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Reexamining the Cruel and Unusual Punishment of Prison Life*

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It has been widely assumed that prison is destructive to the psychological and emotional well-being of those it detains. However, this assumption has rarely been critically examined. The present report evaluated the evidence pertaining to the effects of imprisonment. Studies on the effects of prison crowding, long-term imprisonment and short-term detention, solitary confinement, death row, and the health risks associated with imprisonment provide inconclusive evidence regarding the "pains of imprisonment." Rather, the evidence points to the importance of individual differences in adapting to incarceration. As the use of incarceration is unlikely to decrease in the near future, research on its effects is urgently needed and a situation-by-person approach may be the most fruitful research strategy.

Historically, prisons have been described as barren landscapes devoid of even the most basic elements of humanity (cf. Sykes, 1958) and detrimental to the humanity of the offender (Rector, 1982). Perhaps one of the best known descriptions of the inhumanity of prison is Cohen and Taylor's (1972) description of long-term inmates in a British maximum security prison. Such notions about prison life have been pervasive whether from the perspective of investigative journalists (Mitford, 1973) or academics writing for basic criminology texts (see Fox, 1985).

Mitford (1973), in her very effective polemical style, painted a scathing in-

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dictment of prisons. Not only does imprisonment strip offenders of civil liberties, but also prison reforms are nothing but rhetoric and rehabilitation initiatives are despotic. Goffman (1961) also has been equally harsh in his assessment of the prison as a "total institution."

Careful empirical evaluations, however, have failed to uncover these pervasive negative effects of incarceration that so many have assumed. Mitford (1973) and Cohen and Taylor (1972) did not provide empirical evidence for psychological or behavioral deterioration. We need to be reminded that even Goffman (1961) did not collect data directly from prisons. His conclusions were based upon a review of the prison literature combined with data gathered from "asylums." Furthermore, earlier reviews of empirical studies also failed to uncover the widespread harm that is presumed inherent to prisons (Kilmann, 1980; Walker, 1983).

For some, the quantitative data, gathered as much as possible under conditions of objectivity, must not be believed. The failure of such data to confirm popular expectations has led to a number of responses. One is an increased dependence upon a phenomenological approach (e.g., Flanagan, 1982), or, at the very least, a shift from quantitative psychology to a process that examines prison existence in a qualitative and interpretative manner (see Sapsford, 1983).

Another expression of disbelief in the data comes from critics (Mohr, 1985) who have argued that the failure to find damaging effects of incarceration has been due to the "false reality" of the researchers concerned. This false reality has apparently been ascribed to the fact that government researchers have vested interests in reporting results uncritical of the penal establishment.

A final concern, in this case emanating from researchers who have not yet embraced phenomenology, has been that much of the research has reached a "dead end." Historically, incarceration research examined informal social organizations within prisons and did not speak persuasively to the actual effects of imprisonment itself. In addition, the methodological problems in much of the early work were considerable and a number of researchers have been rather critical of the early simplistic approaches to imprisonment research (Porporino & Zamble, 1984; Wormith, 1984). That is, much of the early research was guided by the "all or none" views of the deprivation (Clemmer, 1940; Sykes, 1958) and the early importation theorists (Irwin & Cressey, 1962). Thus, the complex nature of incarceration was not addressed.

In the past, most prisons were maximum security, and psychoeducational programming was minimal. Daily prison life featured 20-hour lock-up for a few and highly regimentized and monotonous work duties for the rest. Until recently, approaching the examination of prison life from a uniform perspective made eminently good sense. Now, however, the realities of prison life are far different. It is now appropriate to reexamine the effects of incarceration with special attention to the specific conditions of confinement. Although prisons may appear similar on the surface, closer examination finds them varying widely in security, living conditions, and the degree of programming.

Prison overcrowding, almost unknown in the early 1970s, is now very evident. Today, both very long-term and short-term periods of incarceration have dramatically increased. The number of offenders incarcerated is over 700,000

(U.S. Department of Justice, 1988). Current government crime control strategies, in the United States at least, will likely ensure that imprisonment will be the preferred option for the time being (Currie, 1989). In addition, one of the most extreme forms of prison life, solitary confinement, is still frequently employed.

Thus, research examining the effects of prison life is critically important. More knowledge must be generated and analyses of prison life must take into account the deprivation and importation literature, while also recognizing the great variety of structures and experiences that incarceration currently includes.

SELECTION AND ORGANIZATION OF STUDIES

This review focuses on quantitative studies about effects of imprisonment. Qualitative or phenomenological studies were not included. To be included in the review, a study was required to employ objective measures of the variables of interest and to evaluate the relationship between them by means of statistical tests.

Thus, the majority of studies were of a correlational or quasiexperimental nature. The only truly experimental studies (i.e., random assignment) were found in the solitary confinement literature. Some studies appeared to straddle both the quantitative and qualitative camps. In these instances, we made a judgment call and only included them for discussion where appropriate.

The studies were identified with the aid of a computer search of the prison adjustment and penal literature. Other reviews (e.g., Bukstel & Kilmann, 1980; Gendreau & Bonta, 1984; Wormith, 1986) and a review of recent criminological journals identified additional studies.

We viewed imprisonment as an independent variable and the behavioral and psychological observations of inmates as dependent variables. This organization appeared to work well with the studies dealing with specific conditions of confinement (e.g., solitary confinement). There is, on the other hand, a voluminous and frequently reviewed literature that has the independent variable, imprisonment, less clearly defined and investigates dependent variables such as attitude and self-esteem changes. These later studies were not included in the present review.

Finally, a further comment on the dependent variables in the review is in order. Our interest was on the evaluation of assumed negative effects due to incarceration, and, therefore, we reviewed topics that were most likely to evidence such effects. We did not review the literature on rehabilitation and educational programs in prisons (see Gendreau & Ross, 1987) because their stated purpose is to actively promote positive behaviors. In general, *negative effects* were behaviors that threatened the physical welfare of the offender (e.g., aggressive behavior, suicide) and indicators of physiological stress levels (e.g., elevated blood pressure) and psychological distress (e.g., depression).

We examined specific aspects of confinement, namely, crowding, long-term imprisonment, solitary confinement, short-term detention, and death row. We

make one departure from this format and provide a commentary on the health risks associated with imprisonment, which follows from our discussion of prison crowding. In our review of the prison crowding literature, we were able to use meta-analytic techniques because there were both an identifiable theoretical perspective and sufficient studies that could be subjected to analysis. With respect to the other aspects of confinement, either there were too few studies (e.g., death row) or they consistently failed to show negative consequences (e.g., solitary confinement), or, as in the case of long-term confinement, the cross-sectional methodology with multiple groups did not make the data amenable to meta-analytic techniques.

