

Social Determinants of Residential Crowding Stress

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The present investigation was concerned with the effects of group formation on crowding and related problems. It was predicted that the symptoms of interpersonal stress commonly associated with crowding are mediated by group formation. Residents completed a survey concerned with their experiences in their dormitories, as well as their adjustments to college life. The results of this study provided evidence of greater social tension, negative affect, control problems, and crowding in triple rooms than in double rooms. They also support the notion that these symptoms of interpersonal stress are mediated by group formation within tripled rooms. Isolates, left out by a coalition of the other two roommates, were more vulnerable to crowding and experienced more control related problems. In addition, women reported the greatest degree of crowding in all residential conditions. It is suggested that since women spend more time in their residential environment and share more involvement with their roommates, they are more susceptible to interpersonal stresses related to crowding.

Research on residential crowding is no longer simply concerned with the documentation of effects of crowding. More attention is now typically given to the processes by which crowding effects are generated, with an eye towards intervention based on these processes. Research on within-structure residential crowding (for example, people per floor, people per building) has clearly shown a number of consequences of social density (see Aiello and Baum, 1979; Baum and Vallins, 1977; Paulus, McCain, & Cox, 1979) and has begun to identify control-based processes underlying crowding stress that have led to successful intervention and reduction of stress (Baum and Davis, 1980). Research on within-unit density (such as people per room) has also been shown to cause a number of problems for residents, but the processes underlying this crowding have not been as well investigated. The present research is concerned with the processes by which within-unit densities are associated with crowding stress.

Most studies of within-unit density have been concerned with overassignment to dormitory residence. Recently, a number of colleges and universities have housed more than "normal" numbers of residents in dormitory space. Most commonly, three residents are assigned to a dormitory room designed to house

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only two. Research on these conditions has provided clear evidence of problems resulting from tripling residents in these double-occupancy rooms. Aiello, Epstein, and Karlin (Note 1) found that tripled residents were more crowded, less satisfied, reported more health problems and showed decrements in complex task performance than did doubled residents. They also found that women, who tended to spend more time in the room, showed stronger effects of tripling than did men.

Subsequent study by Baron, Mandel, Adams, and Griffin (1976) revealed similar effects of tripling. Three students in a two-person room was associated with increased crowding, negative interpersonal affect, and general negativity towards the dormitory room. Baron et al. began to specify some of the processes underlying crowding in this type of situation. Difficulties in establishing or maintaining privacy increased when three residents shared a room, and crowding was associated with loss of control.

A recent investigation (Baum, Shapiro, Murray, & Wideman, 1979) has considered these processes in more detail. Students from dormitories housing two or three persons per bedroom were asked to participate in this study. Rooms housing three residents were larger than those accommodating two students, thus spatial inadequacy was *not* a factor in this investigation. The negative consequences of tripled rooms were again demonstrated, but the role of group development in the rooms was also considered. Three-person groups, due to their inherent instability, were seen as promoting a kind of coalition formation in the room where one roommate was left out by the other two. It was hypothesized that the isolate, left out by other roommates, would have very low perceptions of control over the room and would therefore be more vulnerable to crowding and pressures against having privacy. The results of this investigation supported this reasoning, indicating that most of the effects of tripling were shown primarily by isolates.

The results of previous research suggest that a loss of control associated with some of the products of three person rooms is associated with crowding stress. Baum et al. (1979) did not find evidence of sex differences but they studied two-room three person units where spatial inadequacy and insufficient resources (such as closet and drawer space) were not salient issues and hence their results are not directly comparable to Aiello et al.'s (Note 1) and Baron et al.'s (1976) findings. The primary purpose of the present research was to attempt to examine the role of social dynamics within single bedroom units which are characterized by considerable spatial inadequacy and insufficient resources. Thus this study is intended as a partial replication of Baum et al. (1979) and an extension to conditions similar to those found in other research in this area. It was expected that coalitions would more readily develop in tripled rooms and would mediate the effects of residential crowding due to overassignment to dormitory rooms. It was further expected, given the Aiello et al. (Note 1) results, that women would be more susceptible to interpersonal stresses related to crowding.

