

COMMUNITY INTEGRATION OF RESIDENTS OF HOMES FOR THE
CHRONICALLY MENTALLY DISABLED.

by

RUDOLF AMBTMAN

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

DOCTOR OF PHILOSOPHY

Department of Psychology
University of Manitoba
Winnipeg, Manitoba

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ABSTRACT

Community integration of residents of community residences for the chronically mentally disabled can be defined in terms of proximal external integration (PEI) and distal external integration (DEI). PEI consists of social contacts and activities of residents in the immediate vicinity of the residence. DEI consists of contacts and activities away from the neighbourhood. The goals of the present study are (a) to develop and test models predicting each type of integration and (b) to test a number of hypotheses concerning each type of integration. The predictive models and hypotheses are based on the theory of reasoned action of Ajzen and Fishbein (1980). A total of 70 residents of facilities for the chronically mentally disabled completed interviewer-administered questionnaires consisting of several instruments. For those living in staffed residences ($n = 34$), staff members were administered their own questionnaires. Data descriptive of the neighbourhood and the facility were collected for all residences. Results show that the model for PEI does not adequately predict PEI. The results of a regression analysis and tests of hypotheses suggest that the inadequacy of the model stems from its overemphasis on individual, as opposed to environmental, variables. The following variables are positively associated with greater PEI: smaller facility size; independent living, as opposed to living in a staffed residence; greater density of mental health residences; and residents having greater control over medications. The model predicting DEI is more

adequate than the model predicting PEI. A regression analysis and the results of tests of hypotheses support the appropriateness of the model. However, they also show that environmental variables tend to be stronger predictors of DEI than individual variables. The following variables are positively associated with greater DEI: an increase in the proportion of single, older inhabitants in the neighbourhood; greater voluntariness of residency; greater access to the community; lesser stigma of being chronically mentally disabled; greater resident control over medications; independent living, as opposed to living in a staffed residence; and residents' positive beliefs that staff support distal external integration.

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INTRODUCTION

The history of care for the mentally disabled has been well documented (Richman & Harris, 1983; Scull, 1984; Segal & Aviram, 1978) and ranges from isolation of mental patients in large asylums to community care. The latter way of dealing with people who suffer from a mental disability can be defined as care of patients in the community, rather than in an institution, effectively removed from the community.

Community care is not new. For example, the oldest community care program (still in existence in Geel, Belgium) dates back eight centuries (Roosens, 1979). Although psychopharmacology has replaced exorcism, the major programmatic principle of care remains unchanged: patients live with families in as normal and least restrictive an environment as possible.

Notwithstanding this and similar exceptions, the current move toward community care is essentially a reaction to the preponderance of treatment in large psychiatric institutions, common in North America in the nineteenth and twentieth centuries (Segal & Aviram, 1978).

Community residences for the mentally disabled in North America range from single-bed, foster-home type of arrangements to large (i.e., 200 or more beds) room-and-board facilities. In Winnipeg, the locale of the present research, the largest facility has 44 beds (Department of Health, 1986). Staffing in such residences can be provided by 'foster

parent operators' in whose homes the mentally disabled live, or by professional staff who do not own the premises. A third option consists of semi-independent living, where professional staff visit at regular intervals, for relatively brief periods of time. Finally, some facilities are run by operators who function as landlords, but who do not live on the premises or provide staffing.

One of the beliefs which underlie the placement of individuals in such community settings, as opposed to psychiatric hospitals, is that being in the community provides a 'normalizing' influence on the resident (Wolfensberger, 1972). The essence of this belief can be summarized as follows. If people who suffer from a mental disability are part of a community, they will be encouraged to behave according to community standards and, hence, display less pathological behavior than if they were in a psychiatric-institutional environment, where institutionalization would produce the "social breakdown syndrome" (Gruenberg, 1967). In addition, proponents of this theory argue that the best way to reintegrate someone who has been discharged from a psychiatric facility into the community is through providing a setting which shelters the individual somewhat from the full impact of society, but is not as divorced from community life as is a large institution (Raush & Raush, 1968). Over time the individual can take increasingly more responsibility for his/her own life. Finally, from a human or patients' rights point of view, it could be argued that the mentally disabled have the right to live in the least restrictive environment possible (Killebrew, Harris, & Kruckeberg, 1982). This could include treatment in the natural community.

Implicit in these arguments is an assumption that the quality of life in community residences is potentially higher than in large institutions. However, various authors have pointed out that emptying psychiatric hospitals has not necessarily led to improved quality of life for discharged patients (Allen, 1974; Aviram & Segal, 1973; Bachrach, 1976; Kearns & Taylor, 1989; Lamb & Goertzel, 1971; Lipton, Nutt, & Sabatini, 1988; Minkoff, 1987; Rappaport, 1977; Reich & Siegel, 1973; Scull, 1984; Talbott, 1979).

Good community residential care has been characterized by "helping the residents to understand and gain knowledge about their psychological reality so they can communicate about it, deal with others in relation to it, and thereby cope with increasing effectiveness" (Budson, 1978, p. 34) and by "...characteristics that promote social functioning on a long-term basis" (Segal & Aviram, 1978, p. 109). Kiesler (1982) found that community care in well designed and supervised programs was indeed a superior mode of treatment than hospitalization.

Segal and Aviram (1978) and Hall, Nelson, and Fowler (1987), among others, pointed out that a key ingredient of adequate community care is actual participation of the mentally disabled in the community. This seems, on face value, a redundant argument. However, the mere location of a residence in the community does not guarantee that it is integrated into the community. In effect, it can turn into a 'mini' institution, with only uni-directional involvement from the outside, mostly in the coming and going of professionals involved in the supervision of the residence.

The present research focuses on the integration of residents of community homes for the mentally disabled into the community surrounding the facility.

Defining Key Concepts

Some definitions are required at this point, given the apparent diversity in the use of various terms.

Community Residence

The term community-based residential facility is equivalent to residence, community residence, or facility. These terms designate a structure which is licensed to house one or more mentally disabled individuals who remain there voluntarily (that is, they can leave if they wish to do so) and usually on a long-term basis (i.e., for a minimum of several months). This excludes acute psychiatric care facilities, informal arrangements of ex-patients living together, nursing care facilities for chronic patients, and single bed foster homes. While the latter living situation is community-based, it is not considered a "facility" in the present context.

The literature generally distinguishes several types of community residences, depending on size, type of care, and staffing. Three sizes of facilities are generally recognized: small (1-3 beds), medium (4-15 beds), and large (16+ beds). Staffing or supervision can be intermittent (performed by itinerant staff) or continuous. It can be performed by a foster family, by an operator, or by professional staff. The type of

care ranges from custodial to intensive social-psychological care. The major categories of residences are as follows:

1) Foster or family homes generally have a small number of residents (i.e., three or fewer) who are considered to be members of the family. This is the oldest form of community treatment (Roosens, 1979).

2) Supervised apartments generally have a similarly small number of beds as the family homes, but the residents live semi-independently (Segal & Aviram, 1978). Staff may visit regularly, but their presence is not continuous.

3) Room-and-board or room-and-care facilities can be of any size, but are often large facilities (i.e., up to 200 beds) and are typically operated for profit. Involvement of staff or operators is generally limited to minimal custodial care.

4) Halfway houses straddle the dividing line between acute care facilities and community residences. They tend to be operated by hospitals, are of small to medium size (i.e., up to 15 residents), and are intended for those hospital patients who, although ready for discharge, are not considered ready to cope with community life. The halfway house provides an opportunity to gain greater independence and abilities to deal with life outside the hospital, but is not considered a permanent residence for an ex-patient (Raush & Raush, 1968).

Internal and External Integration

Segal and Aviram (1978) perceived a resident's integration in the community as consisting of two major components: internal and external integration. Internal integration refers to the resident's participation in, use of, and contribution to the facility and its functions. External integration is similar, but focuses on the community outside the residence. Since the present research will concentrate on external integration, it is defined in greater detail below. The distinction is important, since Segal and Aviram have demonstrated that many residents show different levels of adjustment in each component of social integration. In other words, good internal integration does not necessarily mean good external integration.

Segal and Aviram (1978) and Trute (1975) employed Warren's (1963) description of five criteria of functional external integration. These are presence, access, participation, production, and consumption.

1) Presence refers to amount of time spent in the community by the resident, as opposed to inside the facility.

2) Access refers to availability of community facilities such as recreation and education to residents. It should be stressed that this means functional availability. For example, even though in principle a concert might be attended by anyone, a resident must be able to afford the admission and have transportation to and from the concert. For those living in a community residence, other restrictions, such as curfews, might also make attendance functionally impossible.

3) Participation is actual use of accessible community facilities.

4) Production is defined as income producing work. It should be noted that nonincome producing work would be classified under participation.

5) Consumption is control of finances and the purchase of goods or services in the community.

In the present context, only presence, participation, production, and consumption will be used to denote external integration, since access does not describe behavior, but rather environmental circumstances. Thus, it constitutes a condition for behavior to occur but is not behavior as such. The other four criteria are clearly behavioral in nature.

The present study will distinguish between proximal and distal external integration. The former concept refers to integration into the immediate environment of the community, meaning social contact with neighbours within one block of the residence. Distal external integration is the use of any services and activity further away from the facility. This distinction is somewhat arbitrary but appears necessary, since proximal contacts are of a less formal nature, requiring less planning and simpler modes of transportation than the more distal ventures into the community.

Residents

The literature refers variously to people who live in the facilities under discussion as mentally ill, (psychiatric) patients, ex- or former patients, (chronically) mentally disabled, clients, occupants, or residents. Given the less stigmatizing connotations of the latter term

and its implicit recognition that individuals who live in homes for the mentally disabled differ little in many respects from other people, residents will be used to denote inhabitants of community residences.

The National Institute of Mental Health defines the chronically mentally ill in terms of diagnosis, disability, and duration of the mental disability (Tessler & Goldman, 1982). First, the chronically mentally disabled suffer from certain mental or emotional disorders, such as organic brain syndromes, psychoses, and recurrent manic-depressive disorders. Second, these disorders prevent the development of their functional capabilities regarding primary aspects of daily life, such as self-direction, self-care, and interpersonal relationships. Third, these individuals have required institutional care of extended duration or are persistently at high risk of institutionalization. In other words, their disability is recurrent or continuous over long periods of time.

Neighbours

A certain difficulty arises with the designation community members, which is used interchangeably with neighbours, community residents, and 'people in the neighbourhood.' Although using these terms to differentiate them from facility residents seems acceptable at first sight, doing so implies that the latter are not 'community members.' Nevertheless, anyone living in the immediate area of a residence for ex-patients, but not inside the home, is designated as a neighbour. Community member or community resident is a more generic term referring to anyone in the community who is not a resident of the facility in

question. In other words, neighbours are a subgroup of community members, defined by their proximal geographical location to a residential facility.

Operators and Staff

Operators are in charge of the residence, whether they are hired to do so or own the facility. They carry out the day-to-day operation with a regular and frequent presence in the facility. Operators should be differentiated from both the organization, if any, which operates a facility (e.g., a nonprofit agency) and the individuals in those organizations who, although they may govern the facility, do so at 'arm's length' (e.g., a board of directors).

Staff or staff members are professionally involved in the day to day operation of the facility and are usually supervised by the operator. It should be noted that, in some cases, there can be staff but no operator. This would occur, for example, in semi-independent living situations where a small group of ex-patients live together without constant supervision, but where a staff member comes in for a couple of hours per day.

Three Sources of Influence on External Integration

The following review of relevant literature is divided into three main sections based on the source of presumed influence on external integration. These influences are: (a) facility and staff characteristics, (b) characteristics of individual residents, and (c) characteristics of neighbours and neighbourhoods.

Facility and Staff Characteristics

Therapeutic environment. Segal and Aviram (1978) found that two characteristics associated with the institutional environment were facilitative of external integration. The primary factor was "ideal psychiatric environment" (p. 179). This refers to the social-psychological environment of the facility, with the ideal environment being most supportive of external integration. Segal and Aviram measured the psychiatric environment of various facilities with Moos' (1974) Community Oriented Programs Environment Scale. This scale is not intended to specifically assess expectations or support related to external integration, but rather is a more general measure of the psychological environment of a facility.

The psychiatric environment consists of a number of variables, which are maximized in the ideal environment. These include: (a) residents' involvement in the program, (b) support from staff and other residents, (c) open expression of feelings, including anger, (d) open discussion of personal problems, and (e) a structured program with clear expectations for autonomy and a practical orientation. The ideal environment maximizes each of these characteristics.

Although it is not entirely clear from Segal and Aviram's (1978) account of their study on what basis they believe each of these variables contributed to external integration, it seems plausible that the ideal environment raised the motivation of a resident, while at the same time provided support and feedback for his/her attempts at integration. In other words, the resident became involved in the

program, received support from other residents and staff for venturing into the community, and was able to discuss frustrations, anger, a sense of accomplishment, and other feelings in the residence. In addition, clear expectations of the resident by the staff and program contributed to the resident's external integration.

It should be noted that the psychiatric environment did not have a uniform effect on all residents' external integration. For example, when the total group was divided into three subgroups according to severity of psychiatric symptomatology, the most seriously disturbed group was least influenced by a more positive environment. This finding was explained by Segal and Aviram with two observations. First, it was noted that the severely disturbed tended to avoid large numbers of close relationships. Hence, when a supportive environment stimulated internal integration, it was at the cost of the individual's external involvement. In contrast, the mildly disturbed or a-symptomatic did not show this apparent overload problem. Consequently, an increase in environmental support resulted in both higher internal and external integration.

The second environment factor which Segal and Aviram (1978) found to be associated with external integration, somewhat less strongly than psychiatric environment, was social isolation of the facility. That is, if a residence as a whole was isolated from the community, as evidenced by a lack of contacts with that community, it was more difficult for individual members to become socially involved, even if they were inclined to do so. While this factor was especially significant for a-symptomatic residents, it was not significantly predictive for more

psychotic individuals. The authors speculated that the isolation of the residence as a whole might have resulted from nonacceptance of the facility by the community. Hence, individuals who were a-symptomatic or mildly disturbed suffered from the stigma of being a facility resident. Although Segal and Aviram did not offer a clear explanation for this, it could be hypothesized that the seriously disturbed already suffered a stigma resulting from their obviously deviant behavior. Consequently, the added stigma of being a resident of a facility which was rejected by the community had little added influence on their external integration.

Recently, Trute (1986) showed that level of isolation of operators, as measured by the Dean's Alienation Scale, was inversely related to residents' level of contact with neighbours. Taken together, these findings suggest a three-way interaction between community acceptance, isolation of operators, and isolation of residents.

Besides these facility characteristics, Segal and Aviram (1978) also found that having sufficient spending money and control over one's own money were significant predictors of higher degrees of external integration. This held true for a-symptomatic as well as mildly disturbed residents, while severely disturbed residents seemed unaffected by this financial freedom. The authors concluded that, for the less disturbed, money provided an opportunity to pay for transportation and consume more. The more disturbed were presumably not able to benefit from this freedom since they were too disorganized.

In another vein, those who chose the residence in which they lived were significantly better externally integrated in the community than

those who reported that they had not made the decision, even when psychopathology and abilities were statistically held constant. Segal and Aviram suggested that the residents who had chosen the residence were, in general, less dependent on facility operators (p. 178). In other words, they would be more confident in making their own decisions. As a result, they may have accepted more responsibility for engaging in activities in the community.

It should be noted that Segal and Aviram considered having sufficient spending money and having control over one's money (such as paying the operator directly), as well as voluntariness of residency, as resident characteristics. However, it could be argued that these factors are more dictated by the system of care of the chronically mentally disabled than by the resident. That is, especially in Canada, residents are often placed in community facilities by centralized placement services and are told how much of their income is deducted for room and board. Even though, formally, a prospective resident could refuse a placement, this is in practice very difficult to do, given the usually long waiting lists which place considerable pressure on an individual to accept an offered placement. Thus, discussion of these factors has been included under facility characteristics.

Residents' control of their medication was also found to be positively related to external integration (Segal & Aviram, 1978). A simultaneous finding was that lack of control over medication was positively related to internal integration. The authors explained these findings by suggesting that lack of control created a dependency on residence staff. The opposite would then be true for residents with personal control over medication.

Some caution should be exercised in interpreting control of medication as a facility characteristic, given that the above relationships can be caused by the resident's ability to handle medication or the lack thereof, as well as by house rules. If these practices are based on general house rules, rather than on the perceived disability of the residents, they are more indicative of treatment atmosphere and are, therefore, related to the general philosophy of the facility. This would also hold for residents' control over money and voluntariness of residency, although the latter could be a larger system factor and, thus, out of control of even the residence.

Other researchers have studied the psychiatric environment from a somewhat different perspective. Expectations placed on residents by the program and/or program staff of a facility have been demonstrated to influence various forms of social functioning. For example, two mostly qualitative studies concluded that realistic expectations placed on residents improved their rehabilitation (Wilder, Kessel, & Caulfield, 1968), while no expectations placed on residents hampered their initiative and social integration (Murphy, Engelsmann, & Tcheng-Laroche, 1976). The former study followed 20 male and 22 female hospital patients discharged to a single halfway house. The study examined the first year of operation of the residence and included a six month follow-up of each resident. However, it lacked a control group. Although few data are offered to justify a causal interpretation of their findings, Wilder et al. (1968) concluded that, as a result of expectations to become socially involved with others and to become less reliant on the residence, half of the men and 41% of the women were

living on their own at six month follow-up. In addition to environmental factors, the authors attributed the success of these residents to the fact that they were older and more mature than those who were unable to live independently at the time of follow-up.

Murphy et al.(1976) discovered that many residents of the foster homes which they reviewed appeared lethargic and uninterested in social contacts. In a post-hoc interpretation, they attributed this pattern to the fact that most operators expected little or nothing from residents. Thus, operators created an environment where low expectations became a self-fulfilling prophecy.

Both of the above studies lacked a rigorous research methodology and showed little more than circumstantial evidence to justify their conclusions. However, a methodologically sounder research project by Lamb and Goertzel (1972) confirmed their findings. This experimental study randomly assigned 93 psychiatric hospital patients to one of two community settings, either a halfway house or a room-and-board home. Expectations in the halfway house were relatively high, requiring residents to be active in employment, school, recreational, and household activities. Few expectations were placed on boarding home residents. The findings revealed that, although the halfway house group did not have significantly fewer rehospitalizations, they were significantly more likely to be engaged in a structured occupational activity most of the time than were individuals in the boarding home condition (55% vs. 32% of available time) at the end of a two year follow-up period.

The study also determined that residents' social functioning, as measured by a modified version of the Fairweather et al. (1969) socialization scale, improved significantly more in the halfway house as compared to the boarding home.

This finding is supported by Cournos (1987), who concluded in a literature review that the best general treatment outcomes for individuals suffering from schizophrenia were associated with supportive relationships and moderate expectations. Poor outcomes were associated with an excessive structure, overprotection, oversupervision, and overstimulation.

Sommers (1987), in a study of 60 former state hospital patients, also concluded that expectations by significant others and tolerance of deviance were positively related to several outcome measures, including social participation.

Hull and Thompson (1981b) studied a number of Manitoba facilities for the mentally disabled ($N = 157$) to determine the influence of these facilities on the functioning of their residents. They used a subscale of the Adaptive Functioning Index (Marlett, 1971, 1977) as a measure of external integration. They discovered that a number of facility factors (as measured by Program Analysis of Social Services subscales, Wolfensberger & Glenn, 1975) were strongly predictive of external integration. These included: lack of unnecessary rules and practices; opportunity to make decisions regarding such matters as money, visitors, and curfews; quality of interactions between residents and staff, especially as contributing to the self-respect of residents; and ease of

access to community resources. In addition, the authors found that residents of independent living facilities were much more aware of community facilities and services than those living in staffed residences. This relationship continued to exist even when level of psychopathology was controlled for. Hull and Thompson suggested that those living independently have more freedom and opportunity to use community facilities.

Kruzich (1985) used a 10-item measure of distal external integration similar to the one used by Segal and Aviram (1978). Kruzick also used the Patient Management Scale (King & Raynes, 1968) to assess therapeutic climate. This measure distinguishes resident-oriented from institution-oriented care practices. Resident-oriented practices tend to focus on the individual resident, taking the resident's needs into account, while institution-oriented practices are primarily designed to ease operation of the facility. The author found that resident-oriented practices significantly contributed to external integration of residents. They concluded that staff expectations played a major role in determining residents' external integration.

In view of these findings, it can be concluded that reasonably firm expectations from a program or program staff regarding external integration, as well as residents assuming responsibility for their own affairs (financial, medication, and selection of residence), encourage external integration. A supportive therapeutic environment, combined with a lack of social isolation of a residence as a unit, further supports external integration. In addition, there is some evidence indicating that nonstaffed facilities promote external integration more than staffed facilities.

Facility size. Another facility characteristic that appears to influence external integration is size. Segal and Aviram (1978) included a broad range of facilities for the mentally disabled in their sample, from single bed, room-and-board family operations to large hostels. The latter type of facility received significantly more complaints from the community than smaller, family-oriented residences. In turn, more community complaints reduced the external integration of residents. This suggests that the smaller the facility, the more likely the residents are to function without the added pressure of negative community feedback.

This view is supported by the research of Linn, Klett, and Caffey (1980), which focused on foster care facilities. The authors studied 210 patients of Veterans Administration hospitals who were randomly assigned to either continued hospitalization or placement in foster homes. Evaluations took place at baseline, placement, four months, and one year. A variety of measures related to operators of homes and residents were obtained. The latter individuals were assessed using, among other instruments, the Social Dysfunction Rating Scales (Linn, Sculthorpe, Evje, Slater, & Goodman, 1970), a measure of general social functioning (i.e., a mixture of internal and external integration). Linn et al. (1980) concluded that general social functioning appeared to improve in smaller homes (one or two residents) as opposed to larger ones. Interestingly, the fewer the occupants (i.e., nondisabled and disabled combined), the better social integration appeared to be. This suggests that individual residents function better in environments in which they have to relate to fewer individuals. The main shortcomings of this

study, in the context of the present research, is that social functioning was a mixture of internal and external integration and that the research was limited to foster care residences (which are family, not staffed, settings).

In a study which attempted to identify facility, community, and client characteristics that influenced external integration of 87 community facility residents, Kruzich (1985) found that facility size had a significant negative correlation ($r = -.28$, $p < .01$) with a measure of external integration. This measure was similar to that used by Segal and Aviram (1978). The author did not explain this finding.

Marion and Grabinski (1979), in a study only indirectly related to external integration, found that behavior control in residents of family care homes (up to six beds) was less often a problem than in residents of group homes (more than six beds). Since behavioral pathology (in this case, aggressive or dangerous behavior and wandering away from the facility) and external integration are negatively related, this study supports the view that smaller facilities are associated with greater external integration.

Trute (1986) studied 47 residents of 27 community residences and their operators. He found that the larger the facility, the fewer contacts residents had with neighbours. Trute did not provide a reason for this finding.

In a somewhat dissenting study, Murphy et al. (1976) concluded that there was no appreciable difference in 58 Canadian foster homes of varying size regarding social functioning, as measured by the Katz

Community Adjustment Scale (Katz & Lyerly, 1963). The study followed 106 residents who were placed in the homes over an eighteen month period. These individuals were compared to 28 control clients who were scheduled to be placed in foster homes but were held back in hospital for administrative reasons (a freeze on number of places available) or because they preferred to stay in hospital.

Residents of homes of less than six beds showed no statistically significant difference in social functioning when compared with those in residences of 10-30 beds. This finding is perhaps suspect, given an apparent ceiling/floor problem. Regardless of the size of the residence, most operators are described as having a laissez-faire attitude, rarely encouraging residents to make contacts outside the home. Given the generally poor social functioning of residents that resulted, it is unlikely that statistically significant differences would be found. However, the study does support the notion that attitudes of staff toward social integration of residents is a more powerful factor than size of residence in determining external integration.

Relating size of residence to therapeutic climate (discussed above), number of residents has been demonstrated to be a relevant factor in establishing the therapeutic environment by Hull and Thompson (1981b), Kruzich and Kruzich (1985), Raush and Raush (1968), and Segal and Aviram (1978). These researchers found that the smaller the residence, the better appeared to be the therapeutic climate or consumer response to the facility. As argued in the previous section, this would contribute in turn to external integration. Similarly, Hellman, Greene, Morrison,

and Abramowitz (1985) found support for their hypothesis that a larger facility tended to be associated with heightened anxiety, self-impoverishment, more negative views of the psychosocial environment, and greater psychological disturbance.

In conclusion, although there are some confounding factors, it seems that the smaller the facility, the more likely external integration is to take place. Confounds are the type of home (i.e., smaller residences are more often foster care settings, medium ones more often staffed, and very large residences room-and-board only) and such factors as a low base-rate of external integration. This latter problem makes statistically significant findings unlikely in some cases.

In addition to the influence of size, facility factors can be summarized as follows. Therapeutic environment, as operationalized by communication, staff-resident relationships, and expectations by staff of residents, appears to have an important influence on external integration. Where staff relate to a resident in such a way that the resident's self-image is improved, the resident can express feelings openly, the resident is expected to become externally integrated, and where the rules of the residence are clear and resident- (not facility-) oriented, external integration will likely be greater than where these criteria are not met.

In addition, in facilities where residents have a significant amount of control over such issues as their medication, their money, and their choice of residence, external integration again seems to be greater.

Finally, there is some evidence supporting the notion that isolation of a facility as a whole and full-time staffing have a suppressive influence on external integration of the individual resident.

Characteristics of Individual Residents

Social-demographic characteristics. External social integration of community residence occupants was shown by Trute (1975) to be correlated with education ($r = .24$, $p < .001$), with individuals having more education being better integrated than those less educated. However, neither Kruzich (1985) nor Segal and Aviram (1978) found this variable to be a significant predictor of external integration.

Age of residents seems generally negatively correlated with external integration. Both Segal and Aviram (1978) and Segal, Baumohl, and Moyes (1980) found this relationship and, as a result, decided to control statistically for age in their analyses. Kruzich (1985) and Hull and Thompson (1981b) also found that older age was associated with reduced external integration.

These findings are somewhat inconsistent with the literature on social networks and age. For example, Antonucci (1985) found that age was a poor predictor of social contacts in the general population. Other factors, such as physical ability, sex, and size of networks when younger appeared to be more significant predictors. Moreover, Trute (1986) found no significant relation between age of mentally disabled persons and contact with neighbours. This latter study concerned proximal external integration, while the former studies focused on a

mixture of proximal and distal external integration. This could explain the discrepancy, in that older individuals are not necessarily less sociable, but tend not to venture as far into the community.

Segal et al. (1980) controlled statistically for sex, but did not report data on the effect of gender on external integration. Segal and Aviram (1978) found that sex was not a significant predictor of external integration. Hull and Thompson (1981b) came to the same conclusion. However, Trute (1986) found that males had significantly fewer contacts with neighbours than females. Again, this latter study focused on proximal external integration, leaving open the possibility that men have a different pattern of external integration than do women. Men may have less contact with neighbours but more distal external integration, while the opposite may be true for women.

In the literature on normal populations, it is generally concluded that women have larger and qualitatively different social networks than men (Hess, 1979). They not only have contacts with more people, but also use more people for emotional support. Men, on the other hand, concentrate their emotional involvement on few others, usually only their wife. On the other hand, men, more often than women, have income-producing work. This provides them with additional social contacts, albeit of less emotional depth. Consequently, men and women may differ qualitatively but not quantitatively regarding social integration. This finding supports the hypothesis that female residents have more contact with neighbours, who are within easy reach, than male residents. It would also follow that, if male residents do have more distal external activities (e.g., in work environments), these contacts are less intimate than those of female residents.

In summary, the findings for education, age, and gender appear inconclusive. However, studies in this area can be criticized in that no attempts have been made to differentiate systematically between proximal and distal integration in the same study.

Psychological/behavioral disturbance. Both Trute (1975) and Segal and Aviram (1978) concluded that psychological disturbance negatively influenced external integration. Trute found a correlation between a measure of psychopathology (Brief Psychiatric Rating Scale; Overall & Gorham, 1962) and external integration of $-.26$ ($p < .001$). Segal and Aviram used the same measure of psychological disturbance as a control variable in their study, since it negatively influenced external integration in such a dramatic way that it overshadowed other factors in importance.

It should be noted that Segal and Aviram (1978) found that the most disturbed group in their research appeared more externally oriented than those of medium or low disturbance. Very disturbed individuals seemed to prefer to look outside the residence for social support, notwithstanding the fact that their disturbance reduced their actual external integration. Segal and Aviram also observed that, for the severely disturbed group, no set of variables seemed to promote both internal and external integration. For example, positive neighbour response promoted external integration, but at the cost of internal integration. The authors attributed these findings to the fact that the severely disturbed group appeared to be less satisfied with their living situation and, as a result, directed their attention outside the residence. In addition, these individuals found more satisfactory

contacts outside the residence, concentrated more on these, and became less involved in the facility. In other words, even though their overall external integration was lower than that of the less disturbed group, it was still greater than their internal integration.

Somewhat contrary to the above findings is one reported by Hull and Thompson (1981b). These authors failed to find any measures of psychopathology that were predictive of external integration, with the exception of number and length of episodes of institutionalization. Moreover, the latter variables showed only weak relationships in opposite directions. Lengthy hospitalizations predicted less integration, but many hospitalizations predicted more integration.

Trute (1986) also reported that psychopathology, as measured by the Langner Psychiatric Impairment Scale (Langner, 1962), was not related to external integration. However, his measure of external integration, as discussed above, differed from other studies in that it primarily measured proximal external integration.

In another dissenting study, Tessler and Goldman (1982) concluded that behavioral and somatic problems (as measured by separate subscales of NIMH's Uniform Client Data Instrument) were not predictive of a measure of social activity in which six out of seven items were related to external integration. The sample consisted of 1471 chronically mentally disabled individuals who were living in a variety of settings. Of the total sample, 40.4% were living in their own home or apartment, 8.3% in an hospital setting, and the remainder in community residences ranging from foster care through unsupervised rooming houses to staffed

group homes. This diversity was not taken into account in the analysis and could have contributed to the nonsignificant finding. Nevertheless, lack of a relationship serves as a caution not to regard behavioral disturbance as automatically reducing external integration, especially in a group of ex-patients where a majority (55.2%) received no or little supervision.

It could very well be that psychopathology or behavior disturbance requires an intervening variable, such as reduction of privileges by staff, to become restrictive. This would be consistent with the conclusion of Hull and Thompson (1981b) that the most important predictor of community awareness was 'living in a nonstaffed facility,' even when level of psychopathology was statistically controlled. In addition, there is some indication that psychopathology could be more of a negative influence on distal as opposed to proximal external integration.

Psychotropic medication. When they reviewed the effect of psychotropic medication, Segal and Aviram (1978) found that presence alone did not predict external integration. However, it interacted with drug dosage and severity of psychiatric symptomatology. In the most severely disturbed group, the presence of psychotropic medication appeared to promote external integration, while in the least symptomatic group the reverse was true. Here medication, especially in high dosages, seemed to hinder external integration, perhaps by reducing motivation to interact with people outside the facility. This side-effect did not appear to occur in the severely disturbed group, which would presumably function better with the medication.

