EFFECTS OF PERSONAL STATUS AND PATTERNS OF USE ON RESIDENTIAL SATISFACTION IN SHELTERS FOR VICTIMS OF DOMESTIC VIOLENCE

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ABSTRACT: Occupant response to the architectural environments in shelters for victims of domestic violence was the subject of an empirical investigation. Personal status, a subset of daily activities, and one's use of his or her shelter were examined relative to staff and resident assessments of satisfaction. A functionalist-evolutionary perspective of human functioning in the built environment provided a theoretical foundation. A survey was completed by 101 people in shelters in Los Angeles and New Orleans. Causal relationships were explored via a series of regression analyses. Among the findings, residential satisfaction was found to be predicted by one's psycho-emotional condition and the status of one's children. Site-locational aspects associated with satisfaction included the quality of outdoor play areas for children and the sense of safety in the immediate neighborhood. In general, residents were more directly influenced by their shelter compared to staff, and second, personal status is a more useful indicator of residential satisfaction than the ways in which occupants actually use their shelter. Limitations of the research are cited as are areas warrantingtectural setting, health status, and stress in the more than 880 shelters for battered women and children in the United States.

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INTRODUCTION

The problem of domestic violence against women and children in the United States has risen to alarming rates in recent vears. The National Coalition Against Domestic Violence (NCADV) reports that a woman in the United States is battered every 18 seconds (U.S. Attorney General, 1984; NCADV, 1986). Incidents of child abuse may be even more frequent, with more cases reported in 1986 than ever before. Domestic violence against women and children has occurred through the centuries, however (Beaudry, 1985; Pleck, 1982). The support network of services that has arisen in recent years to offer counseling and shelter to these victims has grown considerably, but still lags behind the demand for services at the community level (Carson, 1977; Gelles, 1980). Numerous books have appeared that describe the life-threatening conditions faced by the battered women (Hofeller, 1982; Labell, 1979; Martin, 1977; Straus et al., 1980).

Approximately 880 shelters currently operate in the United States (Warrior, 1982), and this number fluctuates as some shelters fail while others open. Residents typically stay at a shelter approximately 30 days. Robinson et al. (1982) and Bustamante (1983) studied individual shelters in Minneapolis and Berkeley, respectively, to identify user needs and design issues. More recently, Greer (1986) has written a series of case studies of shelters, including some devoted exclusively to battered women and their children. And yet, little systematic information is known about staff and resident satisfaction with the exterior and interior environments of shelters in terms of the influence of day-to-day functional needs and the influence of one's personal status on residential satisfaction.

In other building types, residents' satisfaction with their housing environment has been the subject of considerable past work, including research from the standpoint of the house as a reinforcer of self-image and identity (Cooper-Marcus et al., 1987) and personal safety in multi-family housing (Fried and Gleicher, 1961; Weidemann et al., 1977). The effect of crowding on residential satisfaction has been examined (Valins and Baum,

1973), as have the specialized housing needs of the elderly (Hoglund, 1985; Lawton, 1985; Newman, 1976). Studies of a methodological focus, such as the use of personal constructs and the repertory grid, have identified preferences and meanings associated with the single-family residence (Verderber, 1987).

A functionalist-evolutionary perspective of environmental psychology provides a theoretical foundation for the study reported below. This model postulates that humans evolved in an uncertain, dangerous environment, and one's survival depended on the ability to effectively process incoming information and to make sense of our surroundings in order to successfully cope (Kaplan, 1985; Kaplan and Kaplan, 1982; Talbot et al., 1987). In shelters, as in other settings, this process depends in large part on one's ability to cope with uncertainty in the effort to exert and maintain some degree of control over one's immediate spatial environment, and these needs are related to the fundamental need for personal privacy (Altman, 1975; Evans, 1985). The battered woman comes to feel threatened and insecure both outside and inside the home and the situation eventually becomes unbearable for her. It is at this point that she flees to a shelter, after exhausting other plausible options. A surprisingly large number of women eventually return to their spouses, at least temporarily (Snell, 1964; Aguirre, 1985).

The shelter itself is an unfamiliar, potentially threatening, stressful setting. Many shelters are chronically overcrowded, understaffed, and underfunded (Vapnar, 1980). Presumably, a successfully designed and administered facility, in theory, is one that is both in perceptual and functional terms a therapeutic support modality (Canter and Canter, 1979), and in the context of a shelter this denotes a support mechanism for women and their children; it must be a safe, secure refuge. Further, it must be an eminently controlable environment, one that is predictable, and where environmental sources of stress are minimal. Conversely, a stressful shelter environment is perhaps characterized by the opposite conditions: unpredictability, lack of sustained control over one's territory or personal space, and a lack

of safety and sense of refuge. Of course, the philosophy, range of services provided, geographical location, size, and type of shelter facilities vary widely. For instance, at least nine architectural "types" of shelters are in operation based on three site variants (urban, suburban, and rural) and three architectural variants (freestanding-new or adapted, part existing/part new construction, and shared facility).

