal norms. For example, it can be argued single people and the divorced are more susceptible to suicide because they are less integrated in the society than those who have families. Religion also plays an important role in integration. Durkheim argued that the Catholic religion for example, provides more regulation in terms of rules and ceremony than does the more individualistic Protestant religion, thus is more socially reinforcing and integrating (Liska, 1981).

Durkheim (1951) defines four types of suicide: altruistic, fatalistic, anomic, and egoistic⁹. Egoistic and

⁹ Both the altruistic and fatalistic forms of suicide are discussed only briefly by Durkheim as he sees these forms as relatively redundant in the modern world. However, they

anomic suicide are similar in that both are a result of "society's insufficient presence in individuals", however, Durkheim differentiates the two: "In egoistic suicide it is deficient in truly collective activity, thus depriving the latter of object and meaning. In anomic suicide, society's influence is lacking in the basically individual passions, thus leaving them without a check-rein" (Durkheim, 1951:258). In other words, egoistic suicide has to do with "the world of thought"; an individual commits suicide because s/he no longer finds a need to live; s/he is apathetic, depressed, and generally feels a sense of hopelessness in his or her situation (Note: in terms of this study, this could describe the state of an individual who kills his wife), while anomic suicide has to do with the "industrial or commercial world" -- the type of suicide we would expect when an individual feels a lack of regulation as seen in the following examples (p.258).

In his discussion of anomic suicide, Durkheim (1951) points out that a lack of regulation does not only have to appear in cases of economic crises, but may occur as a result of conjugal disintegration through widowhood or divorce. A brief review of his argument follows.

Durkheim claims that economic crises, whether they be

may be defined as follows. Altruistic suicide is more likely to be found in primitive societies where one will give up his or her life for the good of the whole. Fatalistic suicide is the result of excessive regulation, found for example among slaves (Dictionary of Sociology, 1988).

positive or negative have an effect on the rate of suicide. He argues that in a normally stable society, each worker in his or her occupation is aware of the respective values of different social services, relative rewards, and appropriate degree of comfort. There is a moral consciousness of society where the different functions are graded by public opinion and have a coefficient of well-being assigned according to its place in the hierarchy. There is a certain way of living that dictates the workers' level of aspiration--they are aware of the high and low limits: "A genuine regimen exists, therefore, although not always legally formulated, which fixes with relative precision the maximum degree of ease of living to which each social class may legitimately aspire" (p.249).

If a person is respectful of the regulations, docile to collective authority, has a "wholesome moral constitution", s/he will not feel justified in asking for more, thus Durkheim sees the "end and goal are set to the passions" (p.250). In other words, the person is in "harmony" with his or her condition.

Durkheim sees the regulations varying with time and place, hence the varying rates of suicide. In normal conditions the collective order is seen as just by the majority of people, however, as the conditions of life change, so too the standards. The regulation of needs no longer remains the same. This results in a time when there

is no equilibrium, the respective values are unknown and there is a lack of regulation. As it takes time for new limits and new restraints to be integrated and known to the people, it creates a condition conducive to suicide.

An example of this lack of regulation can be seen with Stack's (1980) study where he argues that normlessness is experienced in times of prosperity, specifically in terms of male and female roles. He maintains that because there is a greater labour force participation of women due to the increased work opportunities in prosperous times, men experience such a degree of role conflict within this new situation, they are much more vulnerable to suicide.

Durkheim describes domestic anomie as a situation where there is a sudden family catastrophe that affects the survivor. This may be in the form of the death of a husband or wife. The survivor is unable to adapt to his or her new situation (and the accompanying regulations) and is therefore much more susceptible to suicide.

In adopting this hypothesis, Wasserman (1984) writes that although numerous studies have found that divorced people are more likely to commit suicide than the widowed or married, the majority experience the problem of small sample size. As well, there is the problem of ecological fallacy which is found when researchers make individual-level inferences from aggregate data. Finally, many studies are suspect because they use cross-sectional data which is a

problem because there is a time-lag that should be taken into account when structural-level variables change significantly over time ¹⁰.

Wasserman attempts to address these methodological issues through adopting a multivariate time-series model that considers divorce as a social process. He controls for other variables such as unemployment, seasonal effects, the effect of war, autocorrelation, and lagged effects. As he points out, it is important to consider the lagged effects of divorce and unemployment as it may take time for the effects to occur. He also considered seasonal effects based on Durkheim's findings that the suicide rate was the lowest in winter and the highest in the spring.

In his examination of divorce data from the 19th Century, Wasserman (1984) found that within and between the European countries the patterns of divorce and suicide rates were linked and that 67% of the effect of divorce on suicide was felt in three months or less. However, he cautions that

¹⁰ Schroeder, Sjoquist and Stephan (1989:54) write there is no problem in using cross-sectional data if the structural-level variables remain constant over time: "When studying behavior over time, it is sometimes hypothesized that the value of a variable in one time period is dependent on its value in the previous period. This is reasonable if behavior is conditioned by habits that persist over time". However, as pointed out by Wasserman (1984), Stack (1978), analyzing the relationship between divorce and suicide at the structural level assumes that attitudes toward divorce remained constant. Wasserman argues that Stack's analyses would have been valid had he examined the longitudinal relationship between suicide and divorce.

as it is not permissible to make individual-level inferences from aggregate data, he cannot state that divorced individuals are more likely to commit suicide. Instead, he concludes that "...shifts in the divorce rate have a significant impact on the suicide rate" (p.856).

Most researchers have focused on Durkheim's anomic suicide as economic data are readily available. However, there has been a recent interest in testing his theory of egoistic suicide:

Egoistic suicide Durkheim (1951) argues, is a consequence of disintegration. He maintains that the more an individual is connected to others and the social order, the less likely s/he will commit suicide. He claims that as integration in terms of family, religion, and politics decreases, so the suicide rates will increase. However, Breault (1986) points out, it is difficult to produce good indicators of these social integration variables. For example, in the case of religion, many countries do not have records of church membership (based on the assumption that religious affiliation is a good indicator of religious integration). There is also the problem that national divorce measures are unreliable and cannot be compared between countries due to the differences in law and custom. Breault's (1986) study attempts to address these problems.

Breault's test of Durkheim's theory of egoistic suicide was two-fold. First, religious integration was tested with

corrected and reliable U.S. church membership data, and second, family integration was tested through reliable and comparable divorce rates. As well, because previous research has found these variables to be related to suicide rates, Breault controlled for population change, income, urbanization, unemployment, and female labour-force participation.

Breault used bivariate and multiple-regression analysis¹¹ and found that the social integration measures of divorce, population change and church membership are significantly related to suicide, with church membership and divorce the most important factors in explaining suicide. Breault did not find any significant association for urbanization and labour-force participation.

Based on her findings, Breault provides support for the theory of egoistic suicide and points out that "[t]he consistency of these results over the 47 years of the study is all the more impressive when it is noted that suicide, divorce, and church membership have all undergone significant change" (p.651).

Another examination of egoistic suicide was conducted

¹¹ Note that in testing the relationship at the state level, the years covered were 1933, 1940, and every ten years up to and including 1980, however, data for all the variables were only available for the years of 1950 to 1980. At the county level, only those in 1970 and 1980 with a population of 200,000 or more were used. In the test for Catholic and non-Catholic differences, there were 414 counties (population of 100,000 or more) with the rates averaged over three years to increase stability.

by Trovato (1986) using Canadian data, in an attempt to replicate Stack's (1980) study on suicide in the United States¹². Trovato hypothesized that geographical areas that have high rates of family dissolution will have a low level of family integration and thus a higher level of suicide.

Trovato used comparative provincial data in a multivariate analysis controlling for the percentage of university-educated persons in a province, the percentage of Roman Catholics, an index of long-distance migration, and the provincial marriage rate. His rationale for the use of these variables lies with numerous studies conducted that have found these variables to be significant in relation to divorce rates. For example, education has been found to equal socioeconomic well-being; religion seen as a reflection of socialization; migration as an indicator of rapid social change; and marriage as a form of stability due to its lower rate of suicide.

Trovato's findings agreed with those of Stack (1980), Gove (1973) and Bergrugge (1977), in that areas with high rates of family dissolution also had high rates of suicide. His explanation is that divorce is destructive psychologically for many people--the severed marital ties the motive for suicide.

¹² Stack (1980) compared data across 50 states (excluding Alaska and Hawaii) and found that divorce is independently associated with suicide when controlling for age, race, family income, and the degree of interstate migration.

Trovato is aware of the problem of drawing individual-level inferences from aggregate data. However, he concludes:

Given the aggregate nature of the data, the feasible conclusion can only be that the risk of suicide is heightened in provinces where divorce occurs frequently, which means that at the systems level, increased rates of suicide and divorce reflect a general weakening of social integration (p.347).

Trovato's findings are important in that they have implications for further research. For example, he finds that areas with a high proportion of university-educated persons have a lower suicide rate, which he attributes to a social system that provides a higher level of material and psychological well-being.

Danigelis and Pope (1979) found further support for Durkheim's (1951) theory of egoistic suicide in terms of family integration. Interestingly, although they found that the marital status is an important predictor of suicide (as did Durkheim), gender proved to be an even more powerful predictor, with men more likely than women to commit suicide.

Space constraint limits me to the brief review of the literature as found above, however, before completing the discussion of Durkheim, it is important to note that researchers today may be remiss in their neglect of altruistic and fatalistic suicide as testable theories. For example, Johnson (1979) proposes that women, as a result of their exclusion from the collective conscience and their

dependency upon others, may be associated with fatalistic or altruistic suicide. She argues that women live in different social worlds--often in the private sphere of the family. They participate differently than men in the collective life and their connection to the outside world is vicarious, whereby they live through their husbands and children.

Support for Johnson's proposition is found in West (1965). In cases of homicide/suicide, West attempts to explain the high incidence of women who killed their children before killing themselves, as a form of "deluded altruism" whereby the mothers were able to "save" their children from being raised by others. These women are able to do this West explains, by projecting their own "hypochondriacal concerns" onto the child which stops them from acknowledging the killing of another "person" as well as themselves. This is a form of altruistic suicide West argues because the act was done out of a misguided sense of love, not done in rage. In cases of women who killed their children "...manifestly hostile motives towards the victims were conspicuously absent, and the incidents conformed more or less closely to the pattern of deluded altruism" (p.94).