Segal and Aviram cautioned against using broad measures of the effect of psychotropic drugs. They argued that various drugs have different dose-level effects. That is, some drugs have similar effects at high and low dosages, while other drugs have a greater effect as dosage increases. As a result, a measure of presence versus absence of psychotropic medication is too crude to provide an accurate estimate of the effect of the drug on behavior. Consequently, they suggested employing measures of dose-equivalents of these drugs. This is perhaps why Trute (1986), who used a presence/absence criterion for medication, did not find a significant relationship between major tranquilizer use and interactions with neighbours.

The stigma of community facility residency. A 'stigma' (derived from the Greek word for 'to brand') is a token of disgrace or infamy (Funk & Wagnalls, Standard Desk Dictionary, 1976). Since it can be considered as something that becomes part of the individual, stigma is discussed here under resident characteristics. Stigma can be distinguished from attitudes of neighbours toward the mentally disabled, which will be reviewed under community characteristics. As the following discussion will clarify, it is necessary to make this distinction.

In the present context, stigma refers to the subjective experience of the individual as having the identity of an ex-patient or facility resident. Weinstein (1982, 1983) reviewed 35 studies dealing with hospitalized patients' attitudes toward the label of mental illness and ex-patients' attitudes toward the stigma of hospitalization. The review was intended to test certain propositions of labeling theory, including the presumed negative attitude of patients and ex-patients toward mental

illness and posthospital experiences. The author concluded that labelling theory, which predicts that ex-patients will tend to express unfavorable attitudes toward mental hospitalization, underestimates the positiveness of former patients now living in the community. Weinstein showed that ex-patients felt less stigmatized and had more positive attitudes toward their hospital contacts than was generally believed.

A number of studies that specifically focused on ex-patients' perception of community reaction to them as mentally ill individuals or as patients provide a more ambiguous picture. Spiegel & Younger (1972) found that most ex-patients were isolated in the community and felt they had been discriminated against because of their psychiatric status. Two additional studies showed mixed results. Miller and Dawson (1965) reported that approximately half of their sample felt that they were discriminated against as a result of their psychiatric status. Using a scale ranging from 1 (low agreement) to 4 (high agreement), Nuering (1979) asked three questions which dealt with perceptions of being avoided by others as a result of mental illness. The author found that the sum of responses for the three questions averaged 6.2 (out of a possible 12). This suggested that the experienced stigma was not extremely intense.

Cummings and Cummings (1965) found that a minority of ex-patients (41%) felt they were discriminated against as a result of their hospitalization. Similarly, Gove and Fain (1973), in a large follow-up study, concluded that stigma did not appear to be a major problem for most former patients.

Jones, Kahn, and MacDonald (1963) found that psychiatric hospital patients did not feel that former patients were treated differently or that they were not wanted by family or friends. Linn (1968), surveying a similar population, determined that 53% did not expect that their reputation would suffer at home as a result of their hospitalization.

In view of these studies, it could be concluded that, although the stigma of mental illness is not negligible, it might not necessarily be a major problem for a sizeable proportion of ex-patients. It can also be concluded that the collective knowledge in the area is rather contradictory and that methodological problems exist regarding operationalization and measurement of the concept. Furthermore, no studies were located which dealt with the issue of being a 'community residence occupant' as opposed to an 'ex-patient.' It could very well be that these two labels are evaluated as differentially stigmatizing by those so labelled.

In summarizing the findings on individual attributes, it should be borne in mind that, relative to environmental variables, the former could very well be much less important contributors to external integration than the latter. Hull and Thompson (1981b) showed this for general adaptive functioning, which included a measure of external integration.

Findings regarding education, gender, and age appear inconclusive. It is generally accepted that psychopathology or behavior disturbance has a negative influence on external integration, although there is some indication that this effect is more pronounced in staffed residences.

This suggests that intervening variables related to house rules or staff factors are necessary before disturbance becomes a serious hindrance to external integration.

Psychotropic medications appear to have a positive effect on external integration, but only in the most seriously disturbed individuals. A suppressing influence appears to exist in the least disturbed individuals, especially when large dosages are administered.

The effect of stigma on external integration, again, is rather inconclusive. For some residents stigma appears to reduce external integration, but this is not apparent for a sizeable proportion of individuals. No distinction is made in the reviewed studies between the role of 'ex-patient' versus that of 'community residence occupant.' Hence, it is not known whether those residents who feel stigmatized do so because of where they live, because of their psychiatric history, or both. In addition, it is not known whether different facilities influence stigma differently, or what type of residents are more affected by stigma.

The major difficulty in interpreting findings on external integration and individual attributes is the variety of measures used to operationalize external integration. The lack of distinction between proximal and distal integration might also contribute to these inconclusive findings.

Characteristics of Neighbours and Neighbourhoods

The literature in this area has three major components: attitudes of community members toward mental health facilities; socio-demographic or environmental characteristics of neighbourhoods; and behavioral responses of community members. There is significant overlap between these components.

As Smith (1976, 1977) pointed out, many mentally disabled individuals are often less mobile than others in the community, due to a lack of transportation, little money, no job, and few friends. As a result, they may be forced to spend a large portion of their time in the residence or neighbourhood. He argued, therefore, that the immediate environment is more important to the mentally disabled than to other adults. In a study based on this reasoning, Smith predicted return to hospital of ex-patients with some success. He found that the most successful neighbourhoods (i.e., those with the lowest recidivism rates) were what he termed "old and lonely" (Smith, 1976, p. 323). That is, these neighbourhoods were characterized by a presence of many elderly residents and many people living on their own. Presumably, these were settings with few demands on the ex-patient and weak responses to deviance.

Smith's study had various methodological problems, however. For example, causal inferences about the effect of the neighbourhood on recidivism were made from correlational data, leaving open the possibility that other, unknown factors caused selective migration and recidivism. Trute and Segal (1976) sounded a similar cautionary note regarding selective migration and recidivism.

In addition, most former patients in Smith's (1976, 1977) study returned to their own homes, rather than to community residences. Nevertheless, he made an important observation by suggesting that "pleasant" neighbourhoods were therapeutic, while "unpleasant" ones had neither a therapeutic nor a negative effect on rehabilitation. That is, Smith showed that a number of socio-demographic neighbourhood variables, such as age of the population and household size, were related to ex-patients remaining in the community. However, he was unable to relate those same variables to patients returning to hospital. In other words, Smith found that the immediate environment of the community could influence adaptive functioning of residents positively, but it could not cause failure, when failure was defined as recidivism. He therefore concluded that neighbourhoods did not cause recidivism, but might help prevent it.

Trute and Segal (1976) observed that facilities were best integrated in neighbourhoods characterized by (a) moderate organization, (b) low income, older, single-person households, and (c) a greater proportion of rental accommodation, but not (d) severe social disintegration. These findings, combined with Smith (1976, 1977), lend support to the notion that residential facilities function better in neighbourhoods with low to intermediate levels of social cohesion than in either 'slum' areas or areas of high cohesion, such as suburban neighbourhoods.

Segal et al. (1980) lent further support to the conclusion that intermediate levels of social cohesion are most supportive of external integration. They found that external integration of mentally disabled community facility residents was highest in nontraditional, liberal

neighbourhoods which were racially mixed and of lower income, but of at least average education and professional employment. These neighbourhoods also had above-average numbers of multiple family dwellings and above-average numbers of unrelated persons per household (as opposed to families). The poorest social integration occurred in typical middle class, conservative neighbourhoods (characterized by single family dwellings, above-average income, families with children, and politically conservative views).

One unexpected finding in the above study was that external integration of facility residents was not highest in neighbourhoods rated low in restrictiveness, but rather in moderately restrictive neighborhoods. The concept of restrictiveness involves the behavioral reactions of the community vis-a-vis the facility and includes complaints to the facility, invitations of patients to community homes, etc. One of the most appealing explanations for this finding is that a minimum amount of neighbourhood pressure encourages operators and residents to keep the facility running as trouble-free as possible. Too much pressure inhibits development of external integration, while too little encourages disregard of norms.

These findings are consistent with Budson's (1978) observation that a residence receives support from the community in return for adherence to community standards. Where those standards are liberal but clear, the residence functions better.

The theoretically most thorough research concerning neighbours and neighbourhoods has been done by the Taylor, Dear, and Hall group (Dear &

Taylor, 1982; Hall & Taylor, 1983; Taylor, Dear, & Hall, 1979). Their approach focuses primarily on the attitudes and behavioral intentions of community members toward facilities for mental health clients. They argue that public attitudes toward community mental health facilities are products of the physical and social characteristics of the facility itself and personal attitudes toward the mentally disabled (Dear & Taylor, 1982). The latter factor is especially important, as Hall and Taylor (1983) have pointed out, since community members tend to respond to a facility in terms of their beliefs about and attitudes toward mentally disabled persons.

Dear and Taylor (1982) summarized their findings in terms of accepting and rejecting environments. Although the authors caution that no strong relationship between acceptance or rejection and neighbourhood characteristics was found, they concluded that accepting neighbourhoods (i.e., whose behavioral intentions toward residences are neutral or positive) were characterized by (a) few children, (b) well educated, predominantly English speaking, relatively transient populations, (c) high population density, and (d) a mixture of land uses (residential, commercial, and public). Rejecting neighbourhoods were presumably the opposite.

In other words, accepting neighbourhoods had many childless, well educated individuals who had few long-term commitments to the neighbourhood. The neighbourhoods themselves were already characterized by a variety of uses, making it easier to add another use (that of housing for the mentally disabled).

The major methodological shortcoming of the Dear and Taylor studies was their emphasis on community attitudes and behavioral intentions toward facilities without measuring the effect of attitudes and intentions on facility residents. In other words, they failed to establish the crucial link between behavioral intentions (or attitudes) of neighbours and adjustment of residents (see also Baron, 1981). The basic assumption seems to be that when self-reports of neighbours were more positive, the residents would do better. However, Segal et al. (1980) found, contrary to their expectations, that social integration was higher in moderately restrictive neighbourhoods. Moreover, Weinstein (1982, 1983) pointed out the lack of self-reported stigma of many ex-patients. These observations support the notion that no simple relationship exists between behavioral intentions of neighbours on the one hand, and the perceptions of those behaviors and the resulting intentions toward external integration of residents on the other.

Hull and Thompson (1981a) employed the Program Analysis of Service Systems (PASS; Wolfensberger & Glenn, 1975) assessment method to focus on normalizing influences of environments of residential facilities in Manitoba. The assumption underlying PASS is that the more normalizing (i.e., the less institutionalizing) an environment, the more personal growth residents will show. Hull and Thompson developed an interview schedule based on PASS which they administered to a sample of 296 residents of 157 facilities for the chronically mentally disabled. This measure consisted of 30 normalization-related ratings. These combined ratings provided a measure of normalization of the residential environment. Five of the 30 ratings were of community characteristics.

They discovered that one of these community characteristics, middle to high family incomes, was associated with higher normalization scores inside the residence.

The above finding suggests that, at least from a normalization standpoint, the most positive influences on residential facilities are associated with economically above-average neighbourhoods. Again, this appears consistent with the finding in the Segal et al. (1980) study that social integration was higher in moderately restrictive neighbourhoods. It would fit the notion that economically above-average neighbourhoods tend to be characterized by certain community expectations restricting deviant behaviors.

Another study using PASS was performed by Eyman, Demaine, and Lei (1979). Although this study focused on community facilities for the mentally retarded, some of its findings are relevant. Eyman et al. used a path analysis to relate PASS scores for facilities to scores on the Adaptive Behavior Scale (ABS), IQ, age, and gender of individual residents. One of the factors of the ABS, Community Self Sufficiency, is closely related to external integration. The authors concluded that this measure of self-sufficiency was significantly influenced by two community variables: environmental blending (of the facility into the neighbourhood) and easy access to the physical resources of the community. In other words, residents of facilities which were located close to various community resources and did not stand out in the neighbourhood had greater external integration.

Segal and Aviram (1978) also found that distance to community resources was a significant predictor of external integration. This finding is somewhat self-evident, given that ease of access would likely contribute to increased use. However, it would hold true more for distal external integration than proximal integration since, in an urban setting, neighbours are accessible with relative ease. Unfortunately, the authors did not differentiate between proximal and distal external integration. They did find that general external integration in rural facilities was less than in urban residences. This would be consistent with the fact that, in rural areas, both distal and proximal external integration involves more difficult access, due to the relative isolation of rural facilities (generally located on farms).

Segal and Aviram (1978) made an important distinction regarding the reactions of community members to individual residents, as opposed to residents as a group or the facility as a whole. The former interactions tended to be much more positive than the latter, contributing to external integration. Reactions to residents as a group tended to reduce external integration. The authors explained this difference in terms of responses to the group being influenced by the typical connotation of former mental patients while individual interactions occurred without the same stigma attached.

Findings of another study (Loewen, 1976) suggest that an interaction exists between community acceptance of the mentally disabled and size of a facility. The study surveyed 62 community residents who lived in proximity to a variety of residences for the mentally disabled. Using a questionnaire, the general attitude of neighbours toward the residences

was assessed. The author concluded that neighbours appeared more accepting of residents of small, independent living residences than of those living in large, room-and-board facilities or large group homes.

This finding is consistent with the above discussed conclusion that external integration is usually greater in smaller facilities. However, one confound occurs in the fact that size and type of facility tend to be correlated. For example, there was some indication that community residents tended to identify residents of independent living facilities as less disturbed (and hence more 'acceptable') than those of staffed facilities. However, the latter residences are generally larger than the former.

In summarizing the findings to this point regarding neighbourhoods, it is evident that socio-demographic variables have relatively weak predictive value with respect to external integration. There is some indication that neighbourhoods can have a positive influence on ex-patients. At the same time, there is little evidence that neighbourhoods can influence residents negatively. Neighbourhoods which appear conducive to external integration have moderate expectations regarding the behavior of community members, including residents of facilities, but do not display social disintegration. None of the above findings, however, take into consideration the actual interactions between neighbourhoods and facilities, or knowledge of community members about facilities in their neighbourhood. These issues will be discussed below.

Community complaints. One way in which the community communicates with a facility is by complaining either directly or indirectly about it or its occupants. Raush and Raush (1968) in an early study found that 42.5% (total N=40) of halfway houses reported some sort of difficulty with neighbours in the initial stages of their development. These difficulties ranged "from inquiries which required only friendly and reassuring answers from halfway house staff, to swearing out by an organized neighbourhood committee of a court order to have the halfway house removed" (p.52).

In a more recent study in Massachusetts, Budson (1978) reported that only one of 37 residences had community problems after being open for at least a year. Four of the 37 encountered opposition in the early stages, but resolved the conflicts.

Segal and Aviram (1978) reported that 19% of 234 facilities had received complaints from neighbours, 14% had complaints made to local authorities about them, and 4% had been threatened or harassed by neighbours. Most of the complaints (i.e., 80% of direct complaints, 68% of complaints to authorities) occurred after the facilities had been "opened for a while" (p. 112). Most of these complaints occurred in suburban rather than low income settings. However, in the latter settings complaints were more often made to authorities.

Segal and Aviram included a broad range of facilities for the mentally disabled in their sample, from single room-and-board family operations to large hostels. The latter type of facility received significantly more complaints than smaller, family-oriented residences.

As yet there is no firm empirical link between complaints and external integration as a process. However, if seen as an aspect of restrictiveness of a community (Segal et al., 1980), it could be postulated that complaints (or perhaps the threat of complaints) are one of the major vehicles by which limits on external integration of residents are placed.

Community awareness of residences in the neighbourhood. The threat of community complaints (as observed in expectations of both staff and residents) may be more important than the actual reaction of the community. This is consistent with the repeated finding in the literature that many community members are unaware of the existence of a residence. For example Rabkin, Muhlin, and Cohen (1984) found that only 17% of neighbours contacted by telephone were aware of a residential facility on their block. Dear and Taylor (1982) reported that only 8.5% knew of a mental health facility existing within 400 meters of their home. Smith (1981) found that 84.7% of respondents reported that they "rarely" thought about the large psychiatric hospital nearby.

Interestingly enough, Dear and his colleagues (Dear, Taylor, & Hall, 1980; Dear & Taylor, 1982) found that those who were aware of a mental health facility nearby held more positive attitudes toward such a facility than did those who were not aware. This suggests that, if anything, the presence of a community residence is likely to have a positive effect on the attitudes of those who are aware of its existence. Similarly, Smith (1981) and Smith and Hanham (1981) found that acceptance of "serious" mental illness was higher in those living beside a major psychiatric facility, as compared to a control

neighbourhood. However, no such difference was found for "moderate" mental illness. Since the facility neighbourhood was not exposed more extensively to moderate mental illness than other neighborhoods, the authors concluded that exposure to seriously disturbed people caused the greater degree of acceptance in the community located near the hospital.

These findings are consistent with the summaries of the literature by Rabkin (1974, 1980) and Segal (1978), who found that those exposed to the mentally ill tended to have somewhat more tolerant attitudes than those who were not exposed, provided the neighbourhoods they lived in were not flooded by mentally ill people (Rabkin, 1974) and the public received some education regarding mental disorders concurrent with exposure (Segal, 1978).

It can, therefore, be concluded that the majority of community residents do not appear to be aware of small residential facilities, and those who are aware appear to be generally more positive than those who are not, presumably as the result of disconfirmation of negative expectations resulting from exposure.

It is also important to note that characteristics of the residents themselves may have an influence on the attitudes of community members. Rabkin (1974, 1980) and Segal (1978) suggested that the mentally disabled least tolerated are likely to be male, lower class, members of ethnic minorities, isolated, and visibly disturbed or assaultive in their behavior. In other words, the type of residents of a community facility, their behavior, and the stereotypes held by community members could be expected to have an influence on the relationship of that facility with the community.

In contrast, a recent study conducted in Winnipeg (Tefft, Segall, & Trute, 1987) found that neighbourhood attitudes and intentions toward facilities for the chronically mentally disabled did not differ significantly from those toward facilities for less disabled residents. Tefft et al. found that, among those surveyed, approximately 65% rated facilities for the chronically disabled as either desirable or neutral, even within close proximity of their own residence.

Although lack of awareness of facilities appears reasonably well established, there is a lack of research indicating whether a gradual, linear distance decay effect or some other relationship exists. That is, one might expect that the further away community residents live from a facility, the less likely they are to know about it. However, the rapidity and slope of this decay is unknown. This question is especially interesting, since Smith and Hanham (1981) found a nonlinear relationship between acceptance of mentally disabled individuals and distance of the respondents' homes from a large psychiatric facility. Those living immediately adjacent to the facility were somewhat less accepting of mental disability than those at an intermediate distance, presumably because the latter were exposed, but not overexposed, as could be the former. Those with no such facility nearby held attitudes similar to those living immediately adjacent to the hospital. Thus, the authors proposed a U-shaped curve of rejection by distance to describe community attitudes.

In addition, it can be argued that ignorance of a facility reflects lack of proximal external integration of the mentally disabled. That is, even though community members can interact with residents without

knowing where they live, it is not likely that any form of long term, meaningful social contacts can take place without a resident revealing his place of residence and, thus, making a community member aware of the facility.

Density of community residences and the zoning issue. Hull, Keats, and Thompson (1984) argued that density of community residences is inversely related to integration of residents into the community. Although the authors did not demonstrate a direct link between their PASS measure of density of residences and the adaptive functioning of residents, they did note that, in their opinion, the density of the 278 residential facilities they surveyed appeared unacceptably high. They suggested that concentration of residential facilities occurs especially in older, core areas of cities. This observation is echoed by Dear and Laws (1986), Dear and Taylor (1982), Segal and Aviram (1978), and Wolpert, Dear, and Crawford (1975). Besides these more anecdotal accounts, no studies could be found which attempted to establish a link between external integration and density of residences. Specifically, it is not known at what point density becomes excessive.

A high density of facilities is usually undesirable from the community residents' point of view. This is reflected in municipal zoning by-laws (Applebaum, 1983; Beha, 1975; Cupaiuolo, 1977; Dear & Laws, 1986; Gailey, 1981; General Accounting Office, 1983). As the Manitoba Task Force on Law and Legislation (1976) pointed out, zoning is essentially an exercise in "protection of the single family district" (p.8), based primarily on the wishes of home owners and less on the needs of the larger community.

Zoning by-laws can exclude residential facilities entirely from certain, usually suburban, areas by defining family dwelling in such terms that more than two unrelated individuals cannot live together in the same building (Dear & Laws, 1986). Segal and Aviram (1978) cite other, more indirect, ways of using the zoning process to stall or avert location of residential facilities in certain neighbourhoods by municipal authorities, as well as by community groups. The result of these zoning by-laws and practices is the above described location of many residences in marginal residential neighbourhoods or areas with mixed (i.e., commercial and residential) usage (Dear & Laws, 1986).

The major findings on neighbours and neighbourhoods can be summarized as follows:

- 1) Generally, only weak relationships are found between external integration and socio-demographic characteristics of neighbourhoods or neighbours. Furthermore, many studies are only indirectly related to external integration.

- 2) Neighbourhoods which appear to be most conducive to external integration are characterized by (a) low income, older, single person households, (b) moderate organization, (c) greater proportion of rental accommodation, (d) no severe social disintegration, (e) at least average education and professional development, (f) nontraditional, liberal beliefs, (g) medium restrictiveness toward residential facilities, (h) English-speaking, relatively transient populations, (i) high population density, (j) a mixture of land uses, and (k) an urban location.

3) Only a small minority of community members are aware of residential facilities in their neighbourhood. These individuals would have a major influence on proximal external integration. It is not clear what factors determine knowledge of a facility.

Those aware of residential facilities appear to have a more positive attitude toward facilities than those who are not aware. For large psychiatric facilities, acceptance may show a curvilinear relationship with distance, with those very close to and very far from the facility being the least accepting. It is not known if this is also true for smaller facilities.

4) Zoning by-laws are intended to reduce the number of community residences in suburban areas. Moreover, from a normalization standpoint, a high density of such residences is undesirable. Nevertheless, no research was found which addressed the issue of optimal density of facilities per neighbourhood.

5) Individual community members who show less tolerance for the mentally disabled are likely to be male, older, less educated, lower class, blue collar workers, recently immigrated members of ethnic minorities, and those reporting least contact with the mentally ill.

A Proposed Model of External Integration: Interaction of Three Sources of Influence

In view of the above discussion, it is apparent that many variables are related to, or are predictive of, external integration of the mentally disabled in the community.

However, much of the research to date is somewhat limited in breath, focusing on few variables at a time. An exception is the contribution by Segal and Aviram (1978). Their writing was a first attempt at integrating factors from three general areas: the community, the individual, and the facility.

Figure 1 provides a summary of their model. The numbers in this figure are the significant standardized partial regression weights, derived in a multiple regression analysis, after both psychological disturbance and social skills of the individuals were statistically controlled for. This model accounted for 27% of the total variance.

Several comments can be made regarding Figure 1. Most notable is that all the factors are shown in direct relation to the outcome variable (external integration). Although this portrays the relative significance of each independent variable, the model does not always represent the path by which various factors influence external integration. For example, it could be argued that "complaints to authorities" are first translated by facility staff into a more cautious stance toward encouraging external integration (or perhaps outright curtailment of some external activities), which then, in turn, might result in a greater reluctance of the residents to venture outside. In other words, a community characteristic could filter through both institutional and individual factors, with the latter becoming, in effect, intervening variables. A similar point was made above regarding zoning. Although important elements of any model, regulations are eventually translated into facility characteristics, such as size and staffing.

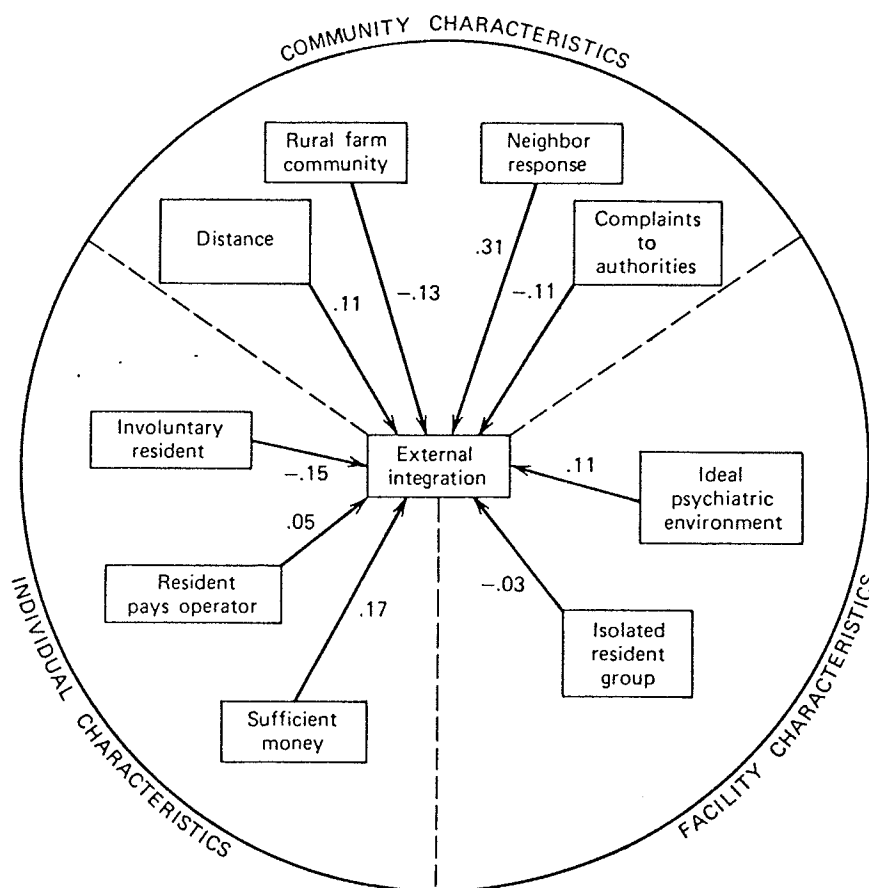


Figure 1. A model of external integration.

Note. From *The Mentally Ill in Community-Based Sheltered Care* (p. 170) by S.P. Segal and U. Aviram, 1978, New York: Wiley. Copyright 1978 by John Wiley & Sons, Inc. Reprinted by permission. Listed are standardized partial regression weights, residualized by ability and psychological disturbance.

In addition, selected characteristics of residents (i.e., psychological disturbance and abilities) were statistically removed from the model. The remaining variables, as argued above, are more closely related to the facility or the legislative/regulatory system, such as voluntary residency and the resident paying the operator directly.

Therefore, a model is required which not only integrates factors not taken into account by Segal and Aviram, but also represents their interaction, so that it becomes possible to determine which factors eventually influence the outcome variable through various intervening variables.

In postulating such a model, it can be assumed that all three elements (community, facility, and residents) influence each other. There is ample reason for this assumption. For example, as evidence of facility residents influencing the community, Dear et al. (1980), Dear and Taylor (1982), Rabkin (1974, 1980), Segal (1978), Smith (1981), and Smith and Hanham (1981) reported that community members exposed to the mentally disabled generally had a more favorable attitude toward them than those who were not exposed. Others have pointed out the effect of therapeutic environment on resident well-being and behavior other than external integration (e.g., Eyman, Demaine, & Lei, 1979; Segal & Aviram, 1978). Of course, there is no simple one-to-one relationship between the three groups of variables, as was demonstrated above (e.g., the reviews by Weinstein, 1982, 1983 on stigma and the conclusions on interaction of factors by Segal et al., 1980).

To fully understand the behavior of residents, their attitude toward external integration, their motivation to become integrated, and their perceptions of the external restraints on this integration must be taken into consideration. Examples include residents' sense of being stigmatized and their beliefs about expectations of community members and staff regarding community integration. Research, with the possible exception of studies related to stigma, has largely overlooked these elements. Even studies concerned with labeling have not specifically focused on community facility residents and, in any event, appear rather inconclusive.

Segal et al. (1980) demonstrated the importance of perceptions and attitudes of residents and concluded that community restrictiveness as perceived by facility residents was a highly significant predictor of external integration. As argued above, given the general lack of awareness of community members of a community facility in their neighbourhood, the perception of community members by residents may be, in many cases, more relevant in determining external integration than the actual behavior or attitudes of those community members.

One model that has been developed to predict behavior from (a) attitudes toward the behavior and (b) perceptions of others about the behavior was advanced by Ajzen & Fishbein (1980). Figure 2 diagrams the basic elements of their model, which is based on the assumption that people act following a certain reasoning process (i.e., engage in reasoned action). It consists of cognitive and/or emotional appraisal of certain behavioral options, resulting in an intention to perform a particular behavior, followed by the act itself.

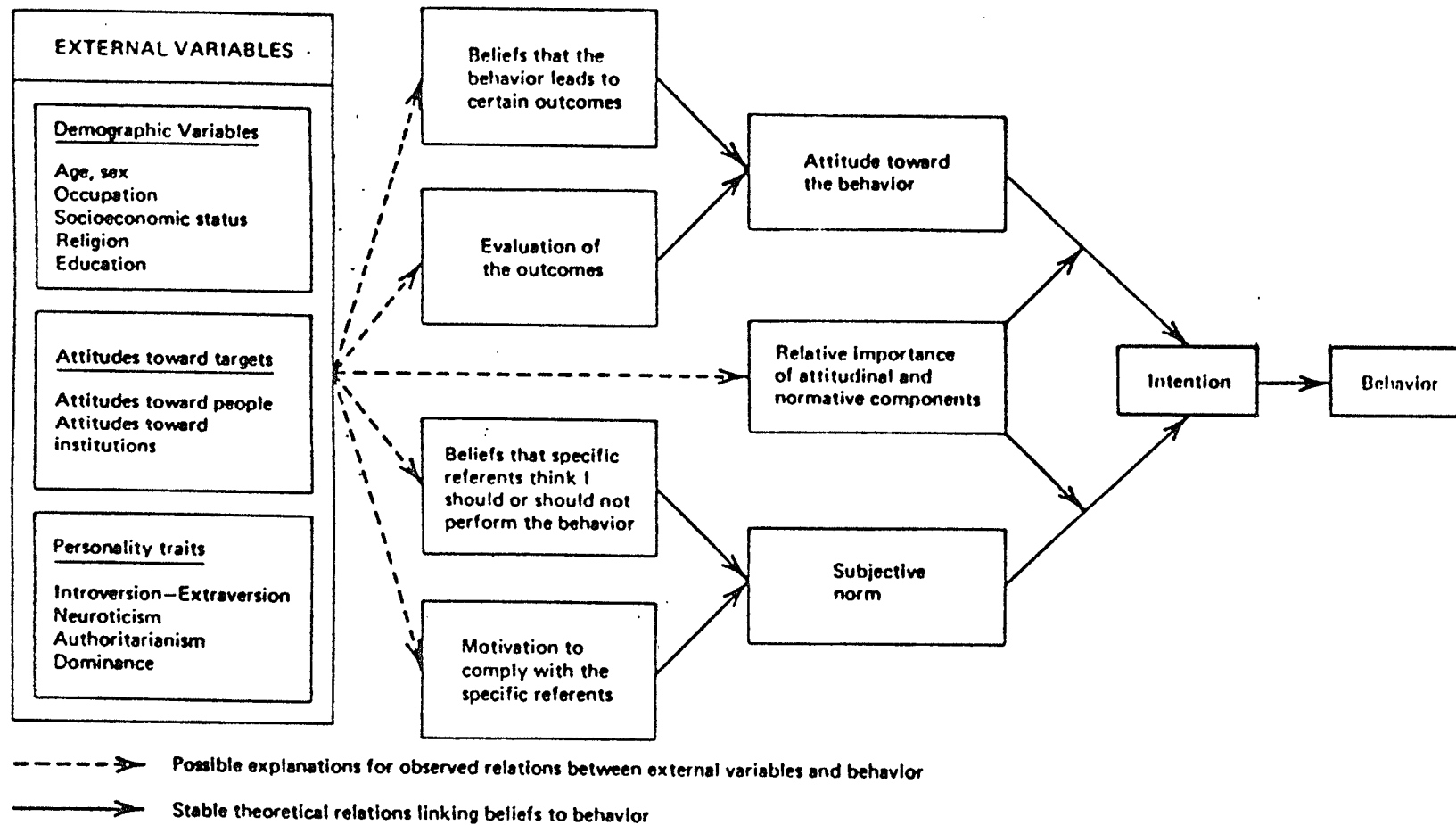


Figure 2. A model of behavior prediction.