The objectives of the following discussion are to identify some underlying determinants of residential satisfaction in shelters for victims of domestic violence and to comparatively explore resident and staff differences in terms of residential satisfaction with one's shelter environment. Specifically, the intent is to explore residential satisfaction as a function of one's personal status and patterns of use during one's tenure in a shelter.

It was hypothesized that (a) resident (and staff) residential satisfaction is predicted by one's personal status during one's stay (or work experience) at the shelter and (b) resident (and staff) residential satisfaction is predicted by one's patterns of use in the shelter facility and its environs. The data reported below are extracted from a comprehensive three-year study of women's shelters, whose findings include a series of post-occupancy evaluations, 149 site planning and architectural design guidelines, architectural design prototypes (Refuerzo and Verderber, 1988a), the functions of nature in shelter design (Refuerzo and Verderber, 1988b), and cognitive dimensions of imagery, symbolism, satisfaction, and use (Refuerzo and Verderber, forthcoming).

RESPONDENTS

The respondents consisted of 101 residents (N = 51) and staff (N = 50) in shelters in Los Angeles (L.A.) and New Orleans (N.O.). Ateam of researchers in each location documented each shelter environment through drawings, photographs, interviews, and behavioral observation, a survey, and a detailed profile written of each shelter addressing its organizational

structure, community and neighborhood context, range of services offered, residents' characteristics, staff characteristics, and shelter plans for the future. As mentioned, these data are reported elsewhere. Data reported below were collected in four shelters in the Los Angeles area and in two shelters in New Orleans. The average age of residents was 30.6 years. The average length of residence was 2.6 weeks (2.4 weeks in L.A. and 2.8 weeks in N.O.). A total of 14 women had previously stayed in the present shelter or in another shelter (10 in L.A. and 4 in N.O.). For those who had, the average length of stay was 4.1 weeks (4.4 in L.A. and 3.8 in N.O.).

The average age of staff persons in the shelters studied was $33.8 \ (36.2 \text{ in L.A.}: N = 29, \text{ and } 31.4 \text{ in N.O.}: N = 21)$. The average length of employment at the shelter was 1.79 years (2.58 in L.A. and 1.01 in N.O.). Fifteen staff persons (30%) had worked in other shelters, for an average length of time of 2.90 years (2.75 in L.A. and 3.10 in N.O.). Most were full- or part-time counselors or administrative support persons.

METHODS AND PROCEDURE

A three-part questionnaire was designed to gather data in the shelters. Part A (reported elsewhere) contained 48 color photos; each was rated on a five-point preference scale. The objective was to identify building types that are preferred as shelters and, by contrast, unpreferred. The data reported below consist of an array of 52 written response items that constituted Part B of the survey instrument. Questions addressed the extent of satisfaction with one's shelter environment: "How satisfied are you with the following aspects of your shelter?" An additional set of questions addressed the frequency with which one engages in certain activities and behaviors in the shelter and one's personal psycho-emotional health status: "How often do you do the following . . . ?" or "How often do you experience the following . . . ?" These 52 items were each rated in a self-report procedure on a five-point evaluative response scale. The five

columns were labeled from column 1 (low) to 5 (high): "not at all," "a little," "somewhat," "quite a bit" (or "quite often"), and "very much" (or "very often"). Part C of the instrument contained nine background questions on age, sex, degree of familiarity with one's shelter and with other shelters, and suggestions for improvement in one's shelter.

Data were gathered over a seven-month period in 1986-1987. The shelters that agreed to participate in the study were at first somewhat skeptical, but soon became supportive of the work. The research team introduced the project and procedures to staff, who, after completing the survey themselves, helped solicit residents and other staff members to participate. Data were gathered on weekdays, evenings, and weekends. All responses remained confidential. The researchers signed affidavits stating not to reveal the identity or location of the shelter. Respondents were instructed to work individually and not in groups, as this could have a biasing effect on the responses. Also, a counterbalancing technique was utilized, whereby the questions were sequenced differently across respondents. A pretest was conducted in a shelter in New Orleans with individuals who did not participate in the full-scale study.

Residential satisfaction variables consisted of 28 survey items on one's appraisal of the interior of the shelter facility, on the immediate site environs where the shelter is located, and on the community context and linkage to certain external support amenities (Tables 1-4). Personal status survey items consisted of 15 questions; the extent to which one has been able to reach one's personal goals, has been close to those who "mean the most to me," has experienced relaxed moods, has experienced irritable moods, has experienced exhaustion or fatique, has experienced a good night's sleep, has had difficulty in coping with one's situation, has experienced periods of depression, has felt afraid to take chances to improve one's situation, would miss other residents and staff if one were to leave the shelter tomorrow, the way the needs of one's children are met in the shelter. the extent that one has experienced a personal lack of privacy. has received sufficient emotional support from others, has felt

TABLE 1
Stepwise Multiple Regression Analyses of
Personal Status and Patterns of Use Relative to
Satisfaction with Shelter Interiors