Durkheim's Le Suicide was written many years ago. He did not have the benefit of computers and the more sophisticated methods of statistical analysis available today which has made him vulnerable to methodological criticisms. For example, he was not able to control for

other factors such as average family income or alcohol consumption--a factor which Wasserman (1984) found to be important in his analyses. Gibbs and Martin (1981) point out that often-times Durkheim did not offer explanations for the variation in suicide rates. In particular, why the suicide rate is higher for the married than for the widowed-divorced in only the age group of 75 and older.

Gibbs and Martin attempt to address these and other methodological flaws found in Durkheim's study by way of formulating an index of status integration as an indicator of social integration.

Status Integration Theory

Gibbs (1969) uses Durkheim's work on suicide as the basis for his theory of status integration. He arrives at his theorem that "The suicide rate of a population varies inversely with the degree of status integration in that population" (p.522) as follows:

Postulate I. The suicide rate of a population varies inversely with the stability and durability of social relationships within that population.

Postulate II. The stability and durability of social relationships within a population vary directly with the extent to which individuals in that population conform to the patterned and socially sanctioned demands and expectations placed upon them by others.

Postulate III. The extent to which individuals in a population conform to patterned and socially sanctioned demands and expectations placed upon them by others

varies inversely with the extent to which individuals are confronted with role conflicts.

Postulate IV. The extent to which individuals in a population are confronted with role conflicts varies directly with the extent to which individuals occupy incompatible statuses in that population.

Postulate V. The extent to which individuals occupy incompatible statuses in a population varies inversely with the degree of status integration in that population.

As Gibbs points out, each of these postulates is not testable in and of itself. However, he argues that since the suicide rate and the degree of status integration can be measured, then the five postulates, in total, provide a testable theory¹³.

Maximum status integration is achieved when we are able to predict one particular status of an individual based on our knowledge of the person's other statuses. In other words, if an individual is truly integrated into society s/he will occupy statuses, in terms of age, gender, marital status etc., that are congruent with each other and fit the expectations of society.

Adopting this methodology, Gibbs (1969) tested his theory of status integration using U.S. National Center for Health Statistics, for the years 1959-1961, which contained suicide rates by marital status, age, sex, and race. He claims that access to this particular form of data provides

¹³ There are three types of status integration measures, each one providing a hypothesis and test of the theory. See Appendix A.

him with the opportunity to test his theory for "within columns" (the Type I hypothesis described in Appendix A) which until this time has been impossible because appropriate data were unavailable.

Overall, Gibbs found that the results are consistent with his theory, however, they are more consistent for the males than for the females. Regardless of the negative cases, Gibbs concludes this early study by stating that his results are, in general, consistent with the theory:

"...the association between the suicide rate and measures of status integration is generally inverse but by no means a constant in all conditions" (p.533).

In an effort to address this problem of negative cases, he proposes some general principles or conditions which he anticipates will strengthen his theory. (See Appendix B for further details).

- Principle 1: The greater the number of status families that enter into integration measures, the greater the inverse association between those measures and the suicide rates (p.529)
- Principle 2: The greater the variation in the suicide rates of populations, the more inverse will be the association between those rates and measures of status integration among those populations (p.531).
- Principle 3: The greater the median size of the populations, the greater will be the inverse association between suicide rates and measures of status integration among those populations (p.531).
- Principle 4: The greater and more constant the average duration of occupancy among a

series of status configurations, the more inverse will be the association between suicide rates and measures of status integration among those configurations (p.532).

Generally these principles, although considered "auxiliary hypotheses" by some critics, maintain that the more valid and reliable the available data, the more valid and reliable the results; ideally, any test of status integration then, would be done using census data which provides a large number of statuses; reliable suicide statistics; constant annual populations and the corresponding suicide rates; and length of time individuals remain in a particular status.

In light of the above, it has been Gibbs' goal to produce a theory that not only provides an explanation for suicide, but to produce a theory that can accurately predict the probability of suicide occurrence. He acknowledges that theory construction in sociology is perhaps the most difficult of all disciplines because sociological concerns encompass phenomena that are variable and have multiple sources of causation. He argues that it is impossible to produce a theory that holds for all conditions. He maintains that if we accept these limitations of sociological theory then when we are faced with negative evidence, we will not feel the need to reject the theory, but rather, will feel motivated to search for the specific conditions with which it holds true. He maintains that

attitude is especially relevant to his theory of status integration.

Status integration theory has been the target of much criticism, however, as illustrated later, these criticisms have resulted in providing Gibbs and other researchers with an even greater opportunity to produce a more sound and valid theory.

Critiques of Status Integration Theory

Hagedorn and Labovitz (1966) sum up the theory of status integration as follows: status integration occurs when there is a relative frequency within a status configuration, and role conflict occurs when there is an infrequently occupied status configuration. They acknowledge that Gibbs and Martin's (1964)¹⁴ status integration theory is an important theoretical development due to its simplicity, predictive power, applicability to other social phenomena, and its sociological nature. However, they are concerned with both the measurement and operationalization regarding the concept of status integration, specifically, in terms of assessing the

¹⁴ This was the first major publication on the theory of status integration, although Gibbs and Martin first examined the relationship of status integration and suicide in 1958. Since then, Gibbs has conducted a number of studies on his own as well as with Martin in a continuing effort to perfect the theory.

normative conflict among statuses. First, there is the problem of measurement when there are two types of configurations both with the same occupancy rate, and second, there is the possibility of error when we assume that low occupancy necessarily means a high degree of role conflict.

In addressing these problems, Hagedorn and Labovitz propose that the role of norms become central to the theory, for if we could be certain of the normative expectations involved in the status configuration, we would then be able to predict suicide rates much more accurately. This is an important consideration, for the theory as it stands now, is only applicable in cases where at least one of the statuses is achieved (i.e. as the theory is based on the assumption that if two statuses are incompatible, the individual will leave one of them as s/he cannot occupy both at the same time). Hagedorn and Labovitz also pose the question: How do we identify what statuses are important in a society--do we measure them empirically as they are done now, or normatively, which Hagedorn and Labovitz argue, would increase the theory's predictability. Moreover, Hagedorn and Labovitz even go so far as to propose that the negative cases found by Gibbs and Martin (1964)¹⁵ could actually be

¹⁵ Gibbs and Martin's (1964) found, contrary to their prediction, that the rate of suicide for women 50 years of age and older decreased rather than increased. As well, they found that in their test of marital status for women, only the age categories of 15-19; 20-24; and 75 years and older

positive cases if interpreted in light of changing norms.

In adopting the commonly accepted criterion of what constitutes a sound theory, Chambliss and Steele (1966) criticize the theory of status integration for its lack of logical structure and empirical validity. They argue that one of the most serious shortcomings of the theory is that it does not distinguish between the definition of concepts and the propositions of the theory. For example, they point to the definition of status integration which they define as "...the relative frequency with which a status configuration is occupied..." and charge that this is not a definition but is in fact a postulate. Furthermore, the other concepts, (excluding suicide), are not defined independently of each other, but instead are presented as a general class.

Chambliss and Steele point out that there is no specification of the theory's process--that a series of statements is inadequate for a scientific explanation. They recognize that the statements are set out with an intuitive connection, specifying correlated variables; however, they argue the process is not explicitly set out for the reader; rather, one must assume that process occurs as follows:

"(1) the stability of social relationships leads to conformity, (2) conformity leads to minimal role conflict, (3) freedom from role conflict leads to occupying compatible statuses and (4) occupying compatible statuses makes suicide

produced the predicted inverse relation.

an unlikely event" (p.526).

Chambliss and Steele, like Hagedorn and Labovitz (1966) also find fault with the operational definition of the concept of status integration. For example, the theory expects that infrequently occupied statuses will have more conflict, and thereby, have a higher rate of suicide. With this operationalization comes the assumption, for example, that the 11 percent of men who fall into the professional statuses will have less stable and enduring social relations and be less attached to the social order than the 20 percent who fall into the trade status. As Chambliss and Steele question--can we make that assumption?

Chambliss and Steele also charge that the analyses of data are biased as a result of placing only the measures of status integration in the rows and the ascribed statuses in the columns. They argue that Gibbs and Martin, in their formulation of status integration theory, have never specified the reasons why what statuses are placed in particular categories. Furthermore, Gibbs and Martin have never provided a rationale for their categorization of ages, thus possibly biasing findings ¹⁶.

To summarize, Chambliss and Steele (1966) criticize

¹⁶ It is important to note here that Chambliss and Steele (1966) reanalysed the Seattle data used by Gibbs and Martin (1958) by interchanging marital status and age between rows and columns and using four age categories instead of the ten used by Gibbs and Martin, and found little support for the status integration theory.

Gibbs and Martin's theory of status integration for its faulty logical structure, lack of concept operationalization, and lack of empirical validity (found in their reanalysis of the Seattle data). However, they do not want the theory to be discarded. "In view of the persistence of the social integration theme in sociological theory (and its presumed utility as an explanatory concept) it would obviously be premature to discard this framework" (1966:532).

Atkinson (1973:442) argues that sociologists in general, and suicidologists in particular, ignore the study of social action through their reliance on social facts.

The error of taking the 'fact-like' status of social phenomena as non-problematic is further compounded in the work of the status integration researchers by the use of elaborately constructed 'facts' (Indices of status integration) to provide other 'variables' for the purposes of statistical manipulation.

Atkinson maintains that this reliance on social facts causes researchers to overlook the problems found with official suicide statistics. He criticizes sociologists who accept the statistics as "close enough" or "true enough", regardless of the studies conducted by such people as Douglas (1967) who has shown just cause for concern.

Atkinson's main argument is that suicide statistics are unreliable because coroners come to describe a death as suicide based on personal knowledge or bias. For example, if the family of the deceased gives any indication that he or she may have been depressed, the coroner attributes the

death to suicide. Furthermore, the statistics are subject to the coroner's ability (or inability) to produce a version of what happened, which in turn, means s/he is responsible for the selection of what should be included or excluded from the final report. The coroner's report then, is subject to memory lapses, biases, and the ability of the coroner to communicate.

Atkinson raises a very important question in terms of status integration theory: How much faith can we place in a theory founded on unreliable statistics?

