

Interpersonal Dynamics in a Simulated Prison

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Interpersonal dynamics in a prison environment were studied experimentally by designing a functional simulation of a prison in which subjects role-played prisoners and guards for an extended period of time. To assess the power of the social forces on the emergent behaviour in this situation, alternative explanations in terms of pre-existing dispositions were eliminated through subject selection. A homogeneous, "normal" sample was chosen after extensive interviewing and diagnostic testing of a large group of volunteer male college students. Half of the subjects were randomly assigned to role-play prison guards for eight hours each day, while the others role-played prisoners incarcerated for nearly one full week. Neither group received any specific training in these roles.

Continuous, direct observation of behavioural interactions was supplemented by video-taped recording, questionnaires, self-report scales and interviews. All these data sources converge on the conclusion that this simulated prison developed into a psychologically compelling prison environment. As such, it elicited unexpectedly intense, realistic and often pathological reactions from many of the participants. The prisoners experienced a loss of personal identity and the arbitrary control of their behaviour which resulted in a syndrome of passivity, dependency, depression and helplessness. In contrast, the guards (with rare exceptions) experienced a marked gain in social power, status and group identification which made role-playing rewarding.

The most dramatic of the coping behaviour utilised by half of the prisoners in adapting to this stressful situation was the development of acute emotional disturbance—severe enough to warrant their early release. At least a third of the guards were judged to have become far more aggressive and dehumanising toward the prisoners than would ordinarily be predicted in a simulation study. Only a very few of the observed reactions to this experience of imprisonment could be attributed to personality trait differences which existed before the subjects began to play their assigned roles.

Introduction

After he had spent four years in a Siberian prison the great Russian novelist Dostoevsky commented, surprisingly, that his time in prison had created in him a deep optimism about the ultimate future of mankind because, as he put it, if man could survive the horrors of prison life he must surely be a "creature who could withstand anything". The cruel irony which Dostoevsky overlooked is that the reality of prison bears witness not only to the resilience and adaptiveness of the men who tolerate life within its walls, but as well to the "ingenuity" and tenacity of those who devised and still maintain our correctional and reformatory systems.

Nevertheless, in the century which has passed since Dostoevsky's imprisonment, little has changed to render the main thrust of his statement less relevant. Although we have passed through periods of enlightened humanitarian reform, in which physical conditions within prisons have improved somewhat and the rhetoric of rehabilitation has replaced the language of punitive incarceration, the social institution of prison has continued to fail. On purely pragmatic grounds, there is substantial evidence that prisons in fact neither "rehabilitate" nor act as a deterrent to future crime—in America, recidivism rates upwards of 75% speak quite decisively to these criteria. And, to perpetuate what is additionally an economic failure, American taxpayers alone must provide an expenditure for "corrections" of 1.5 billion dollars annually. On humanitarian grounds as well, prisons have failed: our mass media are increasingly filled with accounts of atrocities committed daily, man against man, in reaction to the penal system or in the name of it. The experience of prison undeniably creates, almost to the point of cliché, an intense hatred and disrespect in most inmates for the authority and the established order of society into which they will eventually return. And the toll which it takes on the deterioration of human spirit for those who must administer it, as well as for those upon whom it is inflicted, is incalculable.

Attempts to provide an explanation of the deplorable condition of our penal system and its dehumanising effects upon prisoners and guards, often focus upon what might be called the *dispositional hypothesis*. While this explanation is rarely expressed explicitly, it is central to a prevalent non-conscious ideology: that the state of the social institution of prison is due to the "nature" of the people who administer it, or the "nature" of the people who populate it, or both. That is, a major contributing cause to despicable conditions, violence, brutality, dehumanisation and degradation existing within any prison can be traced to some innate or acquired characteristic of the correctional and inmate population. Thus on the one hand, there is the contention that violence and brutality exist within prison because guards are sadistic, uneducated, and insensitive people. It is the "guard mentality", a unique syndrome of negative traits which they bring into the situation, that engenders the inhumane treatment of prisoners. Or, from other quarters comes the argument that violence and brutality in prison are the logical and predictable result of the

involuntary confinement of a collective of individuals whose life histories are, by definition, characterised by disregard for law, order and social convention and a concurrent propensity for impulsiveness and aggression. Logically, it follows that these individuals, having proved themselves incapable of functioning satisfactorily within the "normal" structure of society, cannot do so either inside the structure provided by prisons. To control such men as these, the argument continues, whose basic orientation to any conflict situation is to react with physical power or deception, force must be met with force, and a certain number of violent encounters must be expected and tolerated by the public.

The dispositional hypothesis has been embraced by the proponents of the prison *status quo* (blaming conditions on the evil in the prisoners), as well as by its critics (attributing the evil to guards and staff with their evil motives and deficient personality structures). The appealing simplicity of this proposition localises the source of prison riots, recidivism and corruption in these "bad seeds" and not in the conditions of the "prison soil". Such an analysis directs attention away from the complex matrix of social, economic and political forces which combine to make prisons what they are—and which would require complex, expensive, revolutionary solutions to bring about any meaningful change. Instead, rioting prisoners are identified, punished, transferred to maximum security institutions or shot, outside agitators sought and corrupt officials suspended—while the system itself goes on essentially unchanged, its basic structure unexamined and unchallenged.

