Determinants of Social Integration in the Community: An Exploratory Analysis of Personal, Interpersonal and Situational Variables

ENRIQUE GRACIA[1]* and JUAN HERRERO[2]

[1]*University of Valencia, Valencia, Spain*
[2]*University of Oviedo, Oviedo, Spain*

ABSTRACT

This article aims to explore the effects of personal, interpersonal, and situational variables on social integration in the community. Structural equation analyses from two-wave panel data ($N = 536$) of adult participants living in an urban area showed that personal determinants (perceived stress and depressive mood), and situational determinants (undesirable life events) were statistically related to a decrease in social integration in the community. Interpersonal determinants (emotional, guidance, and instrumental support) were positively associated with an increase in social integration in the community. Implications of these and other findings are discussed. Copyright © 2003 John Wiley & Sons, Ltd.

Key words: social integration; community integration; community participation; psychological distress; perceived social support; undesirable life events

INTRODUCTION

Social integration in communities, and its negative side (i.e. social isolation from communities), has been found to covary with an array of social and behavioural outcomes such as health and wellbeing (e.g. House, Umberson, & Landis, 1988; Umberson, 1987); family functioning (e.g. Cochran, Larner, Riley, Gunnarsson, & Henderson, 1990; Milardo, 1988; Pierce, Sarason, & Sarason, 1997); adolescent development (Cotterell, 1996); competence in old age (e.g. Antonucci & Akiyama, 1997; Rein & Salzman, 1995), family caregiving in chronic illness (e.g. Biegel, Sales, & Schulz, 1991); or adaptation to chronic illness and disability (e.g. Lyons, Sullivan, Ritvo, & Coyne, 1995). Attachment to a community also produces a willingness to contribute to its maintenance (e.g. Kasarda & Janowitz, 1974; Sampson, 1988), which suggests that individuals with higher levels of community

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attachment are more likely to provide support to others (Haines, Hurlbert, & Beggs, 1996). Furthermore, as Zimmerman (2000) points out, 'participation in community organizations (e.g. neighborhood associations, mutual help groups, social change groups) is one way to exercise a sense of competence and control' (p. 48). For example, members of neighbourhood associations tend to show greater perceived competence and control, and a decrease in alienation (Carr, Dixon, & Ogles, 1976; Chavis & Wandersman, 1990). These studies lend support to Antonovsky's (1979) view, according to which social integration is an important contributor to the 'sense of coherence', a mechanism which reduces the reactivity to stress and represents an important component of psychological wellbeing in its own right (Turner & Turner, 1999). Following Cowen's concept of 'routes to psychological wellness', the body of literature summarized earlier suggests that promotion of greater community integration and participation offers a potentially important pathway to wellness (Cowen, 2000). Clearly, a better understanding of the determinants of social integration in the community can help to create opportunities to foster psychological and community empowerment (Zimmerman, 2000). However, limited research effort has been directed toward examining the factors that may affect social integration in the community.

Levels of social relationships: social integration in the community

A number of authors have proposed different levels of analysis in order to analyse the relation between the person and his/her social environment, of which social integration in the community would represent the outermost layer. For example, Gottlieb (1981) has distinguished three levels of analysis: macro (social integration/participation approach), mezzo (social networks approach), and micro (intimate relationships approach), in which 'the social integration/participation approach concerns itself with people's involvement with institutions, voluntary associations, and informal social life of their communities' (p. 32). Similarly, Lin (1986) argued that the individual's linkage to the social environment can be represented at three distinct levels: the community, the social network, and intimate and confiding relationships. For this author 'the outer and most general layer of social relationships consists of relationships with the larger community, and reflects integration into, or a sense of belongingness in, the larger social structure. An individual's participation in voluntary organizations (e.g. church and school, recreation and sports activities, clubs and services, political and civic associations) indicates the extent to which the individual identifies and participates in the social environment at large' (Lin, 1986, p. 19). Lin's approach underlines thus the importance of the sense of belonging to and being part of a community. Also, Laireiter and Baumann (1992) have proposed a taxonomy in which the construct of social integration refers to the participation and involvement of a person in his or her social life in the community and society. For these authors, the criteria for defining a person's social integration are, among others: 'being in regular contact with neighbours', 'having friends or relatives in the neighbourhood', and 'memberships in social groups'.