	_	Sta (N=	ff 51)a		dents 50)b	All Res	All Respondents (N=101)C		
		R ²	P	R ²	Р	R ²	p		
	Variables								
1.	Size of kitchen and dining area	.36	n.s.	.54	.017***	.38	.001***		
2.	Size of bedroom	.34	n.s.	.66	.001	. 35	.002		
3.	Size of offices for staff	.50	.040	.34	n.s.	.23	n.s.		
4.	Size of bathroom	.41	n.s.	.69	.001*	.42	.001**		
5.	Size of main social room(s)	. 36	n.s.	.34	n.s.	.17	n.s.		
6.	Size of storage spaces	.39	n.s.	.41	n.s.	.30	.010		
7.	Size of laundry room	.45	n.s.	.55	.012**	.39	.001		
8.	Location of telephone(s)	.40	n.s.	.54	.018	.38	.001		
9.	Overall privacy	.46	n.s.	.53	.023	. 36	n.s.		
10.	Appearance of furnishings	.29	n.s.*	.49	.050*	.29	.010***		
11.	Quality of windows and views	.38	n.s.	.37	n.s.	.37	.001		
12.	Amount of natural daylight	.44	n.s.	.45	n.s.	. 35	.002*		
13.	Amount of artificial lighting	.47	n.s.	. 35	n.s.	.30	.011*		
14.	Overall shelter security	. 46	n.s.	.57	.001***	.51	.001***		
15.	Ability to protect personal belongings	.23	n.a.	.51	.044	.37	.001		
16.	Personal space	.51	.04	.43	n.s.	.33	.003*		
17.	Shelter as a temporary home	.48	.005**	.33	n.s.	.31	.004*		
18.	Overall appearance of shelter	.29	n.s.*	.44	n.s.	. 32	.005**		

adf = 48; bdf = 49; cdf = 99

unsafe in the shelter, and whether one misses being part of a larger community.

Patterns of use variables consisted of eight survey questions: the amount of television viewing, amount of time spent reading books and newspapers, frequency of conversations with others in the shelter, frequency of private periods alone, frequency of group discussion sessions, frequency of telephone conversations, engagement in housekeeping duties, and the amount of time spent with one's children.

^{*}Significant pattern of use effect, p < .05

^{**}Significant pattern of use effect, p < .01

^{***}Significant pattern of use effect, p < .001

Intercorrelations of Shelter Interior Variables and Independent Variables (N = 101) TABLE 2

					ŭ	tisfaction	Satisfaction (Subset of Interior Features)	of Interior	Feature	<u>s</u>			3		əux	SEESTO
	USE (1-8)/STATUS (1-15)	Size of Kitchen	Size of Bedroom	Size of Bathroom	Size of Storage Spaces	Size of Laundry Room	Location of Phones	epnideimu9	Windows and swelv	Natural Daylighting	Artificial Lighting	Security	Protection c Belongings	Personal Space	Jemborsky Ho Shelter as	Overall Appe
	Television Viewing	04	03	.01	90•	-13	02	-,24*	.18	01	.13	.16	•01	• 05	.07	60.
.:	Reading books and newspapers	.20*	.25*	.26**	.17	.10	10	60.	.18	.24*	.28**	.25*	• 00	.14		• 05
	Conversation with others	.15	.20*	.15	08	60.	.13	• 00	,02	.21*	.15	.23*	.12	*08	.26**	.18
•	Private periods alone	*10*	.07	.14	.13	.07	90.	.37*	02	•08	.04	.21	.01	.19	.12	.20*
	Group discussion sessions	.12	.14	. 17	02	.20*	01	.33**	02	.11	.10	.20*	.10	60.	.11	.14
	Telephone conversations	.20*	- 50.	01	07	.23*	.45***	60.	02	.04	•04	*08	.10	.01	.02	03
	Housekeeping duties	.38***	.25*	.23*	•20•	**62.	• 00	.43***		.28**	.22*	.53***	.18	.10	.17	.31**
	Time with children	•03	- 40.	02	•04	.03	05	**62.	.14	.15	.17	.11	.20*	.03	.11	.12
	Attainment of personal goals	80.	.24*	.13	.18	90.	.21*	.16	.00	.01	07	.05	.13	.12	.16	.25*
.:	Closeness to others	.01	.18	. 19	06	90.	.15*	.03	17	• 03	•04	05	-05	• 03	.00	.19
	Relaxed moods	.22*	.27**	.18	.20	.10	.30**	.32**	.02	.19	.13	.22*	.24*	.22*	.18	.16

