

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/15335777>

# Developing a Measure Of Sense of Belonging

Article in *Nursing Research* · January 1995

DOI: 10.1097/00006199-199501000-00003 · Source: PubMed

CITATIONS

164

READS

29,651

2 authors:



[Bonnie M Hagerty](#)

University of Michigan

63 PUBLICATIONS 2,244 CITATIONS

[SEE PROFILE](#)



[Kathleen L Patusky](#)

Rutgers New Jersey Medical School

10 PUBLICATIONS 694 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Literature review [View project](#)



Event-generated dependence in older adults [View project](#)

**Internal Request**

---

**From:** <sfxglb3@findit.umdj.edu>  
**Date:** Wednesday, January 22, 2014 5:56 PM  
**To:** <illnadm@ca.rutgers.edu>  
**Subject:** Photocopy Request

**Rutgers, George F. Smith Library**  
 30 12th Avenue  
 Newark, NJ 07103

Wed, 22 Jan 2014 17:56:22 EST

Voice: (973) 972-7456  
 Fax: (973) 972-6949

Ariel: 130.219.2.107

E-mail: illnadm@umdj.edu

**Photocopy Request**

---

**Citation:**

Category: **article,**

Article Title: **Developing a measure of sense of belonging..**

Journal Name: **Nursing research,** Author: **Hagerty, B M.**

Year: **1995.** Month: **.** Volume: **44.** Issue: **1.** Pages: **9-13.**

ISSN: **0029-6562.** MedUID: **7862549.**

Additional Info: Please email copy.

Recipient: **illnadm@ca.rutgers.edu.** Source: **Entrez:PubMed**

**Patron name: Patusky, Kathleen**

Department: **Nursing**  
 Campus phone: **2-9256**

Delivery method:

Copyright compliance: **YES**

Status: **Faculty /**

Building: **Bergen Room: 1016**

Payment method: **Fax: / Fund: / Affiliation: /**

**CCG CCL**

Mailing address:

Email address:

patuskkl@sn.rutgers.edu

# Developing a Measure Of Sense of Belonging

BONNIE M. K. HAGERTY • KATHLEEN PATUSKY

*The purpose of this study was to develop and test psychometrically a self-report instrument designed to measure sense of belonging in adults. The Sense of Belonging Instrument (SOBI) is a 27-item, self-report instrument consisting of two separately scored scales, SOBI-P (psychological state) and SOBI-A (antecedents). Content validity was assessed by a panel of experts. Construct validity, internal consistency, and retest reliability were examined through a series of studies with three subject groups: community college students, patients in treatment for major depression, and Roman Catholic nuns. Results suggest that SOBI-P is a valid and reliable measure of sense of belonging. SOBI-A appears to reflect an individual's motivation for sense of belonging but requires additional study regarding its construct validity and internal consistency.*

Sense of belonging has recently been described, defined, and analyzed. It is purported to represent an important mental health concept (Hagerty, Lynch-Sauer, Patusky, Bouwsema, & Collier, 1992). While there had been one previous attempt to measure belonging (Anant, 1967, 1969), no clear conceptual underpinnings or information about the item content, validity, or reliability of the instrument were found. Subsequent mention of sense of belonging has been anecdotal rather than empirical. Thus, a series of studies were initiated to develop an instrument to measure sense of belonging and to test its psychometric properties.

## Related Literature

Allusions to the importance of sense of belonging are found throughout the psychological and health care literature. In early studies, Anant (1966, 1967, 1969) reported an inverse relationship between belonging and anxiety, yet questioned the validity of his belonging measure, stating that it may have measured dependence rather than belonging. Narrative accounts of sense of belonging depict its importance for psychological and physical well-being. Interviews with battle-fatigued Israeli soldiers revealed that each one described a lack of sense of belonging, including feelings of being cut off and uprooted, abandoned, rejected, and psychologically severed (Dasberg, 1976). Holocaust survivors reported that they felt they did not belong anywhere, leading the interviewers to conclude that belonging is a vital component of identity and object relationships (Kestenberg & Kestenberg, 1988). Thoits (1982) agreed with Maslow (1954)

that belonging is a basic human need. Noting that people in all cultures maintain the need for relatedness, Markus and Kitayama (1991) argued that sense of belonging could become so strong that relationships, rather than individual functioning, might become the primary unit of reflection.

Sense of belonging has been equated with social integration (Lindgren, 1990; Steinkamp & Kelly, 1987). Recent studies of the relationship between social support and physical illness, particularly cardiac disease, suggested that social network ties and social integration influence mortality (Case, Moss, Case, McDermott, & Eberly, 1992; House, Landis, & Umberson, 1988). Yet, many measures of social integration have been behavioral observations (e.g., does the client live alone) or quantitative self-reports of numbers of social interactions.