Crowding

Crowding is invariably perceived negatively. It is seen by many correctional managers as *the* major barrier to humane housing of offenders despite an estimated 170,000 additional new beds since 1980 (Corrections Digest, 1986). This population explosion has prompted court interventions (Angelos & Jacobs, 1985; Call, 1983), sentencing reforms (Kennedy, 1985), and innovative classification systems intended to reduce prison populations (Clements, 1982).

Researchers view crowding as a complex phenomenon. Stokols (1972) distinguished *density,* a physical condition, from *crowding,* a psychological condition involving the individual's perception of constraints imposed by limited space. Loo (1973) further differentiated physical density into *spatial density* (number of people constant but the available space varies) and *social density* (space is constant but the number of people vary). For example, prison renovations might reduce the amount of space available to a number of inmates (spatial density), but the effects of this spatial rearrangement on the inmates may differ from the effects of a sudden influx of new inmates into the institution (social density).

Despite these distinctions, corrections research has been inconsistent in the use of the concepts of crowding and spatial and social density. Studies have described crowding as both an independent and dependent variable, and the distinction between social and spatial density has infrequently been noted.

Most researchers agree that crowding describes a psychological response to high population density which is often viewed as stressful (Altman, 1978; Paulus, 1988). Although high population density is a necessary condition for crowding, it is not a sufficient condition, and other variables may be required to produce the perception of crowding. Sundstrom (1978) described crowding as a sequential process resulting from an interaction of person variables, high population density, correlates of high density (e.g., increased noise levels), and situational variables (e.g., duration of exposure).

Following Sundstrom's (1978) model, we would expect that the behaviors observed under high population densities would vary in intensity and variety with length of exposure. For example, under brief exposure we may see elevated blood pressure, followed by reports of anxiety as exposure increases, and ending with violent behavioral outbursts under prolonged exposures. To test this hypothesis, a longitudinal design is required, and, to the best of our knowledge, there is only

one study that has approximated this goal (Ostfeld, Kasl, D'Atri, & Fitzgerald, 1987). Indirect support of the model may be gathered from comparisons of the relative strength of the relationships between population density and a variety of outcomes. That is, we would expect that reports of physiological and psychological stress would be relatively easy to come by and that the findings would be robust, whereas observations of violent behavior would be more infrequent and equivocal.

To explore this model, we undertook both a qualitative and quantitative review of the prison crowding literature. Studies that provided sufficient statistical information on the relationship between population density and the dependent variable were subject to a meta-analysis. The dependent variable was arranged into three categories: physiological, psychological, and behavioral. Some studies reported more than one measure within a category. In these situations, we gave priority to systolic blood pressure for the physiological category, a paper-and-pencil measure of perceived crowding described by Paulus (1988) for the psychological category, and misconduct for the behavioral category. These measures were the most frequently used. We would have liked to categorize the measures of crowding into aggregate, social, and spatial density, but to have done so would have drastically reduced our samples in each cell.

The strength of the relationship, or effect size, was measured by Cohen's *d* (1977) and calculated using the statistical conversion formulas described by Glass, McGaw, and Smith (1981). In our analysis, *d* indicated the size of the difference in standard units between crowded and noncrowded conditions. Standardizing the measures (*d*) allowed us to compare results from different studies. For studies that reported nonsignificant results, *d* was set at zero. The results of this meta-analysis are shown in Table 1.

As can be seen from Table 1, physiological and psychological stress responses (Outcomes A and B) were very likely under crowded prison conditions. The majority of studies employing such measures found significant results. The one inconsistent finding was the *inverse* relationship between crowding and blood pressure ($d = -.70$) reported by McCain, Cox, and Paulus (1980). This may have been a spurious result because there was no relationship between blood pressure and crowding for the institution in question for the previous year (1978). If this size effect is removed from the calculation of the mean, then we obtain a mean of $d = .51$ for Outcome A, which is quite consistent with the model. In the case of behavioral acting-out, the strength of the relationship diminished to the point of being relatively insignificant as the studies ranged in effect size from $-.90$ to $+.87$.

While the results outlined under Outcomes A and B seem straightforward, some clarification is required. That is, although physiological stress in response to population density was the rule, reports of psychological stress concomitant with physiological stress were not always observed and, for the most part, rarely studied. When the two were observed together, the relationship was usually dependent upon other variables. In 1973, Paulus, McCain, and Cox reported (no data were presented) that social density was related to a physiological measure of stress (palmer sweat) but not to a subjective appraisal of feeling crowded. How-

Table 1. Effect Size of Outcome for Prison Crowding[a]

Study	Sample	Outcome		
		A	B	C
D'Atri (1975)	34 adults (M)	1.19		
D'Atri & Ostfeld (1975)	91 adults (M)	1.06		
	126 adults (M)	1.05		
D'Atri et al. (1981)	37 adults (M)	.79		
Ostfeld et al. (1987)	128 adults (M)	.54	n.s.	
McCain et al. (1976)	64 adults (M)		.53	
Paulus et al. (1975)	121 adults (M)		.34	
McCain et al. (1980)	206 adults (M)	n.s.		
	183 adults (M)	n.s.	.82	
	87 adults (M)	−.70		
	121 adults (M)	n.s.		
	212 adults (M/F)		.51	
Ray et al. (1982)	115 juveniles (M)	n.s.		
Ruback & Carr (1984)	561 adults (F)			.37
Jan (1980)	4 adult prisons (M/F)			.43
Megargee (1977)	1 adult prison (M)			.87
Nacci et al. (1977)	37 adult prisons (M/F)			.47
Bonta & Kiem (1978)	1 adult prison (M)			n.s.
Bonta & Nanckivell (1980)	1 adult prison (M)			−.52
Clayton & Carr (1984)	21,500 adults (?)			n.s.
	1,203 adults (?)			.70
Porporino & Dudley (1984)	24 adult prisons (M)			−.90
Ekland-Olson et al. (1983)	14 adult prisons (M/F)			n.s.
N of studies		10	5	11
Means		.39	.44	.13
SD		.62	.30	.52

[a] A = Physiological measures (blood pressure, heart rate); B = Psychological measures (reports of crowding, discomfort); C = Behavioral measures (assaults, misconducts). Samples may employ male (M) or female (F) inmates or both. Sometimes the composition of the sample was unclear (?).

ever, in a subsequent study (Paulus, Cox, McCain, & Chandler, 1975), which considered length of exposure, there was an increased perception of feeling crowded for inmates in dormitories (high social density) but not for inmates in cells (low social density). Other studies have noted the moderating effect of length of exposure on physiological and psychological measures of stress (D'Atri, 1975; D'Atri, Fitzgerald, Kasl, & Ostfeld, 1981; Paulus, McCain, & Cox, 1978, 1981; McCain, Cox, & Paulus, 1976).