4	Irritable moods	.37**	.37**22	22	-,21*	25	14	13	17	.01	90.	.02	-,34***	-,25*	-16	14
5.	Exhaustion and fatigue	• 03	===	-10	01	.17	14	-,12	04	•00	80.	.03	06	12	• 05	.12
•	Able to get a good night's sleep	.13	.18	.16	• 00	12	.17	.20	.01	п.	.14	.28**	.23*	.28**	*02.	.25*
7.	Difficulty in coping	.17	.25*	.22*	.12	90*	17	90.	.12	.21	80.	*62.	90*	10	.14	.16
œ	Periods of depression	• 04	90	• 05	.02	05	11	07	-02	06	05	.10	12	19	13	05
.6	Afraid to take chances	11	-13	40.	13	07	08	18	.04	07	05	07	03	18	.14	.17
10.	Would miss residents and staff	.20*	.24*	.13	.01	.14	.10	.18	04	н.	.19	.02	.21*	.18	**66.	.16
::	Would miss support for children	.41***	*38**	.41**	**66.	**08.	.28**	.27**	**64.	***68.	.38***	***67.	.34**	.29**	.48***	.41***
12.	Experiencing loss of privacy	.42***		.41** .54***	.31**	.54***	.37**	.27**	.36**	.34**	.26**	.28**	.35**	.23*	.34**	.23*
13.	Receiving emotional support	• 08	.01	13	09	.02	.12	90.	90	.00	02	11	.20	.12	.17	03
14.	Have felt unsafe in the shelter	60.	.17	.15	.21	.10	.11	.12	.20*	.33**	.29**	.47***	.29**	.16	.26**	**06.
15.	Miss being part of community	.07	80.	04	.07	.12	*02.	.19	-,29**	*02.	07	90	.14	•00	05	01

*p < .05, **p < .01, ***p < .001

TABLE 3
Stepwise Multiple Regression Analyses of
Personal Status and Patterns of Use Relative to
Satisfaction with Shelter Site-Locational Context

		Sta (N=	ff 51)a		dents 50)b		spondents 101) ^C
	_	R ²	р	R ²	Р	R ²	р
	Variables					• • • • • • • • • • • • • • • • • • • •	-
1.	Amount of trees and vegetation	.32	n.s.	.54	.020	.21	n.s.
2.	Appearance of nearby buildings	.68	.002	.57	.010**	.49	.001
3.	Exterior appearance of shelter	.40	n.s.	.40	n.s.*	.29	.021*
4.	Quality of outdoor play area	.51	.043	.56	.013***	.36	.001***
5.	Shelter location within city	. 34	n.s.	.62	.002*	.40	.001*
6.	Access to stores	.26	n.s.	.43	n.s.	.20	n.s.**
7.	Access to major streets	. 36	n.s.	.41	n.s.	.21	n.s.*
8.	Access to public bus routes	.29	n.s.	.31	n.s.	. 14	n.s.
9.	Distance from home	.32	n.s.	. 30	n.s.	.18	n.s.
10.	Sense of safety in neighborhood	.55	.013	.58	.007	.48	.001*

adf = 48; bdf = 49; cdf = 99

ANALYSIS AND RESULTS

These data were subjected to a series of multiple regression analyses with a stepwise procedure to explore causal patterns (Horst, 1965). Multivariate linear effects of personal status variables and patterns of use variables were explored for their predictive influence on the residential satisfaction variables. Hence, the personal status and patterns of use variables were treated as independent, and the residential satisfaction variables were treated as dependent. The three types of analyses consisted of separate analyses of residents' data, staff members' data, and staff and residents combined. In each type of analysis, personal status variables were analyzed apart from patterns of use variables. Based on the regression analyses, data were

^{*}Significant pattern of use effect, p < .05

^{**}Significant pattern of use effect, p < .01

^{***}Significant pattern of use effect..p < .001

TABLE 4
Intercorrelations of Location-Context Variables and Independent Variables (N = 101)

		Appearance of learby Bldgs.	Exterior Appearance of Shelter	Outdoor Play Area	Shelter Location Within City	Sense of Safety in Neighborhood
١.	Television Viewing	.14	04	05	. 12	.15
٠.	Readings books and newspapers	.11	.10	.03	.19	.06
в.	Conversation with others	.02	.10	.38***	.23*	.19*
١.	Private periods alone	.15	02	.08	.16	.13
	Group discussion sessions	. 12	.14	.32***	.19	.15
	Telephone conversations	01	.19	.17	.11	.12
	Housekeeping duties	.28**	.33*	01	.33***	.31**
3.	Time with children	.11	.18	.23*	. 15	.20*
	Been able to reach personal goals	.07	.09	.32**	.28**	07
	Been close to those who mean most to me	10	.02	. 15	.10	03
	Relaxed moods	.11	.04	.10	.16	.24*
	Irritable moods	12	08	06	04	.06
	Exhaustion and fatigue	16	.13	.03	07	.03
	Able to get a good night's sleep	.14	.03	.31***	.18	.22*
7.	Difficulty in coping with my situation	.16	.05	.19*	.20*	.13
	Periods of depression	07	09	07	04	.08
	Afraid to take chances	~. 15	11	14	11	.13
0.	Would miss other residents and staff persons	04	.12	.25*	.21*	.10
١.	Would miss the way shelter met my children's needs	.38***	.47***	.31***	.50***	.43***
2.	Experiencing lack of privacy	40***	.27**	24**	37**	.19
3.	Receiving sufficient emotional support from other	06 s	08	.08	04	05
١.	Have felt unsafe in the shelter	.19	.24*	.25*	.27**	.52***
5.	Miss being part of community	~. 16	~.06	.03	.06	10