Hagerty et al. (1992) posited that sense of belonging represents a unique mental health concept that is different from more frequently discussed concepts such as loneliness, alienation, and social support and from quantitative interaction reports. Following an extensive concept analysis utilizing both inductive and deductive strategies, these authors defined sense of belonging as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (p. 173). Two defining attributes of sense of belonging were delineated: (a) valued involvement or the experience of feeling valued, needed, or accepted; and (b) fit, the perception that the individual's characteristics articulate with the system or environment. These attributes

emerged from case studies and focus groups and are consistent with Kestenberg and Kestenberg's (1988) conceptualization of belonging as comprising object relationships (valued involvement) and identity (fit). Antecedents or precursors to sense of belonging were identified as energy for involvement, potential and desire for meaningful involvement, and potential for shared or complementary characteristics (Hagerty et al., 1992). This theoretical formulation provided the conceptual basis for development of the Sense of Belonging Instrument (SOBI).

### ***Development of the SOBI***

Items were generated to reflect the psychological experience of sense of belonging (valued involvement and fit) and antecedents to sense of belonging: "If I died tomorrow, very few people would come to my funeral" (valued involvement); "I wonder if there is any place on earth where I really fit in" (fit); and "It is important to me that I am valued or accepted by others" (antecedent). Items were generated from a number of sources, including literature review, clinical experiences, and statements made by persons who had participated in earlier focus groups designed to explicate and confirm the conceptual basis of the concept.

Content validity of the instrument and 55 original items were assessed by a panel of seven experts, each of whom had research and clinical expertise with concepts related to sense of belonging. Using a 4-point Likert scale (4 = very relevant, 1 = not relevant) proposed by Lynn (1986), experts were asked to rate the extent to which each of the items was relevant to the definition of sense of belonging and the particular domain the item was thought to represent (valued involvement, fit, antecedent). Experts were invited to suggest additional items to ensure that the domain was adequately tapped by the items on the instrument.

The content validity index (CVI) was used to determine the extent to which the experts agreed that the items were relevant to the definitions. The CVI for each item was calculated by determining the proportion of judges who rated the item as *quite* or *very relevant* (3 or 4). Item content validity ranged from .50 to 1.00. Content validity for the entire instrument was .83. Items for which the content validity was below the significance level designated by Lynn (1986) were dropped or rewritten; four items suggested by experts were included, creating a 49-item initial instrument.

### ***Method***

Initial psychometric testing of the 49-item SOBI occurred with two sample groups, community college students and clients from inpatient and outpatient settings diagnosed with major depression. A revised 27-item version was subsequently tested with a group of retired Roman Catholic nuns. The community college sample was chosen for its heterogeneous mix of students and ease of access. Depressed clients were included based on the literature and the researcher's clinical experience that interpersonal relationships and feeling "connected" are

difficult when one is depressed. It was hypothesized that the depressed group would score significantly lower on the SOBI than the student group. The nuns were selected to examine the performance of the SOBI with a group that, in accordance with the theoretical basis of the instrument, should score significantly higher than the depressed and student groups.

*Sample 1:* The 49-item SOBI was tested with a non-probability sample of 379 students from a local community college known for its heterogeneous student body. Students were invited to participate if they met the following criteria: (a) were age 18 or older, (b) had not been in any type of psychiatric treatment for the past 12 months, and (c) were able to read and comprehend the questionnaire. Subjects were recruited through classroom and posted announcements. Questionnaires were distributed and returned at a table in the lobby of one of the primary college buildings. Upon returning their completed questionnaires to the table, students were paid \$5.00. Those interested in participating in a retest study of the SOBI were asked to provide their names and addresses. They were sent another packet of the questionnaires 8 weeks after their initial participation. They returned these directly to the researcher in a stamped, self-addressed envelope. Respondents ranged in age from 18 to 72 years, with a mean age of 26. Females comprised 59.1% of the sample. Sixty-eight percent of the respondents were single, with 8.2% involved in a significant relationship. Thirty-four percent had a history of some type of psychiatric treatment.

