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Dimensions and predictors of treatment needs for female inmates: an exploratory study in Taiwan

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Although female offenders have been largely neglected by researchers in the past, the recent and rapid rise in their numbers has resulted in increased scholarly attention. While there has been a substantial movement toward gender-specific rehabilitative programs, limited studies have been conducted over the past years that explore the dimensions and determinants of treatment needs for female offenders. Using data comprised of 883 women collected from 3 individual women prisons and 10 other prisons or jails, primary findings indicate that counseling and therapy services are priority concerns followed by educational and vocational training courses, health and medical services, and pre-release preparations. In terms of significant determinants, diseases, social support, depression, and imprisonment stress have a great impact on women's treatment needs. Consistent with prior studies, Taiwanese female drug offenders have also reported a higher level of treatment needs. Comparative views, policy implications, and limitations are addressed.

Keywords: women in prison; treatment needs; gender-specific rehabilitative program; social support; disease

Introduction

As similar to other developed countries (e.g., the United States), the number of women suspects and inmates in Taiwanese criminal justice system has increased dramatically over the past years. While there are many factors leading to this worsen development, generally speaking, the (1) advocacy for gender equality, (2) educational opportunities provided for women, (3) participation in the women's workforce movement, and (4) the war on drugs policy played the significant roles in explanation of this dynamic trend (Chen, 2000; Chen & Lin, 2010; Huang & Lai, 2003). Here are some solid official statistics to support this argument. First, the National Police Agency (NPA, 2012) reported that the number of people under arrested in 2011 was approximately 260,356 or an increase of more than 44% from 180,527 since 2001. Specifically, while male suspects have increased by 37.2%, female suspects have risen to 87.2% over the past decade. Second, the Ministry of Justice (MOJ, 2012) reported that by the end of 2000, 2582 incarcerated female inmates climbed to 3248 by the end of 2010, or namely an increase of 64%. At the same time, the growth rate of incarcerated men rose 60%, suggesting that the number of incarcerated women had exceeded their men counterparts. Third, women were arrested and incarcerated primarily for drug and property offenses. According to the Agency of Corrections' (AOC,

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2012) annual statistics, more than one-half of the female inmates were repeat offenders who repeatedly committed their most recent offense since 2006. In addition, approximately 43% were drug abusers at the time that they committed their offense and were subsequently sentenced to prison, followed by fraud (14%) and theft (12%), respectively. A majority of women housed in the correctional system are undereducated (roughly 40% are high school level or less), married or divorced (approximately 60%), juveniles and adolescents (approximately 40%, <30 years old), and recidivists (approximately 56%), implying that prior to incarceration they came from disadvantaged environments and were in need of various aspects of treatment and services during periods of their incarceration (Chen & Lin, 2010).

Nonetheless, women inmates still represent a small percentage of the correctional population. For example, women made up 9% of Taiwan's prison population or 4851 out of a total of 57,479 inmates by the end of 2011 with an overcrowding rate of approximately 10% or lower than the average overcrowding rate of 20% (MOJ, 2012). Similarly, among the newcomers in 2011 ($n = 36{,}459$), female inmates still made up 9% ($n = 3543$) of the prison population. For this reason, perhaps, relatively little attention has been given to the needs and services of this small but growing population (Chen & Lin, 2010; Covington, 2001; Green, Miranda, Daroowalla, & Siddique, 2005; Huang & Lai, 2003; Koons, Burrow, Morash, & Bynum, 1997). Given that prison systems were primarily designed for men who comprise more than 90% of the prison population in most countries, prison policies and procedures often neglect to adequately address women's rights and needs (Jiang & Winfree, 2006; United Nations Office on Drugs and Crime [UNODC], 2009). As a result, these women who have often been referred to as the "forgotten offenders" in society have traditionally received few program resources from correctional administrators as well as little attention from criminal justice scholars and the public (Chen & Lin, 2010; Clear, Cole, & Reisig, 2010; Huang & Lai, 2003).

In order to fill the gap, the purpose of our study adds to this issue in three ways. First, we explored the levels of perceptions and dimensions of treatment needs among Taiwanese female offenders. Specifically, treatment needs were prioritized and subsequently identified among four dimensions, namely counseling and therapy, educational and vocational training course, health and medical needs, and pre-release preparations. Second, we explored the determinants of female inmates' treatment needs across the four dimensions. We believed that different levels of determinants impacted different levels of treatment needs across the four dimensions since different women groups have their own priority concerns among those treatment needs. Finally, comparative views, policy implications, and limitations are addressed in the final section.

Literature review

Gender-specific treatment needs in prison

Traditionally, the environment of correctional facilities does not always take into account the specific needs of women; thus, a "catch-up" role is played in order to meet the challenges faced by the increase of women in prisons (Clear et al., 2010). In an approach referred to as "gender-responsive" or "gender-specific" programs, the recent shift involving a greater focus on specific female offenders' rehabilitative needs has become apparent (Bloom, Owen, & Covington, 2005; Covington, 2001; Heilbrun et al., 2008). Research findings have revealed that "gender-specific" treatment include four distinct needs: (1) counseling and therapy services, (2) educational and vocational training courses, (3) health and medical services, and (4) pre-release preparations (Clear et al., 2010; Green

et al., 2005; Grella & Greenwell, 2007; Heilbrun et al., 2008; Monster & Micucci, 2005; Mullings, Hartley, & Marquart, 2004; UNODC, 2009).

Counseling and therapy

The purpose of counseling and therapy services is to facilitate inmates' adjustment to prison, change, and rehabilitation (Clear et al., 2010). Therefore, certain counseling skills in prison have been employed to smooth out inmates' behaviors and change their thinking patterns, enhance their coping skills, promote their decision-making abilities, and improve relationships during their period of confinement (Heilbrun et al., 2008). In Taiwanese prisons, provisions of individual, group, and specific therapies for inmates are required by prison laws. In addition, religious therapy plays an important role in helping inmates to alter their minds and misconduct in a positive way (Chen, 2000; Huang, 2010). By recognizing the importance of "gender-specific needs," the Taiwanese corrections department not only enhances traditional counseling programs but also provides diverse programs routinely for female inmates (i.e., prenatal and postnatal counseling, child development and parenting classes, infant mental health and family counseling, and sexual abuse victimization counseling) (Taichung Women's Prison, 2012). In addition, researchers have indicated that religion has a positive impact on the effectiveness of non-recidivism among female drug abusers (Huang & Lai, 2003). As a result, volunteers who are invited to serve as religious counselors have become very popular in helping to reform female inmates. In terms of family therapy, female prison administrators frequently arrange family visitation days, conjugal visits, and recreational activities in order to enhance the social ties between inmates and their family members (Huang, 2010).

However, Taiwanese researchers have recently questioned the effectiveness of counseling and therapy (Chen & Lin, 2010; Huang, 2010; Huang & Lai, 2003). Some of the worsened scenarios pertaining to this issue were warranted. First, the ratio of an official counselor to inmates is roughly 1–250, suggesting that each counselor has limited time to conduct in-depth interviews and counsel with inmates given that their job and schedules are occupied by a stack of routine paperwork (Huang, 2010). Second, marriage counseling and parental rearing skills should be offered more frequently since 28–30% of incarcerated women are either divorced or married, respectively. Third, given the fact that most official counselors are not certified, their function and professionalism has been questioned and challenged (Chen & Lin, 2010).

