Coping with prison stress

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The study examines how prison inmates experience and cope with particular stressful situations, ordinary present during imprisonment. Self-report measures of stress intensity, perceived event controllability, some situational features, and coping mechanisms, were taken in the sample of 453 males incarcerated in several Croatian penal institutions. Canonical discriminant analysis was performed to assess the differences in appraisals and coping mechanisms among 7 groups of subjects formed according to the category of problems selected as most stressful: accommodation, relations with other prisoners, institutional regime, relations with staff, contacts with the outside, vagueness in institution, and health. Three significant discriminant functions accounted for 80% of total intergroup variability of the analyzed set of cognitive appraisal, situational and coping variables. Neither coping mechanisms nor cognitive appraisals, however, were particularly strongly determined by specific stressors as indicated by canonical correlation values and positions of group centroids on derived functions.

The nature of influence of prison sentence on offenders' behavior and adaptation ought to be one of the basic questions in criminological and penological research and theory. The rational and efficient use of imprisonment requires that we understand the ways that individuals are affected by the experience of prison life. Despite disparate views regarding the purpose and aims of the penal system (Simonsen & Gordon, 1982; Mickunas, 1990; Williamson, 1990), there is a general consensus that imprisonment should not be damaging. Social and correctional policy objectives are not met to the extent that imprisonment serves to exacerbate emotional difficulties and psychological vulnerabilities, reinforce pro-criminal and antisocial attitudes and aggressive behavioral patterns, or impede the development of coping skills needed to function in the outside world.

There is no doubt that confinement can be highly stressful. This statement can easily be accepted considering specific features of imprisonment itself as the most severe form of punishment in contemporary civilized societies. Aside from its most apparent features (i.e. isolation and excommunication, restrictions on freedom of movements, choice and control over one's own life), incarceration carries with it a variety of collateral consequences which may include the loss of employment and the disruption of family life. According to Wright (1991), "...it symbolizes the unworthiness of the individual to live among the law abiding and the failure of the person to contribute to society in a meaningful and acceptable way.... Rejected by society, the inmate is placed in the stark, impersonal and often volatile environment of the prison, where he must function in a subservient, dependent role with few opportunities for demonstrating self worth" (p. 2).

Various statistical indices also point to the occurrence of intense emotional distress among prisoners. It is known, for instance, that the suicide and parasuicide rates among prisoners are several times that of the general population of comparable age (Backett, 1987; Walker, 1983; Williamson, 1990; Wormith, 1984). Serious forms of self-inflicted injury, various stress-related disorders and acute physical diseases occur much more frequently among prisoners in comparison to the general population (Harding & Zimmermann, 1989; Hodgins & Côté, 1990). Prisoners report more psychosomatic problems, show substantially higher levels of anxiety and depression (Cooper & Livingston, 1991; Lapornik, Lehofer & Posch, 1992), with generally recognized and pervasive problem of the chronic use of both illicit and prescribed tranquilizing medication

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(Hodgins & Côté, 1990). Evidence on prison victimization and inter-inmate violence (e.g. MacKenzie, 1987; Silverman & Vega, 1988; Wright, 1991) also illustrate that prison environments can be quite taxing and that many prisoners react in extreme maladaptive ways. Yet it is also apparent that other prisoners manage to adjust reasonably well to the demands and deprivations of prison life, enduring their prison term with no visible signs of pathology either in social, psychological or physical health domains (e.g. Bonta & Gendreau, 1990; Wormith, 1984; Zamble & Porporino, 1988; Zamble, 1992).

Despite very extensive body of empirical literature focusing on the prison experience (see e.g. Bonta & Gendreau, 1990; Bukstel & Kilmann, 1980; Goodstein & Wright, 1989; Johnson & Toch, 1988; Walker, 1983, for reviews), studies conducted in the area during the past few decades have not significantly advanced our understanding of determinants and the process of adjustment and change that occurs with imprisonment. As several authors have pointed out in their critical reviews, there are several reasons for this lack of clear and unequivocal findings on the effects of imprisonment. Methodologically, the studies in the area have been criticized for using weak or inadequate research designs, small and/or biased samples of subjects, lack of adequate control of potentially relevant factors (e.g., age, institutional settings, amount of time served, prior prison experiences), failures in operationalization of central variables, use of insensitive or irrelevant measures for the assessment of different aspects of psychological functioning and adaptation, and particularly, almost exclusive reliance on simple correlational and cross-sectional designs (Bonta & Gendreau, 1990; Flanagan, 1988; Goodstein & Wright, 1989; Wormith, 1984; Zamble & Porporino, 1988).