Determinants of social integration in the community

As House et al. (1988) pointed out in their influential review, 'researchers and theorists have extensively studied social relationships as *independent*, *intervening* and *moderating* variables that may affect psychosocial stress or health or the relations between stress and health. Yet almost no attention has been paid to social integration, networks or supports as dependent variables. The determinants of these, as well as their consequences, are crucial

to understanding the theoretical and causal status of social relationships in relation to health' (p. 308, italics in original). In a recent review, Barrera (2000) has also considered that the study of these determinants deserved attention for two reasons. First, because as confidence increased that social support had beneficial effects, researchers had to move on to investigate its antecedents; and second, because greater interest in social support interventions demanded that we learn more about factors that could be manipulated to increase its availability and effectiveness.

A number of scholars have emphasized the need to consider, in addition to its effects on wellbeing, the determinants of levels and content of social relationships (e.g. Dunkel-Schetter & Skokan, 1990; Eckenrode & Wethington, 1990; Haines et al., 1996; Hobfoll, 1990; House, 1981; Keinan, 1997; Sarason, Pierce, & Sarason, 1990; Turner, Pearlin, & Mullan, 1998; Vaux, 1990). Also, a basic concordance among these scholars is the idea that variables determining the development, structure and functioning of social relationships are multiple and need to be analysed at different levels—including personal, interpersonal, and situational variables. Available research has traditionally focused on one or another of these levels of analysis. For example, empirical associations have been found for social relationships characteristics and variables at these different levels: at the personal level, variables such as personality, self-esteem, distress, cognitive processes, locus of control, community participant's perceptions or personal attitudes (e.g. Brown, 1993; Eckenrode, 1983; Goudy, 1977; Mankowski & Wyer, 1997; Newcomb, 1990; Sarason, Pierce, Shearin, Sarason, Waltz, & Poppe, 1991; see also Pierce, Sarason, & Sarason, 1997, for a review); at the interpersonal level, variables such as intimacy, conflict, reciprocity, relationship-specific expectations, or characteristics of the social network (Antonucci, Fuhrer, & Jackson, 1990; Coyne & DeLongis, 1986; Pierce, Sarason, & Sarason, 1991; Reis, 1990; Stokes, 1983); and at the situational level, variables such as stressor characteristics or exposure to natural disasters (e.g. Kaniasty & Norris, 1995; Pearlin & McCall, 1990; Schulz & Tomkins, 1990). Two points are worth mentioning here. First, research on the determinants of social relationships have focused mainly on the correlates of the perception, provision or reception of social support from the intimate and confiding relationships, but few studies have analysed determinants of social ties with other groups and the community (Adelman, Parks, & Albrecht, 1987; Guest & Stamm, 1993; White, 1985). And secondly, except for few studies (e.g. Haines et al., 1996; Turner, Pearlin, & Mullan, 1998), research rarely has considered these levels of analysis simultaneously.

Although the studies mentioned earlier have improved our understanding of the underlying processes of community integration, it is evident that a more comprehensive research that includes simultaneously important predictors of social integration in the community is needed. In this respect, the recent work of Filkins, Allen, and Cordes (2000) should be emphasized since its multivariate approach allows to draw some interesting conclusions about the role of personal, economic, socio-demographic, and community attributes on social integration in the community. Their research, however, does not take into account relevant variables that have been previously linked to participation and involvement in the community life such as personal adjustment, social support and situational demands. From this perspective, the present study represents an effort to gain understanding of social integration in the community from a complementary rather than opposite psychosocial perspective.

Determinants of social integration are multiple and operate at different and interrelated levels. Failure to take into account multiple determinants can lead to overemphasis on one set or another of variables and may, therefore, bias both our understanding of those factors

that may promote greater community integration, and the translation of that knowledge to intervention strategies. Drawing from these ideas, this study aims to gain a better under-standing of social integration in the community by exploring in the same research design three sets of variables (personal, interpersonal, and situational) as determinants of two measures of social integration in the community: community integration and participa-tion. Because of the relatively few studies that have included personal, interpersonal, and situational determinants in the same research design, in this study specific predictions regarding the role of each of these sets of variables on social integration in the community are not made. Instead, the relative contributions of these variables in predicting social inte-gration in the community are explored.