Educational and vocational training courses

Currently, educational and vocational training courses are critical treatment needs given that existing programs tend to conform to stereotypical "feminine" occupations (i.e., cosmetology, food services, housekeeping, sewing, etc.) (Clear et al., 2010; Feinman, 1983). Basically, gender-specific training does not correspond to the needs and wider opportunities available for women after their release back into society (Huang & Lai, 2003; Monster & Micucci, 2005). Conversely, while both men's and women's facility authorities typically offer inmate educational programs, female inmates tend to have less motivation in earning a higher educational diploma. Unfortunately, most female offenders are undereducated and unskilled which, in turn, limits their future occupational opportunities (Clear et al., 2010; Huang & Lai, 2003). As a result, not every woman in prison is eligible to enroll in educational and vocational training courses. Due to budget, equipment, and human resources limitations, few women are selected to enter those courses. For example,

those who have discipline records and/or have committed violent-related offenses are ineligible. In addition, few sessions and few quotas of popular and marketable courses are provided (i.e., cuisine/bakery classes, swing/tailoring classes, and cosmetology).

To make matters worse, Huang (2010) estimated that the employment rate among Taiwanese female offenders is less than 10% upon release. Therefore, providing more diverse and marketable vocational programs and offering additional opportunities to earn a higher educational diploma are critical issues if female offenders are to succeed in the community after serving their prison sentences (Bloom et al., 2005). For example, the current work and educational release programs and furlough system are limited and should be expanded to include more female inmates (Huang & Lai, 2003).

Health and medical needs

Because the health status of prisoners is generally much poorer than that of the general public, women's health and medical needs can be seriously neglected in a male-dominated prison system (UNODC, 2009). In reality, numerous female offenders suffer from chronic and complex health conditions resulting from poverty, drug use, family violence, sexual assault, adolescent pregnancy, malnutrition, and poor healthcare (WHO Regional Office for Europe, 2007). In particular, drug-dependent women offenders have a higher prevalence of tuberculosis, hepatitis, toxemia, anemia, hypertension, diabetes, and obesity (Covington, 2007). Similarly, Warren et al. (2002) noted that 55% of female inmates reported a history of sexual or physical victimization before the age of 18 years. Out of necessity, pregnant inmates also require individual medical and nutritional resources including special diets, greater hygiene needs (i.e., availability of regular showers and sanitary items), abortion rights, access to delivery rooms and medical personnel, and length of time that newborn babies can remain with their incarcerated mothers (Clear et al., 2010; Greene, Haney, & Hurtado, 2000).

Although the Taiwanese Prison Code has related articles that require women prison administrators to satisfy the special needs of female inmates, adequate health services are also warranted despite resource and budget restraints (Chen, 2000; Huang, 2010; Huang & Lai, 2003). For example, given that the Chinese culture labels correctional facilities as "the hell of evils" and "the dirty places" where human beings would not like to become involved with inmates (Huang, 2010), most correctional administrators fail to recruit medical staff in women prisons. Moreover, there is a shortage of certain medical services due to government budget cuts. For example, Chen and Lin (2010) found that outpatient services, namely dental examinations, are concealed in some women prisons and jails thus suggesting that medical and health services are often unmet in current women prisons.

Pre-release preparations

Finally, women should have access to programs that can help them make a successful transition to life outside prison, namely pre-release preparations (UNODC, 2009). Although these preparations may vary between cultures, they include training courses dealing with life skills, housing, parenting, and healthcare (Bastick, 2005). For example, Clear et al. (2010) indicated that women face three main challenges upon release from prison: (1) association with family members, namely child custody, (2) job pressures and finances, and (3) adjustment into society. Additionally, researchers have found that more than 60% of women released from prison have nowhere to live (Women's Prison Association, 2004). Further, Holtfreter, Reisig, and Morash (2004) noted that impoverished women parolees

are 83% less likely to reoffend if they are provided with access to essential needs after imprisonment. Unfortunately, necessary resources, collaboration between prison authorities and aftercare services, and attention allocated in preparing women for both release and following imprisonment are generally inadequate or often lacking (UNODC, 2009). The existing literature indicates that those shortcomings make it difficult for women in prison to successfully reenter society that may also contribute to reoffending (Petersilia, 2003; Richie, 2001).

Similar situations have occurred in Taiwan. For example, Huang and Lai (2003) found that correctional administrators and probation departments failed to play a role that introduced women inmates into family, community, and private sectors. Further, they found that women's furlough system was limited. Moreover, Taiwanese labor departments also failed to offer adequate job opportunities for women after their release from prison. Consequently, the recidivism rate among female inmates since 2007 increased to more than 60% (Chen & Lin, 2010).

Correlates of women offenders' needs

As a result derived from the few prior studies conducted in Western societies, predictors were divided into two categories: (1) those stemming from individual-level perceptions, namely victimization experiences, imprisonment stress, social support, and depression and (2) those pertaining to individual demographic and background characteristics.

Victimization experiences

Numerous women in prison have experienced a background of physical and sexual victimization (Greene et al., 2000; Morash, Bynum, & Koons, 1998; Mullings et al., 2004; Owen & Bloom, 1995; UNODC, 2009). In particular, Grella and Greenwell (2007) found that a history of physical and sexual victimization was related to perceived sexual health rights and treatment needs in prisons. Due to inadequate socioeconomic conditions, most women had no means of learning how to cope with their personal victimization histories before incarceration (Hochstetler, Murphy, & Simons, 2004; Mullings et al., 2004). In addition, women in prison suffer from more mental problems and health diseases than do those in the general public which frequently stems from prior victimization (UNODC, 2009). Considering the long-term effects that victimization has on adjusting to prison life, there is reason to believe that the levels of victimization experienced by female inmates can affect their willingness to participate in treatment program needs (Carlson, Shafer, & Duffee, 2010).

Imprisonment stress

In the existing literature, imprisonment stressors confronting women were found to include many that were similar to those faced by their men counterparts (i.e., loss of freedom, lack of opportunity for heterosexual activities, loss of support from family and friends, depersonalizing experiences, loss of autonomy, lack of privacy and security, and separation from their children) (Gillombardo, 1966; Lindquist & Lindquist, 1997). Further, Brown, Melchoir, and Huba (1999) found that exploring the level of burden and recognizing the impact of a woman's level of stress may assist caregivers in understanding how to intervene when an inmate is noncompliant or exhibits a poor connection with treatment providers. For example, Covington (2007) indicated that women who had post-traumatic stress and/or

personality disorders were more likely to require psychotherapy and medical services that specifically address past histories of stress and trauma. On the other hand, an understanding of these tensions can contribute to the development of interventions for helping prison staff, family members, and the larger community. For example, prison staff caregivers can employ treatment skills by arranging regular family and conjugal visitations or furloughs in order to reduce the pain and burden experienced by imprisoned women (Huang & Lai, 2003).