Like Chambliss and Steele (1966) and Hagedorn and Labovitz (1966), Schalkwyk et al. (1979) criticize Gibbs and Martin's status integration theory in terms of spurious results, definition of categories, ambiguities regarding the rules of the theory (i.e. how to determine categories--the choices, procedures for combining them), and the post hoc explanations of negative cases. These are important concerns, but as Schalkwyk et al. concede, most can be addressed and rectified with time and experience. However, the more fundamental and important issue raised by Schalkwyk et al. is whether or not Gibbs and Martin are even justified in their adaptation of Durkheim's concept of social integration.

As we saw earlier, the status integration theory was developed as an indirect measure of social integration in order that it be more conducive to empirical testing.

However, Schalkwyk et al. maintain the postulates and theorem originally formulated by Gibbs and Martin may not really be related to Durkheim's concept of social integration at all.

For example, they point out that when Gibbs and Martin began with Durkheim's statement "suicide varies inversely with the degree of integration of the social groups", they did not include the final phrase "'of which the individual forms a part'" (pp.1076-1077). Hence, Gibbs and Martin do not consider the individual in their theory as did Durkheim. For example, Gibbs and Martin's assume that the importance of the membership or reference group is the same for all the members, when indeed it may not be the case. A case in point: a female working in a predominately male occupation would not have maximum status integration, and thereby would be more likely to commit suicide according to the theory. However, where one female may indeed experience role conflict, another may not.

To sum up the criticisms of status integration thus far, their main problem appears to be the actual measurement and operationalization of the concept of status integration (see Hagedorn & Labovitz, 1966; Chambliss & Steel, 1966; Atkinson, 1973; and Schalkwyk et al., 1979). The process for deriving a measurement of status integration is not clearly stated (Chambliss & Steele, 1966), nor is the size (in terms of occupancy rate) of a particular status

standardized or controlled (Hagedorn & Labovitz, 1966). Chambliss and Steele (1966) find that there is no distinction between the definition of concepts and the propositions of the theory, while Hagedorn and Labovitz (1966) see the theory lacking a normative context. In addition to the lack of consideration given to the individual as a factor (Atkinson, 1973; and Schalkwyk et al., 1979) there is the added problem that this theory ignores the inconsistency and unreliability of official statistics, so crucial to a valid test of a theory (Atkinson, 1973). However, in spite of these problems, the theory has a lot of potential (Hagedorn & Labovitz, 1966; and Chambliss & Steele, 1966), which is confirmed by the work Gibbs and Martin have done in an effort to address these issues.

One problem that has been identified is the fluctuating suicide rates (Gibbs and Martin (1974). Because the rates change from year to year, so do the relations between suicide and status integration. Thus we expect that the relationship will depend on the years involved in the study. Gibbs and Martin point out that the usual way to deal with this variation problem is to use the mean annual incidence numbers for several years. However, this still does not eliminate the problem of fluctuation when testing a theory¹⁷

¹⁷ Gibbs and Martin acknowledge the problems found with official suicide statistics, however, they maintain that when testing a theory we do not have to be so much concerned with

as there is no guideline for designating the years to be included in the suicide rates. Furthermore, choosing the optimum period is problematic as it may not necessarily be the optimum for certain populations.

They argue that in an ideal case, there would be the same number of suicides reported every year for a population. For example, if the suicide rates are reported for the time period of 1956-1964, and the population base chosen is 1960, then if the ideal conditions apply, there would be no difference found if the rate were computed in any one of the other years. Although this condition is only ideal and foreign to actual populations, Gibbs and Martin argue that there are some populations that approach this condition more than others. These populations will, of course, show a minimized fluctuation rate in that the number of suicides as a proportion of the population will remain relatively constant from one year to the next, thereby providing a more reliable relation between suicide rates and integration measures. Thus they propose that "the greater the fluctuation in the annual number of suicides for each population over a period, the less inverse the relation between the suicide rates for that period and the measures of status integration at any point in that period" (p.336).

their reliability in terms of real numbers, but must assume that they are reliable enough that they can be used in a "relative sense". This they define as the proportionate difference between the true and the official. As they further point out, there is no practical alternative thus far.

Their method for computing the coefficient of variation is described in detail in their paper. Suffice it to say, they use a coefficient of variation to show the increase or decrease in the number of suicides relative to the original number. Based on the previous proposition, they predict that the inverse relation between the marital integration and the suicide rate will be the closest for those populations (age groups) that have the greatest stability in the reported suicides. They now restate their original proposition to read "among age groups, the greater the coefficient of variation in the annual number of suicides, the greater the proportionate error in the predicted rate" (p.337).

Gibbs and Martin (1974) tested this proposition with great success. They found that it held true for both white males and white females. They conclude that while this method still does not allow the researcher to determine the best year or time period per se, it does work to enable him or her to see the effect or non-effect of time lag.

Further improvement of the status integration theory is attributed to Stack (1978). In his attempt to test three theories of suicide, (one of which is status integration), he used data from 45 nations¹⁸. He claims that as most of the research has been based on samples from only one nation

¹⁸ For the purpose of this argument we will focus only on his test of status integration.

in terms of cities or census tracts, his study, because of its comparative approach, may be able to provide "validity of sociological thought on suicide".

Stack hypothesizes that nations that have a high proportion of people who are divorced, a high proportion of young married people, or a large number of the recently retired will have a higher rate of suicide as they are apt to experience role strain. He uses the female labour force participation as a measure of role conflict for this study. Stack argues that nations having a higher proportion of married women in the labour force will have a higher rate of suicide due to the strain found in maintaining a household as well as a job. He also expects that a high level of married female labour participation is related to a high rate of male suicide, because for some men, the fact that their wives work is an indication of their failure as providers. Furthermore, having a wife who works may result in more marital conflict which will affect the husband's job performance¹⁹.

Stack performed a multiple regression analysis and found that all three factors, high levels of industrialization, high rates of economic growth and a high proportion of female labour force participation had a non

¹⁹ Although Stack's theory may hold true for some cultures, it may not for others: attitudes toward working women vary considerably from culture to culture. Further, as pointed out by Wasserman (1984) the attitudes within cultures have changed over time.

spurious and significant effect on suicide rates.

Interestingly, further analysis produced results that found that the proportion of women in the labour force was the most important determinant of suicide rates (with the effect even stronger for males), therefore, he concludes that of the three theories of suicide, status integration theory was the strongest contributor to suicide theory.

Gibbs and Martin (1981) also see status integration theory as the best theory in terms of empirical testing and predictability. Even taking into account the problematic characteristic of official suicide statistics, they argue that until ideal data are realized, tests may be conducted "...provided that critics are willing to assess the theory in terms of its predictive power **relative to contenders**", and challenging further, they ask: "...what contending theory can be tested as readily and systematically ...and...what contending theory offers as much in the way of predictive power" (p.821)?

In response to Schalkwyk et al.'s argument that the theory of status integration is not a true derivative of Durkheim's concept of social integration, Gibbs and Martin (1981) point to Durkheim's lack of explanation of why the suicide rate is higher for the married than for the widowed-divorced in only the age group of 75 years and older. They argue that as this difference only holds for females, it can be best explained through the theory of status integration.

It is only in this age group for females, that the measure of marital integration is greater for the widowed-divorced than for the married. This interpretation is especially relevant in light of the numerous widows found in the 75 years of age category and older.

Gibbs (1982), to this date, has been limited to testing only one dimension of status integration due to the lack of appropriate data. However, he was able to improve the testing of his theory through the availability of a 1970 U.S. census table which cross-classified three achieved status categories--parental status, labour force status, and the marital status of women by age--thereby allowing him to test the three status dimensions simultaneously. This study has important implications as he found that "[t]he variance in the suicide rate explained by the simultaneous measure (i.e., r^2) is four times that explained by any of the three dimensions of status integration and nearly twice that explained by any composite measure" (p.236). It is important to note here that Gibbs reports this to be the most complete test done to date, yet it still does not include the status categories of occupation, household, religion, and economic relations, and although it tested for age, race and sex, it did not test for ethnicity. Gibbs believes that the inclusion of these status categories in the future will provide an even more complete test of the theory.

Stafford and Gibbs (1985) also tested for simultaneous measures of status integration, however, they were not as successful with their results as Gibbs (1982). In testing four sets of achieved statuses, (employment, household, marital and residential status with age, race, and sex), they found that only 15 of 25 zero-order coefficients were in the predicted direction, with most of these weak. However, they did find strong support in the relation between all four race-sex groups and occupational integration. As a consequence of their findings, they express concern with the theory's viability. However, due to the strong correlations found with occupation and the relevant findings (although inconsistent) in various other combinations, they caution that the theory should not be discarded, and they offer some new strategies for solving the problems.

Although they found that in this test the four statuses (instead of the usual one) did not improve the predictability of the theory, they still feel it important to find better data that allows for more measures of achieved statuses. The second strategy involves trying to find a better way of arranging the data--perhaps in the form of a new formula. (Note however, they are doubtful that a better one might be found.) For the third strategy, their suggestion is much more extreme. This involves the revision of the theory itself. In particular, this involves

addressing the assumption that all the statuses are relevant, and are so, to the same degree. Stafford and Gibbs (1985:657) give four possibilities as to alternative assumptions which are as follows:

First, it is possible that only one particular dimension of status integration is relevant, and it is the same in all populations (i.e., that dimension and only that dimension varies inversely with the suicide rate in all populations). Second, it is possible that, for any population, only one dimension of status integration is relevant, but it is not the same in all populations. Third, several dimensions of status integration could be relevant, and the dimensions may be the same in all populations. Or fourth, several dimensions could be relevant in all populations, but the dimensions may not be the same in all populations.

To summarize thus far, we see that the theory of status integration has evolved from a very basic theorem stating that "The suicide rate of a population varies inversely with the degree of status integration in that population" (Gibbs, 1969:522), to a theory that considers testing not only one dimension of integration, but many. This refinement has several consequences, both negative and positive, for although the theory becomes more complicated and more difficult to test, any refinements and improvements mean an even more reliable and valid theory.

Several studies provide insight into status integration theory even though they do not directly test that theory.

Some studies have found that the labour force participation of married women has a significant effect on suicide. Yang and Lester (1988), in support of status integration theory, found that not only did the proportion

of married women in the labour force affect the suicide rates of men, it had a significant effect on homicide rates²⁰.