*Sample 2:* The 49-item SOBI was tested with a non-probability sample of 31 persons in treatment for major depression. Clients were asked to participate in the study if they (a) were age 18 or older, (b) met the DSM-III-R (American Psychiatric Association, 1987) criteria for major depression at the time of participation, and (c) were willing and able to read and comprehend the questionnaire. Subjects were recruited from two inpatient psychiatric units and one outpatient psychiatric program. The charts of all potential subjects were reviewed, and their diagnosis and status were discussed with medical and nursing personnel. All clients who met the criteria were invited to participate in the study. Researchers collected the completed questionnaires from the inpatient subjects, and the outpatient subjects mailed their completed questionnaires to the researcher. Eight weeks after initial participation, those subjects who had agreed to participate in future studies were sent new packets of questionnaires to complete for retest analysis. Subjects ranged in age from 21 to 75, with a mean age of 38.8 years. Fifty-one percent were married. Females comprised 64.5% of the depressed subjects.

*Sample 3:* Thirty-seven Roman Catholic nuns from a local convent completed the questionnaires. Questionnaire packets, including self-addressed stamped envelopes, were sent to a contact person in the convent who distributed them to those who agreed to participate. The completed questionnaires were returned directly to the researcher. Subjects ranged in age from 43 to 84, with a mean age of 73.8 years.

Table 1. SOBI Factors with Factor Structure Item Loadings

ITEM NUMBER	ITEM	FACTORS	
		I	II
1	wonder if I really fit	.73	
3	not sure if I fit with friends	.75	
5	describe myself as a misfit	.73	
7	people accept me	.57	
8	piece of a jigsaw puzzle	.85	
10	what I offer is valued	.48	
11	feel like an outsider	.81	
13	have no place in this world	.82	
15	I could disappear for days	.62	
16	mainstream of society	.63	
18	observe life rather than participate	.62	
19	few people would come to my funeral	.58	
20	feel like a square peg	.81	
22	I don't really fit	.76	
23	background and experiences are different	.57	
24	not see or call friends	.59	
25	feel left out	.81	
27	not valued or important	.70	
2	important to be valued by others		.53
4	have felt valued in the past		.44
6	important that I fit		.54
9	I have qualities		.52
12	working on fitting in		.67
14	want to be part of things		.52
17	important that my opinions are valued		.60
21	others recognize strengths		.48
26	make myself fit		.42

### Results

The construct validity of the SOBI was examined using three methods: factor analysis, contrasted groups, and correlation with measures of similar constructs. Factor analysis was conducted using the student data only ( $N = 379$ ). Sampling adequacy was excellent, with a Kaiser-Meyer-Olkin measure of .93 and approximately 8 subjects per item (Kim & Mueller, 1978). Principal components extraction with oblique rotation was used to examine the underlying conceptual dimensions of the 49-item SOBS. Two to five obliquely rotated factor solutions were examined based on (a) the Scree test, which exhibited significant breaks at 1, 2, 3, and 5 factors, and (b) the hypothesized three a priori domains. A two-factor solution was selected based on the significance of the factors, eigenvalues greater than one, and conceptual clarity of the factors. The two factors explained 36.8% of the variance inherent in the set of items. The interfactor correlation was .36. Since oblique rotation was used, items were included on the factors based on their factor structure loadings (item-to-factor correlations) being greater than .30.

Two factor-based scales were devised using factor analytic results. Items were included on each of these scales based on (a) magnitude of the factor structure loading on one particular factor versus the other, (b) dispersion of scores on that item to achieve satisfactory variance, (c) contribution of the item to the internal consistency of the proposed scale, (d) item-to-total scale correlation, and (e) conceptual fit of the item with the domain represented by the scale. Table 1 depicts the fac-

tor structure loadings for items selected to comprise the two factor-based scales.

The two scales contained distinct dimensions of sense of belonging as theoretically proposed. The first scale, SOBI-P, represented the psychological state of sense of belonging. Items clustering on this scale included those tapping the proposed dimensions of valued involvement and fit. This scale consisted of 18 items with scores ranging from 21 to 72; the mean score on the 4-point scale was 55.54. The second scale, SOBI-A, represented the proposed antecedents or precursors of sense of belonging, items that tapped the desire and the ability for developing sense of belonging. This scale consists of nine items with scores ranging from 19 to 36; the mean score on the 4-point scale was 28.04. The interscale correlation was .45 for the student group. The two scales were used for the remaining analyses; each was scored and analyzed separately.

The second method used to examine construct validity of the instrument was contrasted groups. This approach involves administering the instrument to groups of individuals thought to be very high or very low on the characteristic being measured (Waltz, Strickland, & Lenz, 1991). It was hypothesized that for both SOBI-P and SOBI-A, there would be a significant difference in the means of the group scores for all three groups, with the depressed group scoring significantly lower than the student group and the group of nuns scoring significantly higher than the student group. This hypothesis was supported by ANOVA for both SOBI-P ( $F = 38.16, p = .001$ ) and SOBI-A ( $F = 5.69, p = .001$ ). Least significant difference (LSD) post hoc comparison tests revealed significant differences between group means of all three sample groups. Table 2 depicts the scores for the groups.