Social support

Social support is also believed to be a critical variable in understanding offenders' chances of rehabilitating; however, mechanisms used to explain its importance are rarely understood (Cullen, Wright, & Chamlin, 1999). Jiang and Winfree (2006) noted that social support mechanisms (e.g., support from staff, family members, friends, and the community) can help inmates to meet their personal needs and situate themselves with a modicum of adjustment to living in a prison society. For example, women who are perceived as requiring additional support from the prison environment tend to be more likely to participate in educational programs that include basic literacy education which can reduce idle time as well as enhance their self-confidence (Huang & Lai, 2003; Ryan & McCabe, 1994). On the other hand, females who exhibit weak support networks are more likely to be totally institutionalized and less likely to be involved in treatment and programs thus leading to withdrawal from prison life (Hochstetler et al., 2004). Of particular note, social support focuses on the extent to which an individual perceives emotional ties from an external environment (Lin, 1986), whereas stress emphasizes an individual's internal response to his/her immediate environment (Selye, 1956). In short, both mechanisms would have an impact on inmates' willingness to participate in various programs arranged to meet their specific needs (Chen, Su, & Lin, 2005; Wu, 2009).

Depression

Women in prison have been found to display higher alarming rates of mental health problems including depression, distress, anxiety, phobias, neurosis, self-mutilation, and suicide (Heilbrun et al., 2008; Hochstetler et al., 2004; UNODC, 2009) than their male counterparts as well as the general public (Bastick, 2005). For example, Covington (2007) indicated that 73% of the women in US state-level prisons and 75% in local prisons have displayed symptoms of mental disorders versus 12% of women in the general population. Hence, provisions and programming essential to any prison healthcare system should specifically address mental illness, more especially substance use disorders and inmates who have higher levels of depression and distress (Hochstetler et al., 2004).

Personal characteristics

Despite that various international standards have specified that incarcerated girls younger than 18 years of age and adult women should be confined separately due to their different treatment needs (Douglas & Plugge, 2008), nearly all women are housed in the same prison blocks (UNODC, 2009). Even so, young girls often have problems, needs, and backgrounds that differ from adult women offenders. For example, they are increasingly at risk of HIV infections and may also be young mothers (Clear et al., 2010). Thus, special prison medical services, parenting education, and vocational training programs related to adolescent

girls are extremely important (Belenko, 2006; Greene et al., 2000; Grella & Greenwell, 2007). In contrast, older women in prison tend to be more concerned about healthcare pertaining to chronic illnesses, mental and emotional needs, and aftercare settlements when compared to their younger counterparts (Clear et al., 2010). In addition, studies have been conducted that focus on the special needs of incarcerated women related to their education, offenses involving substance abuse, pre-arrest employment, and sexual victimization experiences (Carlson et al., 2010; Grella & Greenwell, 2007; Mullings et al., 2004; Owen & Bloom, 1995). As an example, Mullings et al. (2004) found that adult substance abusers are highly willing to participate in treatment programs compared to their younger counterparts. Further, Belenko and Peugh (2005) concluded that substance abusers who also had educational deficiencies and were unemployed before entering prison reported higher needs for vocational services.

Research strategies

Despite recent developments in gender-specific prison programming, there remains to be a relative absence of empirical research in which intervention implementation has been explored (Covington, 2001, 2007; Heilbrun et al., 2008). Therefore, the purpose of our study was threefold. First, we expanded on the existing literature and explored four dimensions of prison treatment needs, namely (1) *counseling and therapy services*, (2) *educational and vocational training courses*, (3) *health and medical services*, and (4) *pre-release preparations*. Specifically, a sequence of these treatment needs were explored and identified. First, we *hypothesized* that while these treatment needs are necessary for women in prison, priority and sequences are warranted. Second, we used multiple regressions to examine whether explanatory variables due to victimization experiences, imprisonment stress, social support, depression, and personal characteristics were important in predicting women's perceptions of treatment needs. Based on a review of the literature, we *hypothesized* that these explanatory variables would explain that treatment needs varied across four dimensions. Third, policy implications are addressed accordingly in the discussion and conclusions section.

Research methods

Research setting and participants

In 2010, 49 correctional facilities consisting of more than 65,000 inmates (including juvenile offenders) have operated under the authority of Taiwan's Agency of Corrections (AOC). Among these correctional facilities, all female offenders are incarcerated in either one of three women prisons, namely Kaohsiung, Taichung, and Taoyuan, or in one of 10 other prisons or jails[1] that house men and women separately. Due to the gender equality movement, war on drug crimes policy, and the embarrassment of prison overcrowding, the MOJ established three women prisons in 1995, 1997, and 1998, respectively (Huang, 2010). The first, Kaohsiung Women's Prison with a bed capacity of 1267, is located in the southern part of Taiwanese Island and houses female offenders from southern counties and cities. The second, Taichung Women's Prison, is located in the central part of Taiwan with a bed capacity of 1040 that houses women who are sentenced from central counties and cities. The third, Taoyuan Women Prison, located in the northern part of Taiwan, has a capacity of 1024 beds and houses female inmates who come from northern counties and cities. The capacity of the combined women prisons totals 3331 beds (Wu, 2009).

Our survey which was conducted between January and February of 2010 represents a portion of a project,[2] namely "The etiology and treatment needs among women offenders," sponsored by the MOJ from 2009 to 2010. As requested in MOJ's contract, 20% of all 4440 women offender respondents incarcerated in the three individual prisons as well as the 10 jail facilities were to be collected for final analysis. Hence, researchers distributed a total of 888 self-reported questionnaires through a "stratified random sampling" to the three individual women's prisons and 10 prisons and jails.[3] The sampling framework of our study is presented in Appendix.

Research procedures

After receiving permission from prison and jail authorities, a research team consisting of two professors and two or three trained graduate students traveled to each arranged facility during the survey period in order to conduct face-to-face interviews. Prior to distributing the survey questionnaires administered to inmates, the research team requested correctional administrators to arrange for a comfortable research setting (e.g., counseling room, chamber, classroom, workshop, etc.). Moreover, all correctional officials were prohibited to enter or walk around the research setting while the survey was being conducted. All inmates who were available during the sampling time were approached and asked to complete an anonymous questionnaire. At this time, the purpose of our project, the right to refuse participation, and personal protection information were introduced. Subsequently, the research team distributed self-report questionnaires containing an enclosed notice letter guaranteeing that all respondents would remain anonymous. As respondents filled out the questionnaires, only the research team remained with them on the scene to answer any questions or concerns. Inmates were verbally informed that they were free to stop if they felt that they were unable to complete the questionnaire and were further informed not to discuss the questions with other inmates. Of note, inmates were asked to take their time in filling out the questionnaire and were further advised that the surveys would be collected by the research team in approximately 1 hour. After an hour had elapsed, the questionnaires were collected; however, any respondent who had not finished was given extra time.

Immediately after all surveys were completed, the research team collected and counted each one. In the event that void, defaced, or incomplete questionnaires appeared, they were disregarded and an alternative method was employed; specifically, other inmates were randomly selected to replace any respondent quotas that were not met. This procedure was identical for all prisons and jails. Through this tightening and safeguard process, our study maintained a good quality survey which gathered a very high response rate.