Using a regression analysis, Yang and Lester included variables such as the percentage of the state's population from the south (because studies have found with homicide there is subcultural violence), divorce, interstate migration, the percentage of white people, as well as demographic variables such as the median family income, birth rate, percentage urban population, male unemployment rate, the proportion of people over 65 years, and the personal per capita income.

Yang and Lester found that interstate migration (males and females), divorce rates and urbanization (females) were the strongest predictors of suicide for men. Providing further support for the social integration theory, Yang and Lester (1988:276) write:

This suggests that, for suicide, variables that appear to measure social integration are the most powerful

²⁰ Regarding homicide, the rate of married women working part time is a significant predictor. Interestingly, the homicide rates are higher in the southern states where there is a higher rate of married women working part time and a lower rate of women working fulltime. This may be due to part time work seen as more acceptable for married women, especially in areas with traditional attitudes, and attitudes which are associated with an acceptance of violence (e.g. the south). Yang and Lester also found that overall, homicide rates were higher in states that had a higher proportion of married women working full time. They attribute this to an increase of stress levels caused by less time to work in the home and therefore more pressure on the husband.

predictors, as Durkheim (1897/1951) proposed. Migration, divorce, and urbanization all can be seen as leading to the weakening of social ties, thereby decreasing social integration and increasing the likelihood of anomic and egoistic suicide.

A similar study was conducted by Lester (1986) who examined the effects of migration (those who migrate break old ties and are not immediately integrated into their new place), divorce rate, proportion of blacks, median family income, and proportion of persons over 65 years old on both suicide and homicide for the continental states ²¹.

Lester found the results for suicide and homicide very different, with the rates of suicide higher in states that had a higher proportion of blacks, divorced males, migrants, and a lower proportion of older citizens. Regarding the homicide rates, it was found that those states with a lower median family income, a smaller proportion of older people and a higher proportion of blacks had the higher homicide rates.

Overall, Lester's findings provide further support for the status integration theory, for he found that both the divorce rates and the migration rates (both indicators of a disintegration of ties) had a significant effect on both the homicide and suicide rates.

These last two studies provide us with an area for

²¹ Lester excludes the states of Hawaii and Alaska as the migration to these states is usually undertaken for very different reasons than those found normally within the continental states.

future research in terms of status integration theory, for not only do they test the relation between suicide and status, they also look at homicide and status, an area not tested by Gibbs and Martin.

Two studies include social context in their test of status integration.

Pescosolido (1990) examined the contextual influence on the ability of religions to provide social support and thus integration. She analyzed 27 religions, controlling for the density of the population and the area of the country using 1970 U.S. census data. She found, through a separate analysis of region and population density groupings, that context does indeed affect a religion's influence on suicide rates. Interestingly, she reports that although the local social contexts increase a religion's ability to protect an individual from suicide, the social context also increases a religion's ability to push an individual to suicide.

Pescosolido (1990:353) concludes that her findings ...

are in line with recent, general ideas about social integration and support that focus on the nature of ties with social groups rather than simply their presence or absence. A particular religious tie may or may not be supportive depending on region, rural-urban location, or other social settings yet to be explored. The update and elaboration presented here continues to suggest the promise of using a broad network interpretation of Durkheimian theory in etiological studies of suicide" (p.353).

Social context also plays an important role in suicide studies for Pescosolido and Georgianna (1989). Because

there have been fundamental shifts in the relationship of religion, culture and the state, they consider not only the degrees of religiosity and its effects, but also the community surrounding the religion. They look at Durkheim's theory in network terms²², looking at the individual's participation and network contacts and find that it is the participation in networks that protect against suicide more than church membership.

It appears that Pescosolido (1990) and Pescosolido and Georgianna (1989) are to some degree in agreement with Hagedorn and Labovitz (1966) with their focus on norms and social context. If we also consider Chambliss and Steele's (1966) argument that status integration theory needs to consider the individual, we can only hope that future studies will include these concerns as an important factor in their tests of status integration, for they can only work to strengthen and enhance the theory.

Interestingly, the majority of the studies cited in this paper find consistent offender characteristics. The offender is most likely to be a 35 to 45 year old white male related to the victim. This leads researchers such as Palmer and Humphrey (1980) to argue that those homicide offenders who commit suicide fit the profile of those who

²² Pescosolido and Georgianna use the term "network" to replace Durkheim's "society". Like Durkheim's "society", they see network structures as providing a collective conscience upon which individuals can draw support.

commit suicide better than those who commit homicide.

The rationale for adopting Gibbs' theory of status integration as it relates to suicide, is founded with the theory's appeal to "common sense", its link to Durkheim's theory of social integration, and finally with its predictive power in terms of outcome.

The goal of this study was to test the theory of status integration in cases of suicide following homicide. Because suicide following homicide is such an atypical act of suicide, it may provide researchers with some new and heretofore unknown contributing factors to suicide and thereby promote new areas of study. The theory provides a uniquely sociological approach. The statistical techniques employed and the national data set available results in both a strong test of the theory and greater insight into the homicide/suicide phenomenon.

CHAPTER FOUR

Methodology

Although the theory of status integration is widely accepted, there are a number of concerns regarding this theory, the most challenging of which is its macrosociological perspective. As shown earlier, Durkheim himself stressed the importance of including the individual in any study of society. Because individuals comprise social groups, their role in any theory, be it structural or individual must be recognized (Schalkwyk et al., 1979).

In an attempt to overcome this problem with status integration, I will test the theory at a microsociological level. This means taking the concept of status integration as it is set out at a structural or macrosociological level and defining it on an individual, or microsociological level. Although it may be argued that this attempt to "jump" from one level of sociological theory to another does not make for a valid test, attempting to link macro and micro sociology is not a new or insurmountable task. In fact, many researchers maintain that it makes good sense to link the two.

Macrosociology encompasses theories such as structuralism. Consensus is found with a common interest in the structure of different positions in society and the

constraints on individuals (Blau, 1987). For example, Durkheim hypothesizes that culture (as made up by religions, economic conditions, norms and institutions) will determine the rate of suicide. For Durkheim, suicide is a consequence of social disintegration on a structural level. As developed by Gibbs the theory of status integration is also macrosociological.

Contrary to macrosociology, microsociology concentrates on theories that are concerned with social interaction, communication, and relations between individuals (Blau, 1987). Theorists such as Blau (1987), Parsons (as quoted by Alexander and Geisen, 1987), and Mead (1967) support the importance of linking these two levels of sociology.

Blau (1987:79) argues that in spite of the fact there are many different theories at each level of analysis, there is an inherent link between the two perspectives if for no other reason than people's "cultural values and psychological preferences affect their choices in social relations...the social environment also limits our options".

Alexander and Geisen (1987:24) provide further support with Parsons' (a "staunch structuralist") concept of a role. "Roles are translations of macro, environmental demands onto the level of individual behavior". To further reinforce this idea Mead (1962:90) commonly known as a microsociologist, acknowledges structural and societal influences. He writes: "Our whole process of abstract

thought, technique and method is essentially social".

Thus, it makes good sense to integrate macro and micro sociology. Furthermore, it allows us to examine a structural theory of suicide on an individual level. Through examining an individual's degree of integration based on his characteristics (e.g. age, occupation, relationship to the victim, marital status, education, and employment status) we can overcome some of the problems inherent in the empirical testing of macro theories.

Gibbs himself points out the difficulties in testing structural theories when relying on suicide statistics which are often unreliable. Compounding this problem, Atkinson (1973) argues, is the tendency for suicidologists to overlook the problem with suicide statistics. In this study, the problem is minimized due to the data source. In using Canadian homicide data, derived from police reports (on which the suicide is recorded), I will have fairly reliable data for suicide as it follows homicide. As Evans and Himelfarb (1987) argue "...homicide statistics collected by the Canadian Centre for Justice Statistics probably give us a pretty complete and consistent count of homicides in Canada." This is because it is a crime of highest priority and therefore consistently reported. As well, because police discretion does not play a role in the reporting of this type of crime, the data are valid.

Chambliss and Steele (1966) criticize the theory

because the concepts involved in defining status integration are presented as a general class rather than defined independently. In other words, the definition of status integration is untestable. However, in adapting the theory to a micro level, this problem can be overcome. For example, Gibbs determines that a stable and durable social relationship is characterized by the extent to which individuals in a population experience role conflicts, conflicts that are the result of their unacceptable or non-conformist roles, be they occupational, marital, religious etc. In other words, if we are able to predict a remaining status of a person when all others are known, we have reached maximum status integration. (Note: Here is an example of "ecological fallacy"--making individual inferences from structural level variables--something we want to avoid, hence this test of status integration at a micro level).

In this study, by using the variables recorded on police reports, an individual's degree of status integration can be determined through his relationship to the homicide victim. There is no subjectivity in determining the relationship and any role conflict can be easily determined. For example, role conflict will be at the maximum in cases where a homicide offender kills his spouse. The more intimate the relationship between the victim and the offender, the more the offender will experience role

conflict due to the role expectations involved in marriage, the most important of which would seem to be to love and protect. At the other end of the scale, a homicide offender who kills a stranger will not have the same tie to the victim, therefore the role expectation is not the same, non-existent really (other than our "societal" expectation not to kill), and he is therefore much less likely to commit suicide.

In addition, one's degree of integration will depend on other factors such as age, gender, marital status, occupation, education and ethnicity. These factors were seen as important in predicting suicide by Durkheim and are also important in status integration theory. The older one is, the more likely s/he has integrated into the "middle class" values of society in terms of occupation, marital status etc. As well, those who are more highly educated are more likely to have adopted the accepted mores of society. The same can be said about race and gender. White males in our society are the least discriminated against, therefore more likely to espouse the social order, as opposed to females or other minorities who make up the largest proportion of the population in the "lower classes".

In conclusion, Gibbs concedes his theory does not hold for all conditions, however, he cautions that we should not reject the theory because of this, rather, we should search for specific conditions with which it holds true. This is

the crux of this study. It is expected that because specific and relatively accurate suicide statistics (as extracted from homicide reports) are available, I can test Gibbs' theory through predicting the probability of suicide based on an individual's degree of status integration as seen through his tie to the community and thereby provide support for his theory through the specific condition of suicide as it follows the act of homicide.