In the one longitudinal study reported in the literature, Ostfeld and his colleagues (1987) followed 128 inmates through their incarceration to release and postrelease. Physiological and psychological measures were taken at regular intervals and controls were introduced for other confounding variables such as weight and criminal history. They found changes in blood pressure associated with population density but no statistically significant changes for anxiety, hostility, and depression.

These studies, nevertheless, suggested a positive relationship between social density and physiological indicators of stress and subjective reports of discomfort.

Indications of physiological stress appear as immediate consequences to high social density, and it is possible that with increased exposure to such a situation other cumulative consequences such as psychological distress may follow (Paulus et al., 1975).

It is most important, however, from a policy perspective, to evaluate whether or not population density is related to severe, disruptive behavior that may jeopardize the physical safety of the inmates. The findings as shown in Table 1 do not support an overall relationship between crowding and disruptive inmate behavior.

Megargee (1977) was the first to empirically study the relationship between crowding and reported disciplinary infractions. He collected data over a 3-year span at a medium security prison for youthful offenders (aged 18 to 25). Spatial density was more highly correlated with institutional misconduct than was social density, but social interaction factors (e.g., friendship ties) may have played an important role. Density, without distinction to spatial or social density, and disciplinary infractions are, according to some investigators, positively related (Cox, Paulus, & McCain, 1984; Jan, 1980; Nacci, Teitelbaum, & Prather, 1977; Paulus et al., 1981; Ruback & Carr, 1984), but no such association was found by others (Bonta & Kiem, 1978; Bonta & Nanckivell, 1980; Clayton & Carr, 1984; Ekland-Olson, Barrick, & Cohen, 1983; Porporino & Dudley, 1984).

From our appraisal of the empirical literature we cannot conclude that high population density is always associated with aggressive behavior. Most researchers agree that other variables play important moderating roles (Bonta, 1986; Cox et al., 1984; Ellis, 1984). One important moderator variable is age of the inmates. The relationship between misconduct and population density has been more pronounced in institutions housing young offenders (Ekland-Olsen et al., 1983; Jan, 1980; Megargee, 1977; Nacci et al., 1977). Even in studies that failed to uncover a general positive relationship, the introduction of age as a moderator showed a correlation between population density and misconduct (Bonta & Kiem, 1978; Bonta & Nanckivell, 1980; Clayton & Carr, 1984; Ekland-Olson et al., 1983). In the Ekland-Olson et al. study (1983), when institutions with a relatively young population (median age of 27) were selected for analysis, a highly significant correlation was found ($r = .58$ or a $d = 1.43$). The authors concluded that age is a much better predictor of disciplinary infractions than prison size.

Only one study (Gaes & McGuire, 1985) discounts the importance of age. Gaes and McGuire (1985) assessed a variety of predictors along with age and under these conditions age became relatively less important. The authors observed that most studies of overcrowding and misconduct typically assess few variables and may overestimate the importance of any one variable.

Interpreting the behavioral consequences of prison overcrowding is further confounded by the use of aggregate level data. As Table 1 clearly shows, almost all the studies under Outcome C are aggregate level data. The problem with this level of analysis is that many other factors (e.g., age, release policies) may play more important roles than population density. Clayton and Carr (1987) have shown that aggregate data analysis overestimates the relationship between crowding and behavior (a point already made in the preceding paragraph). In their study investigating the relationship between prison overcrowding and recidivism (2

years postrelease), age was the critical variable. The only other study that used recidivism as an outcome measure was by Farrington and Nuttall (1980), and they found a significant relationship between crowding and postrelease recidivism. However, Gaes (1983) has suggested that other extraneous variables (e.g., age, staff–inmate ratios) could better account for the results.

Although age has consistently been identified as an important moderating variable, explanations of why this is so have not been carefully researched. Are the young simply impulsive, lack coping skills, and more easily susceptible to stress? MacKenzie (1987) found oppositional or "assertive" attitudes and fear of victimization rather than coping ability as most relevant to misconducts. Clearly further research on this issue is desirable.

The identification of person variables as moderators in the experience of prison crowding raises the enduring issue of importation versus deprivation. That is, are the behaviors observed in prison reflective of behavioral patterns that were present prior to incarceration or a response to the deprivation of liberties imposed by confinement? As Freedman (1975) wrote, "crowding has neither good nor bad effects but rather serves to intensify the individual's typical reactions to a situation" (p. 89). Thus, the disciplinary infractions observed in crowded prisons may be the result of either high population densities or a continuation of behaviors that existed before incarceration, or both. As Ruback and Innes (1988) have remarked, there are no studies that have partitioned inmates with violent histories from nonviolent inmates. This is very important because it is usually the maximum security settings that are crowded, and they are also the settings most likely to house violent inmates. The possibility of an interaction can be seen in Smith's (1982) account of how assertive inmates became more aggressive and the passive inmates more submissive under crowded conditions.

There are other factors, besides person variables, that may influence aggressive behavior in crowded prisons. For instance, crowded prisons may be poorly managed (Gaes, 1985). Although prison populations may fluctuate widely, corresponding changes in the number of supervisory staff, counselors, and programs rarely occur. When the population is large, there are fewer correctional staff to monitor behavior and provide inmates with the opportunities to learn adaptive coping skills. The management of prisons and prison systems may account for some inmate disturbances. A case in point is the occurrence of sudden changes in the population membership (Ellis, 1984). Porporino and Dudley (1984), in reviewing evidence from 24 Canadian penitentiaries, found high inmate turnover more important than population density in the prediction of inmate disruptions. The authors speculated that inmates are required to deal with newly arrived inmates more frequently and this may be extremely stressful. For example, in the 1980 New Mexico prison riot, the inmate population was not at its peak but there was a sudden influx of new inmates in the months preceding the riot (Colvin, 1982).