METHOD

Participants

Participants were 536 adults drawn from the general population living in an urban area (Valencia, Spain). The study was carried out with the collaboration and support of the Department of Social and Community Services of the city. Based on their data, five neig-bourhoods of the city were selected. Criteria for selecting these neighbourhoods were that they would represent a reasonable cross-section of the city's residents in terms of socio-economic status. A quota sampling strategy of gender and age was used to have equal number of men and women in four age groups representing four life-cycle stages: 18–25, 26–49, 50–64 and more than 64 years old (65 years being the retirement age in Spain). Interviewers carried letters from the University Department responsible for the research with a brief description of the study, and from the Department of Social and Community Services of the city describing the collaboration with the University and the possible use of the study's data to orientate their policies. Participants were identified by in-person recruitment (door-to-door canvassing). Interviews were conducted in the respondents' homes. Limits were placed on the number of interviews that could be obtained in any one block, and only one interview was allowed per household.

In the first wave 1051 participants completed the questionnaires (response rate = 78%). The most common reason for refusal was simply disinterest. The second wave was com-pleted 6 months after the first wave. Almost 75% ($N = 780$) of the respondents completed the questionnaires in the second wave. Respondents having missing values in some of the variables ($N = 184$) were excluded from this study. This led to a number of 596 partici-pants. Another 66 participants were excluded since they did not belong to the single/mar-ried categories used in the present analyses (see control variables later).

Exploratory analysis between wave 2 respondents ($N = 780$) and dropouts ($N = 271$) failed to find any statistically significant relation between various socio-demographic vari-ables in wave 1 and the response rate in Wave 2: age $F(1, 1043) = 0.48$, $p = 0.487$, marital status $F(1, 1036) = 2.37$, $p = 0.124$, income $F(1, 954) = 2.71$, $p = 0.100$, gender $F(1, 1045) = 0.74$, $p = 0.786$, and education $F(1, 1029) = 0.43$, $p = 0.510$. Overall, the wave two sample was comparable to the wave one sample.

Measures

All variables are scored so that a high score represents higher levels of the construct. Cor-relations among observed variables are presented in Table 1.

Table 1. Means (*M*), standard deviations (SD), and zero-order correlations of observed variables

Variable	M	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Stress	36.30	7.20	—												
2. Depression	13.69	8.56	0.71***	—											
3. Emotional support	2.22	0.56	0.10*	-0.09*	—										
4. Guidance support	2.06	0.59	-0.09*	-0.06	0.66***	—									
5. Instrumental support	2.48	0.52	-0.05	-0.06	0.58***	0.56***	—								
6. Stressful life events	1.55	1.71	0.21***	0.20***	-0.08	-0.13**	-0.06	—							
7. Community integration T2[a]	16.23	2.56	0.23***	-0.22***	0.12**	0.20***	0.14**	-0.16***	—						
8. Community participation T2[a]	16.12	5.10	-0.11**	-0.15**	0.07	0.15***	0.03	-0.17***	0.25***	—					
9. Gender[b]	1.49	0.50	0.26***	0.20***	0.05	0.06	0.03	-0.01	-0.07	-0.08	—				
10. Age[c]	37.67	15.63	-0.10*	-0.00	0.02	0.15***	-0.03	0.14**	0.17***	0.12**	-0.07	—			
11. Income[d]	2.67	1.24	-0.09*	-0.08	0.02	0.01	-0.02	0.12**	-0.04	0.01	-0.02	0.11*	—		
12. Education[d]	4.01	1.33	-0.03	-0.03	0.04	-0.04	-0.02	0.05	-0.13**	-0.11*	0.00	-0.38***	0.27***	—	
13. Marital status[e]	1.54	0.50	-0.06	-0.00	0.06	0.09*	0.03	-0.12**	0.11*	0.07	0.01	0.66***	0.31***	-0.26***	—

[a]Descriptive statistics are for scale scores; correlations are for change scores.
[b]1 = male, 2 = female.
[c]1 = no educational background, 6 = university studies.
[d]1 = less than 6000 euros per year, 6 = more than 32,000 euros per year.
[e]1 = single, 2 = married.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$ (two-tailed test).