A large part of the existing research, however, suffer from even more serious, conceptual drawbacks, such as the overemphasized reliance on deprivation (Clemmer, 1940, cited in DiIulio, 1991) and/or importation model (Irwin & Cressey, 1962, cited in DiIulio, 1991) of prisonization theory (Goodstein & Wright, 1989), and a "pains of imprisonment" model on the effects of incarceration (Johnson & Toch, 1988). Thus far accumulated empirical data fail to demonstrate the presence of universally harmful and lasting adverse consequences of prison life as postulated by these models (e.g. Bolton et al., 1976; Bonta & Gendreau, 1990; Bukstel & Kilmann, 1980; Flanagan, 1980; 1988; Goodstein & Wright, 1989; Richards, 1978; Wormith, 1984; Zamble & Porporino, 1988; 1990, etc.). As a number of critics argue, deterministic and simplistic views of prisonization theory have directed criminological research toward the description and explanation

of uniformity in behavior, and the concept of prisonization proved to be too general and crude to enhance understanding of prison impact and serve as an essential dimension of inmate adaptive functioning.

Summarizing the findings from the aforementioned studies one could state that there is no clear and consistent evidence that would speak of persistent emotional, health or other adjustment difficulties in prison inmates, as an inevitable consequence of incarceration. Rather, the evidence points to the importance of interand intraindividual differences in perceptions and reactions of inmates to the conditions of prison life.

The recent research (Zamble & Porporino, 1988; 1990; Zamble, 1992) suggest that current stress and coping models based on the interactionist view on the person-environment relationship, may provide a better conceptual framework for the testing of hypotheses on the sources of variability in the ways and mechanisms of inmate adjustment. The present study was conceived as an attempt at application of one of the best elaborated models of coping with stressful events, namely, Lazarus's transactional theory of stress and coping (Folkman, Schaefer & Lazarus, 1979; Lazarus and Folkman, 1984; 1987; 1991), on the analyses of some aspects of behavior of prison inmates and their experience of imprisonment.

This process-oriented theory conceptualizes stress as a particular type of transaction with the environment where environmental and/or internal demands exceed the adaptive resources of the individual. The theory emphasizes the cognitive processes which are proposed to be accountable for the individual differences in perceptions and interpretations of objectively equal events, and the ways of coping, as the central mediating factors in the relationship between stressful events and various indices of adaptational outcome.

Thus, the concept of *cognitive appraisal* implies the processes through which a person evaluates whether, and in what ways, a particular encounter is relevant for his/her well-being. Authors speak of two main types of appraisals: primary - which deals with perceived importance of an event, i.e., a decision whether one has any stakes in it or not, and secondary - which is concerned with one's resources to counteract situational demands. Both types of appraisals are presumed to influence coping, defined as the person's constantly changing cognitive and behavioral efforts to manage specific demands appraised as taxing the person's resources (Lazarus & Folkman, 1991). Two widely recognized major functions of coping are: alleviating feelings of distress (emotion-focused coping), and altering the troubled person-environment relation (problem-focused coping). Hence, the dynamics of adaptation is seen as an unfolding process of causal antecedents, i.e. individual

resources and environmental factors, mediators, and effects.

The present research sought to examine are there specificities in the ways that prisoners appraise, interpret and cope with particular categories of stressful situations, ordinary present during imprisonment. Given the basic assumptions of Lazarus's theory one could expect that different kinds of problems commonly encountered by prisoners yield different responses and coping actions employed to deal with them.

METHOD

Participants

The sample consisted of 453 male prisoners incarcerated in several penal institutions in Croatia. Mean age of subjects was 34,5 years (SD=10,41), and roughly 68% of the sample were the first-time offenders. Education level for the majority of participants was elementary school or less (63.8%), 32.6% had partial or complete secondary education, and 2.9% of the sample had achieved higher education levels. Sentence length for 18.9% of subjects was 12 month or less, 37.3% served sentences that lasted up to 3 years, 29.1% had terms from above 3 to 8 years, and 14.8% of the sample served more than 8 years prison terms. Amount of time served in the facility ranged from about one month to 9 years (M=11 months, SD=12.38). The demographic and criminological characteristics of the sample mainly correspond to those found in the male prison population in Croatia (see Knezović, Kulenović, Šakić, Zarevski & Žužul, 1989).