Although none of the respondents were mandated or coerced into participating in our survey, 883 respondents had completed and returned questionnaires after one month for a response rate of 99%. Specifically, approximately 80% of all respondents were derived from the three women prisons. According to Lai, Wang, and Kellar (2012), the unusually high rate of survey responses may possibly have been a function of the Taiwanese correctional system's cultural emphasis placed on scholarly research.

Descriptive statistics

Respondents' descriptive statistics are presented in Table 1. As shown, approximately 47.8% ($n = 420$) of respondents with ages ranging from 30 to 39 years, whereas 50.8%

Table 1. Descriptive statistics for variables ($N = 883$).

Variables	Minimum	Maximum	Mean	SD	Frequency (%)
Dependent variables					
Counseling and therapy services	1.00	4.00	2.95	0.64	
Educational and vocational training courses	1.00	4.00	2.80	0.66	
Health and medical services	1.00	4.00	2.06	0.77	
Pre-release preparations	1.00	4.00	1.71	0.66	
Independent variables					
Physical victimization history	1.00	5.00	1.68	0.79	
Imprisonment stress	1.00	4.00	2.28	0.76	
Social support	1.00	5.00	4.47	0.92	
Depression	1.00	4.00	2.24	0.77	
Age	1.00	5.00	2.20	0.94	18–29 Y = 194 (22.1) 30–39 Y = 420 (47.8) 40–49 Y = 173 (19.7) 50–59 Y = 75 (8.5) 60–69 Y = 16 (1.8)
Education	1.00	3.00	1.69	0.63	Junior high = 352 (39.9) Senior high = 448 (50.8) Some colleges or more = 82 (9.3)
Convicted offense	1.00	4.00	2.28	0.82	Drug offense = 105 (12.2) Drug related offense = 512 (59.4) Property crime = 145 (16.8) Violent crime = 100 (11.6)
Pre-arrest employment	1.00	3.00	2.00	0.83	Unemployed = 302 (34.2) Part-time job = 280 (31.7) Full-time job = 301 (34.1)
Time served in prison	1.00	4.00	2.11	1.13	Less than 1 year = 350 (39.6) 1–2 years = 232 (26.3) 2–3 years = 126 (14.3) More than 3 years = 164 (18.6)
Diseases	0.00	8.00	1.62	1.60	

($n = 448$) of the participants reported senior high school as being their highest educational level. Involvement in drug-related offenses were reported by 59.4% ($n = 512$) of the respondents, whereas 65.8% reported that they were employed either part-time ($n = 280$) or full-time ($n = 301$) prior to incarceration, and 34.2% ($n = 302$) reported that they had been unemployed. With reference to time served, 39.6% ($n = 350$) indicated that they had completed less than 1 year of their sentence. In terms of medical problems, approximately 35% of the respondents reported dentistry diseases ($n = 306$), followed by injuries sustained in accidents (23%; $n = 204$) and skin diseases (18%; $n = 160$), respectively. Figure 1 presents a distribution of 14 medical problems reported among the surveyed 883 Taiwanese female inmates.

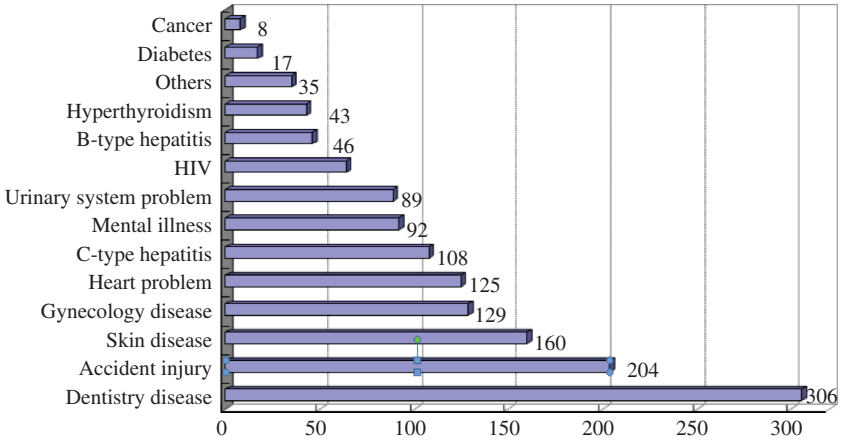

Figure 1. The distribution of health problems among Taiwanese female inmates ($N = 883$).

Dependent variables

Referring to Table 1, *treatment needs* were broken down into four dimensions that served as dependent variables: (1) counseling and therapy services, (2) educational and vocational training courses, (3) health and medical services, and (4) pre-release preparations.[4] Based on the literature and in-depth interviews with women in prisons, the first dependent variable, *counseling and therapy services*, was created in order to assess the extent to which Taiwanese women inmates perceived the needs required to heal their vulnerable emotional feelings during periods of depression, frustration, distress, and so forth (Hochstetler et al., 2004). Individual questions which addressed counseling and therapy needs consisting namely of religious counseling, individual counseling by official counselors, family visitation, group counseling for specific clients (i.e., drug users and victims of domestic and sexual violence), family therapy, and recreational activities. Response categories ranged on a continuum scale from 1 = strongly no need, to 4 = strongly need. The counseling and therapy scale was calculated as the sum of scores on the six items divided by six in which a higher score indicated that the respondent would prefer to participate in the *counseling and therapy services* provided by prison authorities. The mean score was 2.95 with a standard deviation of 0.64, and Cronbach's alpha was 0.80 with an eigenvalue of 2.98.

To access the second dependent variable, *educational and vocational training courses*, a 5-item scale was created that included the need for "study groups," "legal education," "parenting education," "a handicraft workshop," and "fitness training." Response categories ranged on a continuum scale from 1 = strongly no need, to 4 = strongly need. The scale was calculated as the sum of scores on the five items divided by five in which a higher score indicated that the respondent would prefer to support the *educational and vocational training courses* needs provided by prison personnel. The mean score was 2.80 with a standard deviation of 0.66, and Cronbach's alpha was 0.77 with an eigenvalue of 2.59.

A 2-item scale measured the third dependent variable, *health and medical services*, by asking "To what extent do you need health and medical education?" and "To what extent do you need medical treatment (i.e., prescription medication)?" Response categories ranged on a continuum scale from 1 = strongly no need, to 4 = strongly need which were calculated as the sum of scores on the two items divided by two. A higher score indicated that the respondent would prefer to support the *health and medical services* needs. The

mean score was 2.06 with a standard deviation of 0.77, and Cronbach's alpha was 0.66 with an eigenvalue of 1.49.

Finally, a 6-item scale was created to assess the fourth dependent variable, *pre-release preparations.* This scale included items related to the need for assistance "to contact a family member," "to introduce jobs," "to be referred for methadone treatment in a hospital," "for help in resettlement services," "to reenter school," and "to improve the association with family members." Response categories ranged on a continuum scale from 1 = strongly no need, to 4 = strongly need which were calculated as the sum of scores on six items divided by six. A higher score indicated that the respondent would prefer to support the needs of *pre-release preparations* provided by prisons. The mean score was 1.71 with a standard deviation of 0.67, and Cronbach's alpha was 0.80 with an eigenvalue of 3.05.

Taking the four dependent variables into consideration, the *counseling and therapy services* mean was 2.95 thus indicating that it ranked the highest treatment need among the female respondents followed by *educational and vocational training courses* ($M = 2.80$) and *health and medical services* ($M = 2.06$). Unexpectedly, the lowest treatment need was *pre-release preparations* ($M = 1.71$), suggesting that less than one-half of the respondents reported that this program was needed before their release from prison.

Independent variables

Once again referring to Table 1, four independent variables capturing individual-level perceptions were used to predict female offenders' treatment needs: (1) *physical victimization history*, (2) *imprisonment stress*, (3) *social support*, and (4) *depression*. A 5-item scale measured a female offender's *physical victimization history* before incarceration by responding to the following statements: "I had been beaten or assaulted by my family members (i.e., parents and/or siblings);" "I had been beaten and assaulted by my husband/cohabitant;" "I had been beaten and assaulted by strangers;" "I had been kidnapped;" and "I had been sexual touched in the genitalia, sexually harassed, or raped." Response categories ranged on a continuum scale from 0 = 0 times, to 5 = five or more times. The scale was calculated as the sum of scores on five items divided by five. A higher score indicated that the respondent would be more likely to report physical victimization experiences before entering prison. The mean score was 1.68 with a standard deviation of 0.79, and Cronbach's alpha was 0.80 with an eigenvalue of 2.01.

In terms of *imprisonment stress*, a 6-item scale was created to examine a female offender's actual perception of environmental stress in prison by responding to the following statements: "I have been thinking that cells and workshops are crowded;" "I have been thinking that the food and meals are poor;" "I have been thinking that the environment is too hard;" "I have been thinking that life is too tight and busy;" "I have been thinking that my workload is very heavy;" and "I feel pressured about parole conditions." Response categories ranged on a continuum scale from 1 = not at all, to 4 = all the time. The scale was calculated as the sum of scores on six items divided by six with a higher score indicating that the respondent perceived greater *imprisonment stress* in a prison. The mean score was 2.28 with a standard deviation of 0.77, and Cronbach's alpha was 0.74 with an eigenvalue of 2.61.

A 6-item scale measured a female offender's *social support*[5] from family members while incarcerated by responding to the following statements: "They listen to me while visiting or writing to me;" "They console and encourage me while visiting or writing to me;" "They do care about my life and performance in prison;" "They provide some helpful and useful opinions while visiting or writing to me;" "They bring food and articles for daily use to me when they visit me;" and "They deposit money (such as checks or money

orders) in my prison account for daily use." Response categories ranged on a continuum scale from 1 = never to 5 = very often. The scale was calculated as the sum of scores on six items divided by six. A higher score indicated that the respondent would be more likely to report if she received additional social support from family members while incarcerated. The mean score was 4.47 with a standard deviation of 0.92, and Cronbach's alpha was 0.94 with an eigenvalue of 4.74.

Finally, a 6-item scale was created to capture a respondent's depression symptoms over the past three months prior to the survey. The items included: "I feel frustrated," "I feel fatigued," "I feel blue," "I feel lonely," "I feel sorrow," and "I feel hopeless." Response categories ranged on a continuum scale from 1 = not a bit, to 4 = all the time. The scale was calculated as the sum of scores on six items divided by six with a higher score indicating that the respondent reported more depressive symptoms over the past three months prior to the survey. The mean score was 2.24 with a standard deviation of 0.77, and Cronbach's alpha was 0.90 with an eigenvalue of 4.04.

In addition, six characteristic variables were included in the analysis as control variables: (1) *age*, (2) *educational level*, (3) *convicted offense*, (4) *pre-arrest employment,* (5) *time served in prison*, and (6) *diseases while surveyed*. The respondents' *age* was measured by an ordinal variable ranging from 1 = 18–29 years to 5 = 60–69 years. *Educational attainment* was also measured by an ordinal variable ranging from 1 = junior high school and below to 3 = some college or more. *Convicted offense* was measured by four dummy variables: (1) drug offense (including use, possession, transportation, and production of illicit drugs); (2) drug-related offense (e.g., including theft and drugs, robbery and drugs, etc.), (3) property crime (including fraud and theft), and (4) violent crime (including murder). *Pre-arrest employment* was also measured by three dummy variables in response to the following statements: (1) My job was full-time; (2) My job was part-time; and (3) I was unemployed. *Time served in prison* was measured by asking the respondent "how long have you stayed while sentenced to this correctional facility prior to this survey?" It was an ordinal variable ranging from 1 = less than 1 year to 4 = more than 3 years. Finally, *diseases while surveyed* were measured by asking the respondent to "Please report your medical problems since admission." The following 14 items were listed in the questionnaire: (1) HIV infection; (2) B-type hepatitis; (3) C-type hepatitis; (4) heart problems & hypertension; (5) mental illness; (6) urinary system problems; (7) diabetes; (8) cancer; (9) accidental injury; (10) gynecology diseases; (11) skin diseases; (12) dentistry diseases; (13) hyperthyroidism; (14) others, please name. We added up the scores if the respondent selected more than one disease among the 14 items while surveyed in this question.

Of note, two variables were treated as dichotomous variables in the following analyses: convicted offense and pre-arrest employment. Convicted offense was renamed *drug offender* and recoded into two categories where 1 = drug offenders consisting of drug offenses and drug-related offenses and 0 = other offenders. Pre-arrest employment also was renamed as *unemployed* and was recoded into two categories where 1 = unemployed and 0 = employed.

Findings

Correlation analysis

As shown in Table 2, Pearson's *r* correlation coefficients are presented. First, the explanatory variables (i.e., physical victimization history, imprisonment stress, social support, depression, drug offender, unemployed, and disease) were significantly related to the

Table 2. Pearson's *r* correlation matrix.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Counseling and therapy services	1.00													
2. Educational and vocational training courses	0.823**	1.00												
3. Health and medical services	0.606**	0.598**	1.00											
4. Pre-release preparations	0.225**	0.232**	0.181**	1.00										
5. Physical victimization history	0.087**	0.061	0.109**	0.255**	1.00									
6. Imprisonment stress	0.151**	0.138**	0.101**	0.112**	0.185**	1.00								
7. Social support	0.094**	0.060	−0.001	−0.294**	−0.146**	0.079*	1.00							
8. Depression	0.115**	0.101**	0.150**	0.257**	0.259**	0.404**	−0.118**	1.00						
9. Age	−0.012	0.061	0.030	−0.202**	−0.089**	−0.099**	0.059	−0.036	1.00					
10. Education	0.017	0.055	−0.022	−0.137**	−0.069*	0.044*	0.084*	0.026	0.195**	1.00				
11. Drug offender	0.085*	0.028	0.043	0.240**	0.049	0.079*	0.075*	0.034	−0.329**	−0.283**	1.00			
12. Unemployed	−0.075*	−.057	−0.036	−0.007	−0.021	−0.033	0.033	−0.001	−0.046	−0.121**	0.151**	1.00		
13. Time served in prison	0.053	0.026	0.092**	−0.044	0.045	0.119**	0.114**	0.088**	0.015	−0.005	0.113**	0.069*	1.00	
14. Disease	0.122**	0.132**	0.256**	0.167**	0.284**	0.141**	−0.030	0.213**	0.005	−0.049	0.033	−0.094**	0.072*	1.00

Note: Asterisks represent a statistical difference at the following level: $^{*}p < 0.05$ and $^{**}p < 0.01$.

respondents' counseling and therapy services needs. As the levels of physical victimization history, imprisonment stress, social support, depression, and disease increased, the need for counseling and therapy services also increased. Although drug offenders reported higher levels of counseling and therapy services needs, unemployed before prison was negatively related to the services. Second, imprisonment stress, depression, and diseases were significantly associated with needs pertaining to educational and vocational training courses. As the levels of imprisonment stress, depression, and disease increased, educational and vocational training needs also increased. Third, victimization history, imprisonment stress, depression, time served in prison, and disease were significantly associated with health and medical services. Finally, drug offenders and respondents who had higher levels of victimization experiences, imprisonment stress, depression, and disease reported more need for pre-release preparations. On the other hand, the elderly, educated, and participants who had higher levels of social support reported lower needs for aftercare services. Specifically, imprisonment stress, depression, and disease were consistently and significantly related to the four dependent variables.

OLS regression analysis

Ordinary least squares (OLS) regression models were used to identify the effects of physical victimization experiences, imprisonment stress, social support, depression, and personal characteristics on each dimension of women's treatment needs while incarcerated. Results from the four models are displayed in Table 3. Although not a perfect method for examining multicollinearity, the variance inflation factors (VIFs) that were computed by regression of each independent variable on other variables in the model was an applicable indicator of the problem (Tabachnick & Fidell, 1996). In addition, some researchers used a VIF score of 4 or greater as an indication of severe multicollinearity (e.g., Fisher & Mason, 1981). As aforementioned, the correlation matrix indicated that only imprisonment stress and depression were highly correlated ($r = 0.40$, $p < 0.01$), suggesting that multicollinearity should be examined in advance. By entering both variables in the same model, multicollinearity examination results indicated that the VIF was 1.2 and 1.2, respectively thus indicating that the scores were lower than the tolerance statistic value of 4. Multicollinearity was not problematic in this study.

Model 1 presents the regression of counseling and therapy services on all independent variables. Among the explanatory variables, imprisonment stress, social support, drug offender, unemployed, and disease had a significant effect on counseling and therapy services. Drug offenders and participants who perceived a higher level of imprisonment stress, depression, and disease were more likely to report greater needs of counseling and therapy services. Interestingly, participants who were unemployed before incarceration reported fewer needs for counseling and therapy services. After checking the correlation between employment before incarceration and the experiences of incarceration (results not shown), the results indicated that the unemployed reported more incarceration experiences, suggesting that they are familiar with treatment programs and participated in those counseling and therapy courses before. By contrast, the employed were newcomers and they would much like to get involved in counseling and therapy courses. In terms of the impact magnitude, social support had the greatest effect followed by drug offender and imprisonment stress, respectively. Of all the significant variables, disease had the smallest impact. Based on the R^2 coefficient, only 6% of the variance observed in the educational and vocational courses scale was accounted for by all variables.

Table 3. OLS regression coefficients for determining female inmates' treatment needs ($N = 883$).

	Counseling and therapy services (Model 1)			Education and vocational training courses (Model 2)			Health and medical services (Model 3)			Pre-release preparations (Model 4)		
Variables	B	*SE*	ß	B	*SE*	ß	B	*SE*	ß	B	*SE*	ß
Independent variables												
Physical victimization history	0.046	0.029	0.058	0.022	0.031	0.026	0.028	0.035	0.029	0.119	0.028	0.140**
Imprisonment stress	0.081	0.031	0.097*	0.101	0.033	0.117**	0.026	0.037	0.026	0.011	0.030	0.012
Social support	0.078	0.025	0.111**	0.051	0.026	0.070*	0.022	0.029	0.026	−0.158	0.024	−0.211**
Depression	0.040	0.032	0.048	0.034	0.033	0.039	0.090	0.038	0.090*	0.159	0.031	0.180**
Control variables												
Age	0.011	0.025	0.016	0.058	0.026	0.083*	0.045	0.029	0.055	−0.069	0.023	−0.097**
Educational level	0.026	0.036	0.026	0.056	0.038	0.053	−0.042	0.043	−0.035	−0.066	0.034	−0.062
Drug offender	0.144	0.052	0.104**	0.113	0.055	0.079*	0.057	0.061	0.034	0.240	0.050	0.164**
Time served in prison	0.005	0.019	0.008	−0.010	0.020	−0.017	0.043	0.023	0.063	−0.037	0.019	−0.063*
Unemployed	−0.113	0.046	−0.085*	−0.060	0.048	−0.043	−0.059	0.054	−0.037	−0.020	0.044	−0.014
Disease	0.030	0.014	0.075*	0.039	0.015	0.095**	0.104	0.017	0.218**	0.036	0.014	0.086**
F	5.47**			4.61**			7.94**			24.61**		
R^2	0.06			0.05			0.09			0.23		

Note: Asterisks represent a statistical difference at the following level: $^{*}p < 0.05$ and $^{**}p < 0.01$.

Model 2 provided the results of all multivariate variables regressed on educational and vocational training courses. Among the explanatory variables, imprisonment stress, social support, age, drug offender, and disease had a statistically significant effect on educational and vocational training courses. The elderly and drug offenders reported more need for educational and vocational training courses compared to their younger counterparts. Similar to counseling and therapy services, respondents who perceived a higher level of imprisonment stress, social support, and disease were more likely to report their needs pertaining to educational and vocational training courses. With respect to the magnitude of impact, imprisonment stress had the greatest effect followed by disease and age, respectively. Of all significant variables, social support had the smallest impact. Based on the R^2 coefficient, only 5% of the variance observed in the educational and vocational courses scale was accounted for by all variables. Compared to other models, Model 2 explained the lowest percentage of the total variance in women treatment needs while incarcerated.

Model 3 presented the regression results of the health and medical services dependent variable. Among the explanatory variables, only depression and disease had a significant impact on health and medical services. Surveyed respondents who perceived a higher level of depression and reported numerous diseases were more likely to state that prisons should provide additional health and medical services needs. The disease variable had the greatest impact on the dependent variable which was 2.4 times that of depression. Based on the R^2 coefficient, only 9% of the variance observed in the health and medical services scale was accounted for by all variables.

Finally, Model 4 represented regression of pre-release preparations on all independent variables in which 7 out of 10 explanatory variables were significant predictors: physical victimization history, social support, depression, age, drug offenders, time served in prison, and disease. Drug offenders and respondents who reported more diseases and perceived a higher level of victimization experiences and depression addressed the need for additional pre-release preparations. Conversely, elderly female inmates and those who had served longer sentences and felt strong family support reported less need of aftercare services. With respect to the impact magnitude, social support produced the greatest effect followed by depression and drug offenders, respectively. Of all significant variables, disease had the smallest impact. Based on the R^2 coefficient, 23% of the variance observed in the pre-release preparations scale was accounted for by the multivariate variables in Model 4 thus suggesting that the model explained the highest total variance percentage of incarcerated women's treatment needs. Notably, only the explanatory disease variable consistently produced a significant impact on treatment needs across all four models.