Personal determinants

Personal characteristics have been linked both theoretically and empirically to levels of social integration (e.g. Coyne, 1978; Newcomb, 1990; Newcomb & Keefe; 1997; Rook, Pietromonaco, & Lewis, 1994). To capture different aspects of individual psychological functioning, two measures of psychological distress were selected (see Newcomb, 1990, for a similar approach). Psychological distress, although has most often been viewed as an outcome diminished by social support, may also be an important trigger activating social integration processes. All personal determinants were measured at Time 1 (T1).

Perceived stress.   A global measure of the Spanish version of the Perceived Stress Scale (PSS; Cohen, Kamarck, & Merlmestein, 1983) was used. The PSS is a 14-item scale that measures the degree to which respondents appraised situations as stressful in the last month (e.g. 'In the last month, how often have you felt confident about your ability to handle your personal problems'). Items were scored on a one to five-point scale from (1) never to (5) very often. Coefficient alpha for perceived stress scale was 0.83.

Depression.   The Spanish version of the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) was used. CES-D is a 20-item scale that evaluates the presence of depressive symptomatology including depressed mood, positive affect, somatic and retarded activity, and negative perception of interpersonal relationships. Responses were rated on a four-point scale from (0) rarely or none of the time (less than once a week) to (3) most or all of the time (5–7 days a week). Coefficient alpha was 0.88.

Interpersonal determinants

The support derived from interpersonal transactions within the network of close ties was used an indicator of interpersonal determinants. Perceived support refers to the belief that, if the need arose, people from the individual's social network would be available to serve one or more specific function such as emotional support, guidance or instrumental support (Cutrona, Suhr, & MacFarlane, 1990). Perceived support from social relationships—also an indicator of levels of intimacy, emotional intensity and confidence in social relationships—has been linked to community support processes (Haines et al., 1996). Interpersonal determinants were measured at T1.

Perceived social support.   A six-item network-format questionnaire of perceived social support was constructed to assess the degree of support respondents perceived from each member of their support network. We asked respondents to list 'those persons who are important to you. Please consider only those persons who really support you in a truly personal way'. Then, they had to answer six questions for each person listed in his/her support network.

Responses were rated on a five-point scale from (0) never to (4) almost always that covered the following dimensions of perceived social support: emotional—two items—(e.g. 'Could you freely express and share your emotions with this person?'); instrumental—two items—(e.g. 'If you were sick or needed to be taken to the doctor, would this person be of any help?'); and guidance—two items—(e.g. 'Would this person be of any help if you should have to make an important decision?'). Internal consistency for the scale was alpha of 0.76. Principal components analysis with varimax rotation yielded a three-factor structure with factor loadings greater than |0.50|. The three factors and their explained variance were: guidance (23%), instrumental (21%), and emotional (16%). Coefficient alpha for each scale was: emotional (0.88), instrumental (0.88), and guidance (0.93).

Situational determinants

Stressor characteristics have been considered a significant situational constraint affecting support processes. For example, stressful life events are important situational factors that may either mobilize or deteriorate support resources (Barrera, 1988; Ensel & Lin, 1991; Wheaton, 1985). The number of undesirable life events experienced by participants was chosen as a measure of situational constraints in this study. Situational determinants were measured at T1.

Undesirable life events.   A list of 33 undesirable life events were selected from a 118 events list used by Lin, Dean, and Ensel (1986) in the Albany Health Survey. This list of 33 stressful life events comprised only those events perceived as undesirable by at least 80% of respondents in Lin et al.'s (1986) study. Conflicts and problems in areas such as work/school, home, love and marriage, family, health, community, finances, and legal were covered in this checklist. Internal consistency analysis for event lists were not appropriate 'since a high internal consistency suggests that the questionnaire includes events that are nonindependent, an outcome that is undesirable if the measure is designed to asses accumulation of relatively independent life experiences' (Cohen, 1988, p. 16).