However, a critical evaluation of the dispositional hypothesis cannot be made directly through observation in existing prison settings, since such naturalistic observation necessarily confounds the acute effects of the environment with the chronic characteristics of the inmate and guard populations. To separate the effects of the prison environment *per se* from those attributable to *a priori* dispositions of its inhabitants requires a research strategy in which a "new" prison is constructed, comparable in its fundamental social-psychological milieu to existing prison systems, but entirely populated by individuals who are undifferentiated in all essential dimensions from the rest of society.

Such was the approach taken in the present empirical study, namely, to create a prison-like situation in which the guards and inmates were initially comparable and characterised as being "normal-average", and then to observe the patterns of behaviour which resulted, as well as the cognitive, emotional and attitudinal reactions which emerged. Thus, we began our experiment with a sample of individuals who did not deviate from the normal range of the general population on a variety of dimensions we were able to measure. Half were randomly assigned to the role of "prisoner", the others to that of "guard", neither group having any history of crime, emotional disability, physical handicap nor even intellectual or social disadvantage.

The environment created was that of a "mock" prison which physically constrained the prisoners in barred cells and psychologically conveyed the sense of imprisonment to all participants. Our intention was not to create a *literal*

simulation of an American prison, but rather a functional representation of one. For ethical, moral and pragmatic reasons we could not detain our subjects for extended or indefinite periods of time, we could not exercise the threat and promise of severe physical punishment, we could not allow homosexual or racist practices to flourish, nor could we duplicate certain other specific aspects of prison life. Nevertheless, we believed that we could create a situation with sufficient mundane realism to allow the role-playing participants to go beyond the superficial demands of their assignment into the deep structure of the characters they represented. To do so, we established functional equivalents for the activities and experiences of actual prison life which were expected to produce qualitatively similar psychological reactions in our subjects—feelings of power and powerlessness, of control and oppression, of satisfaction and frustration, of arbitrary rule and resistance to authority, of status and anonymity, of machismo and emasculation. In the conventional terminology of experimental social psychology, we first identified a number of relevant conceptual variables through analysis of existing prison situations, then designed a setting in which these variables were made operational. No specific hypotheses were advanced other than the general one that assignment to the treatment of “guard” or “prisoner” would result in significantly different reactions on behavioural measures of interaction, emotional measures of mood state and pathology, attitudes toward self, as well as other indices of coping and adaptation to this novel situation. What follows is the mechanics of how we created and peopled our prison, what we observed, what our subjects reported, and finally, what we can conclude about the nature of the prison environment and the experience of imprisonment which can account for the failure of our prisons.

Method

Overview

The effects of playing the role of “guard” or “prisoner” were studied in the context of an experimental simulation of a prison environment. The research design was a relatively simple one, involving as it did only a single treatment variable, the random assignment to either a “guard” or “prisoner” condition. These roles were enacted over an extended period of time (nearly one week) within an environment which was physically constructed to resemble a prison. Central to the methodology of creating and maintaining a psychological state of imprisonment was the functional simulation of significant properties of “real prison life” (established through information from former inmates, correctional personnel and texts).

The “guards” were free with certain limits to implement the procedures of induction into the prison setting and maintenance of custodial retention of the “prisoners”. These inmates, having voluntarily submitted to the conditions of this total institution in which they now lived, coped in various ways with its

stresses and its challenges. The behaviour of both groups of subjects was observed, recorded and analysed. The dependent measures were of two general types: transactions between and within each group of subjects, recorded on video and audio tape as well as directly observed; individual reactions on questionnaires, mood inventories, personality tests, daily guard shift reports, and post experimental interviews.

Subjects

The 21 subjects who participated in the experiment were selected from an initial pool of 75 respondents, who answered a newspaper advertisement asking for male volunteers to participate in a psychological study of "prison life" in return for payment of \$15 per day. Those who responded to the notice completed an extensive questionnaire concerning their family background, physical and mental health history, prior experience and attitudinal propensities with respect to sources of psychopathology (including their involvement in crime). Each respondent who completed the background questionnaire was interviewed by one of two experimenters. Finally, the 24 subjects who were judged to be most stable (physically and mentally), most mature, and least involved in anti-social behaviour were selected to participate in the study. On a random basis, half of the subjects were assigned the role of "guard", half to the role of "prisoner".

The subjects were normal, healthy males attending colleges throughout the United States who were in the Stanford area during the summer. They were largely of middle class socio-economic status, Caucasians (with the exception of one Oriental subject). Initially they were strangers to each other, a selection precaution taken to avoid the disruption of any pre-existing friendship patterns and to mitigate against any transfer into the experimental situation of previously established relationships or patterns of behaviour.

This final sample of subjects was administered a battery of psychological tests on the day prior to the start of the simulation, but to avoid any selective bias on the part of the experimenter-observers, scores were not tabulated until the study was completed.

Two subjects who were assigned to be a "stand-by" in case an additional "prisoner" was needed were not called, and one subject assigned to be a "stand-by" guard decided against participating just before the simulation phase began—thus, our data analysis is based upon ten prisoners and eleven guards in our experimental conditions.

Procedure

Physical aspects of the prison

The prison was built in a 35-ft section of a basement corridor in the psychology building at Stanford University. It was partitioned by two fabricated walls, one of which was fitted with the only entrance door to the cell block, the other

contained a small observation screen. Three small cells (6 x 9 ft) were made from converted laboratory rooms by replacing the usual doors with steel barred, black painted ones, and removing all furniture.

A cot (with mattress, sheet and pillow) for each prisoner was the only furniture in the cells. A small closet across from the cells served as a solitary confinement facility; its dimensions were extremely small (2 x 2 x 7 ft) and it was unlit.