Another factor appears to be the chronicity of the situation (Megargee, 1977). That is, as sentence length or exposure to crowded situations increase so does the risk for misconduct (Bonta & Nanckivell, 1980; Nacci et al., 1977). This is a tentative conclusion because of other confounding factors such as age and type of institution (Jan, 1980; Paulus, 1988).

In summary, crowded prisons may produce physiological and psychological stress among many inmates. More disruptive effects however, depend upon moderating person variables such as age, institutional parameters (e.g., sudden shifts in the inmate membership), and the chronicity of the situation. In addition, aggressive behavior may be a cumulative effect of high population densities. More research into the parameters that govern this effect is required.

Two theoretical models have been advanced in an effort to explain the inmate's response to prison overcrowding. The social-interaction demand model favored by Paulus and his colleagues (Cox et al., 1984; Paulus, 1988) assumes that social interactions interfere with goal attainment and increase uncertainty and cognitive load. That is, it is the nature of the social interactions that may produce negative effects and high population densities are important only to the degree that they affect social interactions. The second model is based on a cognitive social-learning model (Bonta, 1986; Ellis, 1984; see also Cox, Paulus, & McCain for a critique of this model.)

This latter model places greater emphasis on individual differences (person variables) and stresses two processes: attribution and learned coping behavior. Increases in population density produce changes not only in social interactions but also changes in noise level, temperature, etc., and these in turn produce physiological arousal. When inmates attribute this arousal to violation of their personal space rather than some other factor they then report feeling crowded. Once the attribution is made, existing coping behaviors are activated with the goal to reduce arousal and feelings of crowding.

Except for MacKenzie's (1987) findings, penal researchers have found that coping behavior plays a significant role in the inmates' response to incarceration and that inmates vary in the effectiveness of their coping behaviors (cf. Zamble & Porporino, 1990). Clements (1979) has suggested that coping behavior may be influential in the inmates' adaptation to prison overcrowding, although some of these behaviors, such as assault and suicide (Cox et al., 1984; Megargee, 1977), are clearly not adaptive. Unfortunately, poor coping skills are all too prevalent among inmate populations and this is reflected in their disruptive behavioral responses to high population densities. However, other behaviors can alleviate crowding-induced arousal and at the same time be adaptive. For example, classroom attendance (Jan, 1980; Lawrence, 1985) and psychological interventions (Karlin, Katz, Epstein, & Woodfolk, 1979) have been shown to decrease feelings of being crowded. Besides searching for ways to control the prison population growth we can also develop programs to teach individual inmates more effective skills to cope with high prison populations.

Health Risks

As we have seen with the prison crowding literature, it is not uncommon to observe physiological and psychological distress associated with high population densities. Such outcomes are also commonly associated with stress and physical disorders. In fact, many studies of prison overcrowding will use illness complaints as a dependent measure. Thus, we now turn our attention to a related topic and ask ourselves if imprisonment threatens the health of the confined.

Most of the research has dealt with the identification and description of illnesses reported by prisoners (cf., Novick & Al-Ibrahim, 1977). Available data fail to clearly indicate whether inmates display more or less health risks than the general population. When threats to health come from suicide and self-mutilation, then inmates are clearly at risk. Though it is widely believed that the risk of homicide is greater within prison than in the community, the evidence is mixed. In Canadian penitentiaries, the homicide rates are close to 20 times that of similar-aged males in Canadian society (Porporino & Martin, 1983). In the United States, deaths due to homicide are actually less likely within prison (Ruback & Innes, 1988). With respect to self-injurious behavior, the results are more consistent. Inmate suicides for a 20-year period in the United States were at a rate of 17.5 per 100,000 inmates in contrast to 11 per 100,000 people in the general population (Austin & Unkovic, 1977). Self-mutilations are at an even higher rate (Ross & McKay, 1979).

When one examines the incidence of physical illnesses, the findings are less conclusive. One of the classic studies comes from Jones (1976) who surveyed the health risks of Tennessee prisoners and compared them where possible to probationers and data existing on the general adult male U.S. population. The patterns of results are rather complex but, by and large, a variety of health problems, injuries, and selected symptoms of psychological distress were higher for certain classes of inmates than probationers, parolees, and, where data existed, for the general population.

In contrast to Jones (1976), a number of other researchers have failed to find deleterious effects on health. Goldsmith (1972) followed 50 inmates over a 2-month period and found no major health problems as assessed by physical examinations. On a larger inmate sample (N = 491), Derro (1978) found that only 12% of the symptoms reported on admission related to a significant illness. This is an important point because many studies "count" health care contacts without differentiating the nature of the contact. Inmates may seek the aid of health care professionals for reasons other than a physical illness.

Two studies also reported a significantly lower incidence of hypertension among inmates compared to the general population. Culpepper and Froom (1980) found the incidence of hypertension among a prison population at 6%. In another study (Novick, Della-Penna, Schwartz, Remlinger, & Lowenstein, 1977), the incidence of hypertension among 1,300 inmates was 4.5%. We remind the reader, however, that this finding relates to the effects of incarceration in general and not to specific conditions such as prison crowding where the results are different (Gaes, 1985).

One of the problems with the interpretation of the above data has been that there is so little use of adequate control groups especially with respect to age and race (see Ruback & Innes, 1988 for a notable exception). Also, Baird (1977) found that many prisoners with physical complaints were displaying a variety of health risks well *before* incarceration. As a case in point, Bentz and Noel (1983) found that upon entering prison, inmates were reporting a higher incidence of psychiatric disorder than a sample of a rural population in North Carolina. This finding is also of interest in light of Gibbs' (1987) claim that incarceration aggravates

psychological symptomatology (we will say more about this in the discussion on short-term detention).

A final consideration is that many prisons may actually be conducive to good health. In a number of cases, illness complaints have either decreased with time served (MacKenzie & Goodstein, 1985) or remained unchanged (Wormith, 1986). In most prisons, inmates have regular and nutritious diets, access to recreational exercise, and opportunity to sleep. Furthermore, offenders can obtain fairly immediate health care. Because of this last possibility, health risks could easily be overreported in prisons with extensive health services and thus bias some of the research findings.