METHOD

Subjects were 158 male and female freshman residents of two college dormitories. A lottery system had been employed to randomly assign students to rooms; 31 males and 16 females lived in double rooms, and 111 subjects (44 males, 67 females) resided in triple rooms. Potential subjects were contacted in their dormitories and invited to fill out a questionnaire concerned with their impressions of college life. Virtually all persons approached readily agreed to participate in the study. The questionnaire took about thirty minutes to complete. The survey consisted of 58 scales assessing students' feelings about the college, faculty, other students, their roommates, their dormitories, and how they spent their time. Several items also required students to assess how much control they had over events within and outside their dormitories. Another item presented subjects with a list of 27 general problems (such as noise, people in hallway, poor lighting, lack of privacy) and asked them to indicate which, if any, bothered them during the preceding week. Finally, students were asked to indicate the degree to which they were bothered by 16 minor health problems during the past two weeks.

Description of the Environment

Students were sampled from three floors within each of the two dormitories. Floors in both dormitories consisted of long double loaded corridors with a lounge and bathroom. Rooms were approximately the same size in both dormitories. The dimensions of the rooms were 11 x 13 ft. in one dorm and 11 x 16 ft. in the other.

RESULTS

The results of this study provided evidence of greater social tension, negative affect, control problems, and crowding in tripled rooms than in doubled rooms. They also supported the notion that these symptoms of interpersonal stress are mediated by group formation within tripled rooms. Isolates, left out by a coalition of the other two roommates, were more negative and vulnerable to crowding and related problems. Interestingly, some sex differences in response to tripled residences were also revealed.

Coalition Development

The development of coalitions was measured by asking residents if they felt that their roommates often left them out of various activities. Of the tripled residents surveyed, 31% (34) reported that they felt left out by their roommates. Most of these residents (30) were from different tripled rooms. Two tripled rooms however contained two occupants who felt left out. None of the doubled residents in the present study reported being left out by their roommate.

TABLE 1 Mean Ratings of Perceived Control and Disagreement with Statements Reflecting Roommate Involvement (1 = agree, 5 = disagree)

Item	Doubled	Tripled, Not Left Out	Tripled, Left Out
Control in dormitory	2.70	2.94	2.14
Ability to regulate interaction	2.48	2.75	1.52
Change the way things are (in general)	3.97	3.99	3.07
Expected control in dormitory	2.62	2.59	1.80
Like to study with roommate(s)	3.23	3.40	4.15
Confide in roommate(s)	2.66	2.30	3.55
Like it better when roommate(s) not in room	3.00	3.30	2.09
Eat meals with roommate(s)	2.68	2.01	3.09
Closer friends with roommate(s) than others in dormitory	3.40	2.45	3.81

Crowding

Residential condition produced a significant main effect for perceived residential crowding, $F(2,145) = 4.325$, $p < .05$. Tripled residents reporting that they felt left out reported more crowding ($X = 5.14$; where 7 reflects feeling most crowded) than did tripled residents who did not report feeling left out ($X = 4.06$), who in turn did not differ from doubled residents ($X = 4.21$) in their reports of crowding.

A main effect for sex of subject indicated that women reported more crowding in all residential conditions than did men, $F(1,145) = 5.079$, $p < .05$.

Control

Consistent differences were found among residential groups in perception of control over a number of aspects of dormitory life. Tripled, left out residents reported having had less control over the decoration of their room than either tripled, not left out residents or doubled residents, $F(2,149) = 4.986$, $p < .01$. Further, these isolates reported less confidence in their ability to control things in their dormitory or their ability to regulate interaction than did doubled residents or tripled residents not feeling isolated, $F(2,151) = 3.533$, $p < .05$, and $F(2,150) = 18.989$, $p < .001$ (see Table 1). Tripled residents reporting being left out also indicated that dormitory life is more hectic and that the primary problems in dormitory living are related to sharing a room than did all others, $F(2,150) = 5.033$, $p < .01$ and $F(2,151) = 3.069$, $p < .05$. This same pattern was

found for more generalized feelings of control, tripled isolates reporting less confidence in their ability to effect change in general and reported low expectations for control in the dormitory, $F(2,149) = 7.845$, $p < .001$ and $F(2,149) = 10.561$, $p < .001$ (see Table 1).