In addition, several rooms in an adjacent wing of the building were used as guards' quarters (to change in and out of uniform or for rest and relaxation), a bedroom for the "warden" and "superintendent", and an interview-testing room. Behind the observation screen at one end of the "yard" was video recording equipment and sufficient space for several observers.

Operational details

The "prisoner" subjects remained in the mock-prison 24 hours per day for the duration of the study. Three were arbitrarily assigned to each of the three cells; the others were on stand-by call at their homes. The "guard" subjects worked on three-man, eight-hour shifts; remaining in the prison environment only during their work shift, going about their usual lives at other times.

Role instruction

All subjects had been told that they would be assigned either the guard or the prisoner role on a completely random basis and all had voluntarily agreed to play either role for \$15.00 per day for up to two weeks. They signed a contract guaranteeing a minimally adequate diet, clothing, housing and medical care as well as the financial remuneration in return for their stated "intention" of serving in the assigned role for the duration of the study.

It was made explicit in the contract that those assigned to be prisoners should expect to be under surveillance (have little or no privacy) and to have some of their basic civil rights suspended during their imprisonment, excluding physical abuse. They were given no other information about what to expect nor instructions about behaviour appropriate for a prisoner role. Those actually assigned to this treatment were informed by phone to be available at their place of residence on a given Sunday when we would start the experiment.

The subjects assigned to be guards attended an orientation meeting on the day prior to the induction of the prisoners. At this time they were introduced to the principal investigators, the "Superintendent" of the prison (P.G.Z.) and an undergraduate research assistant who assumed the administrative role of "Warden". They were told that we wanted to try to simulate a prison environment within the limits imposed by pragmatic and ethical considerations. Their assigned task was to "maintain the reasonable degree of order within the prison necessary for its effective functioning", although the specifics of how this

duty might be implemented were not explicitly detailed. They were made aware of the fact that while many of the contingencies with which they might be confronted were essentially unpredictable (e.g. prisoner escape attempts), part of their task was to be prepared for such eventualities and to be able to deal appropriately with the variety of situations that might arise. The "Warden" instructed the guards in the administrative details, including: the work-shifts, the mandatory daily completion of shift reports concerning the activity of guards and prisoners, the completion of "critical incident" reports which detailed unusual occurrences and the administration of meals, work and recreation programmes for the prisoners. In order to begin to involve these subjects in their roles even before the first prisoner was incarcerated, the guards assisted in the final phases of completing the prison complex—putting the cots in the cells, signs on the walls, setting up the guards' quarters, moving furniture, water coolers, refrigerators, etc.

The guards generally believed that we were primarily interested in studying the behaviour of the prisoners. Of course, we were equally interested in the effect which enacting the role of guard in this environment would have on their behaviour and subjective states.

To optimise the extent to which their behaviour would reflect their genuine reactions to the experimental prison situation and not simply their ability to follow instructions, they were intentionally given only minimal guidelines for what it meant to be a guard. An explicit and categorical prohibition against the use of physical punishment or physical aggression was, however, emphasised by the experimenters. Thus, with this single notable exception, their roles were relatively unstructured initially, requiring each "guard" to carry out activities necessary for interacting with a group of "prisoners" as well as with other "guards" and the "correctional staff".

Uniform

In order to promote feelings of anonymity in the subjects each group was issued identical uniforms. For the guards, the uniform consisted of: plain khaki shirts and trousers, a whistle, a police night stick (wooden batons) and reflecting sunglasses which made eye contact impossible. The prisoners' uniform consisted of loosely fitting muslin smocks with an identification number on front and back. No underclothes were worn beneath these "dresses". A chain and lock were placed around one ankle. On their feet they wore rubber sandals and their hair was covered with a nylon stocking made into a cap. Each prisoner was also issued a toothbrush, soap, soapdish, towel and bed linen. No personal belongings were allowed in the cells.

The outfitting of both prisoners and guards in this manner served to enhance group identity and reduce individual uniqueness within the two groups. The khaki uniforms were intended to convey a military attitude, while the whistle and night-stick were carried as symbols of control and power. The prisoners'

uniforms were designed not only to deindividuate the prisoners but to be humiliating and serve as symbols of their dependence and subservience. The ankle chain was a constant reminder (even during their sleep when it hit the other ankle) of the oppressiveness of the environment. The stocking cap removed any distinctiveness associated with hair length, colour or style (as does shaving of heads in some "real" prisons and the military). The ill-fitting uniforms made the prisoners feel awkward in their movements; since these dresses were worn without undergarments, the uniforms forced them to assume unfamiliar postures, more like those of a woman than a man—another part of the emasculating process of becoming a prisoner.

Induction procedure

With the cooperation of Palo Alto City Police Department all of the subjects assigned to the prisoner treatment were unexpectedly "arrested" at their residences. A police officer charged them with suspicion of burglary or armed robbery, advised them of their legal rights, handcuffed them, thoroughly searched them (often as curious neighbours looked on) and carried them off to the police station in the rear of the police car. At the station they went through the standard routines of being fingerprinted, having an identification file prepared and then being placed in a detention cell. Each prisoner was blindfolded and subsequently driven by one of the experimenters and a subject-guard to our mock prison. Throughout the entire arrest procedure, the police officers involved maintained a formal, serious attitude, avoiding answering any questions of clarification as to the relation of this "arrest" to the mock prison study.

Upon arrival at our experimental prison, each prisoner was stripped, sprayed with a delousing preparation (a deodorant spray) and made to stand alone naked for a while in the cell yard. After being given the uniform described previously and having an I.D. picture taken ("mug shot"), the prisoner was put in his cell and ordered to remain silent.