Social integration in the community

An 11-item questionnaire tapping two dimensions of social integration in the community was constructed. This instrument is based on the definition and dimensions of community support proposed by Lin, Dumin, and Woelfel (1986), and is a revised version of a questionnaire used in research reported elsewhere (Gracia, García, & Musitu, 1995). The two dimensions of social integration in the community measures were the sense of belonging to a community (community integration) and the degree of involvement in the community (community participation). By using these dimensions as indicators of social integration in the community we tried to tap two aspects of social integration: social-psychological or emotional integration which involves introspective social experiences or perceived depth of connectedness, and structural integration which refers to concrete involvement in activities (Moen, Dempster-McClain, & Williams, 1989; see also Lin et al., 1986; Myers, 1999, for a similar approach). By tapping both aspects of social integration in the community (sense of connectedness, and actual participation) the study has tried to capture the construct of social integration in its broader sense.

The responses were rated on a five-point scale from (1) strongly disagree to (5) strongly agree. The Community Integration Scale is a five-item scale that measures the sense of belonging and/or identification to a community or a neighbourhood (e.g. 'very few people in the community know who I am'). The Community Participation Scale is a six-item scale that measures the degree in which respondent is involved in social activities in the community (e.g. 'I collaborate with organizations and associations in my community'). Internal consistency for the 11 items was alpha of 0.85. Principal components analysis with varimax rotation for these 11 items yielded a two-factor structure with factor loadings greater than $|0.50|$. The two factors and their explained variance were: community integration (30%), and community participation (24%). Coefficient alpha was 0.76 for community integration and 0.83 for community participation. Community integration and participation were measured at T1 and Time 2 (T2). Community integration at T1 ($M = 16.33$; SD $= 2.62$) correlated $r = 0.60$ ($p < 0.001$) with community integration at

T2. Community participation at T1 ($M = 16.00$; SD $= 5.29$) correlated $r = 0.70$ ($p < 0.001$) with T2 community participation.

Both community integration and participation were assessed as change scores from wave 1 to wave 2 of the study. We used an approach for measuring change proposed by Ensel and Lin (1991) (see also, Peek & Lin, 1999). This approach avoids the problem of distorting effects of other variables in the model on the final dependent variable. To compute the change score, T1 community integration was regressed on other model variables. Residual score was computed by subtracting predicted T1 community integration from their actual value. The residual score was then included in the regression equation as an independent variable with T2 community integration as a dependent variable. Another residual score was computed by subtracting predicted T2 integration from the actual T2 community integration. The same was done for the community participation variable. Finally, these two measures of change were used as indicators of the social integration in the community latent variable (T2). This final endogenous latent variable represents the variance of T2 community integration and participation in the community that cannot be predicted by T1 community integration and participation in the community, net of other variables assessed at T1 (Peek & Lin, 1999).

Control variables

According to House et al. (1988), the influence of socio-demographic variables on social integration can be illuminated examining individuals in different structural positions in society such as gender, age, socio-economic status, or ethnicity. Age, income, education, gender and marital status were socio-demographic variables used as control variables in this study. Other variables traditionally used in the literature as ethnicity were not included in the study since in Spain there is not a multi-ethnic background. Participants in this study belonged to the same ethnical and cultural background.

Age was measured in years ($M = 38.99$, SD $= 16.50$). Income was measured on a six-point scale, being three the annual average family income ($M = 2.62$, SD $= 1.23$). The average income for the entire sample was 12,000–18,000 euros per year. Education was rated from (1) no educational background to (6) University studies ($M = 3.92$, SD $= 1.36$). Gender (male $= 1$ and female $= 2$) and marital status (1 $=$ single; 2 $=$ married) were distributed approximately equally in the sample (51.5% male, 48.5% female; 46% single, 54% married). Although categories other than single/married marital statuses were assessed (separated, divorced and widow), only a small percentage (7.1%) of the sample fell into these categories: widowed ($N = 36$), separated ($N = 13$), and divorced ($N = 13$). Due to the small number of participants in each category, analyses were only done on the single/married respondents.