Tripled isolates also reported having greater difficulty controlling what happened in their rooms than did either of the other groups, $F(2,149) = 12.261$, $p < .001$. This immediate control problem resulted in greater difficulty regulating their personal routine as well; decisions about things, such as when to eat meals or study, were more difficult to make for isolates than for other residents, $F(2,146) = 4.919$, $p < .01$.

Roommate Relationships

Tripled residents who reported feeling left out also reported less liking for their roommates ($X = 3.3$) than did tripled residents who did not feel left out ($X = 5.0$) or doubled residents ($X = 4.7$), $F(2,150) = 20.410$, $p < .001$. Additional data regarding roommate relationships were obtained by asking subjects to rate their agreement with a series of items presenting degrees of roommate interaction and intimacy. These data were analyzed using multivariate analysis of variance, and indicated that tripled isolates were less apt to agree with items suggesting higher degree of roommate involvement than were tripled nonisolates or doubled residents, $F(12,294) = 3.808$, $p < .001$. All univariate effects were significant, showing a strong influence of residential condition on roommate relationships (see Table 1).

A multivariate main effect for sex of subject was also obtained, indicating that women preferred greater levels of involvement with roommates than did men, $F(6,147) = 3.197$, $p < .01$.

Use of Time

Questions concerning how residents used their time did not show any effects of residential condition. Sex of subject, however, influenced reported time spent studying in the room; women indicated spending more time than did men, $F(1,152) = 7.469$, $p < .01$.

Feelings About the Dormitory

Residents were asked to describe their experiences with dormitory life. Tripled isolates reported that their dormitory was less friendly than did others, $F(2,146) = 6.301$, $p < .01$, but this was qualified by an interaction between residential condition and sex of subject. Only tripled men who felt left out by roommates perceived their dormitory to be less friendly, $F(2,146) = 4.285$, $p < .05$. This same residence \times sex interaction was found for other descriptors of dormitory life. Tripled men feeling left out reported less social cohesiveness than did others, $F(2,146) = 3.232$, $p < .05$, and less group activity, $F(2,148) = 3.996$, $p < .05$.

Problems

Residents were asked to indicate which of a list of 22 common dormitory problems had bothered them during the week preceding completion of the survey. Tripled isolates were more likely to complain of problems with roommates or conditions in their rooms than were tripled residents who did not feel left out or than doubled residents; of the eight items pertaining to these problems, an average of 43% of tripled isolates picked each one while only 23% of tripled nonisolates and 21% of doubled residents so indicated. Chi-square analyses indicated that tripled isolates more often complained about people, privacy, noise, and messiness in their rooms and about problems with roommates than did tripled nonisolates or doubled residents (all $\chi^2 \geq 4.7$, $p < .05$). The latter two groups did not differ in frequency of experienced problems (all $\chi^2 \leq 1.2$).

DISCUSSION

The results of the present study offer evidence that much of the within-structure residential crowding stress in tripled rooms is mediated by living in an unstable triad which is experienced by isolates, who are more vulnerable to this stress. Tripled, left out residents had serious problems establishing and maintaining effective control in their rooms or in their larger social context. They not only were less involved with their roommates and complained more about problems with them and the room than did triples who were not left out or than doubled residents, but also reported more generalized feelings of lacking (having lost) control.

Women in these corridor-design dormitories reported the greatest degree of crowding. As in our previous research (Aiello et al., Note 1), we found that women spent more time in the dormitory than did men and that they expressed a desire for higher levels of involvement with roommates than men did. Given their reports of feeling more crowded, this interdependent coping strategy for dealing with residential crowding stress appears to be maladaptive. Males on the other hand more often escaped from this environment. This led to their experiencing somewhat lower levels of crowding stress. Tripled, male isolates, however, paid the price for this independent coping style with their experiences of alienation, not only from their roommates, but also from others in the dormitory as well.

It may be that the problems of group development and those of regulation and control found in this investigation are amenable to interventions which might lessen their severity. This is the objective of our current research.

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