Administrative routine

When all the cells were occupied, the warden greeted the prisoners and read them the rules of the institution (developed by the guards and the warden). They were to be memorised and to be followed. Prisoners were to be referred to only by the number on their uniforms, also in an effort to depersonalise them.

The prisoners were to be served three bland meals per day, were allowed three supervised toilet visits, and given two hours daily for the privilege of reading or letterwriting. Work assignments were issued for which the prisoners were to receive an hourly wage to constitute their \$15 daily payment. Two visiting periods per week were scheduled, as were movie rights and exercise periods. Three times a day all prisoners were lined up for a "count" (one on each guard

work-shift). The initial purpose of the "count" was to ascertain that all prisoners were present, and to test them on their knowledge of the rules and their I.D. numbers. The first perfunctory counts lasted only about 10 minutes, but on each successive day (or night) they were spontaneously increased in duration until some lasted several hours. Many of the pre-established features of administrative routine were modified or abandoned by the guards, and some were forgotten by the staff over the course of the study.

Data collection (dependent measures)

The exploratory nature of this investigation and the absence of specific hypotheses led us to adopt the strategy of surveying as many as possible behavioural and psychological manifestations of the prison experience on the guards and the prisoners. In fact, one major methodological problem in a study of this kind is defining the limits of the "data", since relevant data emerged from virtually every interaction between any of the participants, as well as from subjective and behavioural reactions of individual prisoners, guards, the warden, superintendent, research assistants and visitors to the prison. It will also be clear when the results are presented that causal direction cannot always be established in the patterns of interaction where any given behaviour might be the consequence of a current or prior instigation by another subject and, in turn, might serve as impetus for eliciting reactions from others.

Data collection was organised around the following sources:

(1) *Videotaping*. About 12 hours of recordings were made of daily, regularly occurring events, such as the counts and meals, as well as unusual interactions, such as a prisoner rebellion, visits from a priest, a lawyer and parents, Parole Board meetings and others. Concealed video equipment recorded these events through a screen in the partition at one end of the cell-block yard or in a conference room (for parole meetings).

(2) *Audio recording*. Over 30 hours of recordings were made of verbal interactions between guards and prisoners on the prison yard. Concealed microphones picked up all conversation taking place in the yard as well as some within the cells. Other concealed recordings were made in the testing-interview room on selected occasions—interactions between the warden, superintendent and the prisoners' Grievance Committee, parents, other visitors and prisoners released early. In addition, each subject was interviewed by one of the experimenters (or by other research associates) during the study, and most just prior to its termination.

(3) *Rating scales*. Mood adjective checklists and sociometric measures were administered on several occasions to assess emotional changes in affective state and interpersonal dynamics among the guard and prisoner groups.

(4) *Individual difference scales*. One day prior to the start of the simulation all subjects completed a series of paper and pencil personality tests. These tests

were selected to provide dispositional indicators of interpersonal behaviour styles—the *F* scale of Authoritarian Personality [1], and the Machiavellianism Scale [2]—as well as areas of possible personality pathology through the newly developed Comrey Personality Scale [3]. The subscales of this latter test consist of:

- (a) trustworthiness
- (b) orderliness
- (c) conformity
- (d) activity
- (e) stability
- (f) extroversion
- (g) masculinity
- (h) empathy

(5) *Personal observations.* The guards made daily reports of their observations after each shift, the experimenters kept informal diaries and all subjects completed post-experimental questionnaires of their reactions to the experience about a month after the study was over.

Data analyses presented problems of several kinds. First, some of the data was subject to possible errors due to selective sampling. The video and audio recordings tended to be focussed upon the more interesting, dramatic events which occurred. Over time, the experimenters became more personally involved in the transaction and were not as distant and objective as they should have been. Second, there are not complete data on all subjects for each measure because of prisoners being released at different times and because of unexpected disruptions, conflicts and administrative problems. Finally, we have a relatively small sample on which to make cross-tabulations by possible independent and individual difference variables.

However, despite these shortcomings some of the overall effects in the data are powerful enough to reveal clear, reliable results. Also some of the more subtle analyses were able to yield statistically significant results even with the small sample size. Most crucial for the conclusions generated by this exploratory study is the consistency in the pattern of relationships which emerge across a wide range of measuring instruments and different observers. Special analyses were required only of the video and audio material, the other data sources were analysed following established scoring procedures.

Video analysis

There were 25 relatively discrete incidents identifiable on the tapes of prisoner-guard interactions. Each incident or scene was scored for the presence of nine behavioural (and verbal) categories. Two judges who had not been involved with the simulation study scored these tapes. These categories were defined as follows:

Question. All questions asked, requests for information or assistance (excluding rhetorical questions).

Command. An order to commence or abstain from a specific behaviour, directed either to individuals or groups. Also generalised orders, e.g. "Settle down".

Information. A specific piece of information proffered by anyone whether requested or not, dealing with any contingency of the simulation.

Individuating reference. Positive: use of a person's real name, nickname or allusion to special positive physical characteristics. Negative: use of prison number, title, generalised "you" or reference to derogatory characteristic.

Threat. Verbal statement of contingent negative consequences of a wide variety, e.g. no meal, long count, pushups, lock-up in hole, no visitors, etc.

Deprecation insult. Use of obscenity, slander, malicious statement directed toward individual or group, e.g. "You lead a life of mendacity" or "You guys are really stupid."