Exploratory analysis between Wave 2 respondents ($N = 780$) and dropouts ($N = 271$) showed that dropouts scored higher on stress—$F(1, 1010) = 43.63$, $p = <0.001$; depression—$F(1, 994) = 38.17$, $p < 0.001$; and undesirable life events—$F(1, 1045) = 4.40$, $p = 0.36$, than wave 2 respondents. As for the levels of emotional—$F(1, 1045) = 0.00$, $p = 0.94$; guidance—$F(1, 1045) = 0.23$, $p = 0.62$; and instrumental—$F(1, 1045) = 0.13$, $p = 0.72$ support, no differences were found. The same applied for community integration—$F(1, 1017) = 0.15$, $p = 0.70$; and participation—$F(1, 1032) = 0.26$, $p = 0.61$.

We used EQS (Bentler, 1995) structural equation program to estimate a set of models examining the effects of determinants on social integration in the community. Maximum Likelihood estimator and corrected χ^2 were used for the calculation of robust CFI fit index, standard errors, and statistical significance of the parameters. For correcting departure
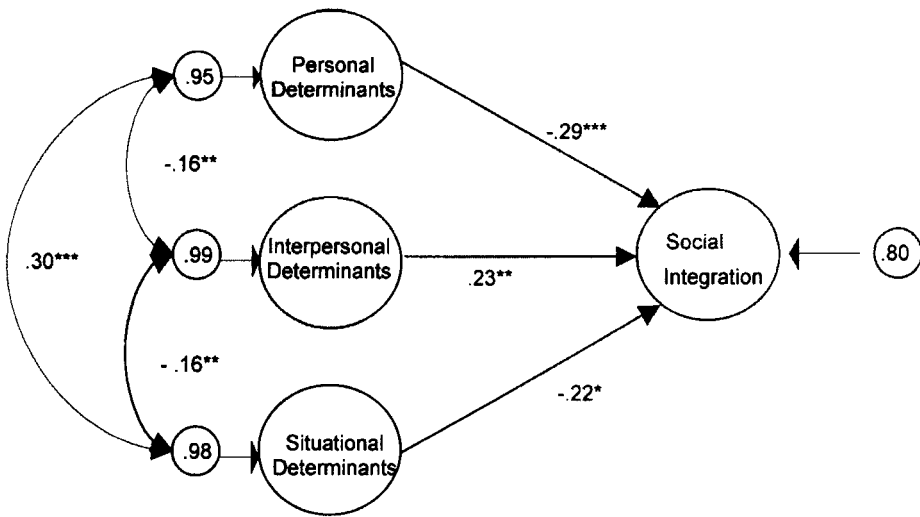
Figure 1. Determinants of social integration in the community. Summary of standardized parameter estimates among determinants. Numbers in small circles represent the error variance for each endogenous variable. $*p < 0.05$; $**p < 0.01$; $*** p < 0.001$ (two-tailed test).

from multinormality, the Satorra–Bentler corrected χ^2 was used. This statistic gives robust estimates with large samples ($N > 500$) even when departure from multinormality is severe (Chou & Bentler, 1995; Curran, West, & Finch, 1996).

RESULTS

The single contribution of each determinant to social integration in the community was tested. In this model (see Figure 1), personal (T1), interpersonal (T1), and situational determinants (T1) had unidirectional paths to social integration in the community (T2). Covariances among exogenous latent variables were freely estimated. This model fit the data well (see Table 2).

To further check for spurious relationships among determinants due to the effect of socio-demographic variables, the control variables in the model as covariates were included. All covariates were added to the model as exogenous variables that were allowed to correlate among themselves and to predict each of the four endogenous variables. The final structural model[1] with the control variables fit the data well (see Table 2). In Table 2 the unstandardized parameter estimates for both the original model and the model with covariates are presented.

Parameter estimates

As shown in Table 2, the relationship between latent variables and their respective manifest indicators were from moderate to large, and statistically significant ($p < 0.001$). A closer inspection of the unstandardized regression estimates of Table 2 shows that

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[1]The robustness of this final structural model was further checked by testing interaction effects of determinants on social integration as well as multigroup comparisons for levels of age, gender, marital status, household income, and educational background. None of the interaction effects were significant and as for the multigroup analyses the model was almost fully equivalent across groups of socio-demographic variables.