Instruments

The study is based on self-report questionnaire measures concerning cognitive appraisals and coping mechanisms - as central mediating processes proposed by the general theory of stress, as well as some situational features (content, duration and suddenness of stressful events).

Sources of stress (content) were examined by a list of potential sources of problems in prison classified into following 7 categories: accommodation (dirt; noise; crowd; poor food; too cold or hot; stuffy; lack of privacy or quiet), relations with other prisoners (quarrels; fights; nothing in common, getting annoyed by other inmates; no friends to be close to or have faith in, etc.), institutional regime (being bored; lots of idle time; inadequate jobs, too strict custody; routine programs and activities), relations with prison staff (staff

who don't care or listen to grievances; disregard and make things more difficult for inmates, etc.), contacts with the outside (feeling out of touch with the world; missing family, old friends, social life; feeling that life has been wasted, etc.), vagueness in institution (not knowing the rules or having the rules changed; feeling like unjustly being punished; punishing with no reason or control), and health problems (worrying about own health; being apathetic, in poor condition or bad mood; feeling uptight, hopeless etc.). Participants were asked to choose one of presented and thoroughly described categories of problems - appraised as most stressful in the last two weeks.

Primary appraisal was defined as the perception of stress intensity with reference to the selected category of problems, and measured by a 4-point scale (0 -didn't make me upset at all, 3 - it disturbed me very much).

Secondary appraisal was defined as the perception of controllability of selected category of stressful events, and assessed by two 4-point scales related to perceived impact on the occurrence as well as the outcome of stressful event (0 - no impact, 3 - thorough).

Furthermore, participants were asked to rate the duration of stressful events (0 - they have almost gone, 1 - they still persist), and the degree to which they were surprised by the problems within selected category (on a scale from 0 - I expected them, not surprised at all, to 3 - I was totally surprised, didn't expect them at all).

To assess coping with prison stressors, we constructed an inventory containing a broad range of behavioral and cognitive strategies, drawn in part from well-known and most frequently used coping questionnaires (Lazarus & Folkman, 1984; Carver, Scheier & Weintraub, 1989; Endler & Parker, 1990), and new instruments adapted for Croatian cultural settings (Arambašić, 1994). On the items of this inventory subjects were to appraise how often they used each of presented ways of coping in previously selected stressful situations (on a scale from 1 - not at all, to 4 - often). Factor analyses and procedures of convergent and discriminant validation of the instrument, described elsewhere (Buško, 1995), produced nine situation-specific 4-item coping scales, as follows (Cronbach alpha-coefficients of reliability are given in parentheses): Information seeking (a=.77) - which relates to the gathering of information on the event, asking for advice and help from others; Planning (a=.61) - comprising mainly cognitive efforts directed to resolving the problem; Direct action (a=.70) - that involves undertaking of concrete, practical actions aimed at problem solving; Focus on emotions (a=.51) - referring to the attempts at relieving distressing emotions by venting of feelings, sleeping, consuming medicine, food, drinks, etc.;

Pasivization (a=.55) - reflecting an opposition to active coping, includes resignation, waiting for problems to be resolved by themselves; Fatalism and religion (a=.71) - turning to religion, confidence to the Act of God, or fortune; Reinterpretation (a=.57) - which describes efforts to create predominantly positive meaning on the stressful event; Wishful thinking (a=.66) - containing desires, day-dreaming and fantasies on change or withdrawal of stressful event; Humor (a=.79) - concerning attempts at lessening the relevance and severity of the event by introducing humor and recognizing amusing sides of the situation. Scores on each of the coping scales were computed by summing the corresponding items.