Note. From Understanding Attitudes and Predicting Social Behavior (p. 84) by I. Ajzen and M. Fishbein, 1980, Englewood Cliffs, NJ: Prentice-Hall. Copyright 1980 by Prentice-Hall. Reprinted by permission.

A number of external variables are related to the formation of relevant beliefs. Some examples of these are listed in Figure 2. They include demographic variables such as age and sex, attitudes toward certain people or institutions, and personality variables.

These external variables have an indirect influence on the formation of two sets of beliefs. The first of these sets is comprised of beliefs that salient behaviors will lead to certain outcomes. Associated with these beliefs is the affective evaluation of each possible outcome. For example, an individual might believe that interacting with a neighbour will lead to friendship and that this friendship will reduce loneliness, which is desired by the individual.

The salient beliefs and evaluation of the outcome constitute an attitude toward the behavior. In the example, the individual would be positively inclined toward the behavior of association with a neighbour (i.e., show a positive attitude toward the behavior).

The second set of beliefs is related to the individual's estimation of the social desirability of the behavior and the individual's motivation to comply with these social demands. For example, the individual might be under the impression that significant others (e.g., family, friends) would not approve of him/her associating with neighbours, for whatever reason. The individual would decide whether it is preferable to comply with, or resist, this perceived pressure. The outcome of this dual assessment is what Ajzen and Fishbein call the subjective norm.

Attitude(s) toward the behavior and the subjective norm are then weighed by the individual and combined to form the intention to perform or not perform the behavior. To continue the example, the individual would weigh the relative importance of the desire to associate with the neighbour and the importance of the subjective norm not to do so.

If the attitudinal and normative components are contradictory and equal in strength, obviously a conflict would exist and the intention to perform the behavior would be weaker than if both components were consistently positive. Therefore, the chance of the behavior taking place would be relatively small.

The Ajzen and Fishbein model has been used to predict a variety of behaviors. For example, Dear and Taylor (1982) used it to predict community members' behaviors toward community facilities for the mentally disabled. However, it has not been used to predict external integration of facility residents.

It is important to note that Ajzen and Fishbein (1980) distinguish between attitude toward a specific behavior and attitude toward a class of behaviors, objects, or persons. They argue that attitudes toward classes typically have been measured in past research. As an example in the area of prejudicial behavior, the attitude of respondents toward the mentally disabled as a group or toward members of this group would be measured. Ajzen and Fishbein, in contrast, argue that one should measure the attitude regarding a specific behavior regarding the mentally disabled, such as conscious avoidance, if one is interested in the assessment of overt prejudicial behavior.

In addition, they suggest that, in the construction of a measurement device (i.e., a questionnaire), each of the constructs which precede the target behavior should be measured individually, so that eventually the differential impact of each of these on the behavioral outcome can be established. For example, Sperber, Fishbein, and Ajzen (1980) provided a detailed description of a study which endeavored to establish a model for the intention of young women to choose a career in the work force, as opposed to becoming a home maker. To do so, a questionnaire was designed which required the participants to estimate the likelihood of their intention to pursue each option described in vignettes. Following this, questions were developed which assessed the participant's attitude toward each choice (a good-bad continuum) and the subjective norm (the participant's views of what 'important people' thought she should do). Finally, questions were developed which assessed the determinants of these attitudes and subjective norms. That is, the beliefs regarding the implications of each of the life-styles were assessed (e.g., participants were asked whether they would feel emotionally secure with each of the life-styles). Normative beliefs were assessed with such questions as: "My mother thinks I ought to have a future like Jane's" (where Jane is described in a vignette, p. 121). Motivations to comply were assessed with questions like: "With respect to my making future plans, I would do what my mother thinks I ought to do" (p. 121).

By calculating the correlation between each of the successive elements, the authors were able to demonstrate strong relationships between the elements. They also showed that external variables which traditionally have been used to predict occupational choice, such as

personality characteristics and family background, had a weak correlation with the outcome variable (career intention). Thus, the authors were able to explain different career intentions in young women with similar personality or background variables.

Ajzen and Fishbein's model could be adapted to predict mentally disabled residents' external integration (Figure 3). It should be noted that external integration is an omnibus term for a multitude of behaviors, including a variety of proximal (such as saying hello to a neighbour) and distal externally integrative behaviors (such as going to a concert). Each of these behaviors, presumably, would have its unique predictive model. Consequently, the model proposed in Figure 3 is a generic one.

In this figure, external factors include those from the three sources discussed above. Beliefs regarding the behavioral outcome of external integration and the evaluation of that outcome combine to form the attitude of the resident toward social integration. At the same time, culminating in the subjective norm, the resident also weighs the attitude of others toward him/her performing the behavior. So far in this review, 'others' have meant staff members and neighbours. This assumes that the resident considers neighbours and staff as significant others. This might or might not be the case. It could very well be that friends, family, and fellow residents are considered as significant others in addition to, or instead of, staff and neighbours.

Nevertheless, assuming that opinions of staff and community members are relevant to the average resident, their influence would enter the

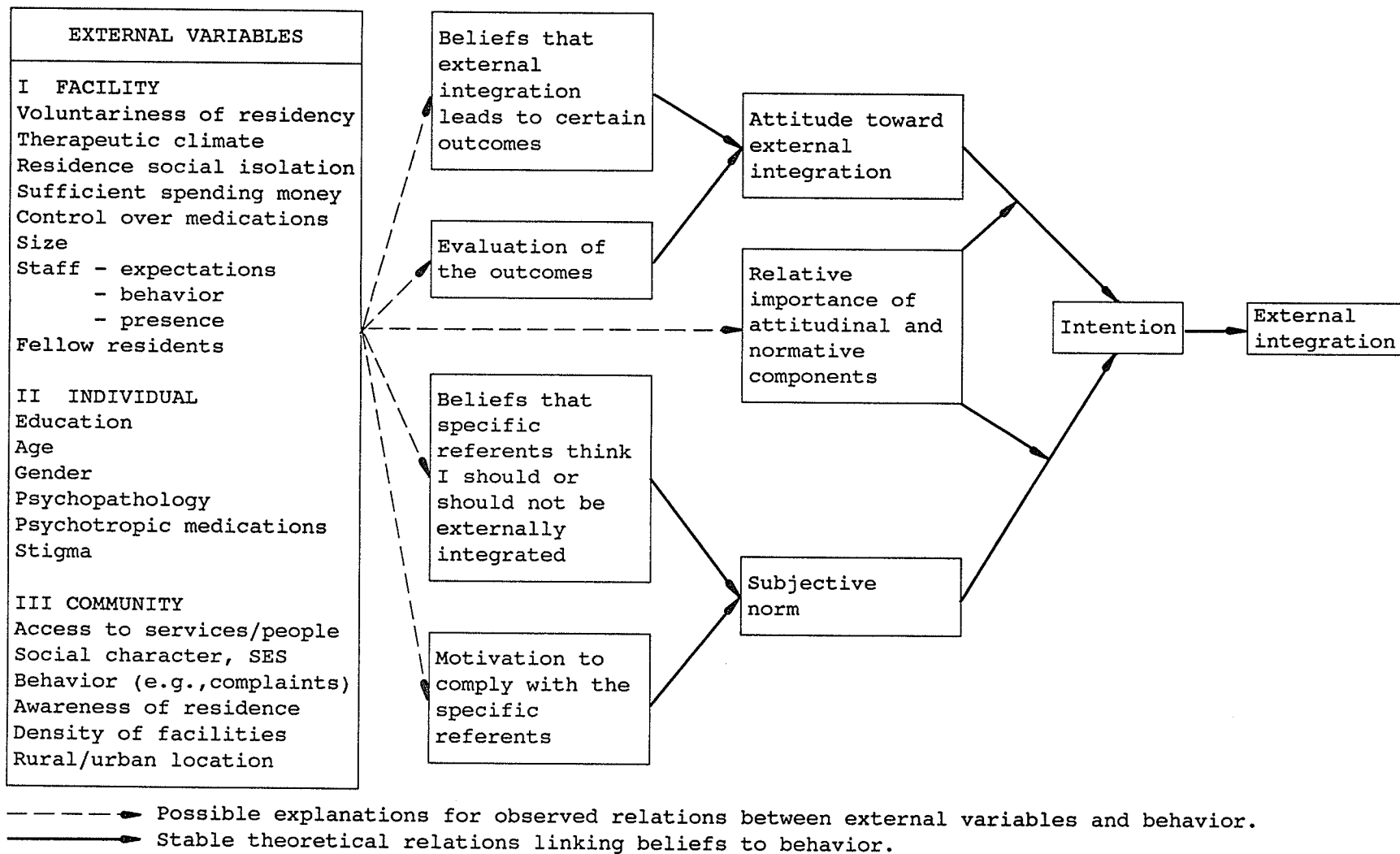


Figure 3. A model predicting external integration of facility residents.

model in terms of "beliefs regarding referents." It should be noted that the model does not assume that opinions of others are necessarily perceived accurately by the residents. However, as argued above, the perception of another person's intention is more influential in determining reasoned action than the actual intention which, of course, is not directly observable.

The proposition that the community influences external integration through the behavior of its members is consistent with the discussion by Segal and Aviram (1978) and Segal et al. (1980). These authors concluded that a moderate degree of community restrictiveness is conducive to external integration, in that it places certain expectations on residents as well as staff members. Unfortunately, this is only a post-hoc interpretation and has not been confirmed by further research.

As can be seen in Figure 3, the more demographically-oriented research of Segal and his associates and others is now fitted in the more psychologically-oriented model of Ajzen and Fishbein (1980). This seems necessary to understand the process of external integration. As argued above, demographic variables could be statistically significant predictors, but do not necessarily explain the process leading to a certain behavior. Moreover, they tend to predict only a small portion of the variance.

Community Residences in Winnipeg

Description of Residential Homes in Winnipeg

The Department of Health of the Government of Manitoba classifies residences for the chronically mentally disabled into three categories: licensed facilities, community residences, and independent living residences (Department of Health, 1986). The former two categories are staffed facilities, operated by others under license from the Department of Health. Independent living residences are operated directly by the Department and have no on-site staff. The terms used by the Department for the two varieties of staffed facilities (licensed facilities, community residences) are somewhat confusing and will therefore be replaced by, respectively, Type I and Type II residences.

Type I residences are generally intended as permanent housing for residents and have some form of full-time staffing. At the beginning of the study, there were 17 Type I residences in the City of Winnipeg. Of these, 10 had between 4 and 10 beds ($\bar{M} = 7.1$). The remaining 7 ranged in size from 16 to 44 beds ($\bar{M} = 25.7$). Three of the 17 were classified as psychogeriatric and were licensed to serve exclusively clients over 50 years of age. In actuality, most of their clients were well over 65 years of age.

Type II residences are characterized by a shorter stay of residents (6-24 months) and by more active treatment programs than Type I residences. At the beginning of the study, there were three Type II

residences in the City of Winnipeg. Of the three residences, two had 6 beds and one had 19 beds.

Independent living residences consist of 1-3 bedroom apartments or homes. There is no residential staff, but itinerant staff visit residents, depending on their needs and recency of arrival in the program. New residents are visited up to a maximum of two to three times per week for 2-3 hours per visit, while well established residents are seen only once a week for a brief visit. The City of Winnipeg counted 34 independent living residences at the beginning of the study. Of these, 10 were single-bed units, 3 were two-bed residences, and the remainder had three beds each.

Description of the Residential Home Population in Winnipeg

Table 1 provides a breakdown of community facility beds in Winnipeg at the beginning of the study (Department of Health, 1986). This information is provided in some detail, given its relevance for sampling procedures discussed below. Beds in a number of facilities are designated for either female or male residents. Other facilities have no such designation for beds.

Clients in psychogeriatric facilities form a relatively small portion (9.4%) of the total ($N = 282$) staffed residence population. The remainder of the staffed and nonstaffed residence population consists of a mixture of acutely and chronically disabled individuals. A breakdown or ratio was not available from the Department of Health. Neither were overviews of diagnoses, individual levels of functioning, or any other

Table 1

Numbers of Beds in Community Facilities in the City of Winnipeg

Residence type	Number of Residences	Number of Beds			
		Male	Female	Mixed	Total
Staffed:					
Type I	17	104	53	94	251
Type II	3			31	31
Independent living	34			82	82
Total	54	104	53	207	364

Note. From Winnipeg Region residential care resources, Department of Health, 1986, Winnipeg, Manitoba, Canada: Government of Manitoba.

information that could have enabled comparisons between the total population and the present study's sample.

To estimate some of the characteristics of the total population, a review of the literature concerning Manitoba was performed. Hull and Thompson (1981b) was the most recent publication found. It deals with a large segment of the residential facility population in Manitoba. For the whole of Manitoba, out of a total of 296 mentally disabled residents in 1977, this study found that 75% were diagnosed as suffering from schizophrenia. The remaining residents fell into a variety of diagnostic categories, none of which included more than 7% of the sample. Age ranged from 19 to 81 years, with a median of 57. Slightly over one half (50.7%) were female, the remainder male. Over 99% had been hospitalized for their mental disability. Length of hospitalization ranged from "a few months to over 20 years" (p. 249). Median length was 7.5 years. No data were provided regarding mean length of hospitalization or any other descriptive statistics.

Although a majority of residents surveyed by Hull and Thompson lived in Winnipeg, the above data included individuals residing outside the city. In addition, these data are obviously outdated. However, they are reasonably typical of residential populations reported elsewhere (Kruzich & Kruzich, 1985; Lehman, Ward, & Linn, 1982; Linn et al., 1980; Murphy, et al.; 1976, Wilder et al., 1968). Therefore, it is reasonable to assume that the present Winnipeg residential population is not substantially different, with the exception of gender. Given the available beds, males are probably in the majority at present. This would also be more consistent with most other studies (e.g., Lehman et al., 1982; Murphy et al., 1976; Nelson & Earls, 1986).

Description of Neighbourhoods in Winnipeg in Which Residences Are Located

To reiterate, as indicated in Table 1, there are 20 staffed facilities located in the City of Winnipeg. Of these, 17 are Type I and 3 are Type II residences. Of the 17 Type I residences, 3 are designated as psychogeriatric.

Of the 14 nonpsychogeriatric Type I residences, 10 are located in the east half of the West End area of Winnipeg (Department of Health, 1986; Winnipeg Real Estate Board, 1985). Of these 10 residences, 9 have at least 1 other residence within two blocks. The neighbourhood is considered part of the core area of Winnipeg and is characterized by relatively large, older homes and small, low-rental apartment buildings.

The remaining 10 staffed facilities, including 4 nonpsychogeriatric and 3 psychogeriatric Type I residences, and all Type II residences, are spread out around the centre of the city. Four of these facilities are in completely different neighbourhoods. The remaining 6 are located in three separate pairs. Facilities in each pair are within approximately five to six blocks of one another. Most of these 10 facilities are located in older areas of the city which are, even so, less deteriorated than the core area.

The independent living residences are located in a much greater variety of neighbourhoods, ranging from the core area to newer suburbs. Some are relatively close to each other, while some are relatively isolated from other facilities. Most are in low-income housing developments.

In summary, staffed facilities fall into three natural strata: high density (at least one other staffed facility within two blocks), medium density (another staffed facility within 5-6 blocks), and low density (no other staffed facility in the neighbourhood).

Independent living residences can be divided into similar strata in relation to their distance from the larger residences. However, the majority would be in the low to medium density categories. That is, most are not within two blocks of a larger facility. However, many are within this distance from another independent living residence.

Intent of the Research

The research was intended, first of all, to establish and test a model, based on the theory of Ajzen and Fishbein (1980), for external integration of residents of community facilities for the mentally disabled. It examines three sets of (independent) variables, namely characteristics of residents, the community, and the facility and staff.

Second, the focus of the research is on several issues arising from the model, which have not been investigated in the past, or about which past research appears inconclusive. These issues are:

1. Do different variables predict proximal and distal external integration?
2. To what extent do significant others influence the residents' subjective norms? Who are these others?
3. What are the relative contributions of the various elements of facility, individual, and community categories in the model?

Specifically:

- a) Is external integration different in staffed residences as compared to independent living residences? Does staffing contribute to the residents' subjective norms and/or the relative weight of subjective norms and attitudes on external integration?
- b) Do residents experience stigma? If so, to what do they attribute this stigma?
- c) Does access to services affect distal and proximal external integration differently? Does density of residences in a neighbourhood have an influence on residents' attitudes toward external integration? How do community reactions to the residence (such as complaints) contribute to external integration in the model?

Hypotheses

The following hypotheses are proposed, based on the relationships between the constructs in the model in Figure 3.

Hypotheses Regarding Both Proximal and Distal External Integration

1. Voluntariness of residency will be directly related to both proximal and distal external integration of residents.
2. Therapeutic climate within a residence will be directly related to both proximal and distal external integration of residents.
3. Resident control over medication will be directly related to both proximal and distal external integration of residents.

4. For seriously disturbed residents, amount of psychotropic medication will be directly related to both proximal and distal external integration.
5. For residents exhibiting mild to moderate psychopathology, amount of psychotropic medication will be inversely related to both proximal and distal external integration.
6. Self-perceived stigma of being an ex-patient or of having a mental illness will be inversely related to both proximal and distal external integration.
7. Density of residences in a neighbourhood will be inversely related to proximal external integration, and directly to distal external integration.

Hypotheses Regarding Proximal External Integration

8. Size of the facility will be inversely related to proximal external integration of residents.
9. A perception by residents that staff favor proximal external integration will be directly related to proximal external integration.
10. The interaction of the subjective norm toward proximal external integration and the attitude toward proximal external integration will be more directly related to proximal external integration than either factor alone.

11. Self-perceived stigma of being a facility resident will be inversely related to proximal external integration.
12. Number of community complaints will be inversely related to proximal external integration only if residents believe that staff do not favor proximal external integration.

Hypotheses Regarding Distal External Integration

13. Residents' beliefs that they have sufficient spending money will be directly related to distal external integration of residents.
14. A perception by residents that staff favor distal external integration will be directly related to distal external integration.
15. The interaction of the subjective norm toward distal external integration and the attitude toward distal external integration will be more directly related to distal external integration than either factor alone.
16. When psychopathology is statistically controlled for, residents of nonstaffed residences will have greater distal external integration than residents of staffed facilities.
17. Levels of psychopathology will be inversely related to distal external integration.
18. Access to the community will be directly related to distal external integration of residents.

METHOD

Participants

Participants were recruited from staffed and independent living residences for the mentally disabled licensed or operated by the Manitoba Department of Health in Winnipeg, Manitoba.

Selection Criteria

Since, typically, participants between the ages of 18 and 65 have been the focus of community research (Segal & Aviram, 1978; Trute, 1975, 1986), residents were limited to this age range. Given the urban location of previous samples, the present study was limited to residences located in the City of Winnipeg, Manitoba, Canada. Participation was voluntary.

In each staffed residence where a resident became a participant of the study, one staff member was recruited to complete the staff questionnaire. While no age or other restrictions were placed on the participation of staff members, they were selected using a specific method described in the following section. Participation of staff members was voluntary.

Sampling Procedures

Residents.

Different sampling procedures were employed for residents of staffed versus nonstaffed facilities. After approving the study, the Department of Health supplied two lists. The first of these contained the addresses, phone numbers, and number of residents of all independent living residences (nonstaffed) in Winnipeg. The second list contained the addresses, phone numbers, names of operators, and number of beds of all Type I and II staffed residences.

Using the second list, letters were sent to all operators of the staffed residences (Appendix I). These letters were followed by phone calls to solicit the cooperation of operators in the study. All but the operators of two residences (total beds = 12) granted approval for the study. This left 18 residences available for sampling.

Random sampling of all pooled residents of staffed residences would likely have resulted in a large number of residents from larger residences and the possible exclusion of a number of smaller residences from the study. The latter would seriously reduce the range of environmental variables, such as type of neighbourhood. It was decided, therefore, to sample from each of the 18 available residences. A total of 40 participants was sought. This number was based on a power analysis (Shavelson, 1981) which indicated a minimum required sample size of 35, allowing for attrition of five potential participants. The power test assumed a one-tailed test of differences of medium effects ($\delta = .6$) between two samples with Alpha set at .05 and Beta at .20 (power = .80).

Thus, two residents from each of the 14 smallest residences (5-20 beds) and three each from the four largest residences (22-44 beds) were randomly chosen. All registered occupants from each residence were randomly sampled. Thirty-six of 40 participants (90%) agreed to participate. The four individuals (one female, three male) who refused to cooperate offered no specific reasons for their refusal. No further data, such as age, were collected on them. Of the 36 participants, two (one female, one male) were subsequently deleted from the study. One individual appeared too psychotic to complete the interview beyond providing very basic demographic information. The second individual was deleted after completion of approximately half the questionnaire, when she became visibly upset.

Thus, a total of 34 useable questionnaires were completed. This constituted 13.1% of the total occupant population of staffed residences in Winnipeg. In total, 90% of the residences participated.

Since the number of independent living residences was greater and they were dispersed more widely than staffed residences, the process followed to recruit residents of independent living residences was somewhat different. Based on the list provided by the Department of Health, all beds were pooled and numbered. Forty beds were randomly selected. Since names of residents were not known at this point, letters were sent to all selected independent living residences ($n = 19$, Appendix J). The letter, addressed "to the residents," explained the study, suggested that residents to discuss the study with their mental health worker, and advised them that a researcher would call them to solicit participation of one or more of the residents.

These letters were followed by telephone calls to each residence. After it was ascertained that the person answering a call was indeed a resident, he or she was asked whether the letter was received and the study was (further) explained. The person was then asked to list the first names of all the occupants of the residence. These names were sorted alphabetically and matched with the numbers previously assigned to the beds in the residence. Participation in the study was then solicited from the resident thus selected and an appointment for the interview made. If more than one resident in a residence was selected, the latter procedure was repeated with other residents. A total of 36 residents (90%) were interviewed. Four independent living residents (two male, two female) refused participation. A total of 18 residences were involved, with one to three residents per address participating. No participant had to be deleted from the study. The sample constituted 50% of the independent living residence population and 75% of residences.

Staff members.

Many of the 18 staffed residences were staffed only by the operator, perhaps assisted by a part-time custodian. Thus, there was the possibility that operators would have a vested interest in representing the residence in a favorable manner, or would have a less-than-objective view of the residence. This could bias their responses to the study's questionnaire. In order to reduce bias across the study, treatment staff other than the operator were recruited whenever possible. When more than one such staff member was available, a staff member was randomly selected. This method resulted in nine operators and nine treatment staff participating in the interviews.

Characteristics of Participants

Residents.

Participants in the study were generally middle-aged (mean age 45.7 years). Slightly over half were male (51.4%) and 77.1% had never married. Almost all (98.6%) were of Caucasian descent, with most (91.4%) reporting European ethnic backgrounds. Most (80.0%) reported provincial welfare as their main source of income. Only 18.6% reported some form of wages, typically from sheltered workshop placements or odd jobs around the neighbourhood, such as a paper route. Mean disposable monthly incomes, after required deductions for rent and board, were \$81.12 for staffed residence occupants and \$146.17 for independent living residents. The range was from \$5.00 to \$392.00 per month.

Ninety percent of residents had at least one admission ($M = 3.6$) to a psychiatric facility. Total reported time spent in such facilities averaged 23.6 months. Almost all participants (92.9%) reported taking psychotropic medication. Of those receiving a major tranquilizer (80.0%), the average daily intake of chlorpromazine or its equivalent was 685.0 mg. This is in the typical daily dosage range of 100-1000 mg given by Cole (1976) and also in the range of 600-800 mg suggested by Shepherd, Lader, and Rodnight (1968) as being the limit of effectiveness of the drug.

Most residents had been at the residence for an extended period ($M = 45.3$ months). While the majority of participants reported not having a current psychiatric diagnosis, 22.9% reported some form of schizophrenia, 12.9% a disturbance of mood, and 5.7% a variety of other

diagnoses, including personality disorder and several informal descriptions such as "nerves." The mean rating for psychopathology, as measured by the Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1962), was 25.2 on a scale ranging from 16 to 112. Given that an individual free of any apparent psychiatric symptoms would score 16 on the scale, the mean found for the sample can be considered relatively low. This is probably reflective of the fact that participants in the study were living in the community.

Table 2 shows the characteristics of the two groups of residents and results of tests used to compare them. Nonparametric tests were used where variances of both groups differed significantly (F significant at $p < .01$). The groups did not differ significantly in most characteristics, including age, education, marital status, ethnicity, most income sources, having been admitted to a psychiatric facility, total time spent in these facilities, number of admissions, whether or not taking psychotropic medication, whether or not receiving a major tranquilizer, chlorpromazine equivalent intake, length of tenure at the residence, self-reported diagnosis, and a measure of psychopathology.

Significant differences ($p < .05$) between the groups did occur for gender, income, amount of spending money, and having provincial welfare as source of income. Independent living residents, compared to occupants of staffed residences, were more often female, reported a lower income but had more spending money, and reported having provincial welfare less often as one of their sources of income.

Table 2

Characteristics of Residents in the Sample

Resident Characteristic	Type of Facility		Test
	Staffed (<u>n</u> = 34)	Independent (<u>n</u> = 36)	
Age			
Mean (Years)	45.8	45.6	<u>t</u> = .04
<u>SD</u> (Years)	14.3	14.4	
Gender			
Male	67.6%	36.1%	<u>χ</u> ² = 5.76*
Female	32.4%	63.9%	
Education			
< Grade 7	23.5%	8.4%	<u>U</u> = 547.5
Grade 7-9	29.4%	33.3%	
Grade 10-12	38.2%	55.6%	
> Grade 12	8.8%	2.8%	
Marital Status			
Single	79.4%	75.0%	<u>χ</u> ² = .23
Separated/ divorced	14.7%	16.6%	
Widowed	5.9%	8.3%	
Ethnicity			
E.Europe/ Ukrainian	20.6%	30.6%	<u>χ</u> ² = 3.19
British/Irish	38.2%	30.6%	
N.W. Europe	20.6%	25.0%	
French	11.8%	2.8%	
None/other	8.8%	11.1%	

Monthly income			
Mean (\$)	636.71	491.92	
<u>SD</u> (\$)	85.46	131.06	$\underline{U} = 225.0^{***}$
Income sources ^a			
Prov. welfare	91.2%	69.4%	$\chi^2 = 3.89^*$
Family	20.6%	13.9%	$\chi^2 = 0.18$
Wages	11.8%	25.0%	$\chi^2 = 1.24$
Savings	5.9%	13.9%	$\chi^2 = 0.51$
Disabil. pension	23.5%	25.0%	$\chi^2 = 0.00$
Spending money			
Mean (\$)	81.12	146.17	
<u>SD</u> (\$)	45.62	95.79	$\underline{U} = 275.0^{***}$
Previous admissions psych. facilities			
Admitted	91.2%	88.9%	$\chi^2 = 0.00$
Total time spent			
Mean (mo.)	29.3	18.4	
<u>SD</u> (mo.)	61.3	29.2	$\underline{U} = 570.5$
No. admissions			
Mean (mo.)	3.4	3.9	
<u>SD</u> (mo.)	2.9	5.4	$\underline{U} = 577.5$
Psychotropic med's			
Presently taking	91.2%	94.4%	$\chi^2 = 0.00$
Major tranquilizer	73.5%	86.1%	$\chi^2 = 1.03$
Chlorprom. equiv.			
Mean (mg/day)	534.8	560.4	
<u>SD</u> (mg/day)	725.0	676.2	$\underline{t} = 0.04$
Residence tenure			
Mean (mo.)	51.1	39.7	
<u>SD</u> (mo.)	72.2	39.3	$\underline{U} = 609.5$

Diagnosis^b

Schizophrenia	17.6%	27.8%	
Major mood disorder	17.6%	8.3%	
Other	5.9%	5.6%	
Don't know/none	58.8%	58.3%	$\chi^2 = 1.97$

BPRS^c rating

Mean	25.2	25.2	
<u>SD</u>	6.2	5.7	$t = 0.07$

Note.

^a More than one response possible. ^b Most self-reported. ^c Brief Psychiatric Rating Scale.

* $p < .05$. *** $p < .001$.

Staff members.

Of the 18 staff members interviewed, half were operators and half were hired staff. Most (72.2%) were female and averaged 43.9 years in age ($SD = 14.3$). Most (83.3%) had been with the residence for at least a year, many much longer (mean tenure = 66.1 months, $SD = 77.0$).

Procedures

Pilot Testing

The resident questionnaire was pilot tested on four (2 female, 2 male) residents of the two largest community residences. These four individuals were subsequently not sampled for the study itself. The pilot test resulted in some minor wording changes, mainly to simplify some of the language.

Only one major change resulted from the pilot test. A rating method using a seven-point scale in Sections II and V of the questionnaire (Appendix A) appeared either incomprehensible or confusing to the interviewees. This rating method was very similar to the questionnaire format developed by Ajzen and Fishbein (1980), but required revision. To simplify the questionnaire, the seven-point scale was reduced to five points and its format was changed from "agree-disagree" to "definitely yes-definitely no." The latter format was prompted by the spontaneous tendency of most participants in the pilot project to respond with "yes" or "no" to the questions posed. However, using this new scale also required rewording of the questions in these sections. The definite statement format (e.g., "I plan to behave like Jane") required an

estimate of probability by the respondent (e.g., "extremely likely"). The new format incorporated the probability in the statement (e.g., "I probably will behave like Jane"), while accommodating the tendency of the respondents to provide a "yes-no" type answer (e.g., "definitely yes"). Further testing with one of the pilot test participants demonstrated a significant improvement in comprehension.

While it would have been preferable to maintain the type of question and answer format employed by Ajzen and Fishbein, this was not advisable with the current population. However, the changes made in the instrument preserved the process (i.e., the estimation of probability), while simplifying the task considerably.

The staff questionnaire was piloted on two female volunteers from outside the residential care system. This was necessitated by the limited number of staff in the residences. Recruiting any staff for the pilot study would have reduced the number available for the actual study. The two volunteers were selected to be as similar in background to the residential staff as possible. One was a professional homemaker of a social agency and the other was a student in a certificate program of social work.

Resident Procedures

Operators of staffed residences were sent letters introducing the study (Appendix I). Subsequently, personal contact was made with the operator and consent for the study was obtained. The operator was then asked to supply a list of all occupants of the residence. From this

list, the researcher randomly selected the required number of participants. After this, the operator was asked to introduce the interviewer(s) to the selected residents. The resident was then read the consent form (Appendix G) and any questions the resident had about the study were answered. When the interviewer judged the resident to have sufficient understanding of the study and to be in a position to give informed consent, the resident was asked to sign the consent form.

Independent living residences were also sent a letter introducing the study (Appendix J). Following this letter, telephone contact was made prior to the interview with the selected resident and the study was explained in a manner similar to that employed with residents of staffed residences. The procedure of signing the consent form was identical to that used in staffed residences.

Interviews for both staffed and independent living residents proceeded in identical fashion. The interviews generally took place in the resident's own room. If this was not possible, a space was secured where confidentiality could be guaranteed. Residents were assured of the study's confidentiality.

The resident questionnaire (Appendix A) was administered to all residents. To counter order or fatigue effects, Sections II through XI were varied in order so that none of the 80 questionnaires prepared for the study contained the same sequence of sections. The instructions for Sections II and V were adjusted to accommodate the order in which the two sections appeared in. To reduce repetitiveness, these two sections were presented with at least one other section interspersed. The

differently ordered questionnaires were administered randomly to the participants.

Of the 70 completed interviews, 37 were conducted by the author alone, 18 by a male research assistant alone, 10 by the author with the research assistant observing, and 5 by the assistant with the author observing. This procedure was followed to permit calculation of an inter-rater reliability measure for the assessment of psychopathology (the BPRS) and to determine whether there was a significant interviewer effect. Power analysis (Kraemer & Thiemann, 1987) indicated that for the interrater reliability a minimum sample size of 14 would be required. Delta was set at .80, with power at .90 and alpha at .01. The delta reflected a presumed strong effect (i.e., two raters rating the same behavior on the same instrument).

With joint interviews, participants were advised of the reason for the observer and asked for their consent to have the observer present. All participants provided this consent.

Following each interview, interviewers completed the BPRS (Appendix C) and the Researcher Observed Checklist (Appendix D).

Most interviews required 60 to 80 minutes ($M = 71.5$, $SD = 9.8$). The shortest interview took approximately 45 minutes, the longest slightly over two hours. While a few interviews had brief interruptions, none appeared significantly influenced by external events. One resident became visibly upset during the interview and was given a choice to either withdraw from the study or to continue at a later date. She chose the latter and was interviewed the following day without further difficulty.

Provisions were made for those residents who did not know details regarding their psychotropic medication, their psychiatric diagnoses, or their history of psychiatric admissions. Participants who did not know any of these details were asked to sign an additional consent form (Appendix H). Generally this procedure was followed regarding admissions and diagnoses. However, since most residents of staffed facilities preferred to speak directly to staff about their medication, typically this information was obtained together with the resident following the interview.

Residents were paid 10 dollars upon completion of the interview and signed a receipt for this amount. All participants were asked at what address they wished to receive a summary of the study's findings. While most participants chose to receive the summary at the residence, some chose to have it forwarded in care of a relative. This most frequently occurred in the staffed residences, where residents appeared less certain about receiving their mail unintercepted than in independent living residences.

Staff Procedures

Following completion of the resident interviews, either a staff member or the operator was interviewed in a private area, free from distractions. Where necessary, the study was first explained. The respondent was advised that participation in the study was voluntary and that the interview was confidential.

After any questions were answered and verbal consent was obtained, the respondent was administered the staff questionnaire (Appendix B). The interview required less than 15 minutes.

Staff members and operators were not paid for the interview, but all were interviewed while on duty. They were asked at what address they wished to receive a summary of the results. All interviews took place without interruption.

Instruments

The various independent and dependent variables were measured using a resident questionnaire (Appendix A), a staff questionnaire (Appendix B), and interviewer observations (Appendices C and D).

Descriptive Measures

Social desirability. Social desirability of responding was measured for residents (Appendix A, Section X) and staff (Appendix B, Section II) with a short form of the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960).

The Marlowe-Crowne scale consists of 16 true-false items, providing a range from 0 to 16. A high score on the scale suggests a high degree of social desirability. A low score suggests a very open or spontaneous mode of responding.

Crowne and Marlowe reported an internal consistency, using the Kuder-Richardson formula, of .88. The scale was specifically designed to

provide an estimate of socially desirable responding independent of psychopathology. This objective was supported by the finding that only two subscales of the MMPI (Pd and Sc) had significant correlations with the scale. A correlation of .54 ($p < .01$) between the Marlowe-Crowne scale and the MMPI lie scale substantiated its construct validity. It has been used by Trute (1975, 1986) and Segal and Aviram (1978).

Residents in the present study scored an average of 10.4 ($SD = 3.0$) on the short form of the Marlowe-Crowne Social Desirability Scale. To interpret this mean score, the short version can be prorated and compared to the scores found for standardization samples. Thus, this mean score would be a full scale equivalent of 21.5 on the 33 item scale. This is 1.34 standard deviations higher than the 13.7 score reported for a sample of 120 college students by Crowne and Marlowe (1960). It is also 1.30 standard deviations higher than the mean score of 14.5 reported by Strahan and Gerbasi (1972) for four independent samples consisting primarily of university and college students. These comparisons suggest that, while the means for the current sample are somewhat higher than for the standardization samples, they are not unusually high.

Scale reliability for the residents, as measured by Cronbach's Alpha, is .71. The mean of item to total correlations is .31, with a range from .11 to .50. These findings suggest that, with residents, the scale is moderately reliable.

Staff have a mean score of 12.9 ($SD = 2.6$) on the Marlowe-Crowne scale, with a severe negative skew. The latter is indicative of the

typical pattern of staff to score at the high end of the scale. Cronbach's Alpha is .74 for this group, with a mean of item to total correlations of .32 (range from .00 to .85). The mean score suggests a greater defensiveness than the residents and necessitates caution in interpreting staff data.

In view of these reliability results, it was decided not to use social desirability as a covariate (Tabachnick & Fidell, 1987, p. 184). This covariate would have been especially useful with measures derived from staff interviews, since it was believed that staff would have the greatest interest in answering in socially desirable ways. A further review of the major variable derived from staff, therapeutic climate, revealed a Pearson correlation between it and the Marlowe-Crowne of .12 ($p > .05$). This supported the view that the covariate had little influence on the therapeutic climate variable. As a final assurance check, the two hypotheses for which social desirability would have been used as a covariate (Hypotheses 2 and 12) were analysed with and without the covariate. In both instances, the statistics derived did not differ from each other. This suggested that use of the covariate could be deleted without any concern for the validity of the statistical analyses.

Demographic and other descriptive data. To enable comparisons between the sample and other studies and populations, and to gain a more in-depth understanding of the sample, a number of variables beyond those related to the hypotheses were added to the questionnaires. These variables were selected from those reported in other studies (e.g.,

Segal and Aviram, 1978). Thus, Item I-4 of the resident questionnaire (Appendix A) addressed marital status while Item I-5 addressed ethnic background. Item IV-4 assessed the therapeutic help residents were receiving for psychiatric problems, Item IV-5 assessed whether residents received help with social skills, Item VI-1 measured length of residency in the current residence, and Items VI-5 through VI-7 assessed possible obstacles to external integration. In addition, information regarding sex and age of staff was collected, as well as length of time staff had worked in the residence (Appendix B, Section I).

Independent Variables

External variables.

I) Facility variables.

1. Voluntariness of residency was measured by the sum of scores on Items VI-2 to VI-4 of the resident questionnaire (Appendix A). The items were adapted for the present research from Trute (1975). They asked respondents about the voluntariness of the original placement in the residence, the current voluntariness of their stay, and their desire to stay or leave, if given a choice. Answers were five multiple choice alternatives per question. Alternatives were ranked from greater to lesser voluntariness.

The possible range for this variable was from 3 to 15, with a high score suggesting greater voluntariness. This is also the actual range found for respondents ($\bar{M} = 11.01$, $SD = 2.53$). The scale does not deviate significantly from normal (z for skew and

kurtosis is, respectively, -1.75 and .62). Cronbach's Alpha is moderate at .45, with a mean of item-total correlations of .28 (range from .15 to .36). This suggests a relatively modest reliability of the variable.

2. Therapeutic climate was measured by the total score on Form-S of the Community-Oriented Programs Environment Scale (COPES; Moos, 1974; Appendix B, Section III). This scale assesses 10 different aspects of treatment climate. These subscales are: (a) involvement of residents in the residence; (b) support of staff and residents for other residents; (c) spontaneity of emotional expression; (d) autonomy of residents to participate in decision making in the residence; (e) practical orientation of the program in focussing on teaching living skills; (f) personal problem orientation; (g) acceptance of the expression of anger and aggression; (h) order and organization of the program; (i) clarity of expectations and rules of the program; and (j) staff control over residents and their activities. Form S consists of 40 true-false items (4 per subscale) of the 100-item full scale. Each item is scored 1 or 0 according to a key. This provides a range from 0 to 40, with the higher the score, the better the treatment climate.

While Moos (1974) showed that the short form provided profiles highly similar to the long form, he did not provide the same comprehensive statistical information for the short form as for the long form. For the long form, the mean internal consistency

of the 10 subscales completed by staff of various community residences was .78. The mean item-subscale correlation was .47. The mean item-other subscale correlation was .14, indicating a high specificity of items for each subscale. Moos developed the short form by selecting the four items of each subscale with the greatest item-subscale correlation.

The short form was chosen for the present study because reported results were highly similar to the full length version. Since the total score on the COPEs was used to determine treatment climate and the subscales were only used for secondary analyses, this appeared to be a reasonable compromise, especially since the long form would have lengthened the questionnaire very considerably.

In the present study, the term for respondents was changed from "members" to "residents" in order to remain consistent with other sections of the questionnaire.

Cronbach's Alpha for the present study is .77. The mean for item to total correlations is .23 (range from -.39 to .72). The total score ($M = 26.56$, $SD = 5.4$) is normally distributed.

These results are somewhat mixed, with an Alpha very similar to Moos' (1974) and a normal distribution, but with generally poor item-total correlations. These scores will therefore have to be interpreted with some caution, especially given the staff's low degree of spontaneity (see above). The latter may have contributed to selective answering of some items but not others.

This, in turn, would show in inconsistent responses and would explain the low item to total correlations.

3. Social isolation of the residence as a whole was measured by the sum of scores on Items I-3 to I-8 of the staff questionnaire (Appendix B). Items 3 and 4 were derived from Trute (1975). Item 3 asks whether residents know the names of any neighbours. Item 4 enquires if some residents have ever been invited into neighbours' homes. Items 5 through 8 were developed for the study in order to assess other aspects of possible community involvement, such as visits from neighbours and community board involvement. Response alternatives for these items were either a yes-no dichotomy, or a scale ranging from 0 (never) to 3 (often). Possible scores for this variable ranged from 0 to 16, with a high score being indicative of lesser isolation.

Cronbach's Alpha for this variable is .77, with a mean item to total correlation of .53 (range from .42 to .75). The variable is normally distributed (\bar{M} = 6.0, SD = 3.6), with obtained scores ranging from 0 to 15.

4. Sufficient spending money was measured by item III-6 of the resident questionnaire (Appendix A). This item consists of a scale ranging from 1 (always enough) to 5 (never enough). The Mean for the item is 3.0 (SD = 1.6). Scores are normally distributed. Other items (III-1 to III-5 and III-7) provided additional information of a descriptive nature regarding

financial issues and control of money. These items were derived from Trute (1975). Items ascertained the respondent's total income, money spent on room and board, remaining spending money, the manner in which these amounts were received and spent, and who controlled the flow of money.

5. Control over medication was measured by Item IV-2c of the resident questionnaire (Appendix A). Nonprescription drugs and injectable medicines were excluded, since they would not determine a resident's daily routine. The resident keeping and taking all his/her own medication was considered "complete control," the resident not having control over any medication was considered "no control," and the resident having control over some medications but not others was considered "some control." The variable was scored on a scale ranging from 1 (complete control) to 3 (no control). The Mean for the scale is 2.1 (SD = .9).
6. Size of the residence (in number of beds) was obtained from government records (Department of Health, 1986). The number was entered as Item 1 of the Researcher Observed Checklist (Appendix D).
7. The type of residence (staffed or independent living) was also obtained from government records (Department of Health, 1986). It was recorded in Item 3 of the Researcher Observed Checklist (Appendix D).

8. Staff attitude and behavior towards proximal external integration of residents was measured by Item I-9 of the staff questionnaire (Appendix B). This variable was derived from Trute (1975). The first section of the question asked staff about their opinion on residents having social contacts with neighbours. The response scale ranged from 0 (very much against it) to 4 (very much in favor). The centre of the scale (2) was labeled "indifferent." Responses from staff and operators average 3.3 (SD = .6). If the answer was positive (i.e., 3 or 4), the staff member was asked about whether and how the residents were encouraged to engage in contacts with the neighbours. These latter questions were of a qualitative nature.
9. Staff attitudes and behaviors towards distal external integration were measured by a question similar to that for proximal external integration (Item I-10 of the staff questionnaire, Appendix B). Respondents have a mean score of 3.5 on the 0-4 scale (SD = 1.0). A qualitative question similar to that for proximal integration followed positive responses.

II) Individual resident variables.

1. Education was measured by Item I-3 of the resident questionnaire (Appendix A). The measure originated from the standard education scale employed by Statistics Canada (Statistics Canada, 1987). The scale consists of 11 steps, ranging from 1 (no schooling) to 11 (completed university degree).

In the current study, the variable is normally distributed (\underline{M} = 5.2, \underline{SD} = 1.9). The modal education of respondents is 6 (some high school).

2. Age, rounded to the nearest year, was measured by Item I-2 of the resident questionnaire (Appendix A). The mean age of residents is 45.7 years (\underline{SD} = 14.2). The distribution is normal.
3. Gender was observed by the interviewer (Item I-1, Appendix A).
4. Resident psychopathology was measured by the Brief Psychiatric Rating Scale (Overall & Gorham, 1962; Appendix C). This scale is a clinical assessment of psychopathology, based on observations by the interviewer. It consists of 16 subscales, addressing various aspects of psychopathology. Scores on each of the subscales range from 1 to 7, with higher scores indicating greater pathology. Thus, total-scores on the BPRS range from 16 to 112. The authors reported inter-rater reliabilities ranging from .56 to .87 for each of the 16 subscales of the BPRS.

The BPRS has been used by Segal and Aviram (1978), Segal et al. (1980), Trute (1975), and Murphy et al. (1976), who provide support for the validity of the scale as a measure of psychopathology in residential settings.

In the present study, a Cronbach's Alpha of .72 is found. The mean item-total correlation is .35 (range .00 to .53). Total scores on the instrument range from 16 to 47 (\underline{M} = 25.2, \underline{SD} =

5.9). The distribution was not normal, with both skew ($z = 4.69$) and kurtosis ($z = 5.43$) deviating significantly ($p < .01$) from normal. This distribution suggests that residents showed little or no psychopathology during the interview.

Fifteen interviews were conducted with an observer in addition to the interviewer. Both individuals rated each participant on the BPRS. This allowed an inter-rater reliability coefficient (Pearson correlation) of .77 to be calculated. BPRS reliability is discussed in further detail in the Results section below.

These findings suggest that the reliability of the BPRS is acceptable. However, residents fall generally at the low end of the psychopathology continuum. This likely results from the fact that residents live in the community and, therefore, do not have extreme forms of psychopathology.

5. A listing of psychotropic medication was obtained through the resident questionnaire (Appendix A, Item IV-2). If the resident was unsure about any of the required information (e.g., precise dosage), permission was obtained from the participant to verify this with the residence staff or the prescribing physician (Appendix H, consent form). The dosage of antipsychotic drugs was converted to standard measures (based on 100 mg Chlorpromazine) according to the table in Appendix E (Hollister, 1977) and equivalents of more recent substances by Green (1988) and Evans (1988). This procedure is similar to that used by Segal and Aviram (1978), who provided an extensive rationale for the use of drug equivalence measures.

6. Stigma of being a resident was measured in relation to neighbours (Appendix A, Item VII-1b) and in relation to community members outside the neighbourhood (Appendix A, Item VII-3b). These items were preceded by a question enquiring whether the resident felt being treated any differently than others because he or she lived in the residence by, respectively, people in the neighbourhood or people outside the neighbourhood. If the answer was other than "not at all," the respondent was asked how those people treated the resident. The response scale ranged from 1 (much worse) to 5 (much better). Stigma of "having a psychiatric problem" was measured similarly by, respectively, Items VII-2b and VII-4b (Appendix A).

These items were developed for the study to conform to the differential definitions of the two types of stigma proposed. The questions were found to be effective in the pilot study. They were not further psychometrically assessed. The two stage questioning was based on the assumption that it would be easier for residents to, first, identify whether or not they were treated any differently and, second, to quantify this difference. As expected, the majority of respondents indicated for each of the initial questions that they were not at all treated differently by others in the community. However, a more surprising result was that most of those who indicated they felt treated differently, actually indicated they were treated better than if they had not been residents of community facilities or did not have a psychiatric problem.

III) Community variables

1. Access to services and people was measured by the access items of Segal and Aviram's (1978) external integration scale (Appendix A, Section XI). This scale consists of 26 items measuring various aspects of access to people and services in the community, including: (a) access to community resources (12 items), (b) access to basic or personal resources (6 items), (c) familial access (4 items), and (d) friendship access (4 items).

Each of the above items is scored on a five-point scale. The highest score (5) indicates "very easy" access, while the lowest score (1) indicates "very difficult" access.

Segal and Aviram found that the access items showed high internal consistencies (alpha ranging from .83 to .91), high item-subscale correlations (.71 to .78), but also relatively high item-other subscale correlations (.27 to .39). The latter were, nevertheless, still within an acceptable range.

Access was assessed as the total score of all 26 items of Section XI. The range of scores for the present study is 46-130 (\bar{M} = 91.8, SD = 15.3). Scores are normally distributed.

The present study found statistics comparable to those of Segal and Aviram. Cronbach's Alpha is .91 for this variable. The mean item to total correlation is .51 (range .28 to .70).

Item 5 of the Researcher Observed Checklist (Appendix D) was added to the questionnaire from Kruzich (1985, 1986) for further

qualitative analysis. This item measured the distance, in city blocks, from the residence to the nearest busstop. It was added to assure that none of the residences was a considerable distance from a busstop. This could have reduced the access to the larger community. The information was obtained from residents or staff and was verified by the interviewer. In fact, the mean distance from residence to nearest busstop is 1.1 blocks, with 94.3% of residents living within two blocks from a busstop. The remaining four residents lived either three or four blocks from a busstop. In other words, most residents had good access to public transportation.

2. Social character of the neighbourhood was determined using the classification system developed by Hamm, Currie, and Forde (1988) for Winnipeg neighbourhoods (Appendix D, Item 6). This classification system is based on a number of factor analyses of change between the years 1971 and 1981 on twelve socio-economic indices. It constitutes a dynamic typology of 248 Winnipeg neighbourhoods. The typology classifies each neighbourhood depending on its change on two indices: (a) low income, elderly, single person households, and (b) middle income occupations. Change on each index is measured in standard scores between plus and minus two standard deviations. A positive score on an index indicates an increase in that particular factor. That is, a positive score on Index 1 represents an increase in elderly, low income single persons in a neighbourhood, while a positive score on Index 2 represents a proportional increase of people with

middle income occupations. Hamm et al. demonstrated that the character of a neighbourhood could adequately be described in terms of change in each of these indices.

In the present study each neighbourhood was classified on each of the two indices, using the standard deviation scores from the Hamm et al. study, as provided by one of the authors (R. Currie, personal communication).

The reason for choosing this classification system was the fact that Hamm et al. showed that use of census data in census tract format (the only other data source accessible for the present study) was inappropriate for studies of Winnipeg neighbourhoods. That is, the tracts were too large to adequately characterize the environment of a residence.

In the present study, Index 1 proves normally distributed. However, Index 2 shows virtually no variability, with all but one residence having a standard deviation of zero. This indicates that all but one of the neighbourhoods shows no change on Index 2. Therefore, the latter index is deleted from further analyses. Having to restrict the analysis to a single dimension, obviously, restricts the scope of the study. However, the finding does indicate the neighbourhoods where residences for the chronically mentally disabled are located are characterized by stability on Index 2. In other words, these neighbourhoods do not show a change in the the proportion of middle income occupations.

3. Complaints of neighbours was determined by the sum of scores of Items I-11 through I-13 of the staff questionnaire (Appendix B). These items were based on the types of neighbourhood complaints described by Segal and Aviram (1978), Raush and Raush (1968), and Budson (1978). The three questions asked respondents whether neighbours had complained to either staff or authorities about the residence or the residents, or had ever threatened staff or residents. The items were each scored on a scale from 0 (never) to 4 (often), giving a possible range of 0 to 12, with a high score indicating many complaints. Mean for the variable is 0.8 ($SD = 1.8$), with a range of 0 to 7. The majority of respondents (70.6%) has a total score of zero, giving the variable a severe positive skew.

The Cronbach's Alpha of this variable is .84, with item-total correlations ranging from .83 to .93. This suggests a reasonably reliable measure.

Awareness of residents of neighbours' complaints was determined by Item VII-5 of the resident questionnaire (Appendix A). This item asked respondents whether or not neighbours had complained about the residence. Only 7.1% of the residents indicated being aware of any complaints. The remainder either denied there had been any complaints (72.9%), or said they did not know of any complaints (20.0%).

4. Density of facilities was defined as the number of blocks to the nearest residence. This distance was determined through location

of each type of known mental health community residence (Department of Health, 1986) on the Winnipeg residential street atlas (Winnipeg Real Estate Board, 1985), followed by determination of the number of blocks to the nearest residence. For purposes of this study, a block was defined as 400 meters in length (Dear & Taylor, 1982). Measurements were made according to the shortest path a pedestrian could take between points. The mean for this variable is 2.3 ($SD = 3.7$). The distribution has a serious positive skew, since 65.7% of respondents lived within one block of another community residence.

Variables specific to the model of reasoned action.

Based on the theory of reasoned action, a model for external integration was presented in Figure 3. Two applications of this generic model were proposed for, respectively, proximal and distal external integration. The variables of these proposed applications of the model of external integration were measured by Sections II and V of the resident questionnaire (Appendix A) for, respectively, proximal and distal external integration.

The instruments used to assess each aspect of the two applications of the model were developed using the method recommended by Ajzen and Fishbein (1980). These authors developed and tested several models, based on their theory, using pairs of vignettes to describe relatively complex concepts to study participants. Their vignettes described two diametrically opposed sets of behaviors at the extremes of a behavioral continuum. For example, to assess traditional versus emancipated

concepts, respondents may be presented with two vignettes. The first would describe a woman engaging in typically traditional activities, such as homemaking and tending children. The second vignette would describe a more emancipated woman, engaging in such activities as working outside the home and planning a career. After reading each vignette, participants were asked a number of questions about their beliefs, attitudes, behavioral intentions, etc. towards each of the situations described in the vignettes. Responses of participants were collected in pairs, one response pertinent to each vignette of a pair. The two responses were combined to form one differential score by subtracting the response to the second vignette from the first one. Conceptually, this yielded a similar result as would have been obtained if participants had been required to indicate a preference on a continuum with the vignettes at the extremes. The former procedure was used by Sperber, Fishbein, and Ajzen (1980). They were better able to predict behavior using the differential method than they were using a single continuum.

Two sets of vignettes were created for the present study, one set for proximal external integration and another for distal external integration. Each vignette described an individual in a similar housing situation as the resident. The two vignettes in each pair differed in the quality of the external integration described, with one vignette portraying a resident being well integrated, while the other portrayed a resident who was poorly integrated. Both vignettes portrayed the behavior in question positively, in order to avoid responses biased by social desirability.

As an illustration, the two vignettes used to describe proximal external integration are shown below.

Vignette #1

Jane/Joe is a resident of a place similar to the one you live in. (S)he enjoys talking to the neighbours and has one or two with whom (s)he visits occasionally. (S)he greets them when (s)he sees them walk by. (S)he has helped some neighbours with odd jobs, when they asked. Jane/Joe is not excessively friendly, but rather likes to be involved in the neighbourhood.

Vignette #2

Brenda/Bill is a resident of a place similar to the one you live in. (S)he prefers not to talk to the neighbours too often. (S)he usually looks the other way when they walk by. If they would approach her/him with a request of some kind, (s)he would rather not help them. Brenda/Bill is not unfriendly, but rather likes to have his/her privacy.

Participants were read the two vignettes, one set at a time for the two forms of external integration. In order to facilitate residents' association with the vignettes, female names were read to female residents, male names to male residents.

Participants were given a card with the appropriate response continuum on it (Appendix F) and were asked to respond to each question with the number corresponding to the preferred response, or that response verbatim. Depending on the question, as described below, the respondents were asked to use either a response continuum ranging from 1 (extremely good) to 5 (extremely bad), or from 1 (definitely yes) to 5 (definitely no).

The measures of the components of the model for reasoned action for both proximal and distal external integration are described below. Since the actual questions were identical for both forms of integration, they are not described separately.

1. Beliefs that external integration will lead to certain outcomes.

Items II-10 through II-15 measured beliefs about proximal external integration. Items V-32 through V-37 measured beliefs about distal external integration. These items asked respondents what the outcome would be if they behaved like the person described in the vignette. The possible outcomes explored were independence, emotional security, "doing what I want," feeling needed, "having people to count on when I needed them," and life enjoyment. These items provided a broad range of possible outcomes to respondents in a manner that was relatively easy to comprehend. Items were phrased as follows: "If I would behave like [name of the person in the vignette], I would probably [outcome]." Respondents replied using the 1 (definitely yes) to 5 (definitely no) continuum.

As described above, the same question was asked for each vignette in a pair. To obtain a differential score, the rating of the second vignette was deducted from the rating of the first vignette. This provided a range of -4 to +4 for each differential score. For ease of understanding, a positive differential score will always be used to denote a positive belief about the outcome. This presentation will be maintained for both proximal and distal external integration, even though the vignettes were presented in reverse order to counter response set in residents. That is, for proximal integration, the order was high integration - low integration. For distal integration this was low - high.

For proximal external integration, the means for the six differential scores range from 0.76 to 1.34 (\underline{SD} = 1.95 to 2.26). This suggests moderately positive beliefs about the outcomes of high external integration.

For distal external integration, means for the six items range from 0.83 to 1.40 (\underline{SD} = 2.00 to 2.36). This suggests positive beliefs about the outcomes of high distal external integration.

2. Evaluation of possible outcomes of external integration.

Items II-17 through II-22 measured evaluations of outcomes for both forms of external integration. No separate measures were needed, given that the outcomes were described in terms which were equally applicable to both situations. These items asked respondents about the same six beliefs listed above. The respondents were asked to rate each item (e.g., "Being independent is...") on a scale ranging from 1 (extremely good) to 5 (extremely bad). Means for these six items range from 1.41 to 2.11 (\underline{SD} = 0.65 to 1.04). This suggests that respondents rated these outcomes as quite positive.

3. Beliefs about specific referents.

Items II-3 through II-9 measured residents' beliefs about whether specific referents thought proximal external integration is desirable. Items V-25 through V-31 did the same regarding distal external integration. The specific referents are those

with whom residents are likely to relate regularly (i.e., staff of the residence and other residents), individuals who are likely to be important to the residents (i.e., close relatives, close friends, and the resident's therapist), or individuals relevant to the study (i.e., neighbours and other community members).

Again, questions were asked in pairs, one for each vignette, and a differential score was calculated for each of the seven referents (range -4 to +4). The questions were phrased as follows: "Most of [specific referents] probably think I should behave like [the name of the person in one of the vignettes]." Respondents used the 1 (definitely yes) to 5 (definitely no) rating scale. Again, positive scores for both proximal and distal integration are used to denote favorable beliefs.

Mean scores for proximal external integration on the seven items range from 0.63 to 1.23 (SD = 1.86 to 2.33). This suggests that residents generally believe that specific referents are moderately supportive of high proximal integration.

Mean scores for distal external integration range from .79 to 1.24 (SD = 2.14 to 2.38). This suggests that residents perceive moderately good support among specific referents for distal external integration.

4. Motivation to comply with specific referents.

Again, common measures of willingness to comply with specific referents were used, in view of the fact that it was not likely

that a differentiation between willingness to comply vis-a-vis proximal and distal external integration could be obtained (Items V-38 through V-44). These items were in the form of "generally speaking, I probably want to do what most of [specific referents] think I should do." They used the same seven referents listed above. Respondents used the 1 (definitely yes) to 5 (definitely no) continuum.

Mean scores for these seven items range from 2.01 to 3.01 (SD = 1.07 to 1.35), suggesting a neutral to positive motivation to comply with each of the referents.

5. Attitude toward external integration.

Item II-16 measured attitude toward proximal external integration, while Item V-45 measured attitude toward distal external integration. Each of these items consists of the statement, "behaving like [name of the person described in the vignette] is ...," to which the participant replied using the 1 (extremely good) to 5 (extremely bad) continuum. A differential score was then computed. Again, positive scores for both proximal and distal integration are used to denote favorable attitudes.

The mean differential score for proximal external integration is 1.10 (SD = 1.70). This indicates a moderately favorable attitude towards proximal integration.

The mean differential score for distal external integration is 0.96 ($SD = 2.14$). This suggests a mildly favorable attitude toward distal integration.

6. Subjective norm.

Subjective norm was measured by Item II-2 for proximal external integration and by Item V-24 for distal external integration. These items were worded "most people who are important to me probably think I should behave like [name of the person described in the vignette]." The response continuum used was 1 (definitely yes) to 5 (definitely no). Again, for both proximal and distal integration a positive score denotes a favorable subjective norm.

Means for proximal and distal external integration are respectively, 1.29 ($SD = 2.09$) and 1.39 ($SD = 2.31$). This indicates that residents have subjective norms moderately favorable to both forms of external integration.

7. Intention.

Differential intention for proximal external integration was measured by Item II-1 and for distal integration by Item V-23. These items were formulated "I probably will behave like [name of the person described in the vignette]." Again, a differential score was calculated, based on the respondent's rating on the 1 (definitely yes) to 5 (definitely no) continuum. For both

proximal and distal integration a positive score denotes a positive intention towards external integration.

The mean differential score for proximal external integration is 0.49 ($SD = 2.56$). For distal external integration, the mean is 0.73 ($SD = 2.64$). These findings suggest that participants have weakly positive intentions towards both forms of external integration.

Dependent Variables

Proximal external integration. Proximal external integration was measured with Trute's (1986) seven-item neighbour contact scale (Appendix A, Items VIII-1 to VIII-7). The items ask respondents about their interactions with neighbours, such as whether the respondent knows any of the neighbours' names and whether the respondent has ever been invited to a neighbour's home. Responses were either 1 (yes) or 0 (no).

Trute reported that the scale had "emerged as a natural Guttman Scale from survey items questioning direct contact with neighbours" (p. 33). He reported a coefficient of reproducibility of .90 and a coefficient of scaleability of .57. Proximal external integration consists of the sum of positive responses of these seven items. The possible range is 0-7, with a high score indicating high external integration.

In the present study, a Cronbach's Alpha of .87 was found. The mean item-total correlation is .65 (range from .47 to .74). The variable is normally distributed, with a mean of 3.10 ($SD = 2.52$) and a range of 1 to 7. This suggests an acceptable reliability for the measure.

Distal external integration. Distal external integration was measured with Segal and Aviram's (1978) External Integration Scale (Appendix A, Section IX). The scale measures two concepts: participation and access. Participation measures the respondent's actual engaging in community activities. Access measures the ease of access of facilities and people in the community. Consequently, participation and access scales measure different constructs. However, both were used in the present study. Access was discussed above as an independent variable. The participation scales were used to measure distal external integration. Specifically, the participation subscales consist of: (a) attending to oneself, (b) familial participation, (c) social integration through community groups, and (d) use of community facilities.

The attending to oneself subscale consists of four items enquiring about activities such as frequency of visits to restaurants and shopping malls, and two items about the time spent in the residence during the day and evening. The familial- and friendship participation subscales consist of a total of four items asking how often respondents visit with immediate family, more distant relatives, close friends, and acquaintances. The social integration through community groups subscale consists of four items asking about such issues as doing volunteer work and joining in the activities of social or political groups. The use of community facilities subscale consists of four items asking respondents about such activities as going to the library and attending a sporting event.

The items on all these subscales are scored from 1 (low integration) to 5 (high integration). Distal external integration is calculated as the sum of scores on all the items of the four subscales. The range of possible scores is from 16 to 80, with higher scores indicating greater external integration.

Segal and Aviram reported a mean Alpha for each of the subscales of .75 and a average item-subscale correlation of .72. This indicates an adequate consistency of items within subscales and an adequate internal consistency of items.

The present study found an Alpha of .63. The mean item-total correlation is .26 (range from $-.08$ to $.53$). These were expected to be lower than those found by Segal and Aviram, who reported average item-subscale correlations, not average item-total correlation. Their subscales were relatively independent from one another (i.e., average item-other subscale correlations ranging from $.26$ to $.69$). Nevertheless, the findings of the present study suggest that the measure for distal external integration is somewhat less reliable than Segal and Aviram had found. The variable is normally distributed ($M = 36.2$, $SD = 6.7$). Since the possible range for this variable was from 16 to 80, this suggests a relatively low distal external integration of participants.

For descriptive purposes, 14 of the items constituting distal external integration were accompanied by a question (IX-5) asking how far away from the residence the activity described in the item generally took place. Results indicate that 92.2% of all described activities of residents took place away from the immediate environment (i.e., one

block) of the facility. This suggests that the measure is indeed a reflection of distal, not of proximal, external integration.

RESULTS

Statistical Analyses

All statistical analyses for the study were performed using SPSS-X software (SPSS Inc., 1986). Where necessary, statistical procedures are detailed along with the results of those analyses. A brief summary of these procedures is provided in the following discussion.

The main analyses of the model for each independent variable were done using Ajzen and Fishbein's (1980) procedure. This procedure requires that Pearson correlation coefficients be calculated between consecutive variables in the model. Also calculated is a multiple correlation coefficient (R) to determine the relationship between attitude and subjective norm on the one hand and intention on the other.

Most hypotheses which specify a simple relationship between two variables were assessed by partial correlation coefficients using Fisher's z -test. The covariate used in these analyses was a measure of daily intake of chlorpromazine equivalent. This measure, discussed above, proved to have a severe skew ($z = 7.85$, $p < .01$) due to 20% of the sample not receiving a major tranquilizer. It was normalized using a square root conversion (Tabachnick & Fidell, 1983).

While use of psychopathology as a covariate in some analyses was planned, this measure proved not to have the very high reliability

required (see the discussion in the following section and Tabachnick & Fidell, 1983). After careful review, it was rejected as a covariate.

As a second stage of the data analysis, multiple regression analyses were performed for each of the two dependent variables separately to establish which independent variables were the best predictors.

Measures of Reliability

Inter-rater Reliability

As described in the Method section, fifteen resident interviews were performed with two interviewers present. In the interview process, the Brief Psychiatric Rating Scale was the only major scale requiring a subjective judgement by the interviewer. This was, therefore, the only scale for which an inter-rater reliability estimate was obtained. For the overall score, a Pearson correlation of .77 ($p < .001$) was found. Subscale correlations range from .27 to .95, with a mean of .60. All but three of these are significant at the .05 level of probability.

The correlation of the overall score suggests a moderate degree of inter-rater reliability. Moreover, 12 of the 16 subscales fall within the range of correlation coefficients found by Overall and Gorham (1962) of .56 to .87.

While an acceptable inter-rater reliability and alpha (.72) for the variable itself was found, it was felt the measure of psychopathology did not meet the reliability requirements (a minimum reliability coefficient of .80) to serve as a covariate for the various analyses (Tabachnick & Fidell, 1983, p. 184). It was, therefore, not used as

such. However, since its reliability approached the critical value, all the hypotheses for which psychopathology was planned as a covariate were analysed twice, with and without this covariate. These analyses showed that the statistics found with psychopathology as a covariate were virtually identical to the same statistics without the covariate. Furthermore, psychopathology had nonsignificant correlations with the two dependent variables and most of the major independent variables (Appendix K). These findings suggest that psychopathology was unrelated to other key variables and, therefore, had little relevance as a covariate. The decision to reject it as a covariate was, thus, taken with both theoretical and practical confidence.

Differences Between Interviewers

Assignment of participants to each interviewer was random within the confines of the stratification of the sample. That is, in order to ensure that one interviewer did not interview a disproportionate number of residents of one type of residence, the number of residents of independent living versus staffed residences was predetermined. They were then randomly assigned to one interviewer or both interviewers jointly.

A number of statistical analyses were performed to determine whether the residents interviewed by the two interviewers differed in some way on socio-demographic variables and, in addition, whether a number of selected measures differed across the two groups, presumably as a result of interviewer influence. These latter variables were selected based on their presumed sensitivity to different interviewers. That is, it was

assumed that questions asking about more personal activities and questions with a high degree of social desirability would be more easily influenced by differences in interviewers than more neutral questions. Thus, for example, the measure of social desirability was assumed to be potentially sensitive to differences in interview style. Hence, the groups interviewed by the two interviewers were compared on this measure.

The two groups do not differ significantly on age ($t(68) = 1.72, p > .05$) or education (Mann-Whitney $U = 479.0, p > .05$). A Yates corrected chi-square for gender is also not significant ($\chi^2(1, N = 70) = .03, p > .05$). Similarly, marital status is not significantly different between the two resident groups ($\chi^2(2, N = 70) = 1.99, p > .05$), as is ethnicity ($\chi^2(4, N = 70) = 1.53, p > .05$). Hence, the groups interviewed by the two interviewers do not appear to differ on major socio-demographic variables.

There are no significant differences between the two groups for both dependent variables ($t = .11$ and $t = .07$ for, respectively, distal and proximal external integration, $p > .05$). Moreover, they do not differ on the Marlowe-Crowne Social Desirability Scale ($t = 1.43, p > .05$) and on interviewer-rated cooperativeness ($t = 1.36, p > .05$).

These findings and the fair inter-rater reliability for the BPRS suggest that study findings were not biased by the identity of the interviewer.

Hypotheses

Results of the tests of hypotheses are reported below. For convenience, post-hoc analyses relevant to each hypothesis are presented with the hypothesis.

Hypothesis 1

Hypothesis 1 states that voluntariness of residency will be directly related to both proximal and distal external integration.

Separate partial correlations between the dependent variables and a measure of voluntariness, while controlling for medication, resulted in nonsignificant correlation coefficients ($r = .03$ and $r = -.09$ for, respectively, proximal and distal external integration, $p > .05$).

In other words, Hypothesis 1 is not supported.

Hypothesis 2

Hypothesis 2 states that the therapeutic climate within a residence will be directly related to both proximal and distal external integration of residents.

The hypothesis did not receive support for the full measure of residential climate (COPES, Form-S). Correlations of .17 and -.02, controlling for medication (chlorpromazine equivalent), were found between residential climate and, respectively, proximal and distal external integration.

In a post-hoc analysis, one of the subscales of COPES, support, showed a correlation of .33 ($p < .05$) with proximal external integration, but no significant relationship with distal external integration.

Hypothesis 3

This hypothesis maintains that control over medication will be directly related to both proximal and distal external integration.

Since scores for control over medication were significantly ($p < .01$) negatively skewed, they were first reflexed and then normalized using a base-10 logarithm transformation (Tabachnick & Fidell, 1983, p. 85).

A partial correlation of .40 ($p < .001$) between proximal external integration and the normalized measure of control, while controlling for chlorpromazine intake, was found. Since, on the original measure, the greater the score the lesser the control, this correlation is in the direction predicted by the hypothesis.

A partial correlation of .20 ($p < .05$) between distal external integration and the normalized measure of control over medication (controlling for chlorpromazine intake) was also in the direction stated in the hypothesis.

These findings support Hypothesis 3.

Hypotheses 4 and 5

Hypothesis 4 postulates that, for seriously disturbed residents, amount of psychotropic medication will be directly related to both proximal and distal external integration. Hypothesis 5 proposes that, for residents exhibiting mild to moderate psychopathology, amount of psychotropic medication will be inversely related to both proximal and distal external integration.

Overall and Gorham (1962) did not indicate how their scale could be interpreted, other than as a continuum ranging from low to high psychopathology. Thus, operational definitions of mild, moderate, and severe disturbance do not exist. For pragmatic reasons, therefore, the sample of residents was divided into three groups of approximately equal size, based on their ratings on the Brief Psychiatric Rating Scale. This resulted in a mildly disturbed group (score range 16-22), a moderately disturbed group (score range 23-26), and a severely disturbed group (score range 27-47). The sizes of the three groups were, respectively, 24 (34.3%), 22 (31.4%), and 24 (34.3%). The two least seriously disturbed groups were subsequently combined for Hypothesis 5.

For the group with the greatest psychopathology, correlations between amount of medication and proximal and distal external integration were, respectively, $-.05$ and $-.33$. Neither of these correlations was significant at the $.05$ level of probability, although the latter approached significance ($p = .055$) in a direction opposite that of the hypothesis.

For the groups with the least psychopathology, correlations between amount of medication and proximal and distal external integration were, respectively, .17 and .22. Neither of these coefficients were significant at the .05 level. The latter approached significance ($p = .072$) in a direction opposite that of the hypothesis.

In other words, neither Hypothesis 4 nor Hypothesis 5 was supported.

Hypothesis 6

Hypothesis 6 states that self-perceived stigma of being an ex-patient or of having a mental illness will be inversely related to both proximal and distal external integration.

Statistical analysis of this hypothesis posed some problems. Initially, partial correlations were proposed for the dependent variables with, respectively, Questions 2b and 4b of Section VII of the resident questionnaire (controlling for psychopathology and chlorpromazine intake). These questions asked respondents how they were treated by, respectively, people in the neighbourhood and people in the larger community, compared to if they were not perceived as having a psychiatric problem. Respondents rated their treatment on a scale ranging from 1 (much worse) to 5 (much better). However, 71.4% of the sample of residents denied being treated any differently by the neighbourhood because of perceived psychiatric problems. Moreover, only 7.1% indicated they felt treated worse. Similarly, 60.0% responded that they did not feel treated differently by the larger community as a result of perceived psychiatric problems. Only 5.7% indicated a worse

treatment resulting from this stigma. Therefore, these data were not suitable for correlation analysis.

Since unequal group sizes in an ANOVA are acceptable, it was decided to use analyses of variance by dividing the sample into three groups consisting of individuals indicating (a) they were treated better, (b) they were treated no different, and (c) they were treated worse, by either the neighbourhood or the larger community. For treatment by the neighbourhood, these groups had, respectively, 6, 59, and 5 participants. For treatment by the larger community, the groups had, respectively, 16, 50, and 4 participants.

Tabachnick and Fidell (1983, p. 196) recommend an ANOVA using SPSS's classic experimental approach for the analysis of naturally occurring cells of unequal size (i.e. those not caused by attrition). They argued that differences in variances of the different groups, not the discrepancies in group sizes, in an ANOVA are detrimental to the analysis. Therefore, the variances of the different groups for each of the two dependent measures were tested using the F -statistic. None of the variances was significantly different ($p > .05$).

The resulting ANOVA for proximal integration, with chlorpromazine intake as covariate, revealed a nonsignificant effect ($F(2, 69) = .038$). A similar ANOVA for distal external integration resulted in an $F(2, 69)$ of 3.449 ($p < .05$), with the effect in the predicted direction.

Thus, support was found for the notion that an inverse relationship exists between distal external integration and stigma resulting from perceived psychiatric illness. No support was found for the relationship

between proximal external integration and stigma. In other words, Hypothesis 6 was partially supported.

Hypothesis 7

This hypothesis submits that the density of residences in a neighbourhood will be inversely related to proximal external integration and directly related to distal external integration.

Partial correlation coefficients between the normalized density variable on the one hand, and proximal and distal integration on the other, while controlling for chlorpromazine intake, were respectively $-.30$ ($p < .01$) and $.20$ ($p > .05$). The latter coefficient approached significance ($p = .053$).

Since the density measure is the reverse of actual density (i.e., the higher the density, the lower the score on this measure), these correlation coefficients are in the opposite direction from that predicted. Thus, Hypothesis 7 is not supported.

Hypothesis 8

Hypothesis 8 contends that facility size will be inversely related to proximal external integration of residents.

Facility size scores were severely positively skewed ($z = 7.52$, $p < .01$) and were normalized by a base-10 logarithmic conversion (Tabachnick & Fidell, 1983, p. 85).

A partial correlation of $-.42$ ($p < .001$) between the two variables was found, while controlling for chlorpromazine intake. In other words, Hypothesis 8 was supported.

Hypothesis 9

Hypothesis 9 states that a perception by residents that staff favor proximal external integration will be directly related to proximal external integration.

Since it was important to ascertain whether residents viewed staff as significant referents, the first step in the analysis focussed on the motivation to comply with staff (Appendix A, Item V-40). Respondents were asked if they generally wanted to do what most of the staff thought they should do. The response continuum ranged from 1 (definitely yes) to 5 (definitely no). Respondents scored a mean of 2.37 ($SD = 1.07$). A total of 64.3% of respondents indicated they generally wanted to comply with staff. This suggested that, generally, residents had a positive motivation to comply with staff and that staff were significant referents to residents.

A partial correlation, controlling for chlorpromazine intake, just failed to reach significance ($r = .19$, $p = .056$) but was in the predicted direction.

Since the residents of the two different types of residences (i.e., staffed and independent living) interacted with essentially two different types of staff (i.e., residential vs. itinerant), further analyses were done. These revealed partial correlation coefficients

(controlling for chlorpromazine intake) of $-.09$ ($p > .05$) for staffed residence occupants and $.42$ ($p < .01$) for independent living residents.

These findings suggest that, while Hypothesis 9 was not supported overall, strong support for it was found for independent living residents.

Hypothesis 10

Hypothesis 10 states that the interaction of the subjective norm toward proximal external integration and the attitude toward proximal external integration will be more directly related to proximal external integration than either factor alone.

To test this hypothesis, the pertinent subjective norm and attitude variables were divided into three groups each, namely a positive, neutral, and negative subjective norm and a positive, neutral, and negative attitude towards proximal external integration. Subsequently, an ANOVA was performed with these two variables as factors and proximal external integration as the dependent variable.

This analysis of variance resulted in nonsignificant F values for the subjective norm ($F(2, 62) = .111, p > .05$) and for the attitude variable ($F(2, 62) = .245, p > .05$). The interaction between the factors ($F(3, 62) = .658$) was also not significant ($p > .05$). Hypothesis 10 was, therefore, not supported.

Hypothesis 11

Hypothesis 11 states that self-perceived stigma of being a facility resident will be inversely related to proximal external integration.

Similar analytical problems as occurred for Hypothesis 6 were also encountered for this hypothesis. That is, 65.7% of residents indicated not being treated differently and only 4.3% felt they were treated worse than if they were not associated with the residence. Therefore, identical steps were taken to analyse the data. Three groups were created, namely (a) those who felt treated worse, (b) those who were neutral on the issue, and (c) those who felt treated better. These groups were, respectively 3, 56, and 11 in size.

As argued above, Tabachnick and Fidell (1983) found that differences in variances of the different groups in an ANOVA are detrimental to the analysis. Therefore, the variances of the different groups for each of the two dependent measures were tested using the F -statistic. None of the variances was significantly different ($p > .05$).

The resulting ANOVA, with chlorpromazine equivalent as covariate, resulted in an $F(2, 66)$ of .799 ($p > .05$). Thus, Hypothesis 11 was not supported.

Hypothesis 12

Hypothesis 12 maintains that the number of community complaints will be inversely related to proximal external integration only if residents believe that staff do not favor proximal external integration.

Of the staffed residences, only 29.4% ($n = 10$) of residents lived in facilities in which staff reported some type of community complaint or problem. Moreover, only 7.1% ($n = 5$) of residents reported being aware of any community complaints. The proposed correlational analysis was, therefore, inappropriate.

To enable further statistical analysis of these small numbers, two binary variables were created for occupants of staffed residences: (a) those where staff reported some form of community complaint ($n = 10$) vs. those where staff did not ($n = 24$) and (b) residents who believed staff favored or were neutral towards proximal external integration ($n = 25$) vs. those who did not ($n = 9$). The proposed correlational analysis was replaced by an ANOVA, given this analysis' robustness for groups of unequal numbers. To assure that there were no significant differences between the variances of the different groups, variances for the two new variables were tested using the F -statistic. None of the variances were significantly different ($p > .05$).

A subsequent two-way ANOVA showed no significant main effects or an interaction effect. Hypothesis 12 was, therefore, not supported.

Hypothesis 13

Hypothesis 13 suggests that residents' beliefs of having sufficient spending money will be directly related to distal external integration of residents.

A partial correlation analysis, controlling for chlorpromazine intake, revealed a correlation coefficient of $-.03$ ($p > .05$). In other words, the hypothesis was not supported.

Further analyses showed a nonsignificant correlation (Pearson $r = -.03$) between residents' actual spending money and their distal external integration.

Hypothesis 14

Hypothesis 14 states that a perception by residents that staff favor distal external integration will be directly related to distal external integration.

A partial correlation between the two variables of .31 ($p < .01$), controlling for chlorpromazine, was found. This supports Hypothesis 14.

Further analyses showed that, for occupants of staffed residences, this same partial correlation was not significant. However, for independent living residents, the correlation was highly significant ($r = .57$, $p < .001$).

Hypothesis 15

Hypothesis 15 states that the interaction of the subjective norm toward distal external integration and the attitude toward distal external integration will be more directly related to distal external integration than either factor alone.

A similar analysis of variance was performed as for Hypothesis 10, substituting the appropriate distal integration variables. This analysis resulted in nonsignificant F -values for the subjective norm ($F(2, 61) = .402$), for the attitude variable ($F(2, 61) = 2.464$), and for

the interaction between the two factors ($F(4, 61) = .294$). The hypothesis was, therefore, not supported.

Hypothesis 16

This hypothesis maintains that, when psychopathology is statistically controlled for, residents of nonstaffed residences will have greater distal external integration than residents of staffed facilities.

The analysis of this hypothesis posed some difficulties. As discussed above, psychopathology was not measured with sufficient reliability to be used as a covariate in any statistical analyses. However, its reliability was considered sufficient for other statistical tests. It was decided, therefore, to perform a two-way ANOVA instead of a one-way ANOVA with a covariate. For the first factor, participants were divided into three, approximately equal sized groups, according to level of psychopathology. This division was done in the same manner as in Hypotheses 4 and 5. The second factor consisted of the two types of residences (staffed and independent living).

The ANOVA revealed a significant main effect for type of residence ($F(1, 64) = 4.574, p < .05$), but not for psychopathology ($F(2, 64) = .927, p > .05$). The independent living residents had greater distal external integration. The two-way interaction effect had a nonsignificant $F(2, 64)$ of 2.726.

With the effect of type of residence being in the predicted direction, Hypothesis 16 is supported.

Hypothesis 17

This hypothesis suggests that severity of psychopathology will be inversely related to distal external integration.

A partial correlation analysis, controlling for chlorpromazine intake, revealed a Pearson correlation coefficient of $-.12$ ($p > .05$). While this finding was in the predicted direction, the hypothesis was not supported.

When the same partial correlation was computed for occupants of staffed residences only, an r of $.09$ ($p > .05$) was found. However, for independent living residents, the same correlation coefficient was $-.34$ ($p < .05$). The latter finding partially supports Hypothesis 17.

Hypothesis 18

Hypothesis 18 proposes that access to the community will be directly related to distal external integration of residents.

A partial correlation coefficient, controlling for chlorpromazine intake, of $.38$ ($p < .001$) was found. In other words, Hypothesis 18 was supported.

The Model of Reasoned Action

As part of the research, a generic model of external integration based on Ajzen and Fishbein (1980) was proposed (Figure 3). It was then adapted to create two specific applications, one for proximal external integration and one for distal external integration. For practical and

theoretical purposes, these two new applications differed from that presented in Figure 3 in that they exclude the external variables. The latter are included in regression analyses discussed below and are the primary independent variables for the hypotheses. The theoretical reasons for not including them in the applications of the model are based on the arguments of Ajzen and Fishbein, who showed that external variables had only weak relationships with the succeeding components of their theory. The two versions of the model were tested next.

The proposed applications of the model required Pearson correlations between various components of the model to be calculated, as well as a multiple correlation between subjective norm and attitude on the one hand and behavioral intention on the other. The variables used as indicators of each component of the model are described in the Instrument Section (Subsection IV).

Figure 4 shows the results of this process for proximal external integration. Table 3 lists the means and standard deviations of the components of the model in Figure 4.

Ajzen and Fishbein (1980) combined each behavioral belief and its corresponding outcome evaluation into one variable. The resulting variables (there are six in the model in Figure 4) are then combined to form a single score to predict the attitude toward a behavior. Using Ajzen and Fishbein's method, the score for each behavioral belief regarding proximal external integration of each participant was multiplied by his or her score for the corresponding outcome evaluation of the behavior. The resulting six products were summed. This sum is

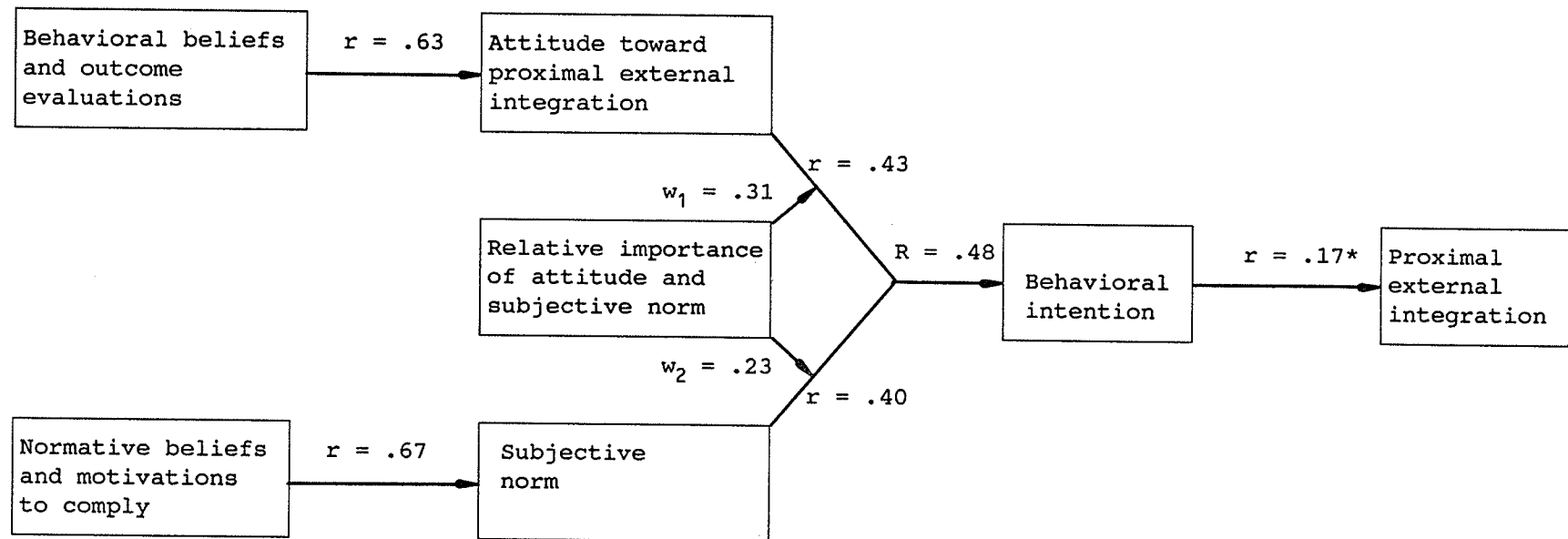


Figure 4. The model of reasoned action for proximal external integration.

Note. Unless identified, all correlations significant at $p < .001$.

* $p > .05$.

TABLE 3

Resident's Mean Scores on the Model of Reasoned Action
for Proximal External Integration in Figure 4

Variables	Mean	SD
Behavioral beliefs and outcome evaluations	27.36	42.99
Attitude toward proximal external integration	1.10	1.70
Normative beliefs and motivations to comply	29.50	44.07
Subjective norm	1.29	2.09
Behavioral intention	.49	2.56
Proximal external integration	3.10	2.52

Note. N = 70.

the value of the "behavioral beliefs and outcome evaluations" component of the model for each participant.

The component "attitude toward proximal external integration" is the difference score regarding one pair of responses to the vignettes, as described above.

A similar process created the component "normative beliefs and motivations to comply." It is computed by multiplying scores for each normative belief with scores for the corresponding motivation to comply with the specific referent. The resulting seven products were then summed for each participant to form the value for this component of the model.

The subjective norm was, as described above, the difference score for the pair of responses to two vignettes. Behavioral intention was also a difference score obtained from a pair of responses to two vignettes.

All correlations in Figure 4 except the correlation between intention and behavior are significant at the $p < .001$ level. The latter correlation is not significant at $p > .05$. Ajzen and Fishbein (1980, p. 99) consider significant correlations to range from moderate (.30 to .50) to relatively strong (exceeding .50). The significant correlations in Figure 4 are all in the moderate or relatively strong range. The present findings support the model up to and including behavioral intention, but but not regarding the actual behavior of proximal external integration.

In Figure 4, beta-weights portraying the relative importance of attitude and subjective norm are provided as the statistic w . They were derived from the regression equation supplying the multiple correlation coefficient to the model. The beta-weight for attitude of .31 is greater than the weight of .23 for subjective norm. This suggests that attitude toward proximal integration has greater relevance in determining behavioral intention than has subjective norm.

The correlation between intention and behavior in the model indicates a direct relationship between residents' intention to behave like the person described as integrated in the neighbourhood and their proximal external integration. While the correlation was not statistically significant, it was in the predicted direction and approached significance ($p = .082$).

Figure 5 reflects the findings for the model of distal external integration. Table 4 provides the corresponding means and standard deviations. Similar to the model for proximal integration, Figure 5 is an abbreviated version of the full model displayed in Figure 3.

Overall, the findings for distal external integration are consistent with the proposed model. All correlations are significant ($p < .001$), including the correlation between intention and behavior. However, similar to the model for proximal external integration, the latter correlation is the lowest in the model and the only one of moderate magnitude. The other correlations are relatively strong.

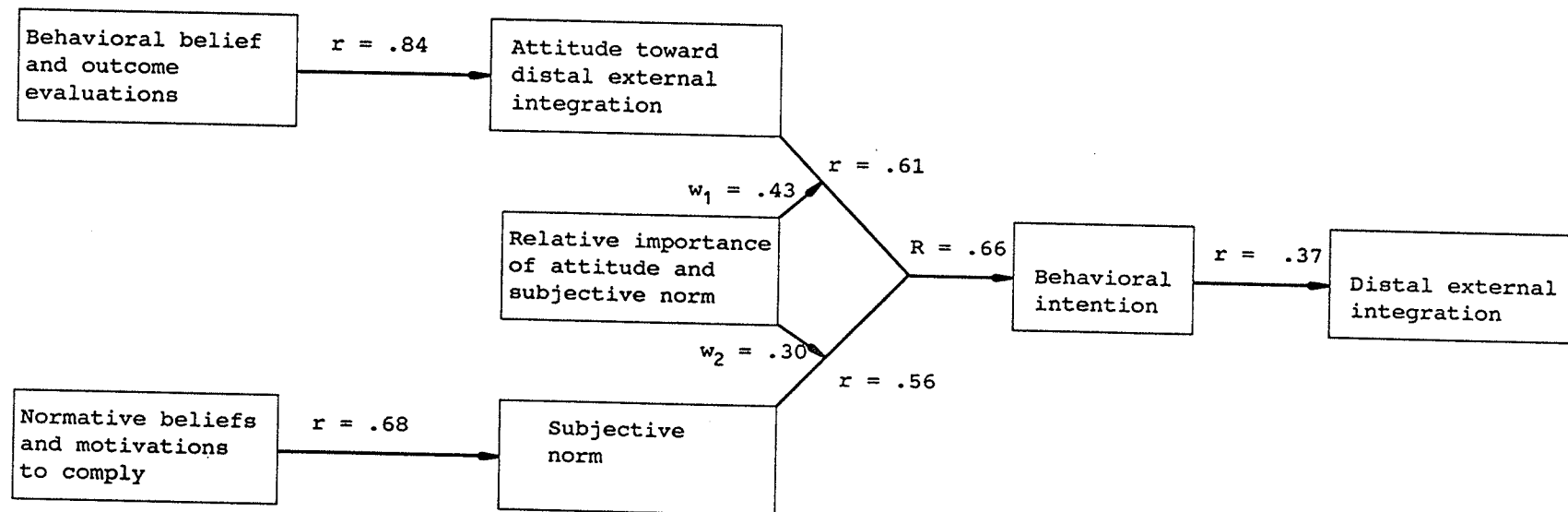


Figure 5. The model of reasoned action for distal external integration.

Note. All correlations are significant at $p < .001$.

TABLE 4

Resident's Mean Scores on the Model of Reasoned Action
for Distal External Integration in Figure 5

Variables	Mean	SD
Behavioral beliefs and outcome evaluations	29.29	50.24
Attitude toward distal external integration	.96	2.14
Normative beliefs and motivations to comply	27.70	52.25
Subjective norm	1.39	2.31
Behavioral intention	.73	2.64
Distal external integration	36.17	6.66

Note. N = 70.

Regression Analyses

In order to determine the relative influence of external variables as well as behavioral intention on proximal and distal external integration, two multiple regression analyses were performed.

Due to the sample size of 70, these regression analyses were restricted to a maximum of 17 variables each (Tabachnick & Fidell, 1983, p .92). Therefore, variables had to be selected based on their putative relevance to the dependent variables discussed above. Variables were included if they had in the past been related to external integration and were measured adequately for both staffed and independent living residences. Figure 3 summarizes the principal variables which, in various studies discussed in the introduction, were believed to be related to external integration. Most of these variables were also the independent variables used in the hypotheses.

Stepwise multiple regressions were performed using SPSS-X REGRESSION (method FORWARD). Variables entered for proximal external integration were (a) gender of resident, (b) age of resident, (c) resident's daily equivalent intake of chlorpromazine, (d) resident's psychopathology, (e) resident's control over medication, (f) voluntariness of residency, (g) resident's rating of sufficiency of spending money, (h) access to services, (i) resident's behavioral intentions towards proximal external integration, (j) density of mental health residences in the neighbourhood, (k) size of the residence, (l) type of neighbourhood in which the residence was located, (m) resident's beliefs regarding staff favoring proximal external integration, (n) total number of months spent

in psychiatric facilities by the resident, (o) total number of admissions to these facilities, (p) total number of months the resident lived in the residence, and (q) the resident's total monthly spending money.

Of these variables, c, d, e, j, k, n, o, p, and q were not normally distributed. All but facility size were normalized with either a base-10 logarithmic- or a square root conversion (Tabachnick & Fidell, 1983). The facility size could not be normalized using these methods. This variable was, therefore, recoded into three categories, namely small facilities of 2-3 beds, medium size facilities of 4-8 beds, and large facilities of over 16 beds. These divisions were based on the natural breaks occurring in facility sizes as well as theoretical considerations discussed above. The latter include such considerations as the atmosphere of the residence (e.g., the largest facilities would be more institutional in nature) and the perception of the neighbourhood (e.g., smaller residences are more easily accepted than large facilities). When facility size was treated as an interval type measurement, this conversion changed the skew of the variable to within acceptable limits.

While psychopathology was not measured with sufficient reliability to qualify it as a covariate, the variable was, as discussed above, suitable for correlational analysis. It was, therefore, included in the regression analyses.

Following normalization of the skewed variables, a number of independent regression analyses were performed to determine the

existence of outliers. None were found. There was also no evidence of multicollinear or singular variables. The regression analysis entering all the variables produced no multivariate outliers and residuals appeared randomly distributed. The analysis was considered valid.

To determine which variables contributed significantly to the regression equation, F -change was selected as the criterion for entry of a variable into the equation. The value of p for significance of F was set at .05.

Results of the analysis regarding proximal external integration revealed that two variables entered into the equation. These variables were facility size (NEWSIZE) and the log-10 normalized measure of density of residences in the neighborhood (LGDENSITY). Table 5 summarizes the main statistics for these variables. Entering the next variable (resident's ratings of sufficiency of spending money) would have resulted in a change in R -square (total explained variance, $p = .07$) from .31 to .35. Zero-order correlations are presented in Appendix K.

The results indicate that facility size is the strongest predictor of proximal external integration. Size is inversely related to proximal external integration. In other words, the larger the facility, the lower the proximal external integration of its residents is. Density of residences is also inversely related to proximal external integration. Since this measure consists of number of blocks to the nearest residence, this means that areas of high density of residences are characterized by greater proximal integration. These two variables together accounted for 31% of the total variance.

TABLE 5

Variables Entered in a Multiple RegressionAnalysis to Predict Proximal External Integration

Variables	Correlations		B	BETA	F-Change	R ²	Adjusted R ²
	DV	NEWSIZE					
NEWSIZE	-.51		-1.507	-.474	23.090***	.26	.25
LGDENSITY	-.31	-.15	-1.682	-.237	5.210*	.31	.29

*p<.05. ***p<.001.

A similar regression analysis was performed with distal external integration as the dependent variable. The same independent variables were used, with the exception of perceived staff opinion on proximal external integration and behavioral intention towards proximal external integration. These were replaced with the corresponding variables for distal external integration.

Identical investigations of outliers, normality, multicollinearity, and singularity were performed. The same normalized variables were used as in the previous regression analysis. The new independent variables were normally distributed.

Turning to Table 6, four variables entered before the significance limit of F -change was reached. In order of importance, the four variables are (a) behavioral intention towards distal external integration (INTENTION), (b) neighbourhood type (NEIGHBOUR), (c) voluntariness of residency (VOLUNTARY), and (d) access to the community (ACCESS). For further information, zero-order correlations are presented in Appendix K.

These results indicate that a positive behavioral intention toward distal external integration was the strongest predictor of distal external integration. Neighbourhood type was measured as neighbourhood change on a factor of low income, elderly, single person households. Distal external integration was high for neighbourhoods where an increase in low income, elderly, single person households had taken place. The third predictor, voluntariness of residency, was inversely related to distal external integration. In other words, the more

TABLE 6

Variables Entered in a Multiple RegressionAnalysis to Predict Distal External Integration

Variables	Correlations				B	BETA	F-Change	R ²	Adjusted R ²
	DV	INTENTION	NEIGHBOUR	VOLUNTARY					
INTENTION	.37				.675	.269	10.721**	.14	.13
NEIGHBOUR	.32	-.08			3.387	.303	5.795*	.21	.19
VOLUNTARY	-.10	-.13	-.18		-.709	-.270	4.733*	.26	.23
ACCESS	.37	-.41	-.04	-.11	.115	.271	5.431*	.32	.28

*p<.05 **p<.01

voluntary the stay of the resident in the residence, the lower the distal external integration. The final variable, access to the community, was directly related to distal external integration.

In order to determine the relevance of therapeutic environment and social isolation of the residence as a whole for participants from staffed residences, these variables were entered into similar multiple regression analyses as described above for, respectively, proximal and distal external integration. Since the group of residents of staffed residences was only half the size of the full sample a maximum of eight variables could be used in a regression analysis for this sample size (Tabachnick & Fidell, 1983, p. 92). Selection of the eight variables occurred by adding therapeutic environment and isolation of the residence and by deleting the variables with the smallest F -change values in each of the above regression analyses until the desired number of variables was obtained.

In both analyses, therapeutic environment and isolation of the residence failed to be entered before the F -change criterion of $p < .05$ was reached. This indicates that neither variable contributes sufficiently to either proximal or distal external integration.

DISCUSSION

The present study had a three-fold purpose: (a) to test the predictive validity of a behavioral model for distal and proximal external integration, (b) to test a number of separate hypotheses with proximal and distal integration as dependent variables, and (c) to determine the best statistical predictors of proximal and distal external integration.

The independent variables under consideration fell into three main groupings: (a) community, (b) facility, and (c) individual. The results will be discussed for each of these sets of independent variables for proximal, followed by distal, external integration.

Proximal External Integration

The results for proximal external integration show that a relatively strong relationship exists between behavioral beliefs and outcome evaluations, on the one hand, and attitude towards proximal external integration on the other (Figure 4). This suggests that attitude towards proximal integration was clearly based on the various beliefs and outcome evaluations suggested to the residents. These beliefs and outcome evaluations were related to independence, emotional security, "doing what I want," feeling needed, having people to count on, and enjoying life.

Normative beliefs and motivations to comply also showed a relatively strong relationship with the subjective norm. Again, this indicates that the normative beliefs and motivations to comply presented to the residents were determinants of the subjective norm. In other words, close relatives, close friends, the staff of the residence, other residents, the resident's therapist, neighbours, and other people in the community, on the one hand, and the resident's motivation to comply with the opinions of these respective groups of individuals, on the other hand, explained the resident's subjective norm to a significant extent.

The model in Figure 4 also shows that the attitude toward proximal external integration was somewhat more strongly related to behavioral intention than was the subjective norm. In other words, residents' perception of the benefits of proximal integration was more powerful in predicting behavioral intention than was their perception of the wishes of important others.

The model, however, does not predict actual behavior from intention. This failure suggests that intention is not a sufficient factor in determining proximal external integration. Other findings of the study support this conclusion. In a regression analysis with a number of individual and environmental independent variables, only two variables, residence size and density of residences in the neighbourhood, were significant predictors of proximal external integration. These variables are clearly environmental and not individual in nature. Furthermore, hypotheses tested with proximal integration as the dependent variable suggest that environmental, not individual, variables were related to proximal external integration. Thus, in addition to

facility size (Hypothesis 8), control over medication (a facility variable, Hypothesis 3) was found to be related to proximal external integration.

These findings suggest that residents' behavioral intention toward proximal external integration is relatively irrelevant to the actual behavior. This conclusion is not consistent with the theory of Ajzen and Fishbein (1980) who showed that demographic and other external variables were poor predictors of actual behavior. However, one notable distinction between the behavior typically under consideration in their model and proximal external integration must be made. Ajzen and Fishbein concerned themselves essentially with behavior which was voluntary and unrestrained. For example, they predicted voting behavior in individuals who voted in an election. The resulting model, therefore, excluded individuals who for some external reason were unable to vote. The latter situation may be akin to the situation in which the residents in the present study found themselves: whether or not they intended to be externally integrated into the neighbourhood had little or no bearing on their actual integration. Other factors appear more powerful in determining integration.

Various findings of the current study provide possible explanations for why there was no significant relationship between intention and proximal external integration. First of all, two important variables were, contrary to expectations, not found to be related to proximal external integration. These are self perceived forms of stigma and community complaints.

Two forms of self-perceived stigma were proposed to residents. The first of these was the stigma of being an ex-patient or of having a psychiatric problem (Hypothesis 6). The second was that of being a resident of a community residence for the mentally disabled (Hypothesis 11). Not only were no relationships found between these forms of stigma and proximal external integration, but few residents reported experiencing these stigmata. In addition, few residents were aware of any community complaints against the residence in which they lived (Hypothesis 12). This absence of complaints was confirmed for staffed residences in staff interviews. In other words, residents appeared to perceive little stigma. They are supported in this perception by the dearth of complaints from the community. Therefore, self-perceived stigma was not a suitable explanation of the lack of relationship between behavioral intention and proximal external integration.

Contrary to this lack of self perceived stigma is the finding that residents of smaller facilities had greater proximal external integration than those of larger ones (Hypothesis 8). This hypothesis was based on the reasoning that smaller residences would be less stigmatizing since they would blend in more into the neighbourhood.

These two findings combined suggest that, while residents as a group do not appear to feel stigmatized, those living in smaller, less stigmatizing residences have greater proximal external integration than those in the larger residences. In other words, while residents may not perceive a stigma, they may still be stigmatized by the size of the residence they live in. This discrepancy would explain the lack of relationship between intention and behavior.

This conclusion is also consistent with the partial support found for Hypothesis 9. A direct relationship between perceived support by staff for proximal external integration and actual integration was found for small, independent living residences but not for large, staffed facilities. This suggests that, in large residences, facility size is a more dominant factor in proximal external integration than perceived staff opinions. On the other hand, in small, independent living residences, facility size does not overshadow the perceived opinions of staff.

The conclusion that staff variables have relatively little effect on proximal external integration is also consistent with the weak relationship between therapeutic climate and proximal external integration in staffed residences (Hypothesis 2). Only one subscale, general staff support for residents, was found to be directly related to proximal external integration. This conclusion must be drawn with caution. Staff members and operators participating in the study showed a very high degree of social desirability in responding. In other words, they tended to answer in what they believed to be socially acceptable ways. This likely biased their reporting of the therapeutic climate of the facility. This, in turn, would have reduced the strength of the relationship between therapeutic climate and proximal external integration.

In Hypothesis 10 it is proposed that the interaction between subjective norm and attitude toward proximal external integration is more strongly related to proximal external integration than either factor alone. This hypothesis is based on the premise that neither of

the two factors alone would sufficiently predict proximal integration, but that they would amplify each other. The fact that no support for this hypothesis was found can primarily be explained by the weak relationship between intention and proximal external integration. On the other hand, this lack of interaction is also reflective of the subordinate role of individual variables relative to the role of environmental variables.

Findings for other hypotheses also support the notion that environmental variables are stronger predictors of proximal external integration than individual variables. Residents' control over medication is largely based on facility policy. Typically, more institutionalized residences do not give residents control over medication. Having control over medication was found to be associated with greater proximal external integration. Interestingly, two hypotheses (4 and 5) predicting the relationship between amount of major tranquilizer and proximal external integration received no support. In other words, while the facility variable, control, did appear to influence proximal external integration, the individual variable, amount of medication, did not. This conclusion, again, is in support of the notion that environmental variables are more important predictors of proximal external integration than resident's behavioral intentions.

One other variable, voluntariness of residency, was found not to be related to proximal external integration (Hypothesis 1). The hypothesis proposing this relationship was derived from Segal and Aviram (1978). They attributed this relationship to the greater confidence of residents caused by the fact that they had chosen their own residence. Contrary

to Segal and Aviram, however, voluntariness in the present study was measured by a range of aspects, including initial choice of the residence, current choice to remain in the residence, and future plans should alternatives become available. In other words, this variable was not restricted to initial choice, but also included items reflective of current satisfaction with the residence, or feeling at home. In any event, whether or not residents felt their stay was voluntary and felt at home in the residence appeared to have no relationship with proximal external integration.

Another environmental variable, density of mental health residences in the neighbourhood was one of two variables found to be sufficiently predictive of proximal external integration to be entered in a regression analysis from among 17 variables. Parenthetically, this variable was expected to be inversely related to proximal external integration, based on the premise that a greater number of residences in a neighbourhood would increase the stigma of residents and would reduce the likelihood of neighbours wanting to interact with residents (Hypothesis 7). However, in a post-hoc analysis of qualitative data, it appears that residents likely interacted with residents of nearby mental health residences. This especially occurs on a regular basis with residences located in very close proximity to each other (i.e., within less than one block). Therefore, even if they do not intend to interact with others in the neighbourhood, residents talk to neighbouring residents and know the names of some of them. These two aspects of interaction constituted two of seven items of the proximal external integration measure. In other words, how proximal integration was

measured may have given residents in high density neighbourhoods an automatic edge regarding such integration compared to those in low density neighbourhoods.

One alternative explanation for the unexpected findings regarding behavioral intention and proximal external integration must be explored. Skill level of residents was not taken into account in the study. Therefore, it could be argued that, while many residents had intentions to become more involved with neighbours, a number may have lacked the skills to do so. However, this does not appear to be an adequate explanation. The level of sophistication required to score in the middle range of the proximal external integration measure seems, on face value, more related to intention than to skill level. That is, most of the items on the proximal external integration measure, such as knowing the name of a neighbour or inviting one into the residence, seem reasonably straightforward for a motivated individual. Therefore, it is more likely that the external variables discussed above interfered with the intention-behavior link.

The two variables in the regression equation entering all the principal variables except for therapeutic environment accounted for 31% of the variance. While this percentage seems low, it is similar to that of 27% found by Segal and Aviram (1978) in their model of external integration. Nevertheless, the size of the percentage does suggest that a large proportion of the variance was unaccounted for. One or more unknown variables could be determinants of proximal external integration.

In summary, the model of proximal external integration based on Ajzen and Fishbein (1980) appears to be only partially applicable to the chronically mentally disabled. The model adequately predicts behavioral intentions toward proximal external integration, but not actual proximal integration. Other, environmental, variables appear to strongly intervene between intention and behavior.

Distal External Integration

The application of the model for distal external integration (Figure 5) appears superior to the application for proximal external integration. Not only are most of the correlations between the various components of the model higher than the corresponding correlations for proximal external integration, but a significant correlation exists between behavioral intention and distal external integration.

The correlation between behavioral beliefs and outcome evaluations, on the one hand, and attitude toward distal external integration, on the other, is quite high. This suggests that outcomes presented to the residents are highly reflective of their concerns regarding outcomes of distal external integration. These variables (independence, emotional security, "doing what I want," feeling needed, having people to count on, and enjoying life) account for 71% of the variance.

Normative beliefs and motivations to comply, on the one hand, and the subjective norm, on the other, have a fairly strong relationship. This, again, suggests that the individuals chosen were reasonably representative of the residents' normative frame of reference.

Attitude has a stronger relationship with behavioral intention than the subjective norm. This mirrors the trend for proximal external integration and suggests that residents are more motivated by their perceptions of the possible benefits of distal external integration than by what they believe others thought they ought to do.

Intention and distal external integration have a direct, but moderate relationship. While this suggests that intention plays a significant role in distal external integration, it is not the only variable related to distal integration. The outcome of the regression analysis discussed below supports this conclusion.

These findings show a relatively predictive model of distal external integration. However, contrary to what Ajzen and Fishbein (1980) argued, it is not sufficiently comprehensive. Variables external to the model appear to play a significant role in predicting distal external integration.

In a regression analysis, four variables predicted distal external integration. The first variable entered was behavioral intention. This finding clearly substantiated the relevance of intention for the prediction of distal external integration.

The second variable entered in the equation was the type of neighbourhood in which the residence was located. The type of neighbourhood most conducive to distal integration was that where an increase of low income, elderly, single person households had taken place. This type of neighbourhood is reminiscent of what Smith (1976) termed "old and lonely" (p. 323). He found that these neighbourhoods

were characteristic of lower recidivism rates of hospitalization of the chronically mentally disabled. Smith interpreted this finding by suggesting that these neighbourhoods place few demands on mentally disabled residents. This low stress contributes to a lower rate of recidivism. Following this same line of reasoning, it could be argued that, in the present study, the neighbourhood characterized by increases in low income, elderly, single person households is supportive of distal external integration by minimizing the environmental stress on residents. This, in turn, would give them more opportunity to engage in distal external integration.

This interpretation of the data is consistent with Segal and Aviram (1978). The authors proposed that most of the chronically mentally disabled have a limited need or capacity for social interactions. They found that internal integration (i.e., social contact inside the residence) was negatively related to external integration. In other words, residents would only invest a finite amount of energy in social contacts. If this energy was invested in one area, the other would likely receive a reduced amount. In the present study, this may very well have been the case in neighbourhoods which were not characterized by increases in low income, elderly, single person households, in that these induced greater internal integration in residents, at the cost of external integration.

The third variable entered in the regression equation, voluntariness of residency, had a slight, inverse relationship with distal external integration. While the variable contributed sufficiently to the regression equation in order to be entered, it did not have a

correlation with distal external integration that reached significance in Hypothesis 1. Moreover, the direction of the correlation with the dependent variable was in a direction opposite that predicted in the hypothesis. In other words, while voluntariness of residency in itself does not have a strong relationship with distal integration, it does add to the overall equation in conjunction with other variables. These somewhat conflicting viewpoints reduce the interpretability of the variable, although there is some evidence that it behaved as a suppressor variable. That is, the beta-weight of $-.27$ was somewhat greater than the correlation between the independent and dependent variable ($r = -.10$). While this difference is not very great, it does raise the possibility of voluntariness acting as a suppressor variable (Tabachnick & Fidell, 1987, p. 117). However, the lack of a strong relationship may be explained in a similar manner as for proximal external integration. That is, while the hypothesis was derived from Segal and Aviram (1978), the voluntariness of residency was not measured in the same manner. Voluntariness was defined and measured by Segal and Aviram as a single item concerning initial voluntary admission to the residence. In the present study, the concept is defined as both initial and current voluntariness of residency. It is measured by five different items. It may be that, if more aspects of voluntariness are taken into consideration, the variable is less related to distal external integration than its more narrowly defined counterpart. This variable was, again, of an environmental nature.

The fourth factor entered in the regression analysis was access to the larger community. This variable had a significant, direct

relationship with distal external integration, as predicted in Hypothesis 18. Access was measured by the subjective ratings of the respondents of the ease of access of a number of community facilities. At first glance, none of the residences was geographically isolated, given that all were within walking distance from a bus stop. While lack of resources could be a barrier to distal external integration, amount of spending money and subjective sufficiency of spending money did not appear to be related to distal integration (Hypothesis 13 and post-hoc analysis). In other words, access may have been a partial reflection of a number of individual factors, including skill level and perceived barriers to venturing a greater distance from the residence.

Notwithstanding this conclusion, it must be noted that 31% of the items constituting the measure of access concerned access to family, friends, and acquaintances. In other words, a significant number of these items were directly related to the resident's social network outside the residence. Since involvement in a social network is an interpersonal, not individual, occurrence, access appears to reflect both individual and community aspects of availability of the community to the resident.

This conclusion is supported by the findings for Hypothesis 6. The self-perceived stigma of being an ex-patient or of having a psychiatric problem is inversely related to distal external integration. In other words, the stigma of being chronically mentally disabled is associated with a low distal external integration. This suggests that residents experiencing this stigma are less likely to access the larger community as a result, while those not experiencing it are less restricted. This

finding is notable, since neither this form of stigma nor the possible stigma resulting from being a facility resident appears to be related to proximal external integration. In other words, residents' distal integration is more affected by stigma than their proximal integration. This may be the result of a greater acceptance or lesser rejection of residents by neighbours, as opposed to other community members. The findings is also consistent with Smith (1981) and Smith and Hanham (1981) who found that acceptance of mental disability was greater in those community members who lived close to a psychiatric facility, as compared to those who lived in a more distant control neighbourhood.

A number of other hypotheses showed significant effects for distal external integration. Control over medication was directly related to distal external integration (Hypothesis 3). Having no control over medication makes it very difficult for residents to actively participate in the larger community. Most residents required medication three times per day. Since the second administration of medication typically occurs around noon, residents with no control over their medication would have to return to the residence to obtain the drugs. Interestingly, no relationship between amount of medication and distal external integration was found regardless of level of psychopathology (Hypotheses 4 and 5). The latter suggests that the institutional arrangement regarding administration, not the individual higher intake, is central in determining distal external integration.

Residents appeared to be influenced by staff perceptions and wishes. Those reporting that they believed that staff favored distal external integration showed a greater degree of distal integration than those who

believed the opposite (Hypothesis 14). Interestingly, this relationship was quite strong in independent living residents. Their itinerant staff appeared to have substantial influence on distal external integration of residents. For residents of staffed residences, this relationship was not in evidence. This observation is consistent with the finding that there was little difference in received staff help for distal external integration. In the independent living residences, 36% of residents indicated that they received help with distal external integration. Of residents living in staffed residences, 44% indicated receiving actual help with distal external integration. For both groups this help, typically, came in the form of encouragement or advice and not through practical exercises. In other words, while residents in staffed facilities receive at least the same amount and type of help as those in independent living residences, their perception of staff's views on distal integration does not influence their distal external integration. As was the case with proximal external integration, this conclusion is supported by the lack of relationship found between therapeutic climate and distal external integration in staffed residences (Hypothesis 2). The observation that perceived staff support for distal external integration comes primarily from itinerant staff of independent living residences suggests that these staff have a much greater influence on distal external integration than staff of staffed facilities.

As was the case with the model for proximal external integration, the interaction between attitude toward distal external integration and subjective norm in the model predicting distal external integration was not significant (Hypothesis 15). This hypothesis was based on the

assumption that neither of the two factors alone would sufficiently predict distal external integration but that each would amplify the other. That this was not found is consistent with the general weak relationships of individual variables with external integration relative to environmental variables.

Independent living residents have greater distal external integration than those living in staffed residences (Hypothesis 16). This, besides being related to the factors discussed above, is likely associated with the fact that independent living residents enjoy much greater independence and freedom. Having more control over medication, as well as the expectations of staff, appear to be the factors contributing to this difference.

The fact that for staffed residences psychopathology appears unrelated to distal external integration (Hypothesis 17), while for independent living residences an inverse relationship between the two variables exists, suggests that there is no simple relationship between psychopathology and distal external integration. In fact, the findings indicate that residents of staffed facilities have a low distal external integration regardless of psychopathology. Independent living residents, on the other hand, show only decreased levels of distal integration with greater levels of psychopathology. This suggests that staffed facilities have a suppressing influence on distal integration of residents with lower levels of psychopathology.

The correlation between residents' ratings of sufficiency of spending money and distal external integration failed to reach significance

(Hypothesis 13). In a post-hoc analysis, actual spending money was also found to be unrelated to distal integration. This suggests that, contrary to what Segal and Aviram (1978) found, financial variables appear relatively unrelated to distal external integration. However, this may have been partially the result of how distal external integration was measured. Residents could score high on distal external integration without having to spend any money beyond bus fare and other minor items. The mean amount of monthly spending money was \$81, with all but 20.6% of residents reporting an amount of \$72 or more. This meant that most had at least the ability to purchase some incidentals and bus fare.

Adequacy of the Model for both Types of External Integration

It must be concluded that the model was not entirely adequate for predicting either type of external integration. Contrary to the arguments of Ajzen and Fishbein (1980), environmental variables appear to have substantial effect on behavioral outcomes, over and above the elements of the model. This discrepancy may result from the different types of behavior predicted by Ajzen and Fishbein and the present study. As noted above, Ajzen and Fishbein were primarily concerned with voluntary behavior (e.g., voting for one of two candidates). On the other hand, the present study examined behavior which was not completely under the control of the actors.

These extraneous influences are especially obvious in the prediction of proximal external integration. Behavioral intention appears not to be related to actual integration. Rather, residence size and density of residences are more predictive of proximal external integration.

The model appears to be more accurate for distal external integration. Not only are the various correlations in the model higher than those for proximal integration, but in a regression analysis predicting integration with 17 potential independent variables, behavioral intention was first entered. This confirms the appropriateness of the variable for the prediction of distal external integration. Notwithstanding this, three other variables contributed significantly to the regression equation. One of these, type of neighbourhood, is clearly an environmental variable over which residents have no control. This supports the notion that intention is not the exclusive determinant of distal external integration. Two other variables, voluntariness of residency and access to services, are of a somewhat mixed individual and environmental nature. Both are subjective evaluations of the environment. Of the two, access could have been rephrased as an outcome evaluation. Thus, it could have been incorporated in the model as such. However, voluntariness of residency could not have been readily incorporated in the model as an outcome evaluation. Yet, it had considerable explanatory power.

The fact that the model was differentially predictive may also have resulted from the different nature of the two forms of external integration. Residents may have less choice in their immediate environment (i.e., in the neighbourhood) than in the community at large. That is, once neighbours have decided not to interact with a resident of a community facility, the resident has few options, given that one cannot change one's neighbours. However, if a certain individual or group of individuals in the larger community decides not to interact

with a resident, the option of focusing on another individual or group always exists. Therefore, more options are available given the same behavioral intention. This may well explain why environmental variables were more important in determining proximal external integration than in determining distal external integration.

It could be concluded overall, however, that the model is not sufficient for explaining external integration of residents. Specifically, for distal external integration, environmental variables are required to increase the explained variance of the model. For proximal external integration, environmental variables are better predictors of behavior than behavioral intention. These findings are consistent with a review of the literature by Cournos (1987). She found that, consistently, research showed that environmental, not individual, variables were better predictors of outcomes of residential placements of the chronically mentally disabled.

One note of caution must be sounded in this respect. The model predicted clusters of behaviors, rather than a single, isolated behavior. This may have contributed to the relatively low correlations between intention and behavior. However, the vignette used for proximal external integration was much more descriptive of its corresponding measure of external integration than the vignette for distal external integration. The measure of distal external integration consisted of a collection of 26 items ranging from library use to family visits. The vignette could only attempt to capture the Gestalt of this conglomerate of behaviors. Yet the relationship between behavioral intention and behavior was stronger for distal than for proximal external integration.

This suggests that using a collection of behaviors as the final element of the model does not necessarily reduce its power.

Directions for Future Research

Clearly, one of the major limitations of the study was its sample size. The relatively small sample limited the power of the statistical tests applied to the hypotheses. Several hypotheses approached, but failed to reach, significance. These may well have been significant if the sample had been larger. A further restriction was the split between staffed and independent living residences. Several analyses could only be performed on each group separately, further reducing the power of tests.

In defence of the sample, however, it must be borne in mind that it constituted a significant segment of the eligible population of community mental health residences in Winnipeg. Of the staffed residence population, 13.1% participated in the study. This included 90% of all the residences. Of the independent living residence population, 50% participated, involving 75% of residences.

In view of the relatively small and diversely housed population of mentally disabled individuals in Winnipeg, it may be advisable for future researchers to replicate all or part of the study with a larger sample size in a city which has larger subpopulations of chronically mentally disabled living in community residences.

In order to broaden the understanding of community integration, it would also be advisable to include different data collection methods in

future research designs with a population of this size and nature. As Bouchard (1976) has pointed out, structured interviews are only one of a number of data collection techniques in field research. They have as their main drawback the inherent problem of bias common to all self-reports. Moreover, structured interviews leave little or no room to capture the uniqueness of a variety of settings in the community.

Recommended methods, especially for recording and analyzing proximal external integration, are participant and systematic observations (Bouchard, 1976). The former would consist of the researcher or an assistant making observations, as an unobtrusive participant, in a community facility. The latter form of observation records behavior in a more detailed and predetermined manner. Advantages of observational methods are that they enable the researcher to record which residents interact with which community members and to identify the precursors of those interactions.

A second serious constraint to the study was the lack of candor of staff and operators of staffed residences. Their high scores on the Marlowe-Crowne Social Desirability Scale made it necessary to interpret their answers to the staff questionnaire with caution. For example, this tendency may have seriously biased scores on the COPES in a socially acceptable direction. Therefore, the absence of significant results for hypotheses related to the therapeutic climate of the residence may well have resulted from the tendency of staff to rate many aspects of the residence in a biased manner.

This lack of candor may have been caused by a perception of operators that the interviewer was a potential threat to the residence, given the sordid state of some of the residences and the resulting suspiciousness toward outsiders. While operators and staff were assured of the study's confidentiality, many staff may have believed that, for similar reasons as operators, any openness with the interviewer would be frowned upon by the employer. The systematic use of staff and operators of community residences in studies similar to the present one is, therefore, not advisable unless the information obtained is either of a very concrete nature or can be verified by other sources.

The measure of psychopathology (BPRS) was reasonably reliable. Nevertheless, its reliability was not sufficiently high to allow psychopathology to be used as a covariate. This may largely have resulted from its relatively restricted range. This restricted range, at the low end of the scale, reflected the relative lack of overt psychopathology of the sample. The rationale for including psychopathology in the study was earlier evidence that psychopathology interferes with social behavior (Segal & Aviram, 1978). This interference may be based on a reduced ability, motivation, or intention in the individual. However, overt psychopathology may also be the cause of rejection by others as the result of odd behavior. Especially if the latter is the case, it may be preferable to use an objective rating of social skills, rather than a more intra-personal rating of psychopathology.

Given the apparent influence of many environmental variables on external integration, future research should focus on these external

influences. The distinction between proximal and distal external integration proved especially fruitful. The conclusion that the proximal environment is more restrictive, while the distal environment leaves greater flexibility, points to the need for continued differentiation between the two. Moreover, more cognitively-oriented models (i.e., those based on attitude, subjective norm, and intention) may be inadequate for behavior on which environmental variables have a significant bearing.