Table 2.　Unstandardized maximum likelihood parameter estimates, and probability associated for main effects model without/with covariates[a]

	Model without covariates[b]	Model with covariates[c]
Factor loadings		
Personal determinants		
Perceived stress (T1)[d]	1	1
Depression (T1)	1.161*** (0.138)	1.042*** (0.095)
Interpersonal determinants		
Emotional support (T1)[d]	1	1
Guidance support (T1)	1.023*** (0.057)	1.022*** (0.056)
Instrumental support (T1)	0.810*** (0.055)	0.807*** (0.055)
Situational determinants		
Stressful life events (T1)[d]	1	1
Social integration in the community		
Community integration (T2)[d]	1	1
Community participation (T2)	1.221*** (0.272)	1.228*** (0.233)
Relationships among latent variables		
Personal–interpersonal	−0.426** (0.162)	−0.459** (0.174)
Personal–situational	2.379*** (0.601)	2.358*** (0.546)
Interpersonal–situational	−0.104** (0.034)	−0.096** (0.032)
Personal–social integration	−0.071*** (0.016)	−0.058*** (0.017)
Interpersonal–social integration	0.683*** (0.206)	0.643** (0.202)
Situational–social integration	−0.139* (0.057)	−0.217* (0.093)

[a]Robust standard errors in parenthesis.
[b](Satorra-Bentler scaled) χ^2 (15, $N = 536$) = 24.15, $p = 0.062$, CFI = 0.99, Robust CFI = 0.99, GFI = 0.99, AGFI = 0.97, RMSEA = 0.034 (90% confidence interval 0.000, 0.058).
[c](Satorra-Bentler scaled) χ^2 (35, $N = 536$) = 68.13, $p < 0.001$, CFI = 0.98, Robust CFI = 0.97, GFI = 0.98, AGFI = 0.95, RMSEA = 0.042 (90% confidence interval 0.027, 0.057).
[d]Unstandardized parameters fixed to 1.00 during estimation.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$ (two-tailed test).

the substantive part of the model (relationships among latent variables) is very similar with and without the control variables. In both models, personal and situational determinants are linked to a decrease in social integration in the community, while interpersonal determinants are related to an increase in social integration in the community. Although not shown in Table 2, control variables only significantly affected personal and interpersonal determinants. Gender was positively related to personal determinants, females showing higher levels of psychological distress than males ($B = 3.497$, SE = 0.594, $p < 0.001$). Age and income affected situational determinants significantly, with lower levels of undesirable life events among older ($B = -0.012$, SE = 0.006, $p < 0.05$) and higher-income participants ($B = -0.150$, SE = 0.065, $p < 0.05$).

Figure 1 shows the standardized structural paths among determinants and social integration for the model with control variables. Personal ($\beta = -0.29$, $p < 0.001$), interpersonal ($\beta = 0.23$, $p < 0.01$) and situational determinants ($\beta = -0.22$, $p < 0.05$) were statistically related to changes in social integration and participation over time. Figure 1 also shows the negative statistically significant correlation between personal–interpersonal ($r = -0.16$, $p < 0.01$) and interpersonal–situational ($r = -0.16$, $p < 0.001$) disturbance terms and the positive statistically significant correlation between interpersonal–situational ($r = 0.30$, $p < 0.001$) disturbance terms.

Total effects for this final structural model were also calculated to analyse the influences of determinants on the observed variables at T2 (community integration and participation)

and to further test if these determinants had a differential influence on these observed variables. Personal ($\beta = -0.20$, $p < 0.001$), Interpersonal ($\beta = 0.10$, $p < 0.01$), and situational ($\beta = -0.11$, $p < 0.01$) determinants had significant total effects on community integration. Also, personal ($\beta = -0.14$, $p < 0.001$), interpersonal ($\beta = 0.10$, $p < 0.01$), and situational ($\beta = -0.09$, $p < 0.05$) determinants had significant total effects on community participation. In sum, all total effects were statistically significant and in the same direction of that suggested by the final structural model.