In sum, the theory of status integration, widely acknowledged by researchers for its ability to allow us to indirectly test an explanation, easily transcends from a macro to a micro level as the concept of integration is as easily understood at a societal level as it is at an individual level. In conducting this study, my aim is to base relationships in theory. This is done, as Bernard and Ritti (1990:6) point out, by building a "theoretical/conceptual framework that both explains and predicts the observations at hand". It is my contention that the conceptual framework offered by status integration theory allows us to predict whether or not a homicide offender will kill himself based on his characteristics, thereby providing us with further knowledge of the act of suicide generally and suicide as it follows homicide specifically.

Given the discussion of status integration theory we can turn to a discussion of the data, hypothesis, and the

variables used to predict the probability of suicide.

Data

The data set that was used for this study was generated by the Canadian Centre for Justice Statistics. It consists of 5,408 cases of homicide committed by white males recorded between 1961 and 1983²³. (Although there were 9,642 cases of homicide recorded during this period, this study focuses only on white males.) There is access to both offender and victim information as gathered from police reports²⁴. Unfortunately, as with all secondary data, there are variables of interest that cannot be included in our analyses, however, we are provided with variables such as occupation, marital status, and the relationship between the offender and victim, in addition to the usual demographic variables such as age, year of offence etc²⁵. These

²³ These cases include first and second degree murder, manslaughter and infanticide as defined by the Canadian Criminal Code. They constitute the universe of officially recorded homicide in Canada for the 23 years.

²⁴ Although there is a justified concern regarding the reliability and validity of police records in terms of the definitions, reporting and recording behaviours of crimes, it is probable that these concerns do not apply to the crime of homicide as this type of offence is the most likely to be reported.

²⁵ Alcohol consumption is known to play a major role in homicides. Although this variable is included in the police reports, unfortunately, it cannot be included in this analysis due to the large number of missing cases and the invariant nature of the categories.

variables are more than adequate for the purpose of testing status integration theory²⁶.

Hypothesis

As discussed earlier, the status integration model is based on the theorem that "The suicide rate of a population varies inversely with the degree of status integration in that population" (Gibbs, 1969:522). The degree of status integration in a population is dependent upon the stability and durability of social relationships in that population, which in turn is dependent upon the extent that the individuals in that population conform to the sanctioned demands and expectations placed upon them by their society according to their status.

Status integration theory predicts the rate of suicide for a population based on the degree of integration within that population; it is a structural level theory. However, the model can be adapted to predict the probability of suicide for an individual based on his degree of

²⁶ Gibbs (1969) used marital status successfully as his only measure of status integration. In response to the criticism raised by Chambliss and Steele (1966) and Schalkwyk et al. (1979) that status integration is a multi-dimensional variable and should not be treated uni-dimensionally, Stafford and Gibbs (1985) tested the relationship between status integration using four dimensions (employment, household, marital status, and residential status) simultaneously, and came to the conclusion that the four dimensions did not predict any more accurately than using marital status alone.

integration.

Based on the status integration model, it is my contention that the more integrated the offender, in terms of his relationship to the victim, his occupation, education, status of employment, age, marital status, and the year in which the offence occurred, the more likely the offender will commit suicide as a result of the sudden and complete disintegration experienced as a consequence of the homicide.

Variables

The dependent variable is dichotomized: "yes suicide" or "no suicide" ²⁷.

All the variables used in this analysis, other than the age and education of the offender and the year of the offence are categorical. How they are categorized and treated is as follows.

The relationship of the offender to the victim has 37 categories listed on the police report. As they become difficult to handle and interpret they have been collapsed into eight categories: Wife; common-law wife; family member

²⁷ Whether or not a suicide has occurred is determined by the police officer at the scene, and although there may be some doubt as to whether or not it was a true suicide in terms of whether the offender really wanted to die, or may have him/herself been a victim of homicide, this problem of definition is beyond our control.

which includes such relatives as parents, children, grandparents, siblings, nieces, nephews, aunts, and uncles; common-law family member which includes relatives as above but common-law rather than legal; estranged lover/triangle; friends; acquaintance or business relationship; and stranger (no known domestic relationship). (See Appendix C for a sample of the police reports used for this study.)

Marital status plays an important role in the analyses as it is expected those who are married or living in a common-law relationship will experience a greater degree of disintegration than those who have already separated or those who have not been involved with the victim at all. The variable "marital" has been left in its categories as depicted on the police reports in order that no information is lost when making comparisons between the groups. They are: married; separated; widowed; divorced; common-law; single; married common-law; separated common-law; widowed common-law; divorced common-law; single common-law; and not stated²⁸.

The variables "occupation, "employment status" and "education" are used in the analyses based on the expectation that those offenders who are employed, and

²⁸ The categories of married common-law, separated common-law, widowed common-law, and divorced common-law are defined as those who have a legal relationship with another, but who, at the time of the act homicide/suicide, was living common-law with someone other than the "legal" spouse. Single common-law is defined as a single person living common-law.

employed in a "higher status" position, and have a higher level of education will better identify with the middle class values (hence a more developed "super-ego") and thereby suffer a higher degree of "disintegration" than those with a lower level of education or are unemployed. Unfortunately, these three variables pose a problem due to the quality of police reporting and missing cases, (e.g. education with 41% unknown, occupation with 34%, and employed with 69%), however, this problem is addressed with the inclusion, in the analyses, of "not known", a variable that includes those not recorded by the police officer as well as those not known.

"Education" is treated as an interval variable due to the method of police reporting. The police report allows for recording either the grade (in actual numbers of years) or a category, e.g. some primary school, some high school etc. To overcome this inconsistency, the number of years to attain the categorized level of schooling was assigned as follows: Zero years for illiterate or no schooling; 8 years for some primary school; 12 years for some high school; 13 years for business, vocational or technical; 14 years for partial university; and 15 for university. Zero years was also assigned to those not known or not stated.

Although it can be difficult to judge the status of an occupation, especially as described in police reports, this variable is included in the analyses adopting the

occupational categories as set out in the police records. They are categorized for easier analyses as follows: "professional" (as stated on the report); "semi-professional" which includes those involved in clerical, commercial, communication, financial, managerial, and armed services occupations; "labour" which encompasses the fields of agriculture, construction, electrical, fishing, labourer, manufacturing, mechanical, mining, service, and transportation; and "not working" covers those people who are students, retired, or classified as housewives²⁹.

The variable "employed" has also been included for study as it is expected that those who are employed will be better integrated into society than those who are not. Unfortunately, we run into the same problem found with education and occupation, there are a lot of cases reported as "not known". However, as before, this has been labelled as such and included with those "employed" and "not employed".

Both the variables "age" and "year of offence" are included in the analyses. Age because it is expected the

²⁹ Although it may be argued that someone may occupy a professional position in one of the non- or semi-professional occupations, it is expected that if this were the case, the officer would appropriately record the suspect's occupation as "professional" as there is a space labelled professional on the report. Unfortunately, as these reports are not for research purposes, we do not have any control as to the accuracy of variables such as these, and must thereby, accept the possibility of error when evaluating the results.

probability of suicide will increase with age (as found with suicide data), and year of offence, because as we become a socially less integrated society, there should be fewer suicides following homicide.

Analysis

Three forms of analysis are used. First, cross tabulations are run. Crosstabs allow us to identify and correct any anomalies found within the data. As well, they are useful in that they allow us to study the relationship between variables.

As crosstabs are unable to give information regarding the strength or form of the relationships, multiple regression analyses of the variables are performed. This procedure gives "close" results in a timely manner and allows us to determine the strength and form of the relationships.

Based on the results of the multiple regressions, I employ logistic regression to produce the final results.

Logistic regression is the analysis of choice due to its suitability to the data in this study. It allows a "regression-like" analysis without violating the assumption of the "continuous linearity of the dependent variable" in the case of a dichotomous dependent variable as found with this study (Walsh, 1987:179). With logistic regression, we

are not forcing our model to conform to a straight line, instead we are able to evaluate the effect of the independent variables (at any one of their levels) on the dependent variable.

With this form of regression, we are able to produce results in the form of probabilities for or against an outcome given a set of conditions. Although the computations involved in producing these probabilities can be formidable for those unfamiliar with this form of regression, Walsh (1987) argues that the interpretation of the results are understandable for the "layperson" (Walsh, 1987).

CHAPTER FIVE

RESULTS

Between the years of 1961 and 1983 there were 5,408 cases of homicide committed by white males. In just over 40% of the cases, the offender was intimately (i.e. married or living common-law) related to the victim. In 15.4% of the murders, the victim was his wife. Almost half (46.3%) of the offenders were single. Just over a quarter (27.5%) were legally married; a further 4.5% lived common-law. Almost 13% were either separated, divorced, or widowed, indicating that almost half (44.7%) of all the homicide offenders were or had been married.

The majority of the offenders had between eight and ten years of education (53.7%) and worked in a labouring position (56%). Employment status was fairly evenly split with 14.5% employed and 17.0% unemployed³⁰.

The median age of the homicide offender was 28 years old, however the greatest percentage of homicides are committed by those between 20 and 24 years old.

In examining the rate of homicides from 1961 to 1983 we see a linear trend with the rate of homicide increasing.

³⁰ Keep in mind the large number of unknown and unstated cases: e.g. education with 41% of the cases unknown, occupation with 34% non-specified or not stated; and employed with over half--69% of the cases--unknown.

For example, in 1961 it was 2.0%, the rate increasing slowly until 1970 where we see a rate of 3.4 percent. In 1971 the increase is more pronounced--4.4 percent. The record year is 1977 with a total of 362 homicides, a rate of 6.7%, decreasing to 6.2% in 1983.

In summary, the typical homicide offender is a single, young white male, with a grade nine education working in a labouring position. The victim is most likely a friend or someone he knows rather than a family member. How do these offenders differ from the 570 homicide offenders who commit suicide?