Procedure

The data were gathered during June and July 1994, in one maximum (Lepoglava), two medium (Požega and Turopolje) and two minimum security (Lipovica and Valtura) Croatian penal institutions. The only criterion for the selection of participants was the basic literacy. Participants were assured that their responses would be treated with full confidentiality and that they had the option of withdrawing at any time. Instruments were administered in groups of 10-20 persons. Participants completed the instruments following specific instructions given with each of the questionnaires, along with the supervision and, when needed, additional help from the examiner. Data gathering was conducted by the first author of the paper, in cooperation with psy-

chologists and other members of staff in the institutions. Because this study was conducted as a part of a broader research that entailed the administration of additional questionnaires, the entire procedure lasted 90-120 minutes per group, including a short pause.

RESULTS AND DISCUSSION

The means, standard deviations and intercorrelations of cognitive appraisal, situational, and coping measures are shown in Table 1. Overall means for cognitive appraisal measures indicate relatively high intensity of stress experience among prisoners regardless of the content of stressful situations (M=2.16), along with perceived limited control over the occurrence of events (M=1.06), and their outcomes (M=1.04), given the scale range of 0-3 on these measures. As shown in Table 1, the most frequently practiced coping strategies include direct action (M=11.23) and reinterpretation of events (M=11.12), whereas focus on emotions proved to be the least frequently occurring coping strategy (M=7.50), with the least interindividual variability as well (SD=2.54). Correlation matrix of nine coping scales contains values ranging from zero to moderately high, with no coefficient of negative sign, suggesting that various coping mechanisms, although conceptually distinct, are not mutually exclusive. To the contrary, the data point to the tendency for endeavor on different kinds of cognitive, emotional or behavioral efforts as a response to particular stressful event, regardless of

 $\label{thm:constraints} Table~1$ Means, standard deviations, and pooled-within-groups intercorrelations of measures

Measures	М	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Perceived stress intensity	2.16	.92													
2. Impact on event occurrence	1.06	1.05	.01	_											
3. Perceived outcome control	1.04	.96	.00	.52											
4. Suddennes of event	1.46	1.20	.39	.10	.06	_									
5. Duration of event	.69	.46	.27	01	05	.13	_								
Ways of coping															
6. Information seeking	9.56	3.53	.22	.10	.01	.30	.08	_							
7. Planning	10.50	3.02	.22	.09	.01	.15	.11	.50	-						
8. Direct action	11.23	3.15	.15	.12	.08	.14	.07	.54	.60						
9. Focus on emotions	7.50	2.54	.12	.20	.06	.13	.14	.23	.23	.19	=_				
10. Pasivization	9.73	3.10	.01	.10	00	00	.01	.07	.08	.07	.35				
11. Fatalism and religion	8.95	3.58	.08	.15	.06	.19	05	.29	.19	.19	.29	.40	=-		
12. Reinterpretation	11.12	2.96	.14	.19	.10	.06	.02	.39	.48	.46	.33	.33	.38	-	
13. Whishful thinking	10.43	3.17	.26	.00	03	.20	.13	.29	.40	.29	.41	.34	.38	.45	-
14. Humor	8.58	3.46	03	06	03	11	.04	.08	.19	.16	.21	.21	.11	.29	.26

Note. N=453. Results on appraisal variables (1 thru 4) range theoretically from 0 to 3, and on coping scales (6 thru 14) from 4 to 16. Duration (5) was coded 0 and 1. Coefficients $\Gamma \ge .12$ are significant with p<.01.

their assumed purpose or function, versus the scarcity of any efforts. In addition, there are two clusters of associations among coping measures in this matrix, first of which comprising the scales *information seeking*, planning and direct action with the highest intercorrelations (.50 to .60), and the second, being consisted of remaining 6 coping scales. Reinterpretation reaches modesty high correlations with all other coping scales (.30 to .48), whereas humor singles out by the weakest ties to the other scales (.08 to .29). The obtained pattern of correlations appear to support the generally accepted functional distinction on problem- and emotion-focused coping strategies (e.g. Carver et al., 1989; Lazarus & Folkman, 1984).

Canonical discriminant analysis was performed to assess the extent and the nature of differences in appraisals and coping with stressful events among 7 groups of subjects formed according to the category of

stressors selected as most serious: accommodation (N=78), relations with other prisoners (N=51), institutional regime (N=52), relations with prison staff (N=41), contacts with the outside (N=129), vagueness in institution (N=29), and health problems (N=73). Main results of discriminant analysis are presented in Table 2.