Conclusions

Discussion

Although female offenders were largely neglected by researchers as well as practitioners primarily because they constituted a relatively small proportion of the correctional population, the recent and rapid rise in their numbers, specifically drug offenses, has resulted in a substantial increase of attention (Carlson et al., 2010; Green et al., 2005; Heilbrun et al., 2008; Mullings et al., 2004). Among the related issues, women offenders prioritized treatment needs due to their more complex and multifaceted rehabilitative needs and services when compared to male inmates (Koons et al., 1997). Unfortunately, a limited number of researchers have conducted studies over the past decades in order to identify and explore the dimensions and determinants of treatment needs for female offenders. Using

data consisting of female respondents ($N = 833$) collected from 3 Taiwanese women's prisons and 10 correctional facilities that housed both male and female inmates separately, our exploratory study added to the small body of literature pertaining to the needs of imprisoned women. In the following discussion, several observations are highlighted.

First, taking four dependent variables into consideration, respondents reported higher levels of counseling and therapy services ($M = 2.95$), followed by educational and vocational training courses ($M = 2.80$), health and medical services ($M = 2.06$), and pre-release preparations ($M = 1.71$), respectively. Thus, counseling and therapy services signified their priority concern. While most studies conducted in the United States have indicated that health and medical services are women prisoners' primary concern (e.g., Clear et al., 2010; Covington, 2001; Mullings et al., 2004), our finding obviously differs from prior studies. As mentioned previously, the ratio of official counselors to inmates in prisons is relatively low. For example, each counselor in Taichung Women's Prison must take care of more than 250 female inmates, thus implying that the caseload is rather heavy. In addition, a considerable amount of paperwork and administrative matters (e.g., rating inmate performances, planning parole reports, lecturing in drug and legal classes, etc.) occupy most of their time. As a result, inmates who are in need seldom access counselors on an individual basis (Chen & Lin, 2010; Huang, 2010). Although a large number of volunteers have recently been recruited as counselors (i.e., clergywomen and nuns), their jobs focus on group rather than individual counseling (Huang & Lai, 2003). To make matters worse, overcrowding and budget cuts have resulted in cancellation of some educational and vocational training courses (Chen & Lin, 2010).

Second, imprisonment stress and social support had a significant impact on counseling and therapy services and educational and vocational training courses. Specifically, as women displayed higher levels of imprisonment stress, they were more likely to require additional assistance from counseling and therapy needs. The Taiwanese finding was consistent with prior studies conducted in Western societies (e.g., Carlson et al., 2010; Grella & Greenwell, 2007; UNODC, 2009). We speculated that through educational and vocational training, women may shift their concentration from imprisonment stress to gaining new knowledge and skills by enrolling in these classes. Social support received from inmates' families was another mechanism used to improve women's adjustment to prison (Jiang & Winfree, 2006). For example, McClellan, Farabee, and Crouch (1997) suggested that women are more likely to benefit from prison programming treatment in which relationships and empowerment are incorporated thus leading to reduced stress and reinforced social networks.

Of note, social support was negatively related to pre-release preparations. In other words, women who felt a higher level of social support from family members were less likely to report the need for aftercare services. Benda (2005) observed that female inmates were often more socially oriented than their male counterparts and therefore derived more rehabilitation motivation from social support. The findings in our study indicated that women inmates and their families were more likely to develop stronger family ties and connections during incarceration. Another unique finding implied that families would rather accept the women inmates' rehabilitative behaviors and welcome them back home following their release (Chen & Lin, 2010). At the same time, the elderly women reported less need of aftercare services. Huang (2010) indicated that Chinese culture labels correctional facilities as "the hell of evils" and "the dirty places" where citizens would not want to become involved. Hence, women offenders would not be likely to receive any post-release assistance from correctional administrators if they can receive firm emotional support from their families.

Third, while depression had a great effect on health and medical services and pre-release preparations, disease was the robust determinant across four dependent variables. As mentioned earlier, physical victimization history had a significant impact on pre-release preparations. Based on Pearson's r correlation matrix, time served was significantly and positively related to levels of depression ($r = 0.88$, $p < 0.01$), suggesting that women who serve longer prison sentences tend to sense increased levels of depression symptoms. For example, lacking adequate housing and stable employment upon the final stages of incarceration increased their anxiety and, as a result, enhanced their motivation to receive additional health and medical services and become involved in pre-release preparations. Moreover, women in prison frequently come from deprived and poverty backgrounds (Lewis, 2006), and many have experienced physical and/or sexual abuse (Carlson et al., 2010; Greenfeld & Snell, 1999). Therefore, they are typically dislocated from their families and social networks when entering prison. Upon release back into the community, one of the many challenges faced by these women is to reestablish healthy relationships once again (Greene et al., 2000; Morash et al., 1998; Mullings et al., 2004; Owen & Bloom, 1995). Unfortunately, prior childhood victimization and/or adult sexual abuse or battering may contribute to mental health problems, which in turn may possibly affect further criminality after release from prison (Koons et al., 1997). Consistent with Western studies, Taiwanese female offenders who reported higher levels of physical victimization also addressed more needs concerning pre-release preparations.

In addition, special attention should be paid to the needs of women who have contracted infectious diseases such as HIV (Belenko, 2006; Greene et al., 2000; Grella & Greenwell, 2007). In our study, the independent variable of disease included mental and medical problems thus implying that women in prison having a disease would most likely prefer to participate in various treatment programs. Whereas infected women require medical services, they also tend to participate in pre-release preparations after release for resettlement purposes or hospital services. Of note, those youngsters have also reported more need of pre-release preparations. Given the worse scenarios that most youngsters were drug abusers, we speculate that they particularly need the assistance of being referred for methadone treatment in a hospital and of helping in resettlement services.

Finally and most important, drug abusers reported that they had significantly higher levels of needs pertaining to counseling and therapy services, educational and vocational training courses, and pre-release preparations, suggesting that drug offenders have different and greater need than those of their non-drug counterparts – a finding that was consistent with prior studies (Belenko, 2006; Belenko & Peugh, 2005; Mullings et al., 2004). Similarly, Carlson et al. (2010) suggested that women in prison with substance abuse issues have numerous service needs. Our findings also revealed that more than 70% of respondents committed either drug or drug-related offenses which is consistent with figures in the United States (Carlson et al., 2010; Greenfeld & Snell, 1999; McClellan et al., 1997). Undoubtedly, drug offenders have a strong motivation to support special counseling services and training courses in order to meet their needs as well as aftercare assistance (i.e., "to be referred for methadone treatment in a hospital").

Policy implications

Overall, we presented unique findings that differed from previous studies in which a majority of evidence supported the limited literature suggesting that "women in prison" is a global issue. For example, cultural differences that exist in various countries may have

dissimilar standards; nevertheless, imprisoned women are still covered by human rights legislation (UNODC, 2009). Therefore, providing women in prison with a variety of extensive treatment needs is the first step in winning over their hearts. The following results of our study are expected to contribute to the literature as well as provide policy implications.

First, all staff working with women in prison should be required to attend gender-sensitive training courses and additional health educational courses in order to confidently understand issues, namely the special needs of pregnant women (UNODC, 2009; Weinstein, 2005). In particular, staff who treat women in prison should be trained to work with those who have psychological and medical problems associated with an HIV infection. Koons et al. (1997) suggested that a program's success is often attributed to staff members' characteristics that include competence, dedication, a caring attitude, and personal experience with addiction and/or illegal activities. Respondents in Koons et al.'s study also believed that it was important to have more female prison staff members (e.g., official counselors), particularly in identified programs that offer promising results pertaining to prior physical victimization and sexual abuse.

Second, extra efforts must be established in order for women in prison to preserve family ties (UNODC, 2009). In our study, social support by family members was found to facilitate and encourage women to become more involved in available prison treatment services. In contrast, strong family ties might also reduce pre-release preparation needs thus suggesting that family links might reopen minds to welcome women back into the family. Hence, prison authorities should be continually encouraged to maintain family relationships among women offenders. For example, regular visits by family members must be facilitated and encouraged. In addition, a well-developed telephone access policy, conjugal visiting program, and furloughs should be expanded to include more incarcerated women (Huang, 2010; Huang & Lai, 2003).

Third, promoting mental health well-being should become the key to a prison's healthcare policy. In our study, we found that women were infected with a variety of diseases including physical and mental problems thus indicating that they were highly concerned in terms of health and medical services. In reality, however, medical and health services provided in the Taiwanese correctional system are worse than simply being inadequate (Huang, 2010). For example, there are no doctors or nurses who work nighttime shifts. Although prison authorities have contracted with hospitals that are located nearby prisons, women's urgent needs (e.g., self-inflicted harm, suicide, child delivery, etc.) cannot be immediately satisfied (Huang, 2010). Of foremost importance, restructuring prison health and medical systems must become a priority in order to provide professional healthcare.

Finally, while the need for pre-release preparations was the last dependent variable to be compared with others, aftercare assistance such as housing, transportation, and placement must actually be carried out (Carlson et al., 2010). Even if these aftercare jobs create a heavier workload for correctional staff, there are nongovernmental organizations (NGO) that play an important role in terms of pre-release preparations (UNODC, 2009). For example, resettlement upon release can be greatly assisted by making use of volunteers and/or social groups that link prisons with communities. In addition, NGO can be particularly useful for basic essentials, such as housing, employment, vocational training, and reestablished links to primary healthcare. Therefore, correctional authorities should encourage more NGO and volunteers to participate in prison treatment services. Growth in the female inmate population challenges and demands that policy-makers rethink the current means to update treatment programs (Mullings et al., 2004).

Limitations

As with any research, our study is not without limitations. Although the issue of children staying with their incarcerated mothers is very important (Owen & Bloom, 1995), we failed to fully examine the topic.[6] Similarly, our study did not contain data which directly addressed parenting that could possibly be used to distinguish between the treatment needs of parenting and nonparenting women (Heilbrun et al., 2008). In addition, while previous studies have suggested that peer interaction and an association between inmates and staff can contribute to a program's effectiveness by creating successful women who choose to participate in prison programs (e.g., Koons et al., 1997), those two factors failed to be examined in this study. Finally, future study can employ a multilevel analysis that includes aggregate level independent variables (i.e., prison characteristics or institutional overcrowding rate) to strengthen explanatory power.

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Notes

1. Similar to the correctional systems in the United States, jails in Taiwan also house short-term inmates that include males and females (MOJ, 2012).
2. For the purpose of our project, the MOJ organized a committee board consisting of scholars, officials, and practitioners to review and assess the questionnaires several times. Based on the literature and an in-depth interview, the research team designed the questionnaire and proposed it to committee members. After two or three meetings and comments, the research team revised the questionnaire several times accordingly. Hence, our project and the questionnaire are not an assessment but rather a research-oriented survey.
3. For the purpose of our study, a "stratified random sampling" of respondents (20%) representing each facility was utilized based on the sponsor's request, namely the MOJ. In addition, facility location, capacity, and inmates' convicted offense (e.g., drug and/or drug-related) were considered. For example, women correctional facilities located in Taiwan's Eastern region and off-shore islands (i.e., Kinmen and Penghu islands) were selected since their inmates' voices had been largely overlooked in academic studies. Further, while most samples (80%) were collected from three women prisons, other facilities with fewer than 200 women beds had also been selected due to the MOJ's concern. In terms of convicted offense, stratified random sampling was employed given that over 65% of female inmates were drug abusers or convicted of drug-related crimes. As a result, their offense was divided into three categories: drug offenses (including drug-related crimes), property crimes, and violent crimes, respectively. Of note, female inmates who entered the facilities less than $2\frac{1}{2}$ months prior to distributing the survey were not permitted to participate since they were under the classification process.
4. For assessing normal distribution, the skewness and kurtosis for four dependent variables were employed. Results indicated that the skewness coefficients were –0.553, –0.339, 0.490, and 1.001, respectively. In addition, the kurtosis coefficients were 0.327, –0.012, –0.281, and 0.472, respectively. Although the values for skewness and kurtosis were not equal to zero, the four dependent variables were close to a normal distribution (Mertler & Vannatta, 2005). In addition, larger samples may not deviate from normal often enough to make a meaningful difference in the analysis (Tabachnick & Fidell, 1996). Accordingly, there is no doubt that four dependent variables in our study could be treated as a continuous variable.

5. According to Taiwanese prison codes, visitation and corresponding are inmates' rights to access social support and should be mandatorily offered for each inmate. However, visitors, receivers of correspondence, and the frequency vary depending upon how long an inmate has served time. For example, newcomers who are under classification procedures are not allowed to have visitors or to mail letters. In our study, we combined the frequencies of visitations and writing letters in order to echo the variation of each respondent's social support. As hypothesized, women who perceived lower levels of social support reported significantly higher levels of treatment needs; therefore, this finding can lead to proposing policy implications for correctional administrators.
6. Initially, the following question was asked in order to affirm treatment needs among women: "Have you brought any children with you while incarcerated?" In our final analysis, however, we removed this variable given that only four respondents reported that they brought their children with them. In addition, OLS regression results indicated that this item was insignificant across all four dependent variables.

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Appendix

The sampling framework of this study.

Facility	Population[1]	Estimated samples (20% of each facility population)
Taoyuan Women Prison	1201	240
Taichung Women Prison	1096	220
Kaohsiung Women Prison	1232	246
Kaohsiung Second Prison (female unit)	75	15
Penghu Prison (female unit)	10	10
Kinmen Prison (female unit)	8	8
Hwulian Prison (female unit)	163	32
Ilan Prison (female unit)	204	42
Taipei Jail[2] (female unit)	53	11
Maoli Jail (female unit)	82	16
Chiayi Jail (female unit)	58	12
Tainan Jail (female unit)	107	22
Pingtung Prison (female unit)	51	10
13	4440	888

[1] The population of each facility was retrieved from the MOJ (2012), February.
[2] Similar to the United States, Taiwanese jails also house inmates.