Almost 70% (392 cases) of these suicides were committed by a man who killed his wife, common-law wife or an estranged lover. Interestingly, although the actual number of homicides decreased with the age of the offender, the likelihood of suicide increased significantly. For example, the percentage of suicide for those between the ages of 20 and 30 years ranged from 4.1% to 6.5%. On average, 5.02% of homicide offenders aged 20 to 29 years committed suicide. The rate of suicide for those 30 to 39 years old doubled, with 11.8% of homicide offenders committing suicide. The differences become even more apparent as we examine the rate for the 40 to 49 year olds--19.8 percent; 50 to 59--22.7%; 60 to 69--25.5%; 70 to 79--44%, committed suicide. Of those 80 years of age or older, the incidence of homicide are rare, (14 cases) however, in almost 100% of these, the

offender committed suicide after the act.

In terms of education and occupation we find that the likelihood of suicide is increased with those who have attained a higher education and/or occupation. For example, 20.3% of those offenders with 15 years of schooling committed suicide as compared to 4.3% with 8 years of schooling (the average as found above). This difference holds true for occupation with 15.5% of semi-professionals and 16.3% of professionals committing suicide as opposed to 8.9% of labourers committing suicide. The results of the crosstabs also show that those employed are more likely to commit suicide (14.5%) than those unemployed (6.2%)³¹.

Interestingly, when we examine the percentages of suicides following homicide between the years of 1961 and 1983, we find they decrease. This is the result, one can argue, of the "disintegration" of society. The effect of homicide on the offender has diminished with the rapidly changing society. (Note however, that one may also attribute the declining suicide to changes in the relationships involved--as there are more homicides involving friends and acquaintances in the 1970's and 1980's, we would expect less suicides following homicide.)

³¹ It is important to note again the significant amount of information missing regarding the education, occupation, and employment status of the offenders when examining the data, however, it may be argued that the information is missing as a consequence of suicide--it is very difficult to obtain this sort of information without the co-operation of the offender, especially if the offender is dead.

In sum, the typical homicide/suicide offender is an older married white male who kills a "significant other"-- most likely his wife. On average, he is better educated and employed in a semi-professional or professional occupation.

In order to determine the strength of the relationship between the variables and the likelihood of suicide, a number of multiple regressions were run which allowed me to determine the best fitting model.

All the categorical variables were converted into dummy variables. It was found that the variables "marital status" and "occupation" did not contribute significantly. They were dropped from the final model (Table 1).

TABLE 1

Multiple Regression Model: The Effect of Relationship, Age, Employment Status, Education, and Year of Offense on Suicide.

Variable	B	SE B	Beta	T	Sig T
AGE	.030520	.003153	.132182	9.679	.0000
FRIEND	.027230	.013164	.028566	2.068	.0386
EMPUNK	.011896	.010191	.017992	1.167	.2432
TRI/F	.240171	.024420	.124636	9.835	.0000
TRI/M	.032980	.022514	.018633	1.465	.1430
YEAR	-.005083	6.6507E-04	-.100955	-7.642	.0000
CLWIFE	.104047	.017390	.079831	5.983	.0000
FAMEM	.088699	.012965	.094182	6.841	.0000
EDUC	.008797	.001879	.138266	4.681	.0000
ACQ	-.010451	.010804	-.014105	-.967	.3334
WIFE	.241371	.013077	.284026	18.457	.0000
YEMP	.009338	.013952	.010695	.669	.5033
EDUCUN	.203239	.018641	.325274	10.903	.0000
Cnst	-.073793	.019617		-3.762	.0002

Multiple R .44794
 R Square .20065
 Adjusted R Square .19873
 Standard Error .27489

F = 104.15430

Significance F = .0000

Analysis of Variance DF
 Regression 13
 Residual 5394

Sum of Squares Mean Square
 102.31732 7.87056
 407.60502 .07557

Variable "AGE" represents the offender's age in divisions of ten years: For every ten year increase in age, the probability of suicide increases by .03% ($p < .0000$).

Variable "EDUC" portrays years of schooling and is significant. For every year of school, the probability of the offender committing suicide increases by .87% ($p < .0000$). "EDUCUN" represents the cases recorded as 0 years of education or unknown. As seen in the table, this variable is significant ($p < .0000$), indicating that the probability of suicide is increased by 20% if the level of education is not recorded. This may be due, as hypothesized earlier, to the likelihood of the offender having a higher level of education. This puts him at greater risk of suicide--thereby unavailable to provide the information to the police officer.

The year of offence (YEAR) is also significant. As seen in the table, the probability of suicide decreases by 0.5% with each increasing year ($p < .0000$). "TRI/F" represents the probability of the offender's suicide in cases where the victim is an estranged lover or member of a love triangle and is female. This variable is also important for the model as it shows it is 24% more likely the offender will commit suicide if the victim is female rather than a male (Note: the variable "TRI/M" depicts a male victim as an estranged lover or involved in a love triangle³²).

³² The relationship variable "estranged lover/lover's triangle" was delineated into male/female categories in order to include the possibility of a homosexual relationship. I did not include the cases where there were more than two victims (there were only 13 cases which involved two or more

Note the significance when the victim is a wife: In comparison to all the other relationships, if the victim is the wife of the offender, there is a 24% probability the offender will kill himself ($p < .0000$).

"YEMP" is the variable which represents those offenders who were employed at the time of the offence. The effect of employment status is not significant in this model, but as seen with the logistic regression, the significance does increase. "EMPUNK", the variable portraying the unknown employment status, is also insignificant in this model, however, it does approach significance in the logistic regression model.

Overall, the model as shown in Table 1, explains about 20% of the variation in the dependent variable based on the independent variables in the model. However, as discussed earlier, because the dependent variable is dichotomous the assumptions for regression analysis are violated. Logistic regression on the other hand, requires fewer assumptions and will thereby produce more meaningful results.

victims) as it would be difficult to determine the relationships involved.

TABLE 2

Logistic Regression Model: The Effects of Relationship, Employment Status, Age, Education, and Year of Offence on Suicide

Var	B	S.E.	Wald	df	Sig	R	Exp(B)
WIFE	2.5930	.2131	148.0762	1	.0000	.2003	13.3696
CLWIFE	1.9870	.2491	63.6280	1	.0000	.1301	7.2936
FAMEM	1.8305	.2285	64.1580	1	.0000	.1306	6.2369
TRI/M	1.2642	.3441	13.5007	1	.0002	.0563	3.5401
TRI/F	2.8111	.2777	102.4449	1	.0000	.1661	16.6280
FRIEND	.9858	.2591	14.4747	1	.0001	.0585	2.6800
ACQ	.1055	.2633	.1606	1	.6886	.0000	1.1113
YEMP	.3849	.1193	3.7286	1	.0535	.0218	1.4694
EMPUNK	.2850	.1632	3.0484	1	.0808	.0170	1.3298
EDUC	.1392	.0305	20.7823	1	.0000	.0718	1.1149
EDUCUN	2.8522	.3122	83.4403	1	.0000	.1495	17.3256
AGE	.3031	.0373	66.0707	1	.0000	.1326	1.3541
YEAR	-.0585	.0086	45.8403	1	.0000	-.1097	.9432
Cnst	-5.9246	.3763	247.8875	1	.0000		

	Chi-Square	df	Significance
-2 Log Likelihood	2616.223	5394	.0000
Model Chi-Square	1026.468	13	.0000
Improvement	1026.468	13	.0000
Goodness of Fit	6527.067	5394	.0000

As seen in Table 2, the significance levels for some variables has altered (e.g. TRI/M; YEMP; are now significant). Overall, it appears this model is a good fit.

As stated earlier, the main goal of this project is to test the theory of status integration and thereby predict the probability of suicide based on the offenders' relationship to the victim and his characteristics. The hypothesis is: the closer the relationship of the victim to

the offender, the more likely the offender is to commit suicide. Further, the probability of suicide will increase with the offenders' tie to society as seen through his education, employment status, and age. As well, it is expected the probability of suicide will decrease over time, with the rate the highest in 1961, decreasing slowly to 1983.

The advantage of using the logistic regression method in this study is that allows me to calculate the probability of a suicide as demonstrated in Table 3. (Note: I have provided an example of how the calculations have been done in Appendix D.)

Table 3 demonstrates the significant role relationship plays in the probability of suicide. Here, the actual percentages and the predicted probabilities of suicide for each relationship are presented. The "actual" percentages are taken from the cross tabulations which do not differentiate age, year of offence, education level etc. The "predicated" percentages however, do. The probability (or prediction) of suicide has been calculated for an employed, 40 year old male with 12 years of education for the year 1970.

TABLE 3

**Probabilities of Suicide: Relationship of
Offender to Victim**

Relationship	Number	Actual %	Predicted %
Wife	835	33.8	24.2
Common-law Wife	319	16.9	16.9
Est/Tri Female	141	29.8	25.9
Est/Tri Male	168	8.3	9.9
Friend	636	6.0	8.1
No Domestic	1402	2.0	3.6
Other	2303	3.2	3.3
Total	5804	100.00	91.9

As this table clearly demonstrates, the probability of suicide is greatest in those relationships where the offender is (or has been) intimately involved with the victim.

In contrast, those who kill a friend or non-family member, are the least likely to commit suicide (regardless of age, employment status, education, or year of offence).

For those offenders who killed a victim classified as an estranged lover or member of a love triangle, the gender of the victim was a major determining factor in the outcome. As seen in Table 3, if the victim was male, it was very rare that the offender would kill himself. In fact the rates are very similar to those who killed a friend. On the other hand, if the victim was female, the probability of suicide was increased to a rate equal or higher than that when the

victim was a wife.

The rate of suicide for those offenders who kill their wives varies significantly depending on the age of the offender. For instance, if we calculate the probability of suicide for a 20 year old who kills his wife, and compare it to the probability of suicide for a 40 and 60 year old offender, we find a very definite increase in the probabilities--the 20 year old with a 16.9%; the 40 year old with a 24.2%; and the 60 year old with a 31.6% probability of committing suicide.

The year the offence took place also plays a role in the likelihood of suicide for those offenders who killed their wives. In 1961 an employed, 40 year old, with 12 years of education, would be more likely to kill himself (30.7% probability) than would the same man in 1980 (17.1% probability). This decrease in the the likelihood of suicide is consistent with all offenders, regardless of age, employment status, education, or relationship to the victim.

It has also been hypothesized that education and employment status plays a role in the offenders' likelihood of suicide. As seen in Table 4, the hypothesis holds true.