DISCUSSION

This study explored from a multivariate and prospective approach the determinants of social integration in the community. By testing a model in which personal, interpersonal, and situational determinants affect social integration in the community, the contribution of each factor can be better comprehended. As for personal determinants, our results suggest that psychological distress is an important determinant of community integration and participation. These finding are in line with studies in which people scoring high in depression have been rated by observers as less effective support providers and seekers, and may generate avoidant behaviour in other people (e.g. Coyne, 1978; Rook, Pietromonaco, & Lewis, 1994). Those with higher levels of psychological distress may feel inhibited from initiating or maintaining social contacts with others. According to our data, this is the case not only regarding intimate and close network of support but also for the outermost layers of social relations—relationships with neighbours, participation in social groups in the community.

Interpersonal determinants (i.e. perceived social support derived from interpersonal transactions) also make significant contributions to social integration in the community. As Newcomb and Keefe (1997) have indicated, those who feel confident with the support and responsiveness of significant others are likely to increase social bonds and solidify existing attachment patterns. Our data shows that a strong feeling of support within the network of close ties is an important predictor of feelings of attachment, and involvement in the informal life of the communitiy. Following the levels of analysis proposed by Gottlieb (1981) and Lin (1986), it would be hypothesized that macro (social integration/community) and micro (intimate relationships) layers of social relations are linked. This study suggests that support processes at a more micro level are a relevant precondition of attachment and involvement in the greater social structure (i.e. the community). This study has also found a negative effect of situational determinants on social integration in the community. Undesirable life events have been considered to be an important situational factor that may mobilize or deteriorate support resources, and the findings suggest that these kinds of events have a negative influence on social integration and participation over time.

These patterns of relationships (main effects) held after controlling for socio-demographic variables (gender, age, marital status, education, and income). No interactive effects among determinants were found. Also, multigroup analysis indicated that the model was almost fully equivalent across groups of gender, age, marital status, education and income. In sum, the data shows a consistent pattern in which personal, interpersonal, and situational determinants are important predictors of social integration in the community. Social integration in the community has been considered as a way to exercise a sense of competence and control, and as an important component of psychological wellbeing in its own right (Antonovsky, 1979; Turner & Turner, 1999; Zimmerman, 2000). From this perspective, the promotion of community integration and participation offers a potentially

important 'pathway to wellness' (Cowen, 2000), and this study signals potentially important paths that may lead to greater integration and participation. Given that community interventions may generate opportunities to foster empowerment, creating social life, and promoting social integration, it is particularly important for well-targeted interventions to take into account different variables determining social integration.

The study also has some weaknesses. One is its non-probabilistic sampling strategy. The samples were not drawn randomly and thus are not necessarily representative of the population. However, the heterogeneity of the sample of the study should compensate for this shortcoming. Also, results can not be generalized to other groups such as immigrants, rural residents, others than single/married (divorced, widowed, etc.), ethnic minorites, or groups with special needs (e.g. chronic illness, drug-abuse), since their circumstances may vary substantially from those of the sample studied in this research. Finally, we are aware that other environmental and macrosocial variables relevant to examining determinants of social integration in the community have not been analysed in this study. As Barrerra (2000) has recently maintained, 'research on the environmental determinants of social support structure and functions might call for levels of analysis larger than the individual. For example, if we were interested in the influence of setting size and organizational structure on social support, communities, schools, work settings, religious congregations, or social groups could serve as units of analysis' (p. 217). According to House et al. (1988), the impact of macrosocial structures on processes of social integration and support can be illuminated by several kinds of research. Firstly, examining how structures and processes of social relationships vary across groups of individuals in different structural positions in society, such as class, age, gender. Secondly, examining variations in structures and processes of social relationships across different organizational units of society, such as different communities (urban versus rural), formal organizations, residential areas. And finally, examining the effects of planned or unplanned changes in macrosocial structures of society, such as changes in public policy. Although some promising research has appeared in recent years exploring environmental and macrosocial determinants of social integration such as position in the social structure, patterns of community and housing, neigbourhood level of risk, inmigration, policy changes, or the effects of natural disasters (e.g. Filkins et al., 2000; Gracia et al., 1995; Guest & Stamm, 1993; Haines et al., 1996; Schwarzer, Hahn, & Schroeder, 1994; Turner & Marino, 1994), we share House et al.'s (1988) view that identifying environmental and macrosocial determinants of structures and functions of social relationships still remains a critical research area.

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