^{*}p < .05; **p < .01; ***p < .001

explored further via bivariate correlational analysis to make more fine-grained observations that could be carried into further work on this subject. These data are reported in Tables 1 through 4. The personal status variables are referred to below as STA-TUS variables and patterns of use variables as USE variables. Regional differences between New Orleans and Los Angeles respondents were also analyzed, but very few significant differences were identified; this facet of the research, however, is discussed more fully elsewhere (Refuerzo and Verderber, 1988a, 1988b).

RESULTS

The results of the regression analyses are reported in Tables 1 and 3. For these two tables, personal status analyzed in relation to satisfaction is reported in the body of the table, and patterns of use data analyzed in relation to satisfaction are reported though the use of asterisks corresponding to each variable-survey item. Correlational analyses are reported in Tables 2 and 4. This is followed by a summary of the results and their relation to the two hypotheses. Significance levels for staff, resident, and combined responses at or below .05 are reported below, first for interior shelter features and then for locational-context attributes of the shelters studied.

INTERIOR FEATURES OF SHELTERS

Satisfaction with interior features of the shelters analyzed as a function of STATUS and USE is reported in Table 1. For staff, STATUS is a predictor of three aspects of staff residential satisfaction: size of staff offices, the ability to control one's personal space, and the perception of the shelter as a temporary home in the eyes of its occupants. Similarly, USE predicts three aspects of satisfaction: one's satisfaction with the appearance of the furnishings, the perception of the shelter as a temporary home, and the overall appearance of the shelter.

Nine aspects of residents' satisfaction, on the other hand, are associated with one's STATUS (Table 1). These address the size of kitchen, dining, and bathroom spaces, the location of phones, the level of privacy indoors, interior furnishings, shelter security, and the ability to protect one's belongings from theft or

damage. As for staff, a somewhat smaller subset (5) of shelter satisfaction indicators are predicted by residents' USE: the size of kitchen, dining, and bathroom spaces, the laundry room, interior furnishings, and shelter security provisions.

When staff and resident responses to their shelter environment are combined, however, it becomes evident that many more aspects of residential satisfaction are predicted by STATUS and USE (Table 1). In fact, only three of eighteen regression analyses performed using STATUS information did not yield significant linear effects on outcome. Regarding USE, eight aspects of satisfaction are predicted: the use or nonuse of one's shelter is associated with the sizes of spaces, quality of interior furnishings, daylight, lighting, security, the shelter as a temporary home, and the overall appearance of the facility.

Intercorrelations among shelter satisfaction, STATUS data, and USE data are reported in Table 2. Here, all 101 respondents are combined for informational brevity and because most staff and residents must share the same, not different, shelter settings due to overcrowding, scarce resources, and the like.

Fifteen aspects of shelter interior residential satisfaction were found to be strongly associated with certain STATUS and USE variables. Regarding USE (1-8), the furnishings are particularly important as support devices for activities; security has a strong bearing on the activity one engages in, as does the size of the kitchen and dining areas. Daylight and lighting are also seen as indoor activity support amenities. Housekeeping duties, reading, and times for social contact are of particular importance to shelter satisfaction.

Regarding STATUS (1-15), key features include the sizes of interior spaces in the shelter, the location of telephones, the quality of windows, views, security amenities, the particular importance of the need for personal space, the perception of the shelter as a temporary home, and the overall appearance of the facility. Regarding USE, the prevalence of relaxed or irritable moods and the degree to which one would miss the way the

shelter met one's children's needs were associated with various aspects of residential satisfaction.

SITE-LOCATIONAL FEATURES OF SHELTERS

Satisfaction with site and locational features of the shelters studied is reported in Table 3. For staff, STATUS predicts three aspects of residential satisfaction: the appearance of nearby buildings, the outdoor play area provided for children, and the perceived sense of safety in the immediate neighborhood. No aspects of residential satisfaction, however, were predicted by staff use of the shelter site-locational context. By contrast, for residents STATUS is a predictor of five (out of ten) aspects of residential satisfaction: the amount of trees and vegetation, the appearance of nearby buildings, the quality of the outdoor play area, the shelter's location within the city, and the perceived sense of safety in the immediate neighborhood. Three aspects of residents' USE are associated with resident satisfaction: the exterior appearance of the shelter, the appearance of the nearby buildings, and the quality of the children's outdoor play area. Across all respondents the same five aspects of satisfaction were generally associated with STATUS and USE.

Intercorrelations among a subset of shelter site-location and all the STATUS and USE variables are reported in Table 4. These features of satisfaction were selected for further discussion based on the results of the regression analyses. Regarding satisfaction in relation to USE (1-8), housekeeping activities, time spent with one's children, group discussion sessions, and private conversations are associated.

Also, a particularly strong relationship exists among these five aspects of satisfaction and STATUS. In particular, satisfaction tends to be related to the extent to which one would miss the way one's children's needs were met during one's stay in the shelter, the extent to which one experiences a lack of personal privacy, and the extent to which one feels unsafe in the shelter. Additionally, the perceived sense of neighborhood

safety is related to one's ability to get a good night's sleep and one's ability to relax, and the shelters' location is related to one's ability to reach one's personal goals while there.

SUMMARY

Of the two hypotheses put forth at the outset, the results support the first but do not strongly support the second. Overall, with regard to hypothesis 1, one's personal status indeed has an effect on one's evaluation of the shelter environment. This is especially true for residents. For residents, 50% of the regression analyses yielded significant relationships between personal status and outcome, while six analyses did so for shelter staff. Across all 101 respondents, a total of 75% of the analyses yielded significant relationships. For shelter interior architectural features, 83% of the analyses across both respondent groups yielded significant associations, although for staff only 17% of the analyses did so. For site-locational features, 50% of the analyses (residents) and 30% of the analyses (staff) did so.

For hypothesis 2, the situation was rather different. The particular activities and uses of one's shelter addressed in this study have relatively little bearing on one's satisfaction with the shelter architectural environment. This occurred in residents (29%) and staff (18%), but is of somewhat more influence on outcome across both groups (50%). For interior spaces and features, residents' (28%) as well as staff's (17%) residential satisfaction was only somewhat influenced by one's actual use of the shelter. For exterior spaces and the shelter's site and community context, no analyses of actual use yielded a significant effect on staff satisfaction, and for residents only 30% of analyses did so. In summary, the personal status of residents (hypothesis 1) is a considerably better predictor of residential satisfaction in shelters for battered women and children than the way residents actually use or don't use their shelter facility (hypothesis 2).

DISCUSSION

This study has sought to identify some factors that may bear on occupant satisfaction with the immediate architectural environment in shelters for victims of domestic violence, and factors that may bear on user satisfaction with the immediate shelter site environs and locational context in the community. A number of shelters were studied in Los Angeles and New Orleans. The empirical investigation consisted of a survey completed by 101 female residents and staff members in these locations, and also through architectural drawings, photographs, and behavioral observation in each shelter. Of the two hypotheses tested, the first was clearly supported: the assessment of personal status is an informative tool in predicting shelter residential satisfaction. The second hypothesis was only somewhat supported: the assessment of one's daily patterns of behavior and activities is not a particularly useful tool in predicting residential satisfaction.

Why is personal status more closely associated with shelter residential satisfaction? Personal status has been defined in this study as a more conceptual, less concrete dimension of the shelter experience compared to the functional specificity denoted by use of the facility and appraisal of its environmental context. A question arises: Does one supercede the other? And if so, does the subordinance of function shift relative to stature across time as the shelter experience unfolds? Functionalist-evolutionary theory, in part, postulates that one draws on past experience in the construction of cognitive representations across time in the effort to appraise a present environment (or building) relative to expectations and in the effort to achieve some degree of cognitive clarity and control. This involves trade-offs, rationalization, and, when successful, this apparently enables one to overlook a chronically overcrowded bedroom. for example, because one knows it is only for a few days or weeks, and above all, one is free from an oppressive domestic situation, from being controlled. Therefore, a more global interpretation of control or lack of control may be more closely linked to that which is symbolized by the shelter architectural environment than day-to-day control or lack thereof in the shelter.

The staff member and resident tended to perceive and use the shelter in quite different ways in some respects, while in other respects, there was considerable similarity. Points of difference revolved around the fact that staff members' residential satisfaction was most closely associated with the zones they typically occupied, such as the staff offices, counseling rooms, and kitchen-dining areas. Residents, not surprisingly, indicated that the major living zones of the shelter have the most direct impact on residential satisfaction. For exterior spaces, staff members' residential satisfaction was most closely associated with the larger scale, somewhat more abstract issue of neighborhood appearance from the perspective of the commuter, not the direct user of the shelter or its environs.

Points of agreement between staff and residents focused on the role of shelter safety, indoors and out, appropriate play areas for children, and the neighborhood context as major determinants of residential satisfaction. Overall, however, the residents are more acutely affected than the staff by the quality of the immediate shelter environment and by a much larger portion of the shelter facility than the staff. Residents are there day and night; staff members work their shift and go home, with few exceptions. Therefore, the cumulative impact of environment is far less critical to the staff members' overall well-being.

Functionalist-evolutionary theory has served as the theoretical foundation for this study. One of its major underpinnings, or tenets, is that preferred environments are those that are legible, predictable, controllable, and foster a sense of human involvement. Involvement in this context denotes a caring on behalf of the individual for the setting itself. Success in coping with one's surroundings is considered essential to effective human functioning. And, as stated at the outset, this process depends on the ability to cope with uncertainty in the effort to exert and maintain control over one's personal space in the shelter environment. To the extent that these needs are denied, the shelter

becomes counter-supportive for staff and counter-therapeutic for residents.