TABLE 4**Probabilities of Suicide: Employment Status and Education**

Employment Status	Education 8 Years	Education 12 Years	Education 15 Years	Education Missing
Employed (n=782)	17.5%	24.2%	29.4%	38.2%
Unemployed (n=920)	13.4%	19.5%	24.6%	33.8%
Missing (n=3706)	16.3%	22.9%	28.1%	36.7%
	n=2705 (0-11 yr)	n=308 (12 yr)	n=189 (>12 yr)	n=2206 (missing)

The percentages in this table have been calculated based on the same offender characteristics seen in Table 3-- a 40 year old male who killed his wife in 1970.

As seen in this table, the probability of suicide increases with education. Interestingly, the highest rates are found in the "missing" category. Keeping in mind that we are looking at a 40 year old who killed his wife--and we would expect a high probability of suicide based on the status integration theory--the "missing" probability may encompass those offenders who were more highly educated and thereby more likely to commit suicide. One might also argue that the police officer may not have recorded the education

of those offenders who lived beyond the "normal" lifestyles--professionals for example--as a level of high education is assumed and not considered as important a factor in comparison to those offenders who are "less integrated".

The effect of education on the probability of suicide holds for all ages. In fact, the probability of suicide for those with 15 years of education is usually double (if not more) than for those offenders with 8 years of schooling. For example, an employed 20 year old, who killed his wife in 1961 shows a 16.8% probability of suicide as compared to a 28.4% probability if he had 15 years of education. This increase in probability is also consistent over time, with the likelihood of suicide increasing with a higher education.

The employment status of the offender (Table 4) is also significant in predicting the probability of suicide and its effect is also consistent over time and for all offenders. As found with education, there is a large "missing" category. However, as the rate of suicide increases with the years of education, we can again argue that this reflects the police officers' inability to collect the information as a result of the offender's suicide.

The results as shown provide strong support for the hypothesis of this study. Unfailingly, the probability of suicide increases with the integration of the offender, in terms of education, employment, age, and most importantly,

relationship to the victim. The meaning of these results, how they relate to the theory of status integration; their contribution to our knowledge regarding suicide, homicide, and homicide/suicide; and their base for further study is discussed in the following chapter.

CHAPTER SIX

Discussion and Conclusion

The purpose of this study has been to test the viability of status integration theory as it relates to the specific condition of homicide/suicide. The results of this test of status integration theory has not only added to our knowledge of homicide/suicide but has contributed to our understanding of suicide/only and homicide/only.

Using the relationship of the offender to the victim as a measure of status integration I have developed a model that enables us to predict the probability of suicide based on the year of the offence; the offender's age, employment status, and years of education³³. The logistic regression model provides us with the coefficients which allows us to calculate the probability of suicide for any age, years of schooling etc., thereby providing accurate and specific information in a format that is comprehensible to all readers.

For example, the results irrevocably, show that the probability of suicide increases (or decreases) as a

³³ It was expected that marital status and occupation would play an important role in the model, however, they proved to be insignificant in the multiple regression analyses. Perhaps this is due to the more important and significant roles that relationship and employment status play in the final model.

function of the status integration (measured by the relationship of the offender to the victim) of the offender. Other measures of integration are also significant. For example, the probability of suicide increases for those with a higher education. Those who are employed also have a greater tendency to commit suicide. It was found that the older the offender, the more likely he was to kill himself.

Interestingly, the probability of suicide decreased over time. This is an area that would be interesting to explore further. Although we can hypothesize the decreased rate is due to society's "disintegration", we need to examine other factors which may contribute to this decline, and more precisely, measure "disintegration". For example, the greater accessibility to divorce may be a factor--it was much more difficult to leave a volatile or disintegrating marriage in the 1960's, consequently, we would expect a greater number of "intact" violent marriages to end in homicide; whereas with the more lenient divorce laws in the 1970's and 1980's, we would expect a lesser number of homicide/suicides.

It is my hope that the results of this study contribute in some way to our knowledge surrounding suicide/only. Unlike the problem found with unreliable suicide statistics in many of the suicide studies, the nature of the data in this study has given a greater degree of validity to the results. As explained earlier, because the suicide followed

a homicide, and homicides have the greatest probability of being reported, we can be fairly certain the suicides have been consistently reported.

Durkheim has maintained that those people least integrated into society are the most likely to commit suicide. In this study, it has been shown that it is the offender most integrated at the time of the homicide who is more likely to kill himself. In explaining this, the study provides further (empirical) support for Durkheim. After committing murder, the offender transforms himself from the most to the least integrated--the most significant tie, his relationship with his wife--has been broken.

The public's impression of the "typical" murderer is that of a young man, usually unemployed and unattached killing a stranger or a friend in a "drunken state" as a result of a fight. This impression is promoted through the media and serves to foster unfounded fear among the general public--especially for women. However, as studies have shown, women have more to fear from their husbands or lovers than they do from the "typical" murderer. As demonstrated in this study, 52% of the homicides involved a family member or friend; 10% of these homicides ending with the suicide of the offender.

This study has provided sound information regarding the characteristics of a population that is very rarely included in studies of homicide/only. As seen with the probabilities

illustrated in Tables 3 and 4, the reactions of the offenders vary according to their relationship to the victim and their education and employment status, thereby, demonstrating the importance of recognizing this type of homicide. As West (1965:149) so effectively states:

Commonly accepted generalizations such as the assumption that nearly all murders are committed by men, that most insane murderers are schizophrenics, or that the lower classes predominate among offenders, hold true only so long as the crimes followed by suicide are resolutely disregarded.

Most of the homicide/suicide studies conducted to date assume psychological explanations--homicide/suicide is a result of frustration (Selkin, 1976); depression (Allen, 1983; and Goldney, 1977); a fear of death (Abrahamsen, 1973); or a death wish--a form of atonement (Mendlinger, 1938). Danto (1978) sees it as the ultimate act of power, West (1965) often found it a result of mental illness, and Wolfgang (1957) hypothesized that the suicide was the result of guilt.

These studies have not provided us with testable hypotheses. It has been my intent, through this project to address this gap in the research. By adopting a sociological perspective, through the status integration theory I have developed and tested the hypothesis--the more integrated the offender, in terms of his relationship to the victim; his education; employment status; age; and the year of offence, the more likely he will commit suicide as a

result of the sudden and complete disintegration experienced as a consequence of the homicide. It is my hope that the results achieved through testing this hypothesis not only lend support for the status integration theory, but also contribute to the homicide/suicide literature, perhaps even encouraging further research.

Limitations

The main limitation of this study is the lack of information about the offender. For example, it would be helpful to know the criminal record (if any) and the role (if one) that alcohol consumption played in the homicide/suicide. Further problems exist with missing data regarding education, employment status, occupation and alcohol consumption. Other variables such as religion, residential status, income, family ties, etc., could all contribute to a better understanding of the homicide/suicide offender.

Unfortunately I was unable to include women in this study, first because of the small number of cases, and second, because I would expect that the circumstances surrounding this phenomena differ greatly to those involving male offenders. Because the data show that women do not kill themselves after killing their husbands, I would hypothesize that in the majority of these cases the women

have been in an abusive relationship with the homicide a form of self-defence. As this act would require an explanation other than that offered by status integration theory, it is best to focus only on male offenders.

A further limitation lies with the quantitative nature of this study. Ideally, to truly get a complete understanding of the act of homicide/suicide and the offender, one would have to incorporate qualitative research into the study. Incorporating a qualitative element to the study would give us more valid indicator of status integration as we could investigate the meaning that the variables (such as occupation, education, employment status etc.) had for the offender. For instance, interviews with friends, relatives, co-workers, etc., may provide an insight as to the relationship between the offender and victim--what did the role of husband or lover mean to the offender? If the offender was married--for how long? If divorced, separated or widowed, was it a recent event? Did the offender have any children--if so, how old were they, were they living at home?

Another indicator of status integration is employment status. However, we do not know how important a factor this was to the homicide/suicide offender--was his job important to him--what meaning did it have for him--did it give him a sense of "community", a tie to society? Other questions to ask concerns his work history--was he steadily employed; was

he expecting to be laid off; was he happy in his job; had any of his co-workers noticed a change in behaviour?

Other factors to consider when attempting to determine an individual's tie to society involve the financial situation of the offender--was he in debt or was he financially secure? Was he a homeowner or did he rent? Did he have friends--what was his social network like?

These are all factors that should, ideally, be included in a test of status integration theory as it pertains to homicide/suicide, for by contributing more fully to our knowledge surrounding this phenomena, they would perhaps aid us in the prevention of this tragic event.

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APPENDIX AStatus Integration Measures

Type I: (Within-column hypothesis) There will be an inverse relationship between suicide rates and measures of status integration by cells within each column.

Type II: (Between-columns hypothesis) There will be an inverse relationship between suicide rates and measures of status integration (EX^2) by columns.

Type III: (All-columns hypothesis) There will be an inverse relationship between suicide rates and total (or weighted total) status integration measures (EEX^2) by populations or societies.

The degree of status integration is measured by setting up a table where the columns consist of status configurations (made up of all possible combinations of occupied statuses in the population such as age, sex, religion, occupation, race etc.), and rows which contain the measure of integration to be predicted. For example, if we want to measure the degree of marital integration, we place the marital statuses such as single, married, widowed, divorced in the rows. The columns would consist of all the possible combinations of occupied statuses such as age, sex, occupation, religion etc. The elementary measure of integration is the proportion of a column total in a cell, and the Spearman's rank-order correlations show the relation between marital status and suicide.

Maximum status integration is achieved when we are able to predict a remaining status of a person when all other

statuses are known. Again, taking the case of marital integration, if we can accurately predict one's marital status based on age, sex, occupation etc., then full marital integration is achieved. The same is true for occupational integration. Here, if can predict a person's line of work based on the knowledge of his or her marital status, age, sex, religion, etc., full occupational integration is achieved. Note that this formulation is based on the assumption that there are no status configurations that are occupied infrequently.