In summary, the current findings recall Glueck and Glueck's (1950) comparison of 500 delinquents with 500 nondelinquents: In training school, the boys were generally healthy and physically fit, whereas in the community, as a result of their adventurous lifestyles, they were prone to more serious accidents. More than 35 years later, Ruback and Innes (1988) make this same observation based upon information from adult inmates. Thus, as far as physical health is concerned, imprisonment may have the fortuitous benefit of isolating the offender from a highly risky lifestyle in the community.

Long-Term Incarceration

In 1984 there were approximately 1,500 offenders serving life sentences in Canadian prisons (Wormith, 1984) and with recent legislation defining minimum sentences (25 years) without parole for first and second degree murder, those numbers are expected to increase significantly. Similar trends have also been noted in the United States, where mandatory and lengthy prison terms have been widely implemented (cf., Cullen & Gilbert, 1982). What happens to these people as a result of such lengthy sentences? Most of the research has focused upon time spans not longer than 2 or 3 years, and our knowledge regarding offenders serving sentences of 5, 10, or more years is less adequate.

Using cross-sectional designs, Heskin and his colleagues measured inmates' performances on cognitive tests (Banister, Smith, Heskin, & Bolton, 1973), personality measures (Heskin, Smith, Banister, & Bolton, 1973), and attitudinal scales (Heskin, Bolton, Smith, & Banister, 1974). Four groups of prisoners, all sentenced to at least 10 years, were studied. The average time served was 2.5 years for the first group of inmates, 4.9 years for the second group, 6.9 years for the third, and 11.3 for the last group. No differences were found among the groups in intellectual performance, although there was a decline in perceptual motor speed on the cognitive tasks (Banister et al., 1973). On the personality and attitudinal tests, there were increases in hostility and social introversion (Heskin et al., 1973) and decreases in self-evaluations and evaluations of work and father (Heskin et al., 1974).

Subsequently, Bolton, Smith, Heskin, and Banister (1976) retested 154 of the original 175 inmates in the Heskin research (average retest interval was 2 years). Their findings showed no evidence of psychological deterioration. In fact, verbal intelligence improved over time and hostility decreased. The findings with respect

to hostility are in contrast to the cross-sectional studies, but, as the authors noted, there was a significant drop-out rate. Furthermore, the initial testing occurred during a period of institutional tensions, which may have produced artificially high hostility scores.

Sapsford (1978) administered a psychometric test battery to 60 prisoners sentenced to life imprisonment. The prisoners formed three groups: (1) reception (newly received), (2) middle (6th year of sentence), and (3) hard core (average sentence served was 14 years). Some matching was attempted but it is not clear the extent to which the procedure was successful. From the results, only three inmates could be described as having failed to cope with their sentence. The only deteriorating effects observed were increases in dependency upon staff for direction and social introversion. In fact, depression and anxiety were lower for inmates serving longer sentences.

Reed's (1978) geriatric prisoner research also has relevance to the issue. His aged prisoners (mean age of 60 years), with an average sentence served of 23 years, reported fewer life problems than their peers in the outside community. Furthermore, they reported active interests and feeling younger than their age.

Similarly, Richards (1978) also failed to note negative differences between British prisoners who had served at least 8 years of their sentence and inmates who had served more than 10 years. The two groups were matched on age at sentencing and type of offense. The inmates were asked to rate the frequency and severity of 20 different problems that may be initiated by incarceration (e.g., missing social life, sexual frustration). The results showed no differences in the perception of problems by the two groups, and there was agreement by the inmates that coping could be best accomplished by relying on "myself."

Utilizing Richard's (1978) problem-ranking task, Flanagan (1980a) assessed American inmates who had served at least 5 years and compared his results to those reported by Richards (1978). He found that the American inmates perceived similar problems to those reported by the British prisoners in that they also did not perceive the problems as particularly threatening to their mental health. Furthermore, they preferred to cope with their sentences on their own rather than seek the aid of others. In another study, Flanagan (1980b) compared misconduct rates of 701 short-term prisoners (less than 5 years) and 765 long-term inmates. Even after controlling for age, the misconduct rate among the long-term inmates was approximately half that of the short-term offenders.

Rasch (1981) assessed lifers who had served 3, 8.5, and 13.5 years and found no deterioration in health, psychiatric symptoms, or intellect. The results of MMPI testing documented decreased pathology over time, replicating Sapsford's (1980) findings. Another German study, cited by Wormith (1984a), apparently found similar results. Moreover, when long-term inmates (20 years) displayed pathology, such behaviors were apparent long before incarceration.

A series of studies conducted by Wormith (1984, 1986) observed a differential impact from long-term incarceration. In the first study (Wormith, 1984), 269 inmates who had served from 1 month to 10 years were administered a psychometric test battery. Once again those inmates who had served the most time displayed significantly less deviance. This relationship remained even after the introduction

of controls for sentence length, age upon admission, and race. Improvement over time was also noted on attitudinal measures and nonpathological personality characteristics. Finally, changes in intelligence did not vary with length of incarceration.

The second study by Wormith (1986) consisted of a random sample of 634 male prisoners stratified according to sentence length and time served. Long-term inmates (8 years to life), compared to short-term inmates, demonstrated better adjustment on measures of self-reports of emotions and attitudes (e.g., anger) and institution discipline. On measures of criminal sentiments, long-term offenders displayed a U-shaped function while short-term offenders became more antisocial. As expected, long-term inmates had deteriorating community relationships over time but made more use of institutional programs (e.g., education), which was likely important for a successful adaptation to prison life.

MacKenzie and Goodstein (1985) reported findings similar to those described by Wormith (1984; 1986). Long-term inmates (more than 6 years served) found the earlier portion of their sentences more stressful, but with time they learned to cope effectively. Of particular interest was their differentiation of two subgroups of long-term offenders. Using prison experience as a discriminating factor, they identified two groups, inmates with minimal prison experience (lifers) and inmates with extensive prison experience (habituals). Both groups showed the same adjustment patterns, contrary to the expectation that habituals would evidence disruptive behaviors. Similar findings with respect to female offenders have also been reported by MacKenzie, Robinson, and Campbell (1989). In fact, long-term inmates were more bothered by boredom and lack of activities than by anxiety.

Most of the above studies have been cross-sectional. A publication by Zamble and Porporino (1990) on how inmates cope with prison assumes importance for two reasons. First, it is longitudinal. Of their sample ($N = 133$), 30% were serving sentences of more than 10 years. They were assessed within 1 month of admission and 1½ years later. Zamble and Porporino found no *overall* indication of deterioration of coping skills over time, even for inmates serving their first incarceration. As well, there was no increase in identification with "criminal others" and their "view of the world" did not change. The authors surmise that as prisons, by and large, constrain behavior and do little to encourage changes in behavior one way or the other, inmates typically undergo a "behavioral deep freeze." The outside-world behaviors that led the offender into trouble prior to imprisonment remain until release.

Secondly, it is important to emphasize that Zamble and Proporino do not in the least deny the fact that individual differences are meaningful. They reported that how some inmates coped with incarceration correlated with postprison recidivism. For example, some of the significant factors were changes in perceptions of prison life, degree and type of socialization with incarcerated peers, planning for the future, and motivation regarding work and educational goals. We will return to this point later.

In summary, from the available evidence and on the dimensions measured, there is little to support the conclusion that long-term imprisonment necessarily has detrimental effects. As a caution, however, Flanagan (1982) claims that lifers

may change upon other dimensions that have yet to be objectively measured. For example, family separation issues and vocational skill training needs present unique difficulties for long-term inmates (Wilson & Vito, 1988). Unfortunately, cross-sectional designs and, until recently, small subject populations have been characteristic of these studies.

Solitary Confinement

Solitary confinement is "the most individually destructive, psychologically crippling and socially alienating experience that could conceivably exist within the borders of the country" (p. 243). So wrote Jackson (1983) in his scathing denouncement of the use of solitary confinement for prisoners. The commonly accepted definition of prison solitary confinement is maximum security lock-up, usually for punitive reasons. Sensory stimulation is very limited. The inmate may have a book to read and access to a half hour of "recreation" (alone). Conditions of prison solitary should not be confused with other forms of protective segregation (cf., Gendreau, Wormith, & Tellier, 1985) where admission is usually voluntary, and the inmate has access to programming, TV, and so forth. No doubt, if any prison experience is evidence of cruel and unusual punishment, then surely that experience is prison solitary.

In contrast to the popular notions of solitary's negative effects, there exists an extensive experimental literature on the effects of placing people (usually volunteer college students) in solitary, or conditions of sensory deprivation, which has been ignored in the penology literature. It should be noted that the conditions in some of the sensory deprivation experiments are more severe than that found in prison solitary (cf., Gendreau & Bonta, 1984). In fact, this literature (cf., Suedfeld, 1980; Zubek, 1969) has much relevance to prison solitary confinement. Considerable research has also been undertaken with prisoners themselves (Gendreau & Bonta, 1984), and many of these studies are, methodologically, the most rigorous of all the prison studies. Therefore, conclusions drawn from this source are especially informative.

Experimental studies (Ecclestone, Gendreau, & Knox, 1974; Gendreau, Freedman, Wilde, & Scott, 1968, 1972; Gendreau, Horton, Hooper, Freedman, Wilde, & Scott, 1968; Gendreau, McClean, Parsons, Drake, & Ecclestone, 1970; Walters, Callaghan, & Newman, 1963) have found few detrimental effects for subjects placed in solitary confinement for periods up to 10 days. All but one of these studies employed random assignment and most employed a double blind assessment of dependent variables. Perceptual and motor abilities were not impaired, physiological levels of stress were lower than for the control groups, and various attitudes toward the environment and the self did not worsen. Individual differences have also been observed. Experience with prison life, conceptual ability, anxiety, diurnal adrenal levels, and EEG patterns were related to some of the results reported, although it should be noted that results are based upon very small sample sizes. Some of the experimental studies even reported beneficial results (cf., Suedfeld, 1980). In certain respects, the prison literature (Gendreau et al., 1972) is quite consistent with the experimental sensory deprivation laboratory data (e.g., Suedfeld, 1980; Zubek, Shepard, & Milstein, 1970).

In contrast to the studies that used volunteer subjects, Weinberg (1967) looked at 20 inmates who were involuntarily placed for 5 days in solitary confinement. Using measures such as cognitive and personality tests, language usage, and time estimation, he, too, found no deleterious effects. Suedfeld, Ramirez, and Baker-Brown (1982), also studying inmates involuntarily in solitary confinement, also failed to find detrimental effects. Their data were collected from five prisons in Canada and the United States, and they found that, in general, inmates found the first 72 hours the most difficult but after that they adjusted quite well. The authors reached this conclusion: "Our data lend no support to the claim that solitary confinement . . . is overwhelmingly aversive, stressful, or damaging to the inmates" (p. 335).

In contrast, Cormier and Williams (1966) and Grassian (1983) recorded signs of pathology for inmates incarcerated in solitary for periods up to a year. No objective measures or control groups were used. In the former study, most of the inmates exhibited substantial pathology prior to solitary. In the second study, all subjects were involved in a class action suit against their keepers at the time of the interview, and the author actively encouraged more disclosure when the inmates were not forthcoming with reports of distress. Similarly, the experimental literature on sensory deprivation demonstrates that once controls for set and expectancies are introduced, bizarre experiences, under even the most severe conditions (immobilization and sensory deprivation for 14 days), were minimal for the majority of subjects (e.g., Zubek, Bayer, & Shepard, 1969).

The real culprit may not necessarily be the condition of solitary per se but the manner in which inmates have been treated. There is evidence suggesting that this is the basis for most inmate complaints (Suedfeld, 1980; Vantour, 1975). Jackson (1983) himself acceded to this fact. When inmates are dealt with capriciously by management or individual custodial officers, psychological stress can be created even in the most humane of prison environments. Therefore, solitary confinement may not be cruel and unusual punishment under the humane and time-limited conditions investigated in experimental studies or in correctional jurisdictions that have well-defined and effectively administered ethical guidelines for its use.

We must emphasize that this is *not* an argument for employing solitary and certainly not for the absurdly lengthy periods as documented by Jackson (1983). Gendreau and Bonta (1984) have outlined several research issues that urgently need to be addressed. Some of these are studies investigating individual tolerance of solitary confinement, its possible deterrent effect, and a compelling need to find alternatives to humanely restrain those who are a danger to themselves and others while incarcerated. With rare exceptions (Barak-Glantz, 1983), the necessary research has not been conducted.

Short-Term Detention

In 1972, nearly 4,000 jails in the United States processed 1 million male and female offenders per year (Miller, 1978). The offenders were charged with a variety of crimes and approximately 75% of them were awaiting trial. Despite the extensive use of jails, little is known about the effects of short-term detention.

Perhaps this is the area that requires most attention, as it is the initial adjustment phases that are important in assessing the impact of incarceration. For example, 50% of suicides occur in the first 24 hours of imprisonment (Hayes, 1983).

A common belief is that waiting for trial and sentencing produces a considerable amount of anxiety (Cholst, 1979; Dy, 1974; Gibbs, 1982; Schneider, 1979). More specifically, anxiety increases as the trial and sentencing dates approach and then decreases after sentencing when the uncertainty surrounding trial has passed.

A study by Dyer (reported in Krug, Sacheier, & Cattell, 1976) is difficult to evaluate because of the lack of information provided. Dyer administered an anxiety scale to adolescent females and found a decrease in anxiety over time in detention. However, no information regarding the number of subjects, the setting, and the interval between tests was provided. Oleski (1977) administered the same scale to 60 male inmates (ages 18 to 26) in a Boston city jail. All were awaiting trial and all had limited prior prison experience. The tests were administered 1 week after admission and again 8 weeks later. Anxiety levels were found to be higher at posttest.

Bonta and Nanckivell (1980) administered the same anxiety scale used in the previous studies to four groups of inmates selected without age and court status limitations. Group 1 inmates were remanded into custody and sentenced by the time they were retested. Group 2 were still awaiting sentencing. Group 3 inmates entered the jail already sentenced, and Group 4 was a control group for the effects of testing. The test was administered within 1 week of reception and again 3 to 4 weeks later. No changes in anxiety over time or after sentencing were observed.

Gibbs (1987) assessed psychopathology among 339 jail inmates. The inmates were asked to rate symptoms prior to incarceration, 72 hours into confinement, and again 5 days later. He found symptoms to increase between preincarceration and 72 hours of imprisonment and interpreted this finding as showing that detention per se affects symptoms. However, the interpretation is not entirely convincing. First of all, symptomatology prior to incarceration was based upon the inmates' recollections of their difficulties before detention and thus subject to memory and reporting biases. Second, at the 5-day retest, symptoms actually diminished, and third, the finding that those without prior hospitalizations did worse was a puzzling finding and not consistent with the prison as stress model.

There is another intriguing, albeit tangential, aspect to the short-term detention literature, and that is the use of short-term detention as a deterrent. Three common strategies are "Scared Straight," "boot camp," and shock probation programs. The assumption is that prison life is aversive in some form or other and that exposure to it will decrease the probability of future criminal behavior, particularly for impressionable young offenders.

The classic evaluation of "Scared Straight" by Finckenauer and Storti (1978) found only one of nine attitudinal measures significantly changed for juveniles as a result of brief exposure to hardened prisoners and no reduction in recidivism (Finckenauer, 1979). Other variations on the original program have also found no overall deterrent effect (Buckner & Chesney-Lind, 1983; Lewis, 1983), although some individual differences were noted. Similarly, there is now general consensus

that shock probation (i.e., short prison terms prior to probation) has also failed to demonstrate significant deterrent effects (Boudouris & Turnbull, 1985; Friday & Peterson, 1973; Vito, 1984). There is even one report (Vito, Holmes, & Wilson, 1985) suggesting that shock probation for a subgroup of probationers increased recidivism!

Some jurisdictions have received media attention by employing quasimilitary, boot camp regimes for offenders. In the only evaluation with a follow-up that we are aware of—although more will be forthcoming in the near future (MacKenzie, personal communication)—juveniles taking part in such a program did not have reduced reconviction rates compared to nonparticipatory youths (Thornton, Curran, Grayson, & Holloway, 1984). Curiously, older adolescents reported an easier time in the program compared to their previous experiences with incarceration.

Death Row

Once an issue of little importance, the pragmatics of how best to deal with inmates awaiting capital punishment is now of particular concern. The rate of death penalty commitments between 1981 and 1983 ranged from 228 to 264 per year in the United States, and these rates are expected to remain in the same range (Cheatwood, 1985). Since the rate of executions is far lower, a considerable number of offenders are on death rows waiting out lengthy appeal applications. In fact, psychiatrists are now being asked to assess the death row inmate's appreciation of the appeal process and competency for execution (Kenner, 1986). In 1985, nearly 1,500 inmates were in this situation (Cheatwood, 1985). The growing numbers have led to crowded conditions on some death rows, and, in one incident, apparently motivated two condemned prisoners to take hostages as a sign of protest (*The Citizen,* 1986).

Very little evidence is available on how inmates adjust to death row. Perhaps the first study reported is that by Bluestone and McGahee (1962). They interviewed 19 inmates (18 men and one woman) awaiting execution at Sing Sing prison. Expecting to find intense anxiety and depression, they found none. Gallemore and Panton (1972) tested 8 men awaiting execution at reception and several times thereafter up to a period of 2 years. Five men showed no observable deterioration upon the measures employed whereas 3 reported symptoms ranging from paranoia to insomnia. In a further study of 34 inmates on death row, Panton (1976) compared their MMPI profiles with a large prison sample. Death row inmates showed increased feelings of depression and hopelessness. Severe disturbances (e.g., psychosis) were not observed.

Johnson (1982) interviewed 35 men on death row and found them concerned over their powerlessness, fearful of their surroundings, and feeling emotionally drained. Younger inmates were more susceptible to these concerns. However, no comparison group was employed and the prevalence of these feelings among inmates in general is unknown.

Smith and Felix (1986) conducted unstructured psychiatric interviews of 34 death row inmates. Most of their sample exhibited well-intact defenses regarding

their alleged guilt. Only 7 inmates evidenced a depressed mood that might have required further counseling intervention. Debro, Murty, Roebuck, and McCann (1987) interviewed 25 death row inmates and found that *all* slept well and felt relatively good about themselves. None requested or received tranquilizers. Finally, in a rare study of death row inmates who had their sentences commuted to life imprisonment, 23 inmates (46%) showed no change in personality functioning as measured by the MMPI (Dahlstrom, Panton, Bain, & Dahlstrom, 1986). Furthermore, 18 (36%) showed an improvement while only 9 (18%) deteriorated.

This literature, inadequate as it is, is meaningful for what it fails to produce—evidence of severe psychological reactions to a tragic fate. Why this is so is unclear. Some (Bluestone & McGahee, 1962; Smith & Felix, 1986) have suggested that death row inmates have particularly well-developed defense mechanisms, but this hypothesis has been based solely on subjective clinical impressions. In fact, it may be those associated with the condemned inmate (family, prison staff, etc.) that suffer more (Smykla, 1987). The limited data are a testimony to the ability of men to cope with the worst of consequences.