The third method used to assess construct validity of the instrument was the extent to which SOBI-P and SOBI-A correlated with other measures of sense of belonging or similar concepts. Although some investigators consider this approach a test of the criterion-related validity of the instrument, Knapp (1985) cautioned that criterion-validity comparison measures should be higher-order measures of the same construct, rather than measures of related constructs. Since no other known measure of sense of belonging was available, student scores on the SOBI-P and SOBI-A were correlated with measures of loneliness, reciprocity, and social support to examine construct validity.

Table 2. Scores of Three Sample Groups on SOBI-P and SOBI-A

SUBSCALE	GROUP	<i>n</i>	<i>M</i>	<i>SD</i>
SOBI-P	Students	362	55.54	9.73
	Depressed patients	31	43.49	10.54
	Nuns	36	63.80	5.97
SOBI-A	Students	371	28.04	3.42
	Depressed patients	31	26.58	3.12
	Nuns	37	29.32	2.57

**Table 3. Correlations Between SOBI-P, SOBI-A, and Other Measures**

MEASURE	SOBI-P			SOBI-A		
	STUDENTS	DEPRESSED PATIENTS	NUNS	STUDENTS	DEPRESSED PATIENTS	NUNS
Social support	.56	.42	.58	.32	.44	.26
Reciprocity	.57	.22	.59	.36	.56	.37
Loneliness	-.72	-.76	-.62	-.41	-.33	-.13

Measures of these three concepts were selected since they are dimensions of interpersonal relationships as experienced by the subject. Loneliness was measured by the Revised UCLA Loneliness Scale (RULS) (Russell, Peplau, & Cutrona, 1980; Russell, Peplau, & Ferguson, 1978). Respondents are asked to rate 20 items, such as "I lack companionship," on a 4-point frequency scale (often to never). This scale measures the subjective feeling of being alone with few perceived social relationships. Evidence of construct validity, concurrent and discriminate validity, and internal consistency reliability has been documented.

Two scales of the Interpersonal Relationships Inventory (IRI) were used to measure social support and reciprocity (Tilden, 1989). The IRI is a 39-item instrument consisting of three separately scored scales: social support, reciprocity, and conflict. In this instrument, social support is considered "the perceived ability or enactment of helping behaviors by persons with whom one is engaged in relationships that are usually informed and non-contractual," and reciprocity "the perceived occurrence or availability of an exchange or returning of psychological or tangible goods and services" (p. 1). Tilden, Nelson, and May (1990) provided evidence of the content and construct validity, internal consistency, and retest reliability of the tool. Table 3 shows the correlations between SOBI-P and SOBI-A and these measures of loneliness, social support, and reciprocity.

Two types of reliability were assessed for SOBI-P and SOBI-A: internal consistency and test-retest reliability. Internal consistency reliability was examined using coefficient alpha, which was generated separately for each subject group. The coefficient alphas for the SOBI-P and SOBI-A, respectively, were as follows: students, .93 and .72; depressed clients, .93 and .63; and nuns, .91 and .76.

Test-retest reliability was examined only for the student group. Second packets of questionnaires were sent to 100 of the students and to all of the depressed respondents. Seventy-nine of the students returned usable questionnaires, while only two of the depressed subjects responded. The student test-retest correlation over an 8-week period was .84 for SOBI-P and .66 for SOBI-A.

### Discussion

Sense of belonging was viewed as a psychological construct that tapped the experience of fit and valued involvement in relationships and had antecedents necessary in order to occur. This conceptualization guided the development of the SOBI-P and SOBI-A. Construct validity

of the instruments was supported by the factor analysis. While items had been written to reflect three conceptual domains (valued involvement, fit, and antecedents), the factor solution produced two domains. Although this initially appears to contradict the conceptual premises of the instrument's development, the two-factor solution actually supports the theoretical analysis of the belonging concept. Valued involvement and fit items consistently loaded on one factor in each of four possible solutions examined. This is consistent with their identification as defining attributes of sense of belonging. Walker and Avant (1988) noted that defining attributes are those critical characteristics of a concept that must be present for identification of the phenomenon. In this instance, valued involvement and fit must be present for a psychological sense of belonging. Just as these two elements were proposed to be intertwined conceptually, empