[総説] Suicide in Okinawa from an international perspective : A consideration of socio-cultural factors

Suicide in Okinawa from an international perspective: A consideration of socio-cultural factors

Koichi Naka[1], D.Craig Willcox[2], Hidemi Todoriki[3] and Takayuki Kageyama[4]

[1] *Department of Clinical Psychology, School of Health Sciences, Faculty of Medicine, University of the Ryukyus, Okinawa, Japan*
[2] *Department of Anthropology and Institute for Human Development, Life Course and Aging, Faculty of Arts and Sciences, University of Toronto, Toronto, Canada*
[3] *Department of Preventive Medicine, Faculty of Medicine, University of the Ryukyus, Okinawa, Japan*
[4] *Urban Environment and Health Project, National Institute for Environmental Studies, Tsukuba, Japan*

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ABSTRACT

In studies of suicide, a common problem is an over-focus on psychopathology of individual suicidal acts. As a result, the social determinants of suicide are often obscured. In order to rectify this situation, in this paper, we took a Durkheimian approach and focused on social factors that may be linked to suicide. We reviewed research on suicide in Okinawa from an international perspective and reconsidered suicide as a socio-cultural phenomenon. We also compared suicide in Okinawa to trends in mainland Japan. Okinawa prefecture has a unique socio-cultural status in Japan including the experience of having been occupied by the USA from the end of World War II until reversion to Japan in 1972. The suicide rates among males and females aged 10-19 during 1970-83 were at a relatively high level and this change was quite different from that of other areas in Japan after World War II. It was suggested that these rates were affected by reversion anxiety (social anxiety associated with the reversion of Okinawa to Japan). High rates among young and middle-aged adult men were suggested to be related to both acute and chronic anomie. For elderly women their low suicide rates may be linked to their high morale and religious roles based in traditional culture as well as to their large social networks. It was suggested that these are possible fruitful areas for future research. *Ryukyu Med. J., 18(1, 2)1~10, 1998*

Key words: suicide, Okinawa, Japan, socio-cultural factors, anomie

INTRODUCTION

Suicide is a pressing, global problem. It is consistently one of the top ten causes of death in most countries of the world as well as the second or third leading cause of death among young people. These facts are known from mortality statistics reported from individual countries. Yet because of the stigma attached to acts of suicide, mortality statistics are poor indicators of actual suicide rates, which have been estimated as being up to 200% higher[1]. Moreover, less than one quarter of the member states of the United Nations report suicide mortality statistics at all. Rates of attempted suicides are, of course, higher still. With such a costly toll in wasted human lives from a potentially preventable problem it is understandably an issue that is receiving more and more attention. Yet, in studies of suicide, an all too common scenario is an over-focus on the psychopathology of suicidal individuals and/or the associated risk factors involved, thus effectively obscuring underlying social factors that are related to suicide. In order to come to a better understanding of the socio-environmental determinants of suicide, we review previous research and reconsider suicide in Okinawa in an international context while focusing upon social factors. Finally, we offer some suggestions for future research directions.

PRECIPITATING FACTORS INVOLVED IN SUICIDE

Suicide has a number of precipitating factors and various explanations have been put forward in an attempt to come to grips with this complex phenomenon.

Suicide can be considered from a number of different viewpoints including biological[2] psychological[3,4] or social and cultural perspectives[5,7]. It is widely accepted that there is no single, underlying cause for suicide and that many diverse factors have been implicated: genetic makeup; mental disorders (including the schizophrenic disorders, depressive states and other affective disorders); physical environmental factors; the individual's moral and cultural context; social factors such as unemployment, domestic and collective violence, or rapid social change and modernization of traditional societies and the concomitant sense of meaningless that often accompanies this process.

Stressful events and their social contexts are especially significant precipitating factors in suicide attempts. Stressful events can lead to states of mental distress or intense psychic pain. A number of undesirable events can often be seen to have recently occurred in the lives of those who attempt suicide; however, suicidal behavior may also be precipitated by a single event such as loss of a loved one through death, divorce, breakup or rejection or loss of job or anything else of central significance in the suicide attemptee's life. Long term stressors such as serious illness, job related stress, role conflict or an abusive environment may also trigger a suicide attempt. In such cases where severe stressors simply overwhelm one's ability to cope, focusing too much on mental disorder as the basis of suicidal behavior can obscure the relationship between the social environment and suicidal behavior. Schneidman[8] coined the term "psychache" to refer to the intense psychic pain that a suicidal person feels before attempting to end their life. This pain can result from any number of possible sources including psychopathology, social stressors or a combination of both. Schneidman's definition avoids the pitfalls that seem to have befallen much of the recent research on suicide, especially in Western societies, wherein suicide has become synonymous with mental illness.

In non-western societies, suicides are less likely to be attributed to mental illness. For example, Desjarlais *et al* report[5] that in 1995, official statistics for India show that only three percent of suicides were attributed to "insanity", which was the only category of mental illness listed at all. This can be explained by the fact that in settings where police officials, coroners, or physicians without mental health training are recording data about the principal cause of suicide, they tend to focus on social and situational factors in the death[5].

Social and cultural contexts can play a powerful and yet often overlooked role in how suicidal behavior is ultimately defined as either a socio-environmental problem or as an individual act of psychopathology. Nowhere has this been more poignantly expressed than in the landmark studies of social conditions associated with suicide rates by the 19th century sociologist Emile Durkheim[9]. The studies were based upon survey research and explained suicide rates sociologically. Durkheim developed a sophisticated model of suicide in which four types of suicide (egoistic, altruistic, anomic and fatalistic) were defined based on levels of social integration and the effects of social change. "Egoistic" and "altruistic" suicide were said to derive from integration. Egoistic suicide resulted from a lack of integration into society while overintegration could lead to altruistic suicide. "Anomic" and "fatalistic" suicide derive from the moral order or social regulation of society by tradition, norms and values. Durkheim theorized that social or economic change is potentially disruptive and could lead to social anomie (moral instability or lack of adjustment to society resulting from the loss of familiar norms) and thus higher suicide rates.

Durkheim's contributions to the then budding sociological study of suicide cannot be overstated. It was Durkheim, for example, who first analyzed the relationship between unemployment levels and suicide rates. Unfortunately, there is little space to explore his theories in more detail. This is regrettable, for as Hood-Williams[10] makes abundantly clear, despite the fact that a generation of researchers have been taught to dismiss him with reference to his "positivism" and his "functionalism", Durkheim still has a good deal to teach us about the study of suicide. Durkheimian theory also seems to be relevant to Okinawa therefore occasional references will be made to it throughout the remainder of the paper. When deemed appropriate, other theories will also be made use of. No one theory of suicide is, as yet, adequate to explain fully the socio-cultural sources of variations in suicide rates between societies. Let us proceed to explore, in more detail, some of the other social factors that have been linked to suicide.

SOCIAL FACTORS LINKED TO SUICIDE

Social factors which have been explored in connection to suicide include: unemployment levels; changing gender roles; social or political protests; domestic violence; and war or social unrest. Durkheim predicted a positive relationship between unemployment levels and suicide rates. A number of different studies have shown positive correlations between unemployment levels and suicide rates but this relationship is also influenced by a number of other social and cultural factors[11-14]. In Great Britain during the 1960's, for example, even though unemployment levels rose, during the same period suicide rates dropped. While on the surface this appears to be an apparent contradiction, further analysis revealed that the actual drop in suicide rates was in reality the result of detoxification of gas commonly used in ovens during this period; until that time, gas had been the most popular means of committing suicide. Suicide by means other than domestic gas was, in fact, highly correlated with unemployment levels, especially among young men[15].

Table 1 Suicide rates and gender ratio in select countries

Country	Year of Most Recently Available Data	Rate Per 100,000		Male/Female Ratio
		Male	Female	
Puerto Rico	1990	19.4	2.1	9.2
Mexico	1993	4.5	0.7	6.4
Chile	1992	8.4	1.4	6.0
Okinawa	1995	33.3	6.0	5.5
Costa Rica	1989	9.3	2.1	4.4
Venezuela	1989	7.8	1.8	4.3
United States	1992	19.6	4.6	4.3
Australia	1993	18.7	4.5	4.2
Uruguay	1990	16.6	4.2	4.0
Canada	1993	21	5.4	3.9
USSR	1990	34.4	9.1	3.8
United Kingdom	1994	11.1	3	3.7
Ireland	1994	13.3	3.7	3.6
Hungary	1994	55.5	16.8	3.3
Israel	1993	10.4	3.7	2.8
Argentina	1989	10.5	3.8	2.8
Germany, Fed. Rep.	1994	22.9	8.6	2.7
Sri Lanka	1986	46.9	18.9	2.5
Japan	1994	23.1	10.9	2.1
Korea, Rep. of	1994	12.8	6.1	2.1
Thailand	1985	7.1	4.5	1.6
Singapore	1994	14	9.6	1.5
India	1988	9.1	6.9	1.3
Hong Kong	1994	13.4	11.3	1.2
China (selected rural areas)	1994	23.7	30.5	0.8

Source: Calculated from data reported in United Nations 1995 "World Health Statistics Annual". Okinawa's data is calculated from "Health Statistics Demographic Yearbook, Okinawa Prefecture", 1995.

The changing nature of employment and changing gender roles are two factors that have been proposed as possible determinants of rising suicide rates for young men in England/Wales and the United States[10]. In attempting to account for the increasing gender gap in suicide rates between young men and young women in these two societies it has been proposed that changes in the labor market have hastened changing notions of male gender identity that have in turn affected suicide rates. Put simply, the rapid decline of heavy industries such as coal, steel and shipbuilding that have been traditional employers of skilled and unskilled male manual labor have not only led to higher unemployment levels but also resulted in the loss of sources of meaning for traditional notions of masculinity; "values of physical toughness, undisplayed emotionality, sexual control and so on". These changes in employment patterns for young men have directly affected their sexual and gender relations making it harder for them to secure employment, find wives and raise families which may in turn have resulted in increased suicide rates. This is of course exactly what Durkheim was referring to when he proposed the idea of anomie. This might be a type of anomic suicide in which there is a lack of clear regulation with regard to masculinity. Further studies on gender identity and its relation to suicide rates may be one potentially fruitful line of inquiry.

Suicide as a tool of social or political protest has been employed repeatedly throughout history and numerous examples come to mind when exploring this factor. Terrorist organizations such as the Red Army in Japan, the Tigers of Tamil Elam in Sri Lanka and countless others have all employed suicide as an act of terrorism to achieve specific political goals. Vietnamese Buddhist monks setting themselves on fire to protest the war in Vietnam or students in Korea protesting against the government through public displays of self-immolation are all examples of self-sacrifice in order to make a social or political statement or demonstrate the veracity of one's commitment to an ideal or cause.

Suicide can also be a possible response to situations involving domestic violence. Repeated physical or sexual abuse can lead the victim to consider suicide as a way out of an intolerable situation or as an act of revenge against the perpetrator. In 1990, such was the case for twelve percent of suicides in India, as Desjarlais *et al* point out[5]. In India, "domestic strife", typically involving harassment, beatings or torture from in-laws, husband, or both; dowry disputes arising from demands for additional goods as dowry payment or an effort to get rid of a bride whose family reneges on payments; or other tensions between a woman and her husband or in-laws are the most commonly reported contexts wherein

Table 2 Suicide rates among youths and elderly males in select countries

Country	Year of Most Recently Available Data	Rate Per 100,000 (Age 15-24)	Rate Per 100,000 (Age 65-74)	Ratio Youths/Elderly
Ireland	1994	21.5	5.6	3.84
Finland	1994	45.5	37.6	1.21
Australia	1993	23.7	22.2	1.07
Canada	1993	23.8	23	1.03
United Kingdom	1994	10	10.9	0.92
Colombia	1991	8.3	9.8	0.85
United States	1992	21.9	29.9	0.73
Mexico	1993	5.9	9.6	0.61
Russia	1994	48.8	91.6	0.53
Kazakhstan	1994	36.1	70.8	0.51
Lithuania	1994	45.6	102	0.45
Israel	1993	11.3	26	0.43
Latvia	1994	40	92.3	0.43
Greece	1994	4.1	9.6	0.43
Japan	1994	12	29.7	0.40
Germany, Fed. Rep.	1994	13.9	35.7	0.39
Korea. Rep. of	1994	11	28.6	0.38
France	1993	18.2	47.7	0.38
Singapore	1994	11.7	34.4	0.34
Chile	1992	7.6	22.4	0.34
Puerto Rico	1992	9.7	31.6	0.31
Italy	1992	6.8	22.4	0.30
Okinawa	1995	13.1	50	0.26
Denmark	1993	13.4	53.7	0.25
Argentina	1991	6.5	26.8	0.24
Hong Kong	1994	9.5	39.2	0.24
Hungary	1994	20.2	92.7	0.22
China (selected urban areas)	1994	3.6	16.9	0.21
Portugal	1994	4.8	27.2	0.18
Armenia	1987	2	11.4	0.18
China (selected rural areas)	1994	16.7	101.5	0.16

Source: Calculated from data reported in United Nations 1994 and 1995 "World Health Statistics Annual". Okinawa's data is calculated from "Health Statistics Demographic Yearbook, Okinawa Prefecture", 1995.

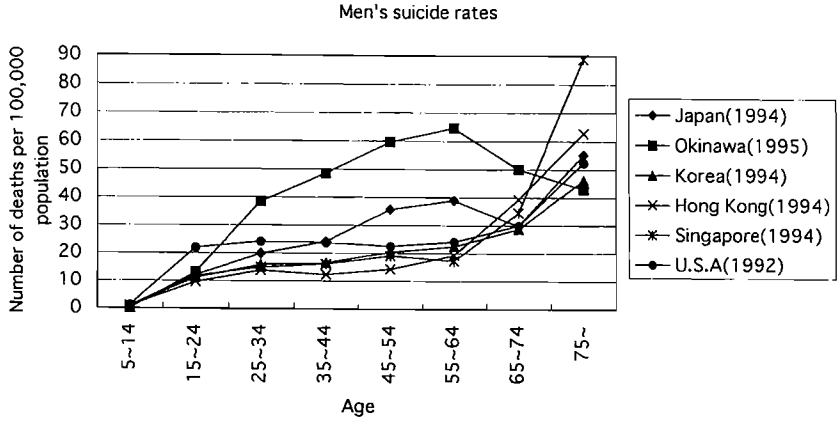

Fig. 1 Men's sucide rates in East Asia and USA.

suicidal behavior occurs.

War and social unrest can also lead to either increased or decreased suicide rates depending on the cultural context. The extent to which suicide is prohibited by law, viewed as a sinful or immoral act or entrenched as custom is by no means universally the same. The meanings of suicide vary considerably depending on the social and cultural contexts and reflect the cultural norms and values, political ideologies and social conditions of the society where it takes place.

Table 3 Suicide rates among youths and elderly females in select countries

Country	Year of Most Recently Available Data	Rate Per 100,000 (Age 15-24)	Rate Per 100,000 (Age 65-74)	Ratio Youths/Elderly
Colombia	1991	3	0.4	7.50
Chile	1992	2.4	1.6	1.50
Mexico	1993	1.3	1	1.30
Okinawa	1995	4.1	4.2	0.98
Canada	1993	4.7	5.5	0.85
Finland	1994	7.8	11.3	0.69
Australia	1993	3.7	5.8	0.64
United States	1992	3.7	5.9	0.63
Kazakhstan	1994	11.2	18.3	0.61
Korea, Rep. of	1994	5.9	11.3	0.52
Singapore	1994	10.2	20.3	0.50
United Kingdom	1994	1.9	4	0.48
Lithuania	1994	12	25.5	0.47
China (selected rural areas)	1994	33	74.7	0.44
Armenia	1987	0.7	1.7	0.41
Russia	1994	9	22.3	0.40
China (selected urban areas)	1994	6.4	15.9	0.40
Puerto Rico	1992	1.6	4.5	0.36
Hong Kong	1994	8.7	26	0.33
France	1993	5.2	16.9	0.31
Portugal	1994	1.9	6.4	0.30
Argentina	1991	2.3	8.5	0.27
Japan	1994	5.1	19.1	0.27
Germany, Fed. Rep.	1994	3.7	15.3	0.24
Italy	1992	1.8	7.8	0.23
Hungary	1994	5.2	26.3	0.20
Ireland	1994	0.8	4.3	0.19
Greece	1994	0.4	2.9	0.14
Latvia	1994	3.6	27.3	0.13
Israel	1993	1.5	13.1	0.11
Denmark	1993	2.3	35.7	0.06

Source: Calculated from data reported in United Nations 1994 and 1995 "World Health Statistics Annual". Okinawa's data is calculated from "Health Statistics Demographic Yearbook, Okinawa Prefecture", 1995.