The study also points to the need for future research to examine stigma related to chronic mental disability concurrently from an environmental and an individual angle. The environment appears to play a significant role in external integration. However, the chronically mentally disabled do not necessarily assess environmental influences accurately, given the discrepancy between their intentions and behavioral outcomes. Studying cognition and the environment in isolation, therefore, may lead to erroneous conclusions.

Conclusions

One of the rationales for deinstitutionalization of the chronically mentally disabled is their integration in the community. Simply housing ex-patients in the community does not assure integration. The present study shows that a number of factors are related to community integration and that many of these are of an environmental nature. It is, therefore, essential for planners of community residences and operators of community residential programs to take these environmental factors into consideration to maximize the integration of the chronically mentally disabled.

For planning purposes, several variables should be taken into consideration. First of all, smaller residences appear to contribute to proximal external integration. It is therefore advisable to restrict future development of residential facilities to small residences. Two to three beds appears optimal. Certainly, residences larger than six beds appear to discourage neighbourhood integration.

A second consideration in planning community facilities is that, contrary to expectations, having another community residence in the vicinity appears to increase proximal external integration. The latter finding may be attributed in part to interactions between the residences. While it can be argued that this type of interaction is not true community integration and therefore undesirable, many friendships do exist between individuals of residences located in close proximity. Given that the social network of the chronically mentally disabled is generally quite restricted (Froland, Brodsky, Olson, & Stewart, 1979; Strayer & Keith, 1979), a moderate increase in this network should be stimulated. Moreover, increasing the opportunity to informally interact with individuals in similar circumstances in the community would be preferable over isolating residents in an effort to force interactions with the nondisabled community. In any case, the latter form of interaction appears not precluded by placing residences in close proximity of one another. Residence-to-residence interactions would be stimulated by placing residences in relative close proximity (i.e., within one block) of each other. Moreover, locating residences at some distance (i.e., one half block) from each other reduces the likelihood of neighbours' awareness of both residences.

The current research also supports the notion that low-stress neighbourhoods are conducive to distal external integration. Neighbourhoods with increases of single person households with older residents appear especially supportive to community residences in this respect. These neighbourhoods possibly decrease the stress level of residents by placing fewer demands on the individual and, thus, leaving more room for external integration in the limited capacity for social networking of residents. Careful selection of suitable neighbourhoods for new residences is, therefore, recommended.

Independent living residences are associated with greater distal external integration than staffed residences. Therefore, making the independent living program available to as many chronically mentally disabled individuals as possible seems preferable over housing these individuals in staffed residences. Moreover, in the independent living program, expectations of the itinerant staff are directly related to both forms of external integration; they are not in staffed residences. In other words, positive support from itinerant staff is associated with greater integration of residents. This suggests that, in many instances, itinerant staff have a greater influence over residents than do residential staff. The different nature of the relationship may well account for this. Independent living program staff have more of a one-to-one therapist-client relationship with residents. Most staffed residences do not assign specific staff to individual residents. Rather, who relates to residents depends largely on staff schedules. Staff also tend to have less of a therapeutic and more of a custodial relationship with individual residents. Therefore, unless residents

require 24-hour supervision or extensive on-site training, independent living residences would appear to be the preferred model of residential programming.

Another programming implication following from the research is the need to make residents less dependent on the residence by allowing them to control their own medication intake. This would likely require more staff involvement in staffed residences by regularly reviewing medication compliance. However, a simple change to a facility routine which may be implemented for many residents with little effort would be to provide those residents with their daily medication in the morning in clearly labeled containers. This would give residents control over their medication for the day, freeing them to set their own schedule if they so desire. Such slight changes in medication administration routines may considerably increase the social integration of residents.

Finally, it was shown that, in general, residents had positive behavioral intentions toward external integration. When environmental conditions were favorable, or could be controlled, external integration tended to follow. For example, it was shown that residence size, neighbourhood type, and control over medication were related to external integration. It would, therefore, be advisable for individuals working with the chronically mentally disabled in community facilities to focus on those environmental variables. They should, in addition to providing support to individuals, create environments conducive to external integration. In addition, they should help residents understand the constraints of the environment and teach the skills required to deal with these constraints in a very practical manner. This is not the help

most residents currently receive. While they apparently are given advice on social contacts, they rarely receive applied skills training (i.e., role play or assignments). It is these latter skills that enable residents to manipulate their environments. Staff and community mental health workers teaching these skills, together with clearly communicated positive expectations regarding external integration, will increase residents' integration into the community.

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APPENDICES

Appendix A
RESIDENT QUESTIONNAIRE

RESIDENT QUESTIONNAIRE

Participant No. _____
 Residence No. _____
 Interview date _____

I.

1. Gender M F

First of all, I would like to ask you some questions about your background.

2. What is your date of birth:

Day
 Month
 Year

Interviewer: Calculate age (round to nearest year):
 Age: _____ (years)

3. What is the highest education you have completed?

No schooling
 Some grade school
 Completed grade school
 Some Junior High
 Completed Junior High
 Some high school
 Completed high school
 Some vocational school training
 Completed vocational training
 Some university
 Completed university degree

4. What is your present marital status?

Single (never married)
 Married
 Separated
 Divorced
 Widowed
 Common law

5. What is your ethnic or cultural group of origin?

Ukrainian/East European	_____
British/Irish	_____
Scandinavian	_____
French	_____
German/Dutch/Belgian/Swiss/Austrian	_____
Mediterranean	_____
Asian	_____
African	_____
Jewish	_____
Metis/Indian	_____
Other (please specify) _____	_____

None	_____

II.

Now let me read you descriptions of two imaginary people. I would like you to remember each one, because I will ask you some questions about them after I finish reading them. Let me know if you want me to repeat any part.

Interviewer:	read 'female' version for female participant, 'male' version for male participant.
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Vignette #1

Jane/Joe is a resident of a place similar to the one you live in. (S)he enjoys talking to the neighbours and has one or two with whom (s)he visits occasionally. (S)he greets them when (s)he sees them walk by. Jane/Joe is not excessively friendly, but rather likes to be involved in the neighbourhood.

Vignette #2

Brenda/Bill is a resident of a place similar to the one you live in. (S)he prefers not to talk to the neighbours too often. (S)he usually looks the other way when they walk by. Brenda/Bill is not unfriendly, but rather likes to have his/her privacy.

Now I would like to ask you some questions about Jane/Brenda (Joe/Bill). I will show you a scale with points (hand participant Scale 1--and explain). Please tell me which point expresses your opinion the best for each of the questions. Remember there are no right or wrong answers. All that I am interested in is your opinions.

Do you have any questions or would you like me to repeat the two descriptions again?

O.K. let's begin. Remember, Jane/Joe likes to be part of the neighbourhood and Brenda/Bill likes to have her/his privacy.

Interviewer:	read the appropriate name for "J" or "B". Write numerical response behind each item.
--------------	-----------------------------------------------------------------------------------------

- 1a. I probably will behave like J _____
 1b. I probably will behave like B _____ a-b = _____
- 2a. Most people who are important to me probably think I should behave like J _____
 2b. Most people who are important to me probably think I should behave like B _____ a-b = _____
- 3a. Most of my close relatives probably think I should behave like J _____
 3b. Most of my close relatives probably think I should behave like B _____ a-b = _____
- 4a. Most of my close friends probably think I should behave like J _____
 4b. Most of my close friends probably think I should behave like B _____ a-b = _____
- 5a. Most of the staff of this residence probably think I should behave like J _____
 5b. Most of the staff of this residence probably think I should behave like B _____ a-b = _____
- 6a. Most of the other residents of this house probably think I should behave like J _____
 6b. Most of the other residents of this house probably think I should behave like B _____ a-b = _____
- 7a. My therapist (counsellor, psychiatrist) probably thinks I should behave like J _____
 7b. My therapist (counsellor, psychiatrist) probably thinks I should behave like B _____ a-b = _____
- 8a. The neighbours probably think I should behave like J _____
 8b. The neighbours probably think I should behave like B _____ a-b = _____
- 9a. Other people in the community probably think I should behave like J _____
 9b. Other people in the community probably think I should behave like B _____ a-b = _____

- 10a. If I would behave like J, I would probably be independent _____
 10b. If I would behave like B, I would probably be independent _____
 a-b = _____
- 11a. If I would behave like J, I would probably feel emotionally secure _____
 11b. If I would behave like B, I would probably feel emotionally secure _____
 a-b = _____
- 12a. If I would behave like J, I would probably be doing what I want _____
 12b. If I would behave like B, I would probably be doing what I want _____
 a-b = _____
- 13a. If I would behave like J, I would probably feel needed _____
 13b. If I would behave like B, I would probably feel needed _____
 a-b = _____
- 14a. If I would behave like J, I would probably have people to count on when I needed them _____
 14b. If I would behave like B, I would probably have people to count on when I needed them _____
 a-b = _____
- 15a. If I would behave like J, I would probably enjoy life _____
 15b. If I would behave like B, I would probably enjoy life _____
 a-b = _____

O.K., now I have another scale here. The points on it are exactly the same, but rather than them being yes-no, now the endpoints are good and bad. So the one end here is extremely good, the other extremely bad. Please answer the next few questions using this new scale.

- 16a. Behaving like J is _____
 16b. Behaving like B is _____
 a-b = _____
17. Being independent is _____
18. Being emotionally secure is _____
19. Doing what I want is _____
20. Feeling needed is _____
21. Having people to count on when I need them is _____
22. Enjoying life is _____

IV.

Interviewer: Obtain written consent to check with staff/therapist if resident is not able to provide information for questions 1 and 2.

- 1.a. Have you ever been admitted to a psychiatric hospital
or psychiatric ward of a general hospital?Yes
No

If Yes:

- b. Please list the approximate dates and length of each admission:

(Continue on back if necessary)

Obtain: total length in months _____
total number of admissions _____

- 2.a. Do you take any oral or injectable prescribed medications at present?Yes
No

If yes:

- b. Please list the medications you take with doses, how often you take them and whether you take them by mouth or injections.

Name of Drug	Dose	Frequency	Oral/In	Self/residence/outside administered
--------------	------	-----------	---------	----------------------------------------

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Interviewer: calculate daily equivalent dosage of
anti-psychotic medication:

_____ x 100 mg chlorpromazine

- c. Of the above medications, please tell me which ones you keep in your own possession and take yourself (c); are kept by staff in the residence and dispensed to you when you need to take them (r); are kept by someone else and administered to you outside the residence (o) (enter codes in last column).

Interviewer: Check "complete control" if for all medications "c's" are obtained. Check "some control" if at least one "c" and either an "r" and/or "o" is obtained. Check "no control" if at least one "r" or "o" is found, but no "c".

Score:

Complete control _____

Some control _____

No control _____

- 3.a. Do you have a psychiatric diagnosis at present?...Yes _____

No _____

D/K _____

If yes:

- b. Could you tell me what it is?

Diagnosis _____

D/K _____

- 4.a. Are you currently receiving any type of psychiatric treatment or counselling?Yes _____

No _____

If yes:

- b. Please tell me what kind of service you receive:

Medication follow-up _____

Individual therapy _____

Group therapy _____

- c. Do you go out to receive any of these services or do you get it in the residence?

In _____
 Out _____
 Both _____

- d. Who do you receive the service(s) from?

Department of Health Community Worker ... _____
 Staff of the residence _____
 Social worker _____
 Psychologist _____
 Nurse _____
 General practitioner _____
 Psychiatrist _____
 Other (specify) _____

- e. How frequently do you receive the service(s)?

About once per week or more often _____
 Between once per week to once per month . _____
 Less than once per month _____

- 5.a. Do you receive any help for becoming more involved with other people or better able to communicate with them?

Yes _____
 No _____

If yes:

- b. Who provides you with this help?

Department of Health Community Worker ... _____
 Residence staff _____
 Other professional coming in from outside _____
 Therapist I see outside the residence ... _____
 Other residents _____
 Family _____
 Friends _____
 Other (specify) _____

- c. What kind of help do you receive for socializing with others?

Encouragement only _____
 Advice on how to do it _____
 Practice through role play _____
 Practice through assignments outside _____
 the residence _____

V. Here are two other imaginary people:

Vignette #3

Jennifer/Joshua lives in a residence similar to the one you live in. S(he) mostly stays around the house rather than going to places further away in the city. For example, (s)he watches TV and gets other people to pick up her/his necessities. (S)he sees some relatives about once a year. (S)he prefers to do work at home over getting a job, and consequently is not looking for one.

Vignette #4

Bea/Brian also lives in a residence similar to the one you live in. (S)he goes to different places in the city, rather than staying around the house. For example, (s)he occasionally takes a bus to go to a movie theatre and to pick up necessities in a department store or mall. (S)he visits some relatives who live in another part of town occasionally. In addition, (s)he is actively looking for a job.

Using the same scale, I want to ask you similar questions about these people as before. Remember, I don't mind repeating their descriptions at all. Again, I am only interested in your opinion. We will use the yes-no scale again.

Remember, Jennifer/Joshua would rather stay around the house. Bea/Brian would rather do things further away from the house.

- 23a. I probably will behave like J _____
- 23b. I probably will behave like B _____ a-b = _____
- 24a. Most people who are important to me probably think I should behave like J _____
- 24b. Most people who are important to me probably think I should behave like B _____ a-b = _____
- 25a. Most of my close relatives probably think I should behave like J _____
- 25b. Most of my close relatives probably think I should behave like B _____ a-b = _____
- 26a. Most of my close friends probably think I should behave like J _____
- 26b. Most of my close friends probably think I should behave like B _____ a-b = _____
- 27a. Most of the staff of this residence probably think I should behave like J _____
- 27b. Most of the staff of this residence probably think I should behave like B _____ a-b = _____

- 28a. Most of the other residents of this house probably think I should behave like J _____
- 28b. Most of the other residents of this house probably think I should behave like B _____ a-b = _____
- 29a. My therapist (counsellor, psychiatrist) probably thinks I should behave like J _____
- 29b. My therapist (counsellor, psychiatrist) probably thinks I should behave like B _____ a-b = _____
- 30a. The neighbours probably think I should behave like J _____
- 30b. The neighbours probably think I should behave like B _____ a-b = _____
- 31a. Other people in the community probably think I should behave like J _____
- 31b. Other people in the community probably think I should behave like B _____ a-b = _____
- 32a. If I would behave like J, I would probably be independent _____
- 32b. If I would behave like B, I would probably be independent _____ a-b = _____
- 33a. If I would behave like J, I would probably feel emotionally secure _____
- 33b. If I would behave like B, I would probably feel emotionally secure _____ a-b = _____
- 34a. If I would behave like J, I would probably be doing what I want _____
- 34b. If I would behave like B, I would probably be doing what I want _____ a-b = _____
- 35a. If I would behave like J, I would probably feel needed _____
- 35b. If I would behave like B, I would probably feel needed _____ a-b = _____
- 36a. If I would behave like J, I would probably have people to count on when I needed them _____
- 36b. If I would behave like B, I would probably have people to count on when I needed them _____ a-b = _____
- 37a. If I would behave like J, I would probably enjoy life _____
- 37b. If I would behave like B, I would probably enjoy life _____ a-b = _____
38. Generally speaking, I probably want to do what most of my close relatives think I should do _____

39. Generally speaking, I probably want to do what most of my close friends think I should do _____
40. Generally speaking, I probably want to do what most of the staff of this residence think I should do _____
41. Generally speaking, I probably want to do what most of the other residents of this house think I should do . _____
42. Generally speaking, I probably want to do what my therapist (counsellor, psychiatrist) think I should do _____
43. Generally speaking, I probably want to do what the neighbours think I should do _____
44. Generally speaking, I probably want to do what the other people in the community think I should do..... _____

Now, using the good-bad scale again, I have one more question for you:

45a. Behaving like J is _____

45b. Behaving like B is _____

a-b = _____

VI.

1. How long have you been in this particular residence? Years _____
 Months _____
2. When you came here were you:
- Given a choice between several residences 5
 Given the choice to live here or wait until another
 place became available 4
 Told that if you did not choose this residence, you
 might not have another chance to be placed elsewhere 3
 Told that you would be placed here 2
 Told that if you would not choose to live here you
 would be put in a much worse place 1
3. Do you stay in your present residence because:
- You are forced to live here 1
 You have nowhere else to go 3
 You want to live here 5
4. If you were given a choice, how long would you stay in
 your present residence?
- Move as soon as possible 1
 Stay for a while, until you found something better .. 3
 Stay indefinitely 5
- 5.a. Do you have a curfew here? That is, do you have to
 be inside the residence at a certain time?.....Yes _____
 No _____

If yes:

- b. By what time do you have to be inside? _____
- c. Does this curfew interfere with you:
- | | Often | Sometimes | Never |
|------------------------------------------------------------|-------|-----------|-------|
| Visiting friends/family? | 1 | 2 | 3 |
| Going to community activities such as
concerts, movies? | 1 | 2 | 3 |
| Any other activities? | 1 | 2 | 3 |
| Specify _____ | | | |
- d. If you wanted to, would it be easy to arrange occasionally to come
 in after curfew?
- 1
 Very difficult/
 impossible

2

3
 Possible with
 some effort

4

5
 Very
 Easy

- 6.a. Are there any rules, other than curfews, that you feel interfere with you becoming or staying involved with people in the neighbourhood?Yes

No

If yes:

- b. Please specify _____

- 7.a. Are there any rules, other than curfews, that you feel interfere with you becoming or staying involved with people from outside the neighbourhood?.....Yes

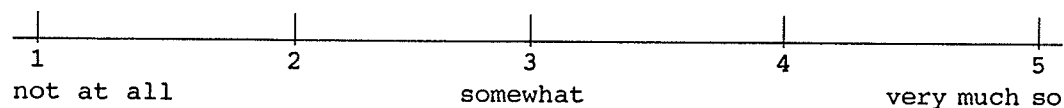
No

If yes:

- b. Please specify _____

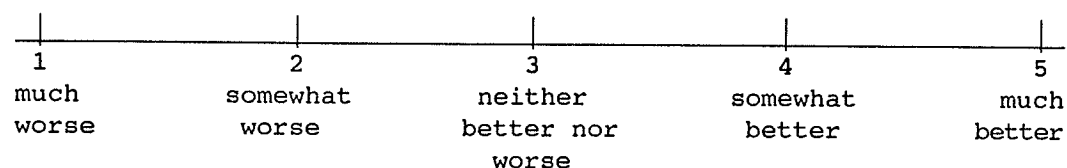
VII.

- 1.a. Do you believe the people in the neighbourhood treat you any differently because you live in this residence, compared to if you lived on your own?



If 2-5:

- b. Compared to if they did not know you lived in this residence, do the people in the neighbourhood treat you:



If 1 or 2:

- c. What does "worse" mean to you?

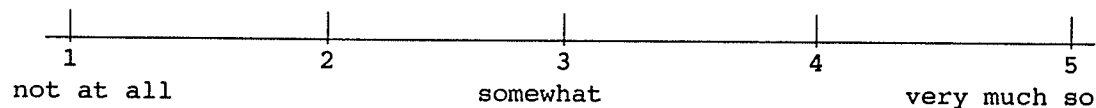
People avoid me _____
 People talk rudely to me _____
 People are aggressive to me _____
 People try to take advantage of me _____
 Other (specify) _____

If 4 or 5:

- d. What does "better" mean to you?

People try to talk to me _____
 People talk nicely to me _____
 People are friendly with me _____
 People try to help me _____
 Other (specify) _____

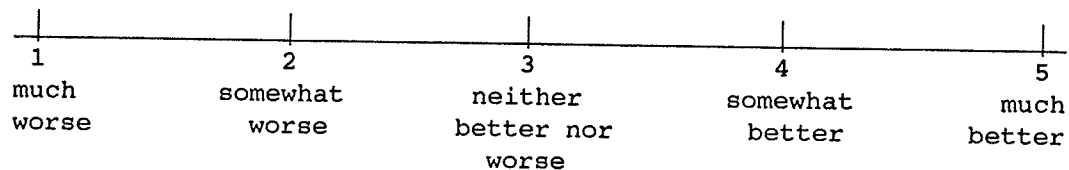
- 2.a. Do you believe the people in the neighbourhood treat you any differently because they think you have a psychiatric problem?



VII.2.

If 2 to 5:

- b. Compared to if they did not think you had a psychiatric problem, do the people in the neighbourhood treat you:



If 1 or 2:

- c. What does "worse" mean to you:

People avoid me _____

People talk rudely to me _____

People are aggressive to me _____

People try to take advantage of me _____

Other (specify) _____

If 4 or 5:

- d. What does "better" mean to you?

People try to talk to me _____

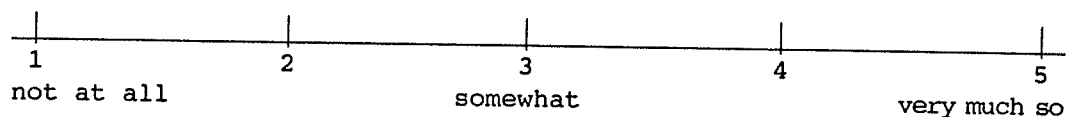
People talk nicely to me _____

People are friendly with me _____

People try to help me _____

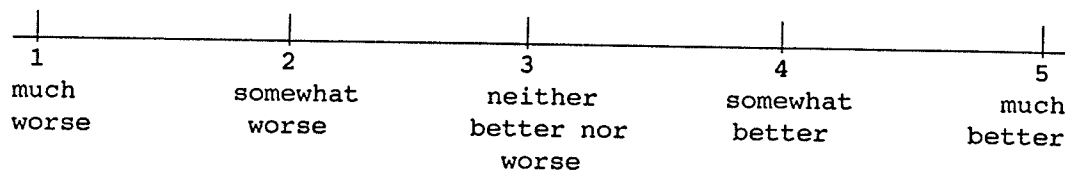
Other (specify) _____

- 3.a. Do you believe the people outside the neighbourhood (such as friends, family, people you work with, people in stores, etc.) treat you any differently because you live in this residence, compared to if you would live on your own?



If 2 - 5:

- b. Compared to if they did not know you lived in this residence, do the people outside the neighbourhood treat you:



c. What does "worse" mean to you?

People avoid me _____
 People talk rudely to me _____
 People are aggressive to me _____
 People try to take advantage of me _____
 Other (specify) _____

d. What does "better" mean to you?

People try to talk to me _____
 People talk nicely to me _____
 People are friendly with me _____
 People try to help me _____
 Other (specify) _____

1 2 3 4 5

not at all somewhat very much so

b. Compared to if they did not think you had a psychiatric problem, do the people outside the neighbourhood treat you:

1 2 3 4 5

much worse somewhat worse neither better nor worse somewhat better much better

c. What does "worse" mean to you?

People avoid me _____
 People talk rudely to me _____
 People are aggressive to me _____
 People try to take advantage of me _____
 Other (specify) _____

If 4 or 5:

d. What does "better" mean to you?

People try to talk to me	_____
People talk nicely to me	_____
People are friendly with me	_____
People try to help me	_____
Other (specify) _____	_____

5. Have any people in the neighbourhood complained about his residence, or about the people living here?.....Yes

No	_____
D/K	_____

VIII.

- | | | |
|----|---------------------------------------------------------------------------|----------|
| 1. | Do you ever talk to any people in the neighbourhood?..Yes | <u>1</u> |
| | No | <u>0</u> |
| 2. | Do you know the names of any of the people in the neighbourhood?Yes | <u>1</u> |
| | No | <u>0</u> |
| 3. | Have you ever called anyone in the neighbourhood over the phone?Yes | <u>1</u> |
| | No | <u>0</u> |
| 4. | Have you ever asked anyone in the neighbourhood into this house?Yes | <u>1</u> |
| | No | <u>0</u> |
| 5. | Have you ever been invited into a neighbour's home?..Yes | <u>1</u> |
| | No | <u>0</u> |
| 6. | Have you ever gone anywhere with anyone from the neighbourhood?Yes | <u>1</u> |
| | No | <u>0</u> |
| 7. | Have you ever borrowed anything from a neighbour?....Yes | <u>1</u> |
| | No | <u>0</u> |

IX.

	Very Often	Often	Some- times	Rarely	Never	Response to Question IX - 5
1.a. On a typical day do you go to a coffee shop or restaurant?	5	4	3	2	1	_____
b. On a typical day to you go to a shopping centre or shopping areas?	5	4	3	2	1	_____
c. How often in a typical day do you order food from outside or eat out at a restaurant?	5	4	3	2	1	_____
d. How often in a typical week do you make a purchase at a store?	5	4	3	2	1	_____
	none	a little	half/half	most	all	
e. On a typical day how much of your time is spent at the house between 8:00 a.m. and 5:00 p.m.?	5	4	3	2	1	_____
f. On a typical day how much of your time is spent at the house between 5:00 p.m. and 11:00 p.m.?	5	4	3	2	1	_____
2. On a typical day, how often do you visit with:						

	Very often	Often	Some- times	Rarely	Never	Response to Question IX - 5
a. Members of your immediate family?	5	4	3	2	1	_____
b. More distant relatives?	5	4	3	2	1	_____
3.a. Close friends not in this house?	5	4	3	2	1	_____
b. Acquaintances not in this house?	5	4	3	2	1	_____

IX.1.

4. On a typical day, how often do you:

	Very often	Often	Some- times	Rarely	Never	Response to Question IX - 5
a. Do volunteer work	5	4	3	2	1	_____
b. Join in activities of social or political groups outside the house for people who are not considered former patients	5	4	3	2	1	_____
c. Go to a park	5	4	3	2	1	_____
d. Go to a library	5	4	3	2	1	_____
e. Participate in some sport activity outside this house	5	4	3	2	1	_____
f. Go to a sporting event, movie, concert or other entertainment event	5	4	3	2	1	_____

5. Now, I would like to ask you for some of the questions where you go to do these things. Please decide for each item how far the place is from this residence as follows:

1. Within one block, or right here.
2. More than one block, but still within walking distance.
3. Some form of transportation is necessary to get there, like a bus or getting a ride with someone.

Interviewer: Return to each question where participant answered "2-5" only and fill out 1, 2, or 3 in the appropriate box.

X.

Listed below are a number of sentences concerning personal attitudes and traits. After I read each item, decide whether the statement is true or false as it pertains to you personally.

Interviewer: Circle T or F

1. I never hesitate to go out of my way to help someone in trouble T F _____
2. It is sometimes hard for me to go on with my work, if I am not encouraged T F _____
3. I sometimes feel resentful when I don't get my way .. T F _____
4. My table manners are as good at home as when I eat out in a restaurant T F _____
5. If I could get into a movie without paying and be sure I was not seen, I would probably do it T F _____
6. On a few occasions, I have given up doing something because I thought too little of my ability T F _____
7. There have been times when I felt like rebelling against people in authority even though I knew they were right T F _____
8. There have been occasions when I took advantage of someone T F _____
9. I'm always willing to admit it when I make a mistake. T F _____
10. I always try to practice what I preach T F _____
11. I sometimes try to get even, rather than forgive and forget T F _____
12. At times I have really insisted on having things my own way T F _____
13. I never resent being asked to return a favor T F _____
14. If I had a car, I would never make a long trip without checking its safety T F _____
15. There have been times when I was quite jealous of the good fortune of others T F _____
16. I have never felt that I was punished without cause . T F _____

X.I.

XI.

1. Without the help of anyone, how easy would it be for you to:

	Very Easy	Easy	Not Much Trouble	Difficult	Very Difficult
a. Go to a shopping centre or a large shopping area	5	4	3	2	1
b. Go to a park	5	4	3	2	1
c. Go to a library	5	4	3	2	1
d. Go to a movie, theatre or concert	5	4	3	2	1
e. Go to a community centre	5	4	3	2	1
f. Go to a restaurant/coffee shop	5	4	3	2	1
g. Go to a bar/lounge	5	4	3	2	1
h. Use public transportation	5	4	3	2	1
i. Go to a place of worship you prefer	5	4	3	2	1
j. Go to an organization that offers an opportunity to do volunteer work	5	4	3	2	1
k. Go to a barber shop or beauty salon	5	4	3	2	1
l. Take a walk in a pleasant area	5	4	3	2	1
m. Telephone and just talk to a member of your immediate family	5	4	3	2	1
n. Telephone and just talk to a more distant relative	5	4	3	2	1
o. Get together with a member of your immediate family	5	4	3	2	1
p. Get together with a more distant relative	5	4	3	2	1
q. Telephone and just talk to a close friend outside the house	5	4	3	2	1
r. Telephone and just talk to an acquaintance outside the house	5	4	3	2	1
s. Get together with a close friend who does not live in this house	5	4	3	2	1
t. Get together with an acquaintance who does not live in this house	5	4	3	2	1

XI.2.

2. If you wanted, how easy would it be to obtain, outside this house or without the aid of the staff the following things:

	Very Easy	Easy	Not Much Trouble	Difficult	Very Difficult
a. Meals	5	4	3	2	1
b. Medical services	5	4	3	2	1
c. Laundry services	5	4	3	2	1
d. Clothing	5	4	3	2	1
e. Toilet supplies and incidentals	5	4	3	2	1
f. A telephone	5	4	3	2	1

XII. Debriefing

1. This is the end of the interview. Thank you very much for your cooperation. Do you have any questions, or is there anything you would like to tell me after all the things I asked you?

2. As you know I will make some summaries of the research available to all the participants. Would you like me to send your copy right to this address?

Yes _____ No _____

If no:
What other address

XIII.

Interviewer: Answer these questions at the first possible occasion following debriefing.

1. How cooperative was the participant in your opinion?

1 Uncooperative
2 Somewhat cooperative
3 Cooperative

2. Did anything appear to happen during the interview that may have disturbed the reliability of the data?

0 No
1 Yes

If yes, please specify:

3. Quality of the interview:

1 High
2 Adequate
3 Questionable

Appendix B
STAFF QUESTIONNAIRE

STAFF QUESTIONNAIRE

Residence No. _____

Interview Date _____

Interviewer: Place a check mark or number where lines
require a response. Circle numbers.

I.

Gender M _____ F _____

1. How old are you?
_____ years
2. How long have you worked in this residence?
_____ years _____ months
3. Do some of the residents know any of the people in the neighbourhood
by name?

 1 yes
 0 no/don't know
4. Have some residents ever been invited into neighbours homes?

 0 never
 1 seldom
 2 occasionally
 3 often
5. Do people from the neighbourhood visit the residence?