APPENDIX BGibbs' Principles/Conditions

Principle I states: "The greater the number of status families that enter into integration measures, the greater the inverse association between those measures and the suicide rates" (p.529). His rationale for this principle lies with the fact that census data and corresponding vital statistics are not often cross tabulated for more than four statuses such as marital status, age, sex and race. This creates problems as only a few dimensions of status integration are shown, and becomes even more complicated when these dimensions vary from one test to another. As well, the exclusion of a status may affect the rates profoundly and differentially according to different populations. For example, in one of his tests, the labour force status was excluded. This particular status could have very different effects for females and males in that the labour force status is more closely associated with marital status among females than among males. This is because most males, between the ages of 20 and 64, are in the labour force, which produces a high degree of labour force integration, while the proportion of females in the labour force varies considerably among the four marital

statuses. Another associated problem lies with measurement, in that the category of married also includes those who are separated (either from a common-law or legal spouse) when ideally all three they should be treated separate categories.

Gibbs' second principle is related to the suicide rates: "The greater the variation in the suicide rates of populations, the more inverse will be the association between those rates and measures of status integration among those populations" (p.531). This condition is set out to make it clear that his theory expects to explain only the variation in the suicide rate, not particular instances. As Gibbs points out, the unreliability found in official suicide statistics makes it difficult to compute the amount of variation in the suicide rate that is random and unknowable. He feels that a small difference between one population and another means that the difference may be caused by random error and errors in the mortality statistics. He argues that this is not a true difference, for a true difference would be seen by a substantial variation between two populations, which would then lead us to assume a correlation between the reported and true suicide rates.

His third principle follows from the second. Here he assumes that very high or very low rates may be produced by the same factors. He argues that some populations have

consistently high or low rates while others fluctuate over the years, and it is therefore, impossible to determine the true rate independent of the fluctuations and thereby state what is a stable or unstable rate. However, he points out that there is a relationship between population size and the rate stability. Thus, Proposition III states: "The greater the median size of the populations, the greater will be the inverse association between suicide rates and measures of status integration among those populations" (p.531).

His fourth proposition states: "The greater and more constant the average duration of occupancy among a series of status configurations, the more inverse will be the association between suicide rates and measures of status integration among those configurations" (p.532)³⁴.

Unfortunately census data do not give us any indication of how long one remains in a specific status, which can result in inconsistent findings. As Gibbs points out, very often a reaction to an event may be slow in occurring, with a behaviour manifesting even years after an event. As well, Gibbs expects that individuals occupying an infrequent status configuration for a long period of time will be more vulnerable to suicide.

³⁴ This is an important principle and one that some researchers have implemented into their tests through time-series analyses, thereby producing more valid and reliable results.

APPENDIX C

Statistics Canada Coding Sheet

Statistics Canada Statistique Canada

Justice Division

SUSPECT

1. File Number		2. Suspect Sex		3. Date		4. Name of Suspect												5. Sex (24)		6. F.P.S. Number									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	1	2	25	26	27	28	29
[]		[]		[]		[]												[]		[]									
7. Age		8. MARRIAGE STATUS (14--13)				9. RACIAL ORIGIN (16)				10. RACIAL ORIGIN (17--18)																			
22 23		01 <input type="checkbox"/> Married 02 <input type="checkbox"/> Separated 03 <input type="checkbox"/> Widowed 04 <input type="checkbox"/> Divorced 05 <input type="checkbox"/> Common-law 06 <input type="checkbox"/> Single 07 <input type="checkbox"/> Married common-law 08 <input type="checkbox"/> Separated common-law 09 <input type="checkbox"/> Widowed common-law 10 <input type="checkbox"/> Divorced common-law 11 <input type="checkbox"/> Single common-law 12 <input type="checkbox"/> Not stated				0 <input type="checkbox"/> Not stated 1 <input type="checkbox"/> Caucasian 2 <input type="checkbox"/> Negro 3 <input type="checkbox"/> Mongoloid 4 <input type="checkbox"/> Canadian Indian 5 <input type="checkbox"/> Eskimo 6 <input type="checkbox"/> Mixed				01 <input type="checkbox"/> (Jan.-Sept. 1961) 02 <input type="checkbox"/> Census (Sept. 1, 1961 - Dec. 1967) 03 <input type="checkbox"/> Census (Dec. 1967) 04 <input type="checkbox"/> Non-census (Sept. 1, 1961 - Dec. 1967) 05 <input type="checkbox"/> Non-census (Dec. 1967) 06 <input type="checkbox"/> Murder (not specified) 07 <input type="checkbox"/> MURDERER 08 <input type="checkbox"/> INFANTRICIDE 09 <input type="checkbox"/> Murder - 1st degree 10 <input type="checkbox"/> Murder - 2nd degree																			
ACTUAL AGE																													
11. CHANGE OF ADDRESS (19)					12. CHANGE OF ADDRESS (20)					13. ADDRESS OF SUSPECT TO VICTIM (40)																			
1 <input type="checkbox"/> By change 2 <input type="checkbox"/> Surrender (U.S.R.) 3 <input type="checkbox"/> By police at scene 4 <input type="checkbox"/> By suicide after capture 5 <input type="checkbox"/> None of these					6 <input type="checkbox"/> Change (withdraws before preliminary) 7 <input type="checkbox"/> Change (reduces before preliminary) 8 <input type="checkbox"/> Change (initial not yet made)					1 <input type="checkbox"/> Immediate family 2 <input type="checkbox"/> Kinship 3 <input type="checkbox"/> Common-law 4 <input type="checkbox"/> Non-domestic (other) 5 <input type="checkbox"/> Non-domestic (criminal act)																			
14. BREAKDOWN OF RELATIONSHIP OF SUSPECT TO VICTIM (41--43)										15. EDUCATION OF SUSPECT OF SUSPECT (45--48)																			
01 <input type="checkbox"/> Husband 02 <input type="checkbox"/> Wife <input type="checkbox"/> Father <input type="checkbox"/> Mother 03 <input type="checkbox"/> Son 04 <input type="checkbox"/> Daughter 05 <input type="checkbox"/> Brother (half-brother) 06 <input type="checkbox"/> Sister 07 <input type="checkbox"/> Immediate family, other 08 <input type="checkbox"/> Grandfather, grandmother 09 <input type="checkbox"/> Grandson, granddaughter 10 <input type="checkbox"/> Uncle, aunt 11 <input type="checkbox"/> Nephew, niece										14 <input type="checkbox"/> College 15 <input type="checkbox"/> Secondary, intermediate 16 <input type="checkbox"/> Secondary, intermediate 17 <input type="checkbox"/> Secondary, intermediate 18 <input type="checkbox"/> Father or mother-in-law 19 <input type="checkbox"/> Son or daughter-in-law 20 <input type="checkbox"/> Brother or sister-in-law 21 <input type="checkbox"/> Foster parent 22 <input type="checkbox"/> Foster brother or sister 23 <input type="checkbox"/> Kinship, other 24 <input type="checkbox"/> Common-law husband 25 <input type="checkbox"/> Common-law wife 26 <input type="checkbox"/> Common-law father																			
16. TYPE OF CHANGE OF OTHER CHANGE					17. EDUCATION OF SUSPECT OF SUSPECT (45--48)					18. EMPLOYMENT HISTORY OF SUSPECT (49)																			
43 44 []					Code Grade U given 00 <input type="checkbox"/> None or none 14 <input type="checkbox"/> Some primary school 15 <input type="checkbox"/> Some high school					16 <input type="checkbox"/> Partial university 17 <input type="checkbox"/> Complete university 18 <input type="checkbox"/> Some post-secondary or technical																			
19. TYPE OF CHANGE OF OTHER CHANGE					20. EMPLOYMENT HISTORY OF SUSPECT (49)					21. AGE STATUS (50)																			
01 <input type="checkbox"/> Agriculture 02 <input type="checkbox"/> Allied services 03 <input type="checkbox"/> Banks 04 <input type="checkbox"/> Commerce 05 <input type="checkbox"/> Communications 06 <input type="checkbox"/> Construction 07 <input type="checkbox"/> Electricity <input type="checkbox"/> Finance 08 <input type="checkbox"/> Finance, insurance, real estate					10 <input type="checkbox"/> Labour 11 <input type="checkbox"/> Management 12 <input type="checkbox"/> Manufacturing & mechanical 13 <input type="checkbox"/> Mining 14 <input type="checkbox"/> Professional 15 <input type="checkbox"/> Service-oriented 16 <input type="checkbox"/> Service-oriented 17 <input type="checkbox"/> Service-oriented 18 <input type="checkbox"/> Service-oriented					19 <input type="checkbox"/> Transportation 20 <input type="checkbox"/> Wholesale 21 <input type="checkbox"/> Retail or personal 22 <input type="checkbox"/> Not stated or not known																			
										1 <input type="checkbox"/> Employed 2 <input type="checkbox"/> Unemployed 3 <input type="checkbox"/> Not known or not applicable																			
										1 <input type="checkbox"/> Adult 2 <input type="checkbox"/> Juvenile																			

APPENDIX DProbability Calculation

In calculating a probability the coefficient for each variable included in the profile is added into the formula. For example, what is the probability of a 20 year old, employed male, in 1961, with 8 years of education, committing suicide after killing his wife?

The equation is: $Z = \text{Constant} + \text{age} + \text{employment status} + \text{year of offence} + \text{education} + \text{wife}$

Thus we calculate:

$$Z = -5.9256 + 0.3031(2) + 0.3849(1) + -0.0585(-9) + 0.1392(8) + 2.5930(1)$$

The coefficients are taken from the logistic regression table. The numbers in the brackets represent the "actual" number. For example, the variable education has a coefficient of 0.1392 as seen in the table. This represents 0 years of education. As we want to calculate 8 years of school, we multiply the coefficient by 8 as seen above, which equals 0.1392(8). Another example is age. The coefficient for age is 0.3031. However, the coefficient represents 10 years, therefore, as we are looking at a 20 year old, we multiply by 2.

The coefficient for employed is either 0 for not

employed (therefore you would multiply by 0) or 1 for employed.

Because the year 1970 is our reference year and has been "centred"³⁵, we would multiply by 0 for the year 1970. If, for example, we wanted to calculate the probability for the year 1975, we would take the coefficient -0.0585 and multiply by 5 which equals -0.0585(5).

The coefficients are summed to give us the "Z" score. We convert to the probability as follows:

$$\frac{1}{1 + e^{-Z}}$$

where "e" is the inverse log of Z. The resulting number is divided in half to represent a one-tailed probability.

For the above example, the probability is 16.6%.

³⁵ A statistical procedure used for ease of analysis and interpretation.