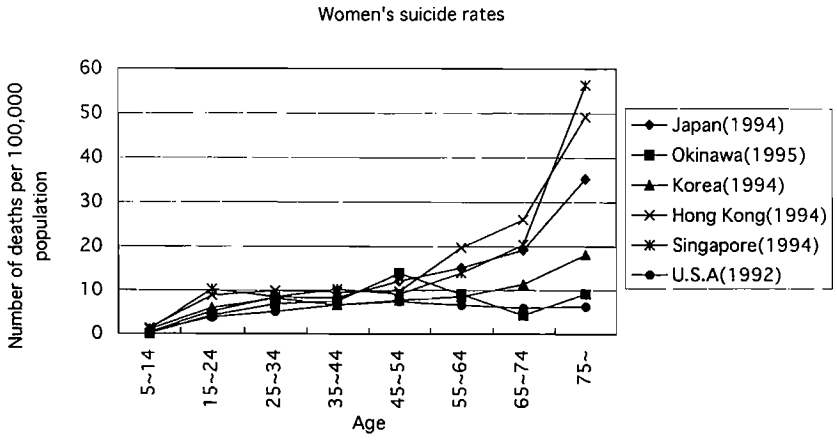

Fig. 2 Women's suicide rates in East Asia and USA.

It is from this perspective that we wish to undertake a review of suicide in Japan and then a comparison of suicide in Okinawa with other Japanese prefectures. In order to more fully grasp the socio-cultural factors which may be contributing to the unique suicide patterns found in Okinawa prefecture comparisons will also be made to the East Asian region as a whole as well as the United States.

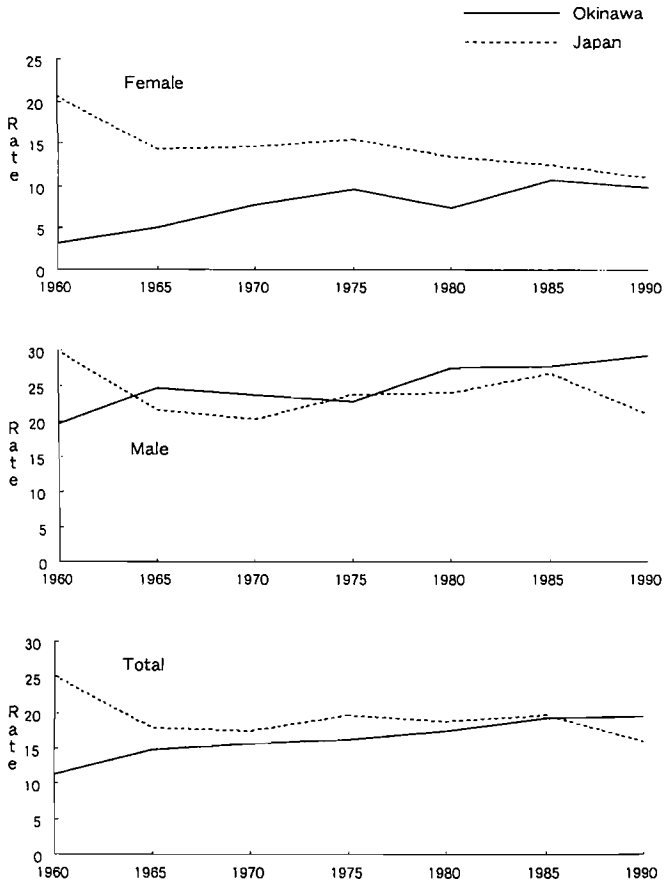

Fig. 3 Age-adjusted death rates for suicide in Okinawa and Japan (per 100,000 population).

SUICIDE IN OKINAWA DEMOGRAPHIC CHARACTERISTICS

Although overall rates have dropped in recent years, Japan's suicide rates are still comparatively high with both men and women having the fifth highest rates (among countries that report statistics) at 23.1 per 100,000 for men and 10.9 per 100,000 for women (Table 1). Highest rates among men were reported for Hungary followed by Sri Lanka, the U.S.S.R. and rural China. Highest rates for women were reported for rural China followed by Sri Lanka, Hungary and Hong Kong. A recent report on the situation of the Japanese elderly provides data for some interesting comparisons[16]. Although the overall incidence of suicide for the elderly as a group has been decreasing in recent years, the proportional rate (of total suicides) for the elderly of both genders has been gradually increasing. However, among sub-groups, men in the 55-64 year old age group show a slight increase in incidence of suicide. As for motives for suicide, these include illness, alcoholism, psychological disturbance and family problems; methods, in the order of frequency, included hanging by the neck, gas, drugs and drowning. In comparison to the aged in America it was revealed that for elderly men, Japan (29.7 per 100,000) and United States (29.9 per 100,000) show almost identical high rates (Table 2, Fig. 1). But in the case of elderly women, the differences are striking. Elderly Japanese women between the ages of 65-74 showed three times (19.1 vs 5.9 per 100,000) the suicide rates of American elderly women and in the age group 75+ their rates were approximately five times as high (Fig. 2). Elderly Okinawan men showed high suicide rates, similar to their mainland Japanese and American counterparts, but elderly women in Okinawa showed low rates, similar to those of elderly Americans and therefore much lower rates than their mainland Japanese counterparts (Tables 2 & 3 ; Fig. 1 & 2).

A comparison of total age-adjusted death rates since 1960 indicates that what once were comparatively low levels of suicide in Okinawa have steadily risen so that they are now higher than rates in mainland Japan (Fig. 3). When comparing Okinawa to mainland Japan two features stand out. The first is the comparatively high suicide rates for men. These rates also show a steady rise with increasing age, a trend similar to that of mainland Japan and most other industrialized nations (Fig. 1). In fact, present rates now reveal that Okinawan men show higher suicide rates than their mainland Japanese counterparts at 33.3 per 100,000 for Okinawan men vs 23.1 per 100,000 for mainland Japanese men (Table 1). As mentioned earlier, the other outstanding feature when comparing suicide rates in Okinawa to those of mainland Japan is the low suicide rate for elderly Okinawan women. This is in stark contrast to the high suicide rates for elderly women in mainland Japan and for East Asia in general (Table 3, Fig. 2). The suicide rates for elderly women in Okinawa, unlike the rates for men (which have risen), have not changed much since the 1960's [17, 18]. The significance of these trends will be discussed below.

LOW SUICIDE RATES FOR ELDERLY WOMEN IN OKINAWA

The significance of social and cultural factors can be demonstrated by comparing certain features of Okinawa with those of other prefectures with reported high levels of suicide among elderly women. Let us begin with the prefecture that has one of the highest reported levels of suicide for both elderly men and women in Japan, Niigata prefecture.

In a study of suicide in Higashikubiki County, Niigata, Morita *et al*[19] reported high levels of psychological isolation among the elderly. Even though the elderly most often live in extended family settings where physical distances are minimal this does not necessarily result in feelings of psychological well being and may even result in harmful interactions. Koyano[20] in his study of changing notions of filial piety and intergenerational relations in Japan elaborates on this point when discussing frictions between mothers and daughters-in-law and

suggests that living apart (*bekkyo*) may be a choice that is in the best interests of both elderly and their children and spouses.

Matsumoto's[16] investigation of suicide in Niigata prefecture reported that it is, in fact, within the extended family where suicide is most likely to occur. Although the majority of suicide victims among the elderly had serious physical problems or disorders, the cases in which such problems were directly the motive for suicide were extremely rare. Most characteristic of those elderly who commit suicide was the negative thinking: "Have I been doing anything worthwhile in the area where I live?". The absence of any worthwhile roles led to less interaction with friends and acquaintances and a deep sense of isolation, *particularly in the case of women* (italics added).

Watanabe et al came up with similar findings in their study of suicide in Niigata prefecture[21]. They reported that in rural Higashikubiki, over a twelve year period (1979-90), two thirds of the victims lived in a three-generation family and none lived alone. They suggest that greatly elevated suicide rates among the elderly in Higashikubiki, and in rural regions of Japan more generally, result from rapidly occurring changes in traditional social structure.

In contrast to the situation in Niigata prefecture, the nuclear family is now the norm in Okinawa and there are high rates of elderly, especially elderly women, living alone[22, 23]. On the other hand, despite its negative image (ie. *ubasuteyama*), living alone may contribute to a greater sense of independence and improved feelings of self-worth rather than feelings of isolation. In a study on possible factors influencing the rate of aging in Japan, it was determined that the high rate of living alone for the elderly in Okinawa encouraged them to maintain their autonomy, to be employed longer and to have more contact with society. This may, therefore, be one socio-environmental factor related to longevity in Okinawa[24]. Furthermore, for elderly women in Okinawa, despite high rates of independent living, psychological distance is reported to be minimal because of the continuance of important roles within the extended family and community[25, 26]. Many of these roles revolve around traditional religious beliefs and ritual practices that are said to contribute to comparatively high levels of subjective well-being and social integration for elderly women in Okinawa[17, 25-27].

Akita prefecture has the highest overall suicide rate in Japan at 31.8 per 100,000 (almost twice the overall average rate of 17.2 per 100,000) as well as one of the lowest life expectancies[28]. In a comparative study on longevity between Akita and Okinawa prefectures, "Activities of Daily Living" (ADL) rates for elderly women were found to be higher in Okinawa[29]. Both areas have high rural populations with high levels of elderly engaged in farming lifestyles where elderly are not expected to retire at set ages; yet despite this fact, women in Okinawa, in comparison to Akita, tend to continue working beyond age sixty-five and some even past eighty. It has been pointed out that in Okinawa the custom of retirement has traditionally not existed and there seems to be no traditional cultural concept that corresponds to *inkyo*, of mainland Japan[30]. Climate may also be an important factor in reduced activity and isolation of the elderly in the northern prefectures. Both Akita and Niigata prefectures have cold winters with heavy snowfalls while Okinawa has mild winters and a sub-tropical climate which allows for year-round outdoor activity. As for specific use of time in daily activities, Okinawan women spend a great deal of time visiting each other and talking together. As mentioned above, traditional ritual life is rich and *ogami goto* (prayer rituals) take a fair amount of time and are considered to be the responsibility of the eldest female members of the extended family[17, 31].

Another cultural factor that may have an influence on the suicide rates of elderly women is the traditional taboo surrounding death by suicide. Suicide is believed to cause trouble to close living relatives as well as to descendants and therefore one who commits suicide is often interned in a tomb separated from other extended family members[17, 32]. Suicide in mainland Japan, however, has been traditionally viewed in a less threatening manner and in some circumstances considered an honorable way to die[33]. In fact, few societies have culturally institutionalized suicide to the same extent as Japan. Certainly, Okinawa has not[34].

The preceding discussion contrasted Okinawa with mainland Japan where suicide rates for elderly women are high. If we look at suicide rates around the world it can be seen that this pattern of high suicide rates for elderly women is not restricted to Japan but holds for all East Asian countries with supposed strong Confucian centered, gerontocentric traditions (Table 3, Fig. 2) such as China, Singapore, Korea, and Hong Kong. This finding raises questions as to the physical and mental well-being and related living environments of elderly women in these nations. It also raises questions as to why Okinawa should have suicide rates that are only 1/4 that of mainland Japan and urban China, 1/6 that of Hong Kong and 1/5 that of Singapore. A detailed analysis is beyond the confines of this paper but we believe that the answers may be, in part, to the aforementioned social and cultural factors. Maretzki's exploration of suicide in Okinawa[34], some thirty years ago, seems to support this hypothesis. He suggests that because women can express nurturance needs (as well as aggression) through religious roles, not open to men, and because potential suicidal individuals may be attracted to religious activity, women are less likely to be affected by suicidal trends[34]. We should add that because it is mostly older women who are involved in religious activities, beneficial effects should be most apparent among this age group. Why elderly women's suicide rates are so much lower in Okinawa than mainland Japan or other East Asian countries is a

question that warrants further, more detailed, comparative investigation. Let us now turn to the discussion of men's suicide rates in Okinawa.

HIGH SUICIDE RATES AMONG YOUNG AND MIDDLE-AGED MEN IN OKINAWA

Compared with many Western industrialized societies which have seen increasing youth suicide rates over the past forty years or so, in Japan, suicide rates (since 1950) have decreased. For example, in the U.S. from 1950 to 1990, the total (total=males and females) suicide rate for youths aged 15-24 tripled from 4.5 per 100,000 in 1950 to 13.2 per 100,000 in 1992[35]. In contrast, the total youth suicide rate in Japan saw a rapid increase between 1950 and 1955 and then decreased rapidly between 1960 and 1965[36, 37], so that as of 1991, the total suicide rate among youths aged 15-24 stood at 7 per 100,000, roughly one-half the U.S. rates and low to average among nations in the world[36].

The reasons for the dramatic up and down shifts in suicide rates in the 1950's and 1960's have yet to be fully explained. Some researchers have suggested that this may be associated with the aftermath of difficult wartime experiences in Japan[38, 39] or the peer pressure of young people at school[40, 41]. Yet these explanations are inadequate to explain the longitudinal patterns of youth suicide rates in Okinawa as has been pointed out by a recent study[37].

In contrast to these patterns on the mainland there was no decrease in youth suicide rates in Okinawa in the early 1960's, in fact, the adolescent suicide rate (aged 10-19) in Okinawa clearly increased in the early 1970's, immediately before the reversion to Japan in 1972 and then decreased in the 1980's[17, 26, 37]. The peak of adolescent suicide mortality came in the late 1970's, roughly twenty years later than in mainland Japan which saw peak adolescent suicide rates in the 1950's[36, 37]. This rise and fall in adolescent suicide rates during the 1970-80's may be due to what has been called "reversion anxiety". Reversion anxiety has been explored elsewhere[42-44], but can be basically defined as a type of social anxiety which was dominant in Okinawa before and after its reversion to Japan in 1972 and includes anxiety about national identity, reparticipation in war, loss of autonomy, loss of civil rights after reversion, loss of jobs for those employed by the U.S. military and the abolition of support for students studying in Japan with funding by the Japanese government. Most of these fears were dispelled in the 1980's, especially among younger persons[37, 43, 44].