 0 never
 1 seldom
 2 occasionally
 3 often

6. Does this residence have a board of directors or advisory board?

1 yes
0 no

If yes:

- a) how many board members are from the neighbourhood:

0	1	2	3	4
none	1/4	1/2	3/4	all

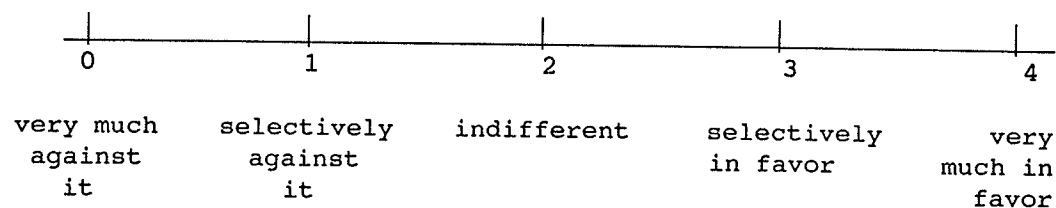
7. Do people, other than neighbours or professionals (like community workers, Department of Health representatives) visit with anyone in this residence? I am thinking of such people as relatives, friends, community group representatives, volunteers, etc.

0 never
1 seldom
2 occasionally
3 often

8. Has the residence organized an open house or other activity for the neighbourhood in the past year or is one scheduled?

1 yes
0 no

9. How do staff feel about residents having social contacts with people in the neighbourhood?



If 3 - 4:

- a) Do staff help residents with seeking or maintaining contact with neighbours?

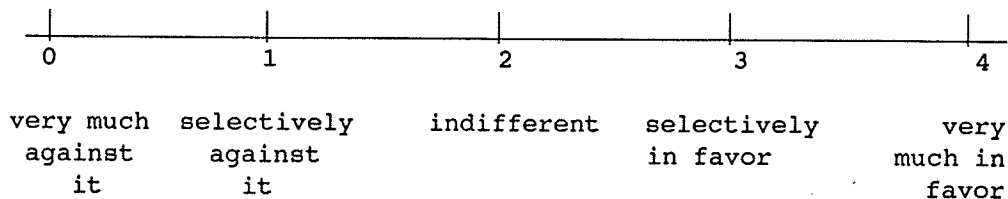
 1 yes
 0 no

If yes:

- b) How do they do this?

_____ provide encouragement
 _____ provide advice
 _____ provide counselling aimed at problem solving
 _____ train residents through role plays, assignments
 _____ organize contacts between residents and neighbours
 _____ Other (specify) _____

10. How do staff feel about residents having social contacts and engaging in other activities outside the neighbourhood?



If 3 - 4:

- a) Do staff help residents with seeking or maintaining social contacts or engaging in other activities outside the neighbourhood?

 1 yes
 0 no

- b) How do they do this?

 provide encouragement
 provide advice
 provide counselling aimed at problem solving
 train residents through role plays, assignments
 organize contacts between residents and
 Other (specify) _____

11. Have the neighbours ever complained to the staff in this residence about the residents or anything else related to the home?

 0 never
 1 once
 2 seldom
 3 sometimes
 4 often

12. Have neighbours ever threatened staff or residents?

 0 never
 1 once
 2 seldom
 3 sometimes
 4 often

13. Have the neighbours ever complained to the authorities about the residents or anything else related to the house?

<u>0</u>	never
<u>1</u>	once
<u>2</u>	seldom
<u>3</u>	sometimes
<u>4</u>	often

II.

Listed below are a number of sentences concerning personal attitudes and traits. After I read each item, decide whether the statement is true or false as it pertains to you personally.

Interviewer: Circle T or F

1. I never hesitate to go out of my way to help someone in trouble T F _____
2. It is sometimes hard for me to go on with my work, if I am not encouraged T F _____
3. I sometimes feel resentful when I don't get my way .. T F _____
4. My table manners are as good at home as when I eat out in a restaurant T F _____
5. If I could get into a movie without paying and be sure I was not seen, I would probably do it T F _____
6. On a few occasions, I have given up doing something because I thought too little of my ability T F _____
7. There have been times when I felt like rebelling against people in authority even though I knew they were right T F _____
8. There have been occasions when I took advantage of someone T F _____
9. I'm always willing to admit it when I make a mistake. T F _____
10. I always try to practice what I preach T F _____
11. I sometimes try to get even, rather than forgive and forget T F _____
12. At times I have really insisted on having things my own way T F _____
13. I never resent being asked to return a favor T F _____
14. If I had a car, I would never make a long trip without checking its safety T F _____
15. There have been times when I was quite jealous of the good fortune of others T F _____
16. I have never felt that I was punished without cause . T F _____

III.

Interviewer: circle T or F.

Below are some statements regarding this residence. Please tell me if you believe each one is either true or false.

1. Residents put a lot of energy into what they do around here T F _____
2. The healthier residents here help take care of the less healthy ones T F _____
3. Residents tend to hide their feelings from one another. T F _____
4. There is no resident government in this program T F _____
5. This program emphasizes training for new kinds of jobs. T F _____
6. Residents hardly ever discuss their sexual lives T F _____
7. It's hard to get people to argue around here T F _____
8. Residents' activities are carefully planned T F _____
9. If a resident breaks a rule, he or she knows what the consequences will be T F _____
10. Once a schedule is arranged for a resident, the resident must follow it T F _____
11. This is a lively place T F _____
12. Staff have relatively little time to encourage residents T F _____
13. Residents say anything they want to the staff T F _____
14. Residents can leave here anytime without saying where they are going T F _____
15. There is relatively little emphasis on teaching residents solutions to practical problems T F _____
16. Personal problems are openly talked about T F _____
17. Residents often criticize or joke about the staff ... T F _____
18. This is a very well organized program T F _____

19. If a resident's program is changed, staff always tell that resident why T F _____
20. The staff very rarely punish residents by taking away their privileges T F _____
21. The residents are proud of this program T F _____
22. Residents seldom help each other T F _____
23. It is hard to tell how residents are feeling here ... T F _____
24. Residents are expected to take leadership here T F _____
25. Residents are expected to make detailed specific plans for the future T F _____
26. Residents are rarely asked personal questions by the staff T F _____
27. Residents here rarely argue T F _____
28. The staff make sure that this place is always neat .. T F _____
29. Staff rarely give residents a detailed explanation of what the program is about T F _____
30. Residents who break the rules are punished for it T F _____
31. There is very little group spirit in this program ... T F _____
32. Staff are very interested in following up residents once they leave the program T F _____
33. Residents are careful about what they say when staff are around T F _____
34. The staff tend to discourage criticism from residents T F _____
35. There is relatively little discussion about exactly what residents will be doing after they leave the program T F _____
36. Residents are expected to share their personal problems with each other T F _____
37. Staff sometimes argue openly with each other T F _____
38. This place usually looks a little messy T F _____

III.3.

39. The program rules are clearly understood by residents T F _____
30. If a resident fights with another resident, he or she will get into real trouble with the staff T F _____

IV.

Debriefing

This is the end of the interview. Thank you very much for your cooperation. Do you have any questions, or is there any thing you like to tell me after all the things I asked you?

As you know, summaries of the research will be made available to all the participants. Would you like me to send your copy right to this address?

Yes _____ No _____

If no:

What other address

V.

Interviewer: Answer these questions at the first possible occasion following debriefing.

1. How cooperative was the participant in your opinion?

<u> 1 </u>	Uncooperative
<u> 2 </u>	Somewhat cooperative
<u> 3 </u>	Cooperative

2. Did anything appear to happen during the interview that may have disturbed the reliability of the data?

<u> 0 </u>	No
<u> 1 </u>	Yes

If yes, please specify:

3. Quality of the interview:

<u> 1 </u>	High
<u> 2 </u>	Adequate
<u> 3 </u>	Questionable

Appendix C
BRIEF PSYCHIATRIC RATING SCALE

Facsimile of the Brief Psychiatric Rating Scale. From "The Brief Psychiatric Rating Scale" by J. E. Overall and D. R. Gorham, 1962, Psychological Reports, 10, p. 803. Copyright 1962 by Southern Universities Press. Reprinted by permission.

BRIEF PSYCHIATRIC RATING SCALE

OVERALL AND GORHAM

DIRECTIONS: DRAW A CIRCLE AROUND THE TERM UNDER EACH SYMPTOM WHICH BEST DESCRIBES THE PATIENT'S PRESENT CONDITION.

1. SOMATIC CONCERN - DEGREE OF CONCERN OVER PRESENT BODY HEALTH. RATE THE DEGREE TO WHICH PHYSICAL HEALTH IS PERCEIVED AS A PROBLEM BY THE PATIENT, WHETHER COMPLAINTS HAVE REALISTIC BASIS OR NOT.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

2. ANXIETY - WORRY, FEAR, OR OVER-CONCERN FOR PRESENT OR FUTURE. RATE SOLELY ON THE BASIS OF VERBAL REPORT OF PATIENT'S OWN SUBJECTIVE EXPERIENCES. DO NOT INFER ANXIETY FROM PHYSICAL SIGNS OR FROM NEUROTIC DEFENSE MECHANISMS.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

3. EMOTIONAL WITHDRAWAL - DEFICIENCY IN RELATING TO THE INTERVIEWER AND THE INTERVIEW SITUATION. RATE ONLY DEGREE TO WHICH THE PATIENT GIVES THE IMPRESSION OF FAILING TO BE IN EMOTIONAL CONTACT WITH OTHER PEOPLE IN THE INTERVIEW SITUATION.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

4. CONCEPTUAL DISORGANIZATION - DEGREE TO WHICH THE THOUGHT PROCESSES ARE CONFUSED, DISCONNECTED OR DISORGANIZED. RATE ON THE BASIS OF INTEGRATION OF THE VERBAL PRODUCTS OF THE PATIENT; DO NOT RATE ON THE BASIS OF THE PATIENT'S SUBJECTIVE IMPRESSION OF HIS OWN LEVEL OF FUNCTIONING.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

5. GUILT FEELINGS - OVER-CONCERN OR REMORSE FOR PAST BEHAVIOR. RATE ON THE BASIS OF THE PATIENT'S SUBJECTIVE EXPERIENCES OF GUILT AS EVIDENCED BY VERBAL REPORT WITH APPROPRIATE AFFECT; DO NOT INFER GUILT FEELINGS FROM DEPRESSION, ANXIETY, OR NEUROTIC DEFENSES.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

6. TENSION - PHYSICAL AND MOTOR MANIFESTATIONS OF TENSION, "NERVOUSNESS", AND HEIGHTENED ACTIVATION LEVEL. TENSION SHOULD BE RATED SOLELY ON THE BASIS OF PHYSICAL SIGNS AND MOTOR BEHAVIOR AND NOT ON THE BASIS OF SUBJECTIVE EXPERIENCES OF TENSION REPORTED BY THE PATIENT.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

7. MANNERISMS AND POSTURING - UNUSUAL AND UNNATURAL MOTOR BEHAVIOR, THE TYPE OF MOTOR BEHAVIOR WHICH CAUSES CERTAIN MENTAL PATIENTS TO STAND OUT IN A CROWD OF NORMAL PEOPLE. RATE ONLY ABNORMALITY OF MOVEMENTS; DO NOT RATE SIMPLE HEIGHTENED MOTOR ACTIVITY HERE.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

8. GRANDIOSITY - EXAGGERATED SELF-OPINION, CONVICTION OF UNUSUAL ABILITY OR POWERS. RATE ONLY ON THE BASIS OF PATIENT'S STATEMENTS ABOUT HIMSELF OR SELF-IN-RELATION-TO-OTHERS, NOT ON THE BASIS OF HIS Demeanor IN THE INTERVIEW SITUATION.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

9. DEPRESSIVE MOOD - DESPONDENCY IN MOOD, SADNESS. RATE ONLY DEGREE OF DESPONDENCY; DO NOT RATE ON THE BASIS OF INFERENCES CONCERNING DEPRESSION BASED UPON GENERAL RETARDATION AND SOMATIC COMPLAINTS.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

10. HOSTILITY - ANIMOSITY, CONTEMPT, BELLIGERENCE, DISDAIN FOR OTHER PEOPLE OUTSIDE THE INTERVIEW SITUATION. RATE SOLELY ON THE BASIS OF THE VERBAL REPORT OF FEELINGS AND ACTIONS OF THE PATIENT TOWARD OTHERS; DO NOT INFER HOSTILITY FROM NEUROTIC DEFENSES, ANXIETY NOR SOMATIC COMPLAINTS. (RATE ATTITUDE TOWARD INTERVIEWER UNDER "UNCOOPERATIVENESS".)

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

11. SUSPICIOUSNESS - BELIEF (DELUSIONAL OR OTHERWISE) THAT OTHERS HAVE NOW, OR HAVE HAD IN THE PAST, MALICIOUS OR DISCRIMINATORY INTENT TOWARD THE PATIENT. ON THE BASIS OF VERBAL REPORT, RATE ONLY THOSE SUSPICIONS WHICH ARE CURRENTLY HELD WHETHER THEY CONCERN PAST OR PRESENT CIRCUMSTANCES.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

12. HALLUCINATORY BEHAVIOR - PERCEPTIONS WITHOUT NORMAL EXTERNAL STIMULUS CORRESPONDENCE. RATE ONLY THOSE EXPERIENCES WHICH ARE REPORTED TO HAVE OCCURRED WITHIN THE LAST WEEK AND WHICH ARE DESCRIBED AS DISTINCTLY DIFFERENT FROM THE THOUGHT AND IMAGERY PROCESSES OF NORMAL PEOPLE.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

13. MOTOR RETARDATION - REDUCTION IN ENERGY LEVEL EVIDENCED IN SLOWED MOVEMENTS AND SPEECH, REDUCED BODY TONE, DECREASED NUMBER OF MOVEMENTS. RATE ON THE BASIS OF OBSERVED BEHAVIOR OF THE PATIENT ONLY; DO NOT RATE ON BASIS OF PATIENT'S SUBJECTIVE IMPRESSION OF OWN ENERGY LEVEL.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

14. UNCOOPERATIVENESS - EVIDENCES OF RESISTANCE, UNFRIENDLINESS, RESENTMENT, AND LACK OF READINESS TO COOPERATE WITH THE INTERVIEWER. RATE ONLY ON THE BASIS OF THE PATIENT'S ATTITUDE AND RESPONSES TO THE INTERVIEWER AND THE INTERVIEW SITUATION; DO NOT RATE ON BASIS OF REPORTED RESENTMENT OR UNCOOPERATIVENESS OUTSIDE THE INTERVIEW SITUATION.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

15. UNUSUAL THOUGHT CONTENT - UNUSUAL, ODD, STRANGE, OR BIZARRE THOUGHT CONTENT. RATE HERE THE DEGREE OF UNUSUALNESS, NOT THE DEGREE OF DISORGANIZATION OF THOUGHT PROCESSES.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

16. BLUNTED AFFECT - REDUCED EMOTIONAL TONE, APPARENT LACK OF NORMAL FEELING OR INVOLVEMENT.

NOT PRESENT VERY MILD MILD MODERATE MOD. SEVERE SEVERE EXTREMELY SEVERE

J. E. OVERALL & D. R. GORHAM
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Facsimile of the Brief Psychiatric Rating Scale

Appendix D
RESEARCHER OBSERVED CHECKLIST

RESEARCHER OBSERVED CHECKLIST

Code number of the residence _____

1. Number of beds _____

2. Gender of residents:

All male _____

All female _____

Mixed _____

3. Type of staffing

Staffed _____

Independent living _____

a) If staffed, type of residence:

Licensed _____

Community _____

4. Number of blocks (400m) to nearest bus stop _____

5. Number of blocks (400 m) to nearest residence _____

6. Type of neighbourhood:

Index I _____

Index II _____

Appendix E
CONVERSION TABLE FOR ANTIPSYCHOTIC DRUGS

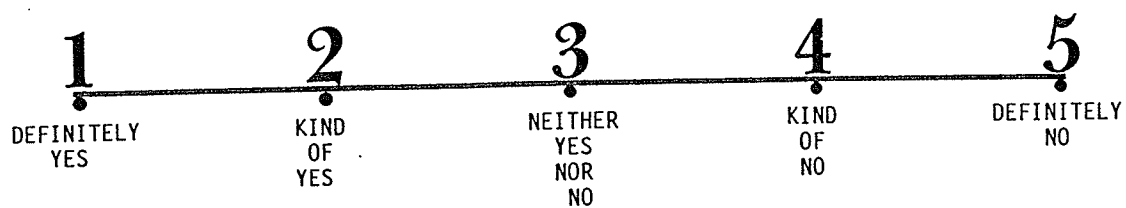
From "Antipsychotic medications and the treatment of schizophrenia"
by L. E. Hollister, 1977. In J.D. Barchas, P. A. Berger, R. D.
Ciaranello and G. R. Elliott, Psychopharmacology: From theory to
practice (p. 137), New York: Oxford University Press. Copyright 1977 by
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DOSAGE RELATIONSHIP AMONG ANTIPSYCHOTICS

NAMES		RELATIVE POTENCY	RANGE OF TOTAL DAILY DOSE	
GENERIC	REPRESENTATIVE BRAND		OUTPATIENT (MG/DAY)	INPATIENT (MG/DAY)
<i>Phenothiazines</i>				
<i>Aliphatic</i>				
Chlorpromazine	Thorazine	100	50-400	200-1600
<i>Piperidine</i>				
Thioridazine	Mellaril	100	50-400	200-800
Mesoridazine	Serentil	50	25-200	100-400
Piperacetazine	Quide	10	10-40	20-160
<i>Piperazine</i>				
Carphenazine	Proketazine	25	50-150	75-400
Acetophenazine	Tindal	20	40-80	60-100
Prochlorperazine	Compazine	15	20-60	60-200
Perphenazine	Trilafon	10	8-24	12-64
Butaperazine	Repoise	10	10-30	10-100
Trifluoperazine	Stelazine	5	4-10	10-60
Fluphenazine	Prolixin	2	1-5	2-60
<i>Thioxanthene</i>				
Thiothixene	Navane	5	6-30	10-120
<i>Butyrophenones</i>				
Haloperidol	Haldol	2	2-6	4-100
<i>Dibenzoxazepines</i>				
Loxapine	Loxitane	10	15-60	40-160
<i>Indolics</i>				
Molindone	Moban	10	15-60	40-225

Appendix F
RESPONSE CONTINUA FOR RESIDENT QUESTIONNAIRES

Continua used with Sections II and X of the Resident Questionnaire. Copies reproduced on the following page are reduced to approximately 80% of the originals. Originals were presented to participants on cardboard cards.



Appendix G
INTERVIEW CONSENT FORM

The consent form on the following page was completed by all participants prior to the interview.

INTERVIEW CONSENT FORM

I am doing a study to find out what sort of relationship people who live in community residences have with the neighbourhood and the larger community. This includes problems they experience, their interests in being or not being involved with the community and their reasons for this.

I want to interview you to discuss your experiences and ideas in this area. Your cooperation will be greatly appreciated, but you are under no obligation to participate. If you agree to participate, you are also free to withdraw at any time during the interview if you so desire.

The information you give me will only be used for research purposes. I will make sure that no information can be traced back to you. Your confidentiality will be observed at all times. If you participate, I will send you a brief summary of the findings of the study.

This interview will take about 1 to 1 1/2 hours. I will pay you \$10.- at the end of the interview for your time.

If you have any questions about the research, or about the processing or storing of any information, please ask me before you sign this form.

Rudy Ambtman
Project Director

I, _____, having read the above statement and having asked any questions which might help me make a decision regarding participation in the study, hereby agree to participate in the interview.

Interviewer

Date

Participant

Appendix H

CONSENT TO RELEASE INFORMATION

The consent form on the following page was signed by those participants who were unable to provide the required information and who were willing to have their therapist or counsellor provide the information.

Appendix I

LETTER TO OPERATORS OF STAFFED RESIDENCES

The letter on the following pages was sent to all operators of
staffed residences.

<Name>

<Address>

Winnipeg, Manitoba.

<Postal code>

Dear <Name>,

Recently, the Manitoba Mental Health Research Foundation decided to fund a research project which I proposed to do in Winnipeg. I am writing to request your cooperation in this project.

Let me introduce myself first. I am a doctoral student in clinical psychology at the University of Manitoba. Doing a research project for a dissertation is part of the requirements for the degree. One of my interest areas is the social adjustment of former patients or mentally disabled people who live in the community.

With this background, I have developed a research project focussing on what factors help or hinder people in using their environment, both neighbourhood and larger community. The research is largely concerned with people's attitudes toward social contacts; but it also involves a number of environmental factors, such as type of neighbourhood and whether they live in a staffed or nonstaffed residence.

A total of 40 residents of staffed residences, such as your own, are required to be interviewed for the research. The total number of residents per residence depends on the size of the home. The total ranges from one to three. I also would like to interview one staff member of each residence about the practices and routines of the home. Participation in both resident and staff interviews is on a strictly voluntary basis. Resident interviews will take approximately 1 to 1 1/2 hours. Interviews with staff are much shorter (an estimated 20 minutes). Residents, but not staff, will be paid 10 dollars for their time.

I should stress that all the information in the research is strictly confidential. That means that neither residents, nor staff, nor individual residences will be identified in the research report. The Department of Health also does not have access to any of the completed questionnaires, nor will individuals or residences be discussed with Department officials. Finally, the research is not an evaluation of your facility.

I would like to ask your cooperation in allowing one staff member to participate in the research and to allow resident interviews to be conducted on the premises.

I believe that the final report, of which all participants, including yourself, will receive a summary, will be of interest to you.

The Department of Health has reviewed the research proposal and has provided full endorsement to conduct the project.

My assistant, Todd Smith, or I will contact you shortly to answer any questions you may have about the research. If you would like to discuss the project with me before that time, feel free to call me. My home number is .

I hope I can look forward to your support.

Sincerely,

Rudy Ambtman.

cc: Dr. Bruce Tefft, Director of Clinical Training,
Department of Psychology, University of Manitoba.
Ms. Tej Bains, Department of Health.

Appendix J

LETTER TO INDEPENDENT LIVING RESIDENCES

The letter on the following pages was sent to all Independent Living Residences.



THE UNIVERSITY OF MANITOBA

DEPARTMENT OF PSYCHOLOGY

Winnipeg, Manitoba
Canada R3T 2N2

To the residents of

Winnipeg, Manitoba

Dear Residents:

Recently, the Manitoba Mental Health Research Foundation decided to fund a research project which I proposed to do in Winnipeg. I am writing to you to request your cooperation in this project.

Let me introduce myself first. I am a doctoral student in clinical psychology at the University of Manitoba. Doing a research project for a dissertation is part of the requirements for the degree. One of my interest areas is the social adjustment of former patients or mentally disabled people who live in the community.

With this background, I have developed a research project focussing on what factors help or hinder people in using their environment, both neighbourhood and larger community. The research is largely concerned with people's attitudes toward social contacts; but it also involves a number of environmental factors, such as type of neighbourhood and whether they live in a staffed or non-staffed residence.

A total of 40 residents of independent living residences are required for the research. Since a random selection will be made of potential participants, the exact number of interviewees per residence is not known. However, I expect this to be approximately one to two. Participation is on a strictly voluntary basis. Since the interview is fairly lengthy (an estimated 1 to 1 1/2 hours), each participant will be paid ten dollars for their time.

I should stress that all the information in the research is strictly confidential. That means that neither residents, nor individual residences will be identified in the research report. The Department of Health also does not have access to any of the completed questionnaires, nor will individuals or residences be discussed with Department officials.

continue...

- 2 -

I would like to ask you for your cooperation, in first of all, passing this letter to all people in the residence. Secondly, I would request that, if asked, you will be available for an interview.

I believe that the final report, of which all participants and yourself will receive a copy, will be of interest to you.

The Department of Health has reviewed the research proposal and has provided full endorsement and encouragement to conduct the project.

My assistant, Todd Smith, or I will contact you within a couple of weeks after having sent this letter, to answer any questions you may have about the research. If you would like to discuss the project with me before that time, feel free to call me. My home number is . If you are selected for the research and if you agree to participate, we will attempt to arrange a time that is the most convenient for you. All interviews will take place in your residence.

I hope I can look forward to your support.

Sincerely,

Rudy Ambtman

cc: Bruce Tefft, Director, Clinical Training, Department of Psychology,
University of Manitoba
Ami Crisostomo, Department of Health

Appendix K

ZERO-ORDER CORRELATIONS OF REGRESSION ANALYSES

The correlations in the following table are zero-order correlations of variables used in several regression analyses in the present study.

The following variable labels are used to denote the variables in the table:

PROXIML: Proximal external integration

DISTAL: Distal external integration

VOLUNT: Voluntariness of residency

LGCONTR: Control over medication

LGDENSI: Density of residences

LGBPRS: Psychopathology

SQRCHLO: Chlorpromazine-equivalent intake

SEX: Gender of resident

AGE: Age of resident

NNRBIN: Number of admissions to psychiatric facilities

NMOINBI: Time spent in psychiatric facilities

ENOUGH: Sufficiency of spending money

ACCESS: Access to the community

NEITYPE: Neighbourhood type

NMOHERE: Length of current residency

NEWSPM: Spending money

NEWBEDS: Residence size

INTENTP: Intention to proximal external integration

STAFLKP: Staff favor proximal external integration

INTENTD: Intention to distal external integration

STAFLKD: Staff favor distal external integration

ZERO-ORDER CORRELATIONS FOR REGRESSION ANALYSES

PEARSON CORRELATION COEFFICIENTS

	PROXIML	DISTAL	VOLUNT	LGCONTR	LGDENSI	LGBPRS	SORCHLO	SEX	AGE	NNRBIN	NMOINBI
PROXIML	1.0000	.2455	.0282	.3949**	-.3079*	-.1042	.0828	.2816*	.0045	-.0767	.0250
DISTAL	.2455	1.0000	-.0956	.2054	.1976	-.1228	-.0212	.0201	-.3099*	-.0508	-.1874
VOLUNT	.0292	-.0956	1.0000	-.2096	-.0706	-.1157	.1136	.0117	.2186	-.1293	-.0006
LGCONTR	.3949**	.2054	-.2096	1.0000	-.1930	-.0578	-.0258	.3491*	.0924	-.0103	-.0852
LGDENSI	-.3079*	.1976	-.0706	-.1930	1.0000	.0557	-.0598	-.3102*	-.4007**	.0386	.0067
LGBPRS	-.1042	-.1228	-.1157	-.0578	.0557	1.0000	.0289	-.2061	-.0398	-.0819	.0102
SORCHLO	.0828	-.0212	.1136	-.0258	-.0598	.0289	1.0000	.0322	.1388	.2074	.3772**
SEX	.2816*	.0201	.0117	.3491*	-.3102*	-.2061	.0322	1.0000	.1037	.0686	-.0987
AGE	.0045	-.3099*	.2186	.0924	-.4007**	-.0398	.1388	.1037	1.0000	-.1633	.1447
NNRBIN	-.0767	-.0508	-.1293	-.0103	.0386	-.0819	.2074	.0686	-.1633	1.0000	.5082**
NMOINBI	.0250	-.1874	-.0006	-.0852	.0067	.0102	.3772**	-.0987	.1447	.5082**	1.0000
ENOUGH	.2211	-.0317	.2526	.1521	.0992	-.1378	.1480	.0362	.1711	-.1706	.1836
ACCESS	.1090	.3743**	.1955	.0754	.1367	-.2820*	-.1935	-.2102	-.0871	-.1282	-.1316
NEITYPE	.1874	.3175*	.2108	.0748	.2486	.0805	.1260	.0776	-.1355	-.1181	-.0141
NMOHERE	.0859	-.1380	.1900	.0061	-.1011	.1791	.2898*	.1956	.5412**	-.1267	.2634
NEWSPM	.3654**	.1630	.1396	.4220**	-.1020	-.0724	.2145	.2400	.1145	.1238	.0923
NEWBEDS	-.5091**	-.3078*	-.0535	-.6001**	.1495	-.0755	-.1081	-.2665	.0250	.0086	.0420
INTENTP	-.1681	-.1477	-.3972**	-.0056	.1545	.1480	.0078	-.2418	-.1240	.2317	.2151
STAFLKP	-.2026	-.0107	-.2411	-.0631	.0570	.1078	-.1476	.1850	-.0680	.1909	-.0763
INTENTD	.2380	.3738**	.2145	.0826	.0964	-.2778*	-.0669	-.1176	-.1978	-.0242	-.1342
STAFLKD	.0912	.3062*	.3112*	.1046	.0808	-.1794	-.0337	-.0720	-.2204	.0614	.0583

	ENOUGH	ACCESS	NEITYPE	NMOHERE	NEWSPM	NEWBEDS	INTENTP	STAFLKP	INTENTD	STAFLKD
PROXIML	.2211	.1090	.1874	.0859	.3654**	-.5091**	-.1681	-.2026	.2380	.0912
DISTAL	-.0317	.3743**	.3175*	-.1380	.1630	-.3078*	-.1477	-.0107	.3738**	.3062*
VOLUNT	.2526	.1955	.2108	.1900	.1396	-.0535	-.3972**	-.2411	.2145	.3112*
LGCONTR	.1521	.0754	.0748	.0061	.4220**	-.6001**	-.0056	-.0631	.0826	.1046
LGDENSI	.0992	.1367	.2486	-.1011	-.1020	.1495	.1545	.0570	.0964	.0808
LGBPRS	-.1378	-.2820*	.0805	.1791	-.0724	-.0755	.1480	.1078	-.2778*	-.1794
SORCHLO	.1480	-.1935	.1260	.2898*	.2145	-.1081	.0078	-.1476	-.0669	-.0337
SEX	.0362	-.2102	.0776	.1956	.2400	-.2665	-.2418	.1850	-.1176	.0720
AGE	.1711	-.0871	-.1355	.5412**	.1145	.0250	-.1240	-.0680	-.1978	-.2204
NNRBIN	-.1706	-.1282	-.1181	-.1267	.1238	.0086	.2317	.1909	-.0242	.0614
NMOINBI	.1836	-.1316	-.0141	.2634	.0923	.0420	.2151	-.0763	-.1342	.0583
ENOUGH	1.0000	.0279	.1120	.3601*	.2207	-.1242	-.1263	-.3870**	.0261	-.0151
ACCESS	.0279	1.0000	.1146	-.0784	-.0219	-.1522	-.1245	-.0854	.4456**	.3338*
NEITYPE	.1120	.1146	1.0000	-.0685	.0765	-.3956**	-.1585	-.0809	.1472	.0884
NMOHERE	.3601*	-.0784	-.0685	1.0000	.0488	.0271	-.2334	-.2451	-.1258	-.0333
NEWSPM	.2207	-.0219	.0765	.0488	1.0000	-.4839**	.0142	-.2114	.0687	.0466
NEWBEDS	-.1242	-.1522	-.3956**	.0271	-.4839**	1.0000	.0668	.1098	-.1528	-.1601
INTENTP	-.1263	-.1245	-.1585	-.2334	.0142	.0668	1.0000	.3186*	-.2196	-.1288
STAFLKP	-.3870**	-.0854	-.0809	-.2451	-.2114	.1098	.3186*	1.0000	-.1502	.3759**
INTENTD	.0261	.4456**	.1472	-.1258	.0687	-.1528	-.2196	-.1502	1.0000	.5089**
STAFLKD	-.0151	.3338*	.0884	-.0333	.0466	-.1801	-.1289	-.3759**	.5089**	1.0000

* - SIGNIF. LE .01 ** - SIGNIF. LE .001 (1-TAILED, " . " PRINTED IF A COEFFICIENT CANNOT BE COMPUTED)