The following factors, in light of functionalist-evolutionary theory and the results of this study, would appear to be of importance to future research and design efforts in this area. A supportive shelter for victims of domestic violence is one that (a) is aesthetically enriching indoors and out as opposed to one that is run-down and aesthetically mundane and unstimulating; (b) is controlable and predictable by the staff and the residents as opposed to uncontrolable and unpredictable; (c) incorporates nature landscaping to afford respite from the indoors as opposed to a shelter that is located in an urban setting devoid of outdoor green space; (d) is safe and secure in perceived and in actual terms and unthreatening as opposed to a shelter whose lack of security renders it threatening to the residents (and staff); (e) is home-like in its architectural design, furnishings, and general appearance as opposed to one that is institutional in design, furnishings, and appearance; (f) is located near to adjunctive support amenities (transportation, stores, schools, and so on) as opposed to one that is not; and (g) most important. promotes an individual's self-esteem and self-respect and enables one to remain in the shelter for a period of time sufficient to allow the freedom to restructure one's life and ensure the well-being of one's children, as opposed to a facility that, due to overcrowding, poor management of the shelter, or poor physical facility, by default prompts premature retreat.

For a staff person, the broad-scale implications of this study are that a nonsupportive shelter facility can contribute to staff burnout and staff turnover, and to a gradual disengagement or, worse, blasé attitude—learned helplessness. For the shelter resident, in addition to a premature return to one's violent homelife, a nonsupportive shelter makes it difficult to "get one's bearings"—inability to attain equilibrium and autonomy while in the shelter—and one's basic day-to-day needs remain unmet.

Most of the shelters in the United States just barely exist; very few are thriving in the classic sense. One would hope that no shelters are needed at all. The architectural spaces most associated with overall satisfaction or dissatisfaction are the major living areas (kitchen, dining, bedroom, bathroom, and laundry room). Overcrowding is a chronic problem in most shelters. A shelter is usually bulging with staff and residents who must share extremely limited space. A functional spillover occurs regularly between staff areas and public areas. These rooms include kitchen and dining areas, bedrooms and bathrooms, shared common spaces, places for children, counseling rooms, and storage areas. A given space, such as the dining room, may be used in ten different ways in a single day. Offices become bedrooms, bedrooms become social areas, social areas are often used for counseling sessions, and so on. In short, everyone tends to be everywhere, and the shelter must attempt to be all things to all people.

These results suggest that overall the women who live and work in shelters share similar priorities and speak with a single voice, and yet staff members were found to be more successful in coping on a day-to-day basis. Residents as well as staff were at times hesitant to let down their guard. Understandably, one may feel protective. Therefore, if a halo effect exists for some staff, it is probably premised on a need to reaffirm to others or to oneself the role of the shelter as a needed support mechanism in and of itself.

Some limitations of the study warrant mention. First, it would be useful to study a larger number of shelters. Second, the self-report response mode has its drawbacks because it is difficult to know if the respondent is answering candidly or is attempting to screen and filter underlying beliefs and values (Zeisel, 1981). Third, a broader set of survey items would likely illuminate additional determinants of residential satisfaction in shelters. Fourth, a multi-method research design, for example, archival data as well as survey data, could help to reinforce the line of inquiry. In addition to the aforementioned factors, further work should focus directly on the needs of children in shelters and on other aspects of the architectural setting, for example, color, adaptability of spaces in response to the "functional spillover syndrome," and emergency overnight shelter provis-

ions, which may bear on one's health status, stress, and the propensity to prematurely leave the shelter only to return to one's violent home environment.

A seminal essay by Milgram (1970) addressed the deleterious effect of the informational overload inherent in the urban environment as a hindrance in everyday coping patterns. It is indeed a perverse irony to subject battered women and their children to a shelter environment that, due to overcrowding, unaesthetic conditions, a poor location, and the like, fosters a similar form of information overload, which may manifest itself in the form of further stress, alienation, apathy, and detachment from one's social and architectural environment.

REFERENCES

AGUIRRE, B. E. (1985) "Why do they return? Abused wives in shelters." Social Work (July-August): 335-354.

ALTMAN, I. (1975) The Environment and Social Behavior: Privacy, Territoriality, Crowding. Monterey, CA: Brooks/Cole.

BEAUDRY, M. (1985) Battered Women. Montreal: Black Rose Books.

BUSTAMANTE, C. (1983) "A shelter for battered women." M.A. thesis, University of California, Berkeley.

CANTER, D. and S. CANTER [eds.] (1979) Designing for Therapeutic Environments. Chichester: John Wiley & Sons.

CARSON, B. E. (1977) "Battered women and their assailants." Social Work 22 (11): 455-460.

EVANS, G. [ed.] (1985) Environmental Stress. Cambridge, MA: Cambridge University

FINN, J. (1985) "The stresses and coping behavior of battered women." Social Casework 66 (6): 341-349.

FRIED, M. and P. GLEICHER (1961) "Some residential satisfactions in an urban slum." J. of the Amer. Institute of Planners 27: 305-315.

GELLES, R. J. (1980) "Violence in the family: A review of research in the seventies." J. of Marriage and the Family 42 (11): 873-885.

GREER, N. R. (1986) The Search for Shelter. Washington, DC: The American Institute of Architects.

HOFELLER, K. H. (1982) Social, Psychological and Situational Factors in Wife Abuse. Palo Alto, CA: R and E Research Associates.

HOGLUND, J. D. (1985) Housing for the Elderly. New York: Van Nostrand Reinhold.

HORST, W. (1965) Rotated Data Matrices. New York: Holt, Rinehart and Winston.

KAPLAN, S. (1985) "Nature at the doorstep: Residential satisfaction and the nearby environment." J. of Architectural and Planning Research 2: 115-127.

- KAPLAN, S. and R. KAPLAN (1982) Cognition and Environment: Functioning in an Uncertain World. New York: Praeger.
- LABELL, L. S. (1979) "Wife abuse: A sociological study of battered women and their mates." Victimology 4: 257-267.
- LAWTON, M. P. (1985) "The elderly in context: Perspectives from environmental psychology and gerontology." Environment and Behavior 17 (4): 501-519.
- MARCUS, C. C. (1973) Easter Hill Village. New York: Free Press.
- MARTIN, D. (1977) Battered Wives. New York: Pocket Books/Simon & Schuster.
- MILGRAM, S. (1970) "The experience of living in cities." Science 167: 1461-1468.
- National Coalition Against Domestic Violence (1986) Working Paper. Washington, DC: Author.
- NEWMAN, S. J. (1976) "Housing adjustments of the disabled elderly." Gerontologist 16: 312-317.
- PLECK, E. (1982) A History of Wife Abuse in America from 1700 to the Present. University of Michigan, Department of History.
- REFUERZO, B. and S. VERDERBER (1988a) In Support of a New Life: Architectural Programming and Design Issues for Shelters for Battered Women and Their Children. New Orleans and Los Angeles: R-2ARCH/Tulane/UCLA.
- REFUERZO, B. and S. VERDERBER (1988b) "Creating a safe refuge: The functions of nature in the design of shelters for battered women and their children," pp. 63-69 in D. Lawrence, R. Habe, A. Hacker, and D. Sherrod (eds.) Paths to Co-Existence (EDRA 19 Proceedings). Washington, DC: Environmental Design Research Association.
- REFUERZO, B. and S. VERDERBER (forthcoming) "Dimensions of person-environment relationships in shelters for victims of domestic violence." J. of Architectural & Planning Research.
- ROBINSON, J., W. SHIPPEE, J. SCHLIMGEN, and R. SOLOW. (1982) Women's Advocates Shelter: An Evaluation. Minneapolis: University of Minnesota, Center for Urban and Regional Affairs and School of Architecture and Landscape Architecture.
- SADALLA, E. K., B. VERSHURE, and J. BURROUGHS (1987) "Identity symbolism in housing." Environment and Behavior 19 (5): 569-587.
- SNELL, J. E. (1964) "The wife beater's wife." Archives of General Psychiatry 11(8): 107-112.
- STRAUS, M. A., R. J. GELLES, and S. K. STEINMETZ (1980) Behind Closed Doors: Violence in the American Family. Garden City: Anchor Press/Doubleday.
- TALBOT, J. F., L. V. BARDWELL, and R. KAPLAN (1987) "The functions of urban nature: Uses and values of different types of urban nature settings." J. of Architectural & Planning Research 4 (1): 47-63.
- U.S. Attorney General's Task Force on Family Violence (1984) Washington, DC.
- VALINS, S., and A. BAUM (1973) "Residential group size, social interaction and crowding." Environment and Behavior 5: 421-439.
- VAPNAR, G. S. (1980) The Shelter Experience: A Guide to Shelter Organization and Management for Groups Working Against Domestic Violence. Rockville, MD: National Clearinghouse on Domestic Violence.
- VERDERBER, S. (1987) "Personal construct theory and the meaning of the single-family home," pp. 194-202 in J. Harvey and D. Henning (eds.) Public Environments/Les environments publics (EDRA 18 Proceedings). Washington, DC: Environmental Design Research Association.

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- WARRIOR, B. (1982) Battered Women's Directory: Eighth Edition. Cambridge, MA: Author.
- WEIDEMANN, S., J. ANDERSON, D. BUTTERFIELD, and R. CHENOWITH (1977) "Residents' perceptions of satisfaction and safety: A basis for change in multi-family housing." Environment and Behavior 4: 695-724.
- ZEISEL, J. (1981) Inquiry by Design: Tools for Environment-Behavior Research. Monterey, CA: Brooks/Cole.