The hypothesis that reversion anxiety might be associated with the rise and fall in the adolescent suicide rate in Okinawa is supported indirectly by increased crime rates, divorce rates and levels of unemployment which were observed during this period of increased social anxiety. While it is admittedly difficult to statistically separate out the contribution of the above factors, this hypothesis also seems to be in agreement with a report that the interprefecture difference in youth suicide mortality in Japan (including Okinawa) was positively correlated to feelings of anxiety about the future and negatively correlated to feelings of satisfaction[45]. Of further note, it is interesting that mainland Japan, which was granted independence in 1951, also experienced a ten year rise (1950's) and ten year fall (1960's) in adolescent suicide mortality similar to Okinawa's following the end of occupation by the U.S[17, 37]. Could this be significant as a similar kind of social anxiety phenomenon as reversion anxiety was in Okinawa? Durkheim would probably agree with this statement. Both situations smack of anomie resulting from rapid social change that leads to a lack of social regulation and moral instability.

The above hypothesis notwithstanding, some vexing questions remain. For example, why was the mortality for males aged 20-29 and 30-39, consistently higher than the same gender and age group in mainland Japan? Let us consider a few possible related causes. First, let us examine Okinawa's chronically high levels of unemployment that have given rise to the "U-turn migration pattern."

The chronically high levels of unemployment in Okinawa have led to what is called the U-turn migration pattern where young persons leave Okinawa in search of work only to return some years later. This is a common pattern, especially among young men. Among the youth who moved from Okinawa to mainland Japan after high school or junior high school up to the 1970's, more than half returned to Okinawa within a few years[46]. It is possible that those who failed to adapt to life in mainland Japan returned selectively to Okinawa and that these characteristics might have affected adult suicide rates. Another possibility is that youths who returned to Okinawa were unable to find regular employment once they got back. These two possibilities are not mutually exclusive. Okamoto et al[45] have also suggested that high unemployment levels might be contributing to high adult suicide rates in Okinawa.

Another possible contributing factor is the identity conflicts that young Okinawan men often go through at some point in their lives. In the 1960's, a double cultural identity was most pronounced among young, educated Okinawans[34]. Today, young people in Okinawa are becoming increasingly indistinguishable from their counterparts in mainland Japan in terms of language, dress and other vestiges of "youth culture". Yet paradoxically, at the same time, both music and the arts have seen an Okinawan cultural revival that has led a new resurgence of "ethnic pride". Identity conflicts thus remain, especially at risk are those young people who leave Okinawa for the mainland in search of employment. Could this be, as Maretzki observed in the 1960's, a kind of "egoistic" suicide in which the individual is driven to

the act because he is insufficiently integrated with his society?[34].

It should also be pointed out that while overall suicide rates in Japan have been decreasing over the past decade, in Okinawa there has been a trend towards increasing rates among young men in their twenties through to middle aged men in their 60's[17]. A recent study of the longitudinal change of the suicide rate (1960-90) in Okinawa showed that the rate among adult males was correlated to the social environment[17]. It was revealed that among males aged 30 or above, rates increased gradually with long term social change while among males aged 20-29 and 40-49 suicide rates were correlated with short term economic change. Durkheim characterized suicide brought on by long term social change as "chronic anomie" and suicide brought on by short term social change as "acute anomie"[9]. Comprehensive social changes are continuing to occur in every sector of society. Both subtle and direct pressures towards "Japanization" have forced changes in means of livelihood and in lifestyle in general. Okinawa is rapidly becoming a competitive society. Whether this is reflected in higher suicide rates or not is open to further study.

Finally, the possible effects of the U.S. occupation on the mentality of Okinawan men,[47] or the culture and personality approach which stresses socialization patterns that influence one's susceptibility to suicidal behavior should also be explored. Could it also be of significance that young and middle-aged men in Okinawa experience only indirect involvement in most traditional ritual practices and are cut off from most of the stress mediating cultural outlets and social support networks that are commonly experienced by older women? These questions remain for further, more comprehensive analysis.

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