The analysis yielded three statistically significant discriminant functions with the Wilks' Lambda values of .65 (p<.0001), .74 (p<.0001) and .84 (p<.01), for the first, second and third function, respectively. Taken together, they accounted for approximately 80% of total intergroup variability of the analyzed set of cognitive appraisal variables, situational features and coping strategies. Computed eigenvalues (.14, .12, .10) and canonical correlations (.35, .33, .30), however, indicate relatively poor differentiation among seven selected groups in the space of derived discriminant functions. The meaning or the structure of obtained intergroup

Table 2

Main parameters of derived canonical discriminant functions

Function	Eigenvalue	% of expl. variance	Canonical Correlation	Wilks' Lambda	Chi-Squared	df	p
1.	.142	31.63	.353	.652	188.99	84	.000
2.	.122	27.11 .	.329	.745	130.19	65	.000
3.	.098	21.76	.299	.836	79.34	48	.003
4.	.052	11.56	.222	.917	38.05	33	.250

Table 3
Standardized coefficients and the structure of significant canonical discriminant functions

	S	tandardized co	Structure matrix			
VARIABLE	F1	F2	F3	F1	F2	F3
Perceived outcome control	.58	.04	.03	.67	.19	.10
Duration of event	60	.34	16	60	.38	03
Impact on event occurrence	.11	.28	.07	.41	.25	.20
Perceived stress intensity	03	.45	.20	12	.52	.18
Wishful thinking	.25	.42	.06	.10	.23	.15
Focus on emotions	16	33	.80	09	20	.65
Information seeking	11	37	.68	.03	08	.52
Suddenness of event	04	08	31	06	.20	.03
Direct action	.22	.45	.07	.28	.22	.18
Planning	.18	38	48	.22	05	03
Humor	20	24	22	12	28	15
Fatalism and religion	26	.33	04	05	.16	.12
Reinterpretation	.08	.04	12	.22	.03	.08
Pasivization	.11	44	31	.05	31	08

differences is reachable through the inspection of the pooled within-groups correlations between discriminating variables and three canonical discriminant functions, along with the standardized canonical discriminant coefficients (see Table 3).

Variables that mainly describe the first discriminant function are, to the positive pole, appraisals on controllability with regard to the occurrence (r=.41) and, particularly, the outcome (r=.67) of stressful event, and the chronicity of event (r=.60) with the opposite course of relationship to the function. The second function is primarily defined by the appraisal of stress intensity (r=.52) and, to the lesser extent, by chronicity of event (r=.38). Finally, two coping variables - information seeking (r=.52) and emotion focused (r=.65) strategies, well explain the third discriminant function. Positions of group means in the space of three canonical discriminant functions are presented in Table 4.

The first discriminant function, as shown in Table 4, set apart the groups relations with other prisoners (C=.68) and, to a lesser extent, contacts with the outside (C=.33) from other categories of stressful situations. These two groups seem to characterize more acute and temporary stressful events which are to some degree amenable to control, as appraised by prisoners. According to their placement on the function, other categories could be described as fairly lasting or chronic problems, mainly perceived as being beyond one's control, which is particularly true for accommodation (C=-.40), relations with prison staff (C=-.35) and health problems (C=-.29). Further, differentiation

Table 4

Positions of group centroids on significant canonical discriminant functions

N	F1	F2	F3
78	40	.17	37
51	.68	50	01
52	18	27	.05
41	35	08	12
129	.33	.42	.00
29	01	65	44
73	29	08	.60
	78 51 52 41 129 29	7840 51 .68 5218 4135 129 .33 2901	7840 .17 51 .6850 521827 413508 129 .33 .42 290165

achieved by the second function principally refers to the positioning of the group contacts with the outside (C=.42) toward positive pole, against categories vagueness in institution (C=-.65) and again, relations with other prisoners (C=-.50) on the opposite side of the function. Deprivations and problems related to the

lack of contacts with the outside, appear to produce the most intense experience of stress in prisoners, which is also illustrated by the fact that almost 30% (N=129) of the sample perceive this category of events as the most stressful within the previous two-week period. In contrast, relations with other prisoners and difficulties in understanding and complying with institutional rules, emerge as comparably least troublesome and distressing experiences of rather episodic character, as well. Finally, the only group that seems to stand out considering the assignment of centroids on the third discriminant function, as presented in Table 4, is the category of health problems (C=.60). Subjects who select this category as the source of their most serious difficulties or threats to their well-being in a short period prior to examination, tend to rely on information seeking and emotion focused coping strategies somewhat more frequently than other groups.

The obtained patterns of results and the direction of observed intergroup differences described above, appear to be mostly congruous with the expectations based on main propositions of the Lazarus model and findings from previous studies. The meaning of derived dimensions underlying intergroup differentiation, corresponds to the basic constructs of the theory, i.e., two main types of cognitive appraisals, and the ways of coping. Nevertheless, the discriminant "power" of the variables employed, as commented before, is not very impressive.

It has been documented that problems related to the restrictions of freedom and contacts with the outside are generally rated as more serious and stressful than those concerning various aspects of prison life, including even emotional difficulties or worrying about own health (Flanagan, 1980; Richards, 1978; Zamble & Porporino, 1988). Although our results show only slight intergroup differences along the dimension defined as stress intensity, direct comparisons between ours and results of the previous studies are not quite feasible, due to differences in methodological approaches. In contrast to other studies where respondents rated severity of each of specific stressors, our respondents were asked to appraise intensity of stress experienced in the domain they themselves selected as the most serious within the two-week period.

Previously mentioned separation of the category of health problems also seems to be sensible taking into account the content of the coping scales that define the third discriminant function. Namely, the information seeking scale contains items describing complaints, asking for advice, but also, looking for help from an expert, and the focus on emotions scale includes not only items describing emotional expressions but also items describing consumption of medicine, food and sleep-

ing. Therefore, both of these coping strategies could reasonably be considered as instrumental in the context of health related stressors or, more precisely, that their function in such kind of situations is twofold, which is also suggested by some other findings (Billings & Moos, 1981, cited in Arambašić, 1994; Terry, 1994). Characteristic ways of coping with health-related stressors have also been found in other research where, again, the authors report much more marked differences in the structure of coping with illness in comparison to some other categories of events, e.g. interpersonal problems (Arambašić, 1994; Pearlin & Schooler, 1978).

Summarizing results brought about in this study, we could argue that the content of stressful situations examined within prison environment does not appear to be particularly strong determinant either of the choice and use of selected coping strategies, or the way that prisoners appraise certain aspects of defined stressful encounters. Although statistically significant, the differences between some categories of stressful events observed in our data are rather small.

Taking into account some essential aspects of prison life or features applied to the majority of potentially stressful situations within prison environment, obtained resemblances in coping mechanisms for events differing in content appear quite plausible and expectable. Whether they stem from specific conditions of institutional life, or deprivations caused by imprisonment itself, those stressors are, to some extent, almost inevitable part of inmates' everyday life. Further, a great number of problems induced by these stressors are, indeed, unsolvable since they are embodied in the nature of prison sentence itself. In most cases, inmates cannot change, remove, or influence on threatening events in any way, nor can they avoid social or physical surroundings they are placed in. Definitely, the range of possible actions that prisoners have at disposal within the institutions is very narrow in comparison to those available in the outside world. In other words, observed variability of coping mechanisms critically reflects a repertoire of admissible behavioral patterns within the boundaries set up by institutional requirements and imposed rules of behavior. Consequently, it seems obvious that institutional rules and general characteristics of prison life represent much stronger determinants of inmates' behavior and, hence, their ways of coping, as well, than the specific content of particular categories of stressful situations.

The interactionist view posits that behavioral outcomes are products of interplays between individual and situational factors. The more extreme the one of these factors, the less likely is the other to exert influence on behavior. Just as behavioral repertoire of a

schizophrenic is rigidly limited across numerous situations, so are behavioral options in social and physical settings that impose rigid behavioral norms. Prison appears to be such a setting.

If we accept the assumptions about situational dependency of coping mechanisms, our results suggest that prison setting represent sufficiently specific context, that is, that selected categories of stressors are, indeed, very similar or identical with regard to the way they are perceived and handled by prisoners. Following this, when searching for specific ways of coping with prison stress, it would be reasonable to compare between reactions of humans to these and some other types of situations, taking prison life or incarceration as distinctive and uniform category of stressful events.

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