SUMMARY AND CONCLUSIONS

When it comes to scholarly inquiry in the field of criminal justice, a pernicious tendency has been to invoke rhetoric over reality and affirm ideology over respect for empirical evidence. We have witnessed this sad state of affairs in the debates over the effectiveness of rehabilitation, personality and crime, and the relationship between social class and criminal behavior (Andrews & Wormith, 1989; Cullen & Gendreau, 1989).

If we are to make progress in understanding what it is our prisons do to inmates, then we must respect the available evidence. We do not discount the importance of phenomenology in assessing prison life; this line of inquiry does provide valuable insight (e.g., Toch, 1977). But, if we stray too far from the epistemic values that are crucial to a vigorous social science then we run the risk of marking disastrous policy decisions. Therefore, if we are to have a more constructive agenda we must face the fact that simplistic notions of the "pains of imprisonment" simply will not be instructive and will mitigate against the inmate's well-being.

The facts are that long-term imprisonment and specific conditions of confinement such as solitary, under limiting and humane conditions, fail to show any sort of profound detrimental effects. The crowding literature indicates that moderating variables play a crucial role. The health risks to inmates appear minimal. Unfortunately prisons, in a way, may minimize some stress by removing the need to make daily decisions that are important for community living (Zamble & Porporino, 1990).

If we approach prison life with sensitivity, however, we will foster a much more realistic and proactive research and policy agenda. Our literature review revealed considerable support for this notion. We repeatedly found that interac-

tions between certain types of individual differences and situational components explained a meaningful percentage of the variance. To illustrate, we found that age, changes in the prison population, and the chronicity of the situation had profound influences on the responses of inmates to high population density. There also appear to be some cognitive and biological individual differences that may influence adjustment to solitary confinement.

In regard to the above, it is important that the assessment of environments reach the same level of methodological sophistication as the assessment of individuals. There have been some promising developments toward that end. Wenk and Moos (1972) have developed the Correctional Institutions Environment Scale; Toch (1977), the Prison Preference Profile; and Wright (1985), the Prison Environment Inventory. These are initial steps and it is hoped that research along these lines will continue.

Our final comments are in regard to theory development. To date, the incarceration literature has been very much influenced by a "pains of imprisonment" model. This model views imprisonment as psychologically harmful. However, the empirical data we reviewed question the validity of the view that imprisonment is *universally* painful. Solitary confinement, under limiting and humane conditions, long-term imprisonment, and short-term detention fail to show detrimental effects. From a physical health standpoint, inmates appear more healthy than their community counterparts. We have little data on the effects of death row, and the crowding literature indicates that moderating variables play a crucial role.

On a brighter note, the stress model does provide a positive agenda for ameliorative action. In the long-term incarceration literature, researchers (Zamble, 1989; Zamble & Porporino, 1988, 1990) have found that some inmates cope successfully with prison but others do not and that the type of coping is modestly related to future recidivism. Furthermore, on the basis of their analysis, if emotional distress is reported by inmates, it is more often early on in their incarceration. It is at this point that they may be receptive to treatment. The implications for the timing of prison-based treatment programs is obvious. The crucial point is that on the basis of this evidence, we can now develop a variety of cognitive-behavioral and/or skills training programs that could assist prisoners in dealing with their experiences in the most constructive manner possible. There is accumulating and persuasive evidence, moreover, that certain types of offender programming strategies in prison can reduce subsequent recidivism (Andrews, Zinger, Hoge, Bonta, Gendreau, & Cullen, 1989). This proactive agenda, we wish to emphasize, was not forthcoming from those who viewed prisons as invariably destructive. Unfortunately, their recommendations were for almost total deinstitutionalization, which is not only an extreme view, but also one that is totally unpalatable given North American cultural values and the current sociopolitical reality (see Currie, 1985; Glazer, 1989).

In our view, a social learning perspective (cf. Bandura, 1977) provides a more comprehensive explanation of the evidence. Social learning theory examines behavior (attitudes, motor actions, emotions) as a function of the rewards and punishments operating in a prison environment. There is an explicit acceptance of person variables moderating the responsivity to imprisonment. Several questions

emerge from this perspective: *Who* perceives prisons as stressful? *What* aspect of imprisonment shapes behavior? And *how* do individuals respond to imprisonment? Answers to these questions would provide insight into the individuals who do not perceive their environments as stressful while imprisoned and what aspects of imprisonment attenuate the prison experience. In addition, this perspective would clarify the links between emotions, attitudes, and behavior.

From this review, we also see a clear research agenda. Further efforts to understand the effects of prison overcrowding should focus on individual levels of analysis along with multiple measures of the three outcome variables (emotions, attitudes, and behavior). Longitudinal designs (e.g., Zamble & Porporino, 1990) should be the rule. The inherent difficulties in interpreting aggregate level data appear only to confuse our understanding of the impact of crowded conditions on the individual. We need to know under what conditions an individual feels crowded, becomes emotionally distressed, and copes with this distress in a maladaptive manner. For example, Ruback, Carr, and Hopper (1986) suggested that perceived control is a possible mediator. The solution to prison overcrowding is not to embark on a prohibitively expensive prison construction program (Funke, 1985) but rather to alter the rate of intake and release (Skovron, 1988). One way of accomplishing this task is to increase community correctional treatment programs that would allow the diversion of inmates away from prisons (Bonta & Motiuk, 1987). Despite the reluctance of many correctional administrators to develop such programs, there appears to be considerable public support not only for community treatment initiatives (Skovron, Scott, & Cullen, 1988) but for rehabilitation in general (Cullen, Skovron, Scott, & Burton, 1990).

The application of longitudinal designs using data collected at the individual level is also needed in the other areas we have discussed. This is especially so with long-term imprisonment and health risks where the data suggest that if anything, the prison system may actually prevent deterioration. However, only longitudinal designs will allow us to make such a conclusion with any high degree of certainty. If future research leads us to the same conclusion, then the next step would be to identify the system contingencies that support such an environment, for certainly we can learn something positive from this type of result. Finally, and remarkably, we know so little about the psychological impact of a system that houses over a million individuals: the jails. Here, almost any type of reasoned research would be a step in the right direction.

All of the above is easier said than done. The host of issues that need to be researched seem infinite. The methodological complexities in examining both person and situation interaction are pronounced. But, it appears to us to be a positive agenda in order to gain knowledge addressing a vital question.

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