Resistance. Any physical resistance, usually prisoners to guards, such as holding on to beds, blocking doors, shoving guard or prisoner, taking off stocking caps, refusing to carry out orders.

Help. Person physically assisting another (i.e. excludes verbal statements of support), e.g. guard helping another to open door, prisoner helping another prisoner in cleanup duties.

Use of instruments. Use of any physical instrument to either intimidate, threaten, or achieve specific end, e.g. fire extinguisher, batons, whistles.

Audio analysis

For purposes of classifying the verbal behaviour recorded from interviews with guards and prisoners, eleven categories were devised. Each statement made by the interviewee was assigned to the appropriate category by judges. At the end of this process for any given interview analysis, a list had been compiled of the nature and frequencies of the interviewee's discourse. The eleven categories for assignment of verbal expressions were:

Questions. All questions asked, requests for information or assistance (excluding rhetorical questions).

Informative statements. A specific piece of information proffered by anyone whether requested or not, dealing with any contingency of the simulation.

Demands. Declarative statements of need or imperative requests.

Requests. Deferential statements for material or personal consideration.

Commands. Orders to commence or abstain from a specific behaviour, directed either to individuals or groups.

Outlook, positive/negative. Expressions of expectancies for future experiences or future events; either negative or positive in tone, e.g. "I don't think I can make it" v. "I believe I will feel better."

Criticism. Expressions of critical evaluation concerning other subjects, the experimenters or the experiment itself.

Statements of identifying reference, deindividuating/individuating. Statements wherein a subject makes some reference to another subject specifically by allusion to given name or distinctive characteristics (individuating reference), or by allusion to non-specific identity or institutional number (deindividuating reference).

Desire to continue. Any expression of a subject's wish to continue or to curtail participation in the experiment.

Self-evaluation, positive/negative. Statements of self-esteem or self-degradation, e.g. "I feel pretty good about the way I've adjusted" v. "I hate myself for being so oppressive."

Action intentions, positive/negative including "intent to aggress". Statements concerning interviewees' intentions to do something in the future, either of a positive, constructive nature or a negative, destructive nature, e.g. "I'm not going to be so mean from now on" v. "I'll break the door down."

Results

Overview

Although it is difficult to anticipate exactly what the influence of incarceration will be upon the individuals who are subjected to it and those charged with its maintenance (especially in a simulated reproduction), the results of the present experiment support many commonly held conceptions of prison life and validate anecdotal evidence supplied by articulate ex-convicts. The environment of arbitrary custody had great impact upon the affective states of both guards and prisoners as well as upon the interpersonal processes taking place between and within those role-groups.

In general, guards and prisoners showed a marked tendency toward increased negativity of affect and their overall outlook became increasingly negative. As the experiment progressed, prisoners expressed intentions to do harm to others more frequently. For both prisoners and guards, self-evaluations were more deprecating as the experience of the prison environment became internalised.

Overt behaviour was generally consistent with the subjective self-reports and affective expressions of the subjects. Despite the fact that guards and prisoners were essentially free to engage in any form of interaction (positive or negative, supportive or affrontive, etc.), the characteristic nature of their encounters tended to be negative, hostile, affrontive and dehumanising. Prisoners immediately adopted a generally passive response mode while guards assumed a very active initiating role in all interactions. Throughout the experiment, commands were the most frequent form of verbal behaviour and, generally, verbal exchanges were strikingly impersonal, with few references to individual identity. Although it was clear to all subjects that the experimenters would not

permit physical violence to take place, varieties of less direct aggressive behaviour were observed frequently (especially on the part of guards). In lieu of physical violence, verbal affronts were used as one of the most frequent forms of interpersonal contact between guards and prisoners.

The most dramatic evidence of the impact of this situation upon the participants was seen in the gross reactions of five prisoners who had to be released because of extreme emotional depression, crying, rage and acute anxiety. The pattern of symptoms was quite similar in four of the subjects and began as early as the second day of imprisonment. The fifth subject was released after being treated for a psychosomatic rash which covered portions of his body. Of the remaining prisoners, only two said they were not willing to forfeit the money they had earned in return for being "paroled". When the experiment was terminated prematurely after only six days, all the remaining prisoners were delighted by their unexpected good fortune. In contrast, most of the guards seemed to be distressed by the decision to stop the experiment and it appeared to us that had become sufficiently involved in their roles so that they now enjoyed the extreme control and power which they exercised and were reluctant to give it up. One guard did report being personally upset at the suffering of the prisoners and claimed to have considered asking to change his role to become one of them—but never did so. None of the guards ever failed to come to work on time for their shift, and indeed, on several occasions guards remained on duty voluntarily and uncomplaining for extra hours—without additional pay.

The extremely pathological reactions which emerged in both groups of subjects testify to the power of the social forces operating, but still there were individual differences seen in styles of coping with this novel experience and in degrees of successful adaptation to it. Half the prisoners did endure the oppressive atmosphere, and not all the guards resorted to hostility. Some guards were tough but fair ("played by the rules"), some went far beyond their roles to engage in creative cruelty and harassment, while a few were passive and rarely instigated any coercive control over the prisoners.

These differential reactions to the experience of imprisonment were not suggested by or predictable from the self-report measures of personality and attitude or the interviews taken before the experiment began. The standardised tests employed indicated that a perfectly normal emotionally stable sample of subjects had been selected. In those few instances where differential test scores do discriminate between subjects, there is an opportunity to, partially at least, discern some of the personality variables which may be critical in the adaptation to and tolerance of prison confinement.

Initial personality and attitude measures

Overall, it is apparent that initial personality-attitude dispositions account for an extremely small part of the variation in reactions to this mock prison experience. However, in a few select instances, such dispositions do seem to be correlated with the prisoners' ability to adjust to the experimental prison environment.

Comrey scale

The Comrey Personality Inventory [3] was the primary personality scale administered to both guards and prisoners. The mean scores for prisoners and guards on the eight sub-scales of the test are shown in Table 1. No differences between prisoner and guard mean scores on any scale even approach statistical significance. Furthermore, in no case does any group mean fall outside of the 40 to 60 centile range of the normative male population reported by Comrey.

Table 1. Mean scores for prisoners and guards on eight Comrey subscales

Scale	Prisoners	Guards
Trustworthiness—high score indicates belief in the basic honesty and good intentions of others	$\bar{X} = 92.56$	$\bar{X} = 89.64$
Orderliness—extent to which person is meticulous and concerned with neatness and orderliness	$\bar{X} = 75.67$	$\bar{X} = 73.82$
Conformity—indicates belief in law enforcement, acceptance of society as it is, resentment of nonconformity in others	$\bar{X} = 65.67$	$\bar{X} = 63.18$
Activity—liking for physical activity, hard work, and exercise	$\bar{X} = 89.78$	$\bar{X} = 91.73$
Stability—high score indicates calm, optimistic, stable, confident individual	$\bar{X} = 98.33$	$\bar{X} = 101.45$
Extroversion—suggests outgoing, easy to meet person	$\bar{X} = 83.22$	$\bar{X} = 81.91$
Masculinity—“people who are not bothered by crawling creatures, the sight of blood, vulgarity, who do not cry easily and are not interested in love stories”	$\bar{X} = 88.44$	$\bar{X} = 87.00$
Empathy—high score indicates individuals who are sympathetic, helpful, generous and interested in devoting their lives to the service of others	$\bar{X} = 91.78$	$\bar{X} = 95.36$

Table 2. Mean scores for “Remaining” v. “Early released” prisoners on Comrey subscales

Scale	Remaining prisoners	Early released prisoners	Mean difference
Trustworthiness	93.4	90.8	+2.6
Orderliness	76.6	78.0	-1.4
Conformity	67.2	59.4	+7.8
Activity	91.4	86.8	+4.6
Stability	99.2	99.6	-0.4
Extroversion	98.4	76.2	+22.2
Masculinity	91.6	86.0	+5.6
Empathy	103.8	85.6	+17.2

Table 2 shows the mean scores on the Comrey sub-scales for prisoners who remained compared with prisoners who were released early due to severe emotional reactions to the environment. Although none of the comparisons achieved statistical significance, three seemed at least suggestive as possible discriminators of those who were able to tolerate this type of confinement and those who were not. Compared with those who had to be released, prisoners who remained in prison until the termination of the study: scored higher on conformity ("acceptance of society as it is"), showed substantially higher average scores on Comrey's measure of extroversion and also scored higher on a scale of empathy (helpfulness, sympathy and generosity).

F-Scale

The *F*-scale is designed to measure rigid adherence to conventional values and a submissive, uncritical attitude towards authority. There was no difference between the mean score for prisoners (4.78) and the mean score for guards (4.36) on this scale.

Again, comparing those prisoners who remained with those who were released early, we notice an interesting trend. This intra-group comparison shows remaining prisoners scoring more than twice as high on conventionality and authoritarianism ($\bar{X} = 7.78$) than those prisoners released early ($\bar{X} = 3.20$). While the difference between these means fails to reach acceptable levels of significance, it is striking to note that a rank-ordering of prisoners on the *F*-scale correlates highly with the duration of their stay in the experiment ($r_s = 0.898$, $P < 0.005$). To the extent that a prisoner was high in rigidity, in adherence to conventional values, and in the acceptance of authority, he was likely to remain longer and adjust more effectively to this authoritarian prison environment.

Machiavellianism

There were no significant mean differences found between guards ($\bar{X} = 7.73$) and prisoners ($\bar{X} = 8.77$) on this measure of effective interpersonal manipulation. In addition, the Mach Scale was of no help in predicting the likelihood that a prisoner would tolerate the prison situation and remain in the study until its termination.

This latter finding, the lack of any mean differences between prisoners who remained *v.* those who were released from the study, is somewhat surprising since one might expect the Hi Mach's skill at manipulating social interaction and mediating favourable outcomes for himself might be acutely relevant to the simulated prison environment. Indeed, the two prisoners who scored highest on the Machiavellianism scale were also among those adjudged by the experimenters to have made unusually effective adaptations to their confinement. Yet, paradoxically (and this may give the reader some feeling for the anomalies we encountered in attempting to predict in-prison behaviour from personality

measures), the other two prisoners whom we categorised as having effectively adjusted to confinement actually obtained the lowest Mach scores of any prisoners.

Video recordings

An analysis of the video recordings indicates a preponderance of genuinely negative interactions, i.e. physical aggression, threats, deprecations, etc. It is also clear that any assertive activity was largely the prerogative of the guards, while prisoners generally assumed a relatively passive demeanour. Guards more often aggressed, more often insulted, more often threatened. Prisoners, when they reacted at all, engaged primarily in resistance to these guard behaviours.

For guards, the most frequent verbal behaviour was the giving of commands and their most frequent form of physical behaviour was aggression. The most frequent form of prisoners' verbal behaviour was question-asking, their most frequent form of physical behaviour was resistance. On the other hand, the most infrequent behaviour engaged in overall throughout the experiment was "helping"—only one such incident was noted from all the video recording collected. That solitary sign of human concern for a fellow occurred between two prisoners.

Although question-asking was the most frequent form of verbal behaviour for the prisoners, guards actually asked questions more frequently overall than did prisoners (but not significantly so). This is reflective of the fact that the overall level of behaviour emitted was much higher for the guards than for the prisoners. All of those verbal acts categorised as commands were engaged in by guards. Obviously, prisoners had no opportunity to give commands at all, that behaviour becoming the exclusive "right" of guards.

Of a total 61 incidents of direct interpersonal reference observed (incidents in which one subject spoke directly to another with the use of some identifying reference, i.e. "Hey, Peter"; "you there", etc.), 58 involved the use of some deindividuating rather than some individuating form of reference. (Recall that we characterised this distinction as follows: an individuating reference involved the use of a person's actual name, nickname or allusion to special physical characteristics, whereas a deindividuating reference involved the use of a prison number, or a generalised "you"—thus being a very depersonalising form of reference.) Since all subjects were at liberty to refer to one another in either mode, it is significant that such a large proportion of the references noted involved were in the deindividuating mode ($Z = 6.9, P < 0.01$). Deindividuating references were made more often by guards in speaking to prisoners than the reverse ($Z = 3.67, P < 0.01$). (This finding, as all prisoner-guard comparisons for specific categories, may be somewhat confounded by the fact that guards apparently enjoyed a greater freedom to initiate verbal as well as other forms of behaviour. Note, however, that the existence of this greater "freedom" on the part of the guards is itself an empirical finding since it was not prescribed

à priori.) It is of additional interest to point out that in the only three cases in which verbal exchange involved some individuating reference, it was prisoners who personalised guards.

A total of 32 incidents were observed which involved a verbal threat spoken by one subject to another. Of these, 27 such incidents involved a guard threatening a prisoner. Again, the indulgence of guards in this form of behaviour was significantly greater than the indulgence of prisoners, the observed frequencies deviating significantly from an equal distribution of threats across both groups ($Z = 3.88, P < 0.01$).

Guards more often deprecated and insulted prisoners than prisoners did of guards. Of a total of 67 observed incidents, the deprecation-insult was expressed disproportionately by guards to prisoners 61 times; ($Z = 6.72, P < 0.01$).

Physical resistance was observed 34 different times. Of these, 32 incidents involved resistance by a prisoner. Thus, as we might expect, at least in this reactive behaviour domain, prisoner responses far exceeded those of the guards ($Z = 5.14, P < 0.01$).

The use of some object or instrument in the achievement of an intended purpose or in some interpersonal interaction was observed 29 times. Twenty-three such incidents involved the use of an instrument by a guard rather than a prisoner. This disproportionate frequency is significantly variant from an equal random use by both prisoners and guards ($Z = 3.16, P < 0.01$).

Over time, from day to day, guards were observed to generally escalate their harassment of the prisoners. In particular, a comparison of two of the first prisoner-guard interactions (during the counts) with two of the last counts in the experiment yielded significant differences in: the use of deindividuating references per unit time ($\bar{X}_{t_1} = 0.0$ and $\bar{X}_{t_2} = 5.40$, respectively; $t = 3.65, P < 0.10$); the incidence of deprecation-insult per unit time ($\bar{X}_{t_1} = 0.3$ and $\bar{X}_{t_2} = 5.70$, respectively; $t = 3.16, P < 0.10$). On the other hand, a temporal analysis of the prisoner video data indicated a general decrease across all categories over time: prisoners came to initiate acts far less frequently and responded (if at all) more passively to the acts of others—they simply *behaved less*.

Although the harassment by the guards escalated overall as the experiment wore on, there was some variation in the extent to which the three different guard shifts contributed to the harassment in general. With the exception of the 2.30 a.m. count, prisoners enjoyed some respite during the late night guard shift (10.00 p.m. to 6.00 a.m.). But they really were "under the gun" during the evening shift. This was obvious in our observations and in subsequent interviews with the prisoners and was also confirmed in analysis of the video taped interactions. Comparing the three different guard shifts, the evening shift was significantly different from the other two in resorting to commands; the means being 9.30 and 4.04, respectively, for standardised units of time ($t = 2.50, P < 0.05$). In addition, the guards on this "tough and cruel" shift showed more than twice as many deprecation-insults toward the prisoners (means of 5.17 and

2.29, respectively, $P < 0.20$). They also tended to use instruments more often than other shifts to keep the prisoners in line.

Audio recordings

The audio recordings made throughout the prison simulation afforded one opportunity to systematically collect self-report data from prisoners and guards regarding (among other things) their emotional reactions, their outlook, and their interpersonal evaluations and activities within the experimental setting. Recorded interviews with both prisoners and guards offered evidence that: guards tended to express nearly as much negative outlook and negative self-regard as most prisoners (one concerned guard, in fact, expressed more negative self-regard than any prisoner and more general negative affect than all but one of the prisoners); prisoner interviews were marked by negativity in expressions of affect, self-regard and action intentions (including intent to aggress and negative outlook).

Analysis of the prisoner interviews also gave *post hoc* support to our informal impressions and subjective decisions concerning the differential emotional effects of the experiment upon those prisoners who remained and those who were released early from the study. A comparison of the mean number of expressions of negative outlook, negative affect, negative self-regard and intentions to aggress made by remaining *v.* released prisoners (per interview) yielded the following results: prisoners released early expressed more negative expectations during interviews than those who remained ($t = 2.32$, $P < 0.10$) and also more negative affect ($t = 2.17$, $P < 0.10$); prisoners released early expressed more negative self-regard, and four times as many "intentions to aggress" as prisoners who remained (although those comparisons fail to reach an acceptable level of significance).

Since we could video-record only public interactions on the "yard", it was of special interest to discover what was occurring among prisoners in private. What were they talking about in the cells—their college life, their vocation, girl friends, what they would do for the remainder of the summer once the experiment was over. We were surprised to discover that fully 90% of all conversations among prisoners were related to prison topics, while only 10% to non-prison topics such as the above. They were most concerned about food, guard harassment, setting up a grievance committee, escape plans, visitors, reactions of prisoners in the other cells and in solitary. Thus, in their private conversations when they might escape the roles they were playing in public, they did not. There was no discontinuity between their presentation of self when under surveillance and when alone.

Even more remarkable was the discovery that the prisoners had begun to adopt and accept the guards' negative attitude toward them. Half of all reported private interactions between prisoners could be classified as non-supportive and non-cooperative. Moreover, when prisoners made evaluative statements of or

expressed regard for, their fellow prisoners, 85% of the time they were uncomplimentary and deprecating. This set of observed frequencies departs significantly from chance expectations based on a conservative binominal probability frequency ($P < 0.01$ for prison *v.* non-prison topics; $P < 0.05$ for negative *v.* positive or neutral regard).

Mood adjective self-reports

Twice during the progress of the experiment each subject was asked to complete a mood adjective checklist and indicate his current affective state. The data gleaned from these self-reports did not lend themselves readily to statistical analysis. However, the trends suggested by simple enumeration are important enough to be included without reference to statistical significance. In these written self-reports, prisoners expressed nearly three times as much negative as positive affect. Prisoners roughly expressed three times as much negative affect as guards. Guards expressed slightly more negative than positive affect. While prisoners expressed about twice as much emotionality as did guards, a comparison of mood self-reports over time reveals that the prisoners showed two to three times as much mood fluctuation as did the relatively stable guards. On the dimension of activity-passivity, prisoners tended to score twice as high, indicating twice as much internal "agitation" as guards (although, as stated above, prisoners were seen to be markedly less active than guards in terms of overt behaviour).

It would seem from these results that while the experience had a categorically negative emotional impact upon both guards and prisoners, the effects upon prisoners were more profound and unstable.

When the mood scales were administered for a third time, just after the subjects were told the study had been terminated (and the early released subjects returned for the debriefing encounter session), marked changes in mood were evident. All of the now "ex-convicts" selected self-descriptive adjectives which characterised their mood as less negative and much more positive. In addition, they now felt less passive than before. There were no longer any differences on the sub-scales of this test between prisoners released early and those who remained throughout. Both groups of subjects had returned to their pre-experimental baselines of emotional responding. This seems to reflect the situational specificity of the depression and stress reactions experienced while in the role of prisoner.

Representative personal statements

Much of the flavour and impact of this prison experience is unavoidably lost in the relatively formal, objective analyses outlined in this paper. The following quotations taken from interviews, conversations and questionnaires provide a more personal view of what it was like to be a prisoner or guard in the "Stanford County Prison" experiment.

Guards

"They [the prisoners] seemed to lose touch with the reality of the experiment—they took me so seriously."

"... I didn't interfere with any of the guards' actions. Usually if what they were doing bothered me, I would walk out and take another duty."

"... looking back, I am impressed by how little I felt for them ..."

"... They [the prisoners] didn't see it as an experiment. It was real and they were fighting to keep their identity. But we were always there to show them just who was boss."

"... I was tired of seeing the prisoners in their rags and smelling the strong odours of their bodies that filled the cells. I watched them tear at each other, on orders given by us."

"... Acting authoritatively can be fun. Power can be a great pleasure."

"... During the inspection, I went to cell 2 to mess up a bed which the prisoner had made and he grabbed me, screaming that he had just made it, and he wasn't going to let me mess it up. He grabbed my throat, and although he was laughing I was pretty scared. I lashed out with my stick and hit him in the chin (although not very hard) and when I freed myself I became angry."

Prisoners

"... The way we were made to degrade ourselves really brought us down and that's why we all sat docile towards the end of the experiment."

"... I realise now (after it's over) that no matter how together I thought I was inside my head, my prison behaviour was often less under my control than I realised. No matter how open, friendly and helpful I was with other prisoners I was still operating as an isolated, self-centred person, being rational rather than compassionate."

"... I began to feel I was losing my identity, that the person I call _____, the person who volunteered to get me into this prison (because it was a prison to me, it *still* is a prison to me, I don't regard it as an experiment or a simulation ...) was distant from me, was remote until finally I wasn't *that* person, I was 416. I was really my number and 416 was really going to have to decide what to do."

"I learned that people can easily forget that others are human."

Debriefing encounter sessions

Because of the unexpectedly intense reactions (such as the above) generated by this mock-prison experience, we decided to terminate the study at the end of six days rather than continue for the second week. Three separate encounter sessions were held, first, for the prisoners, then for the guards and finally for all participants together. Subjects and staff openly discussed their reactions and strong feelings were expressed and shared. We analysed the moral conflicts posed by this experience and used the debriefing sessions to make explicit alternative courses of action that would lead to more moral behaviour in future comparable situations.

Follow-ups on each subject over the year following termination of the study revealed the negative effects of participation had been temporary, while the personal gain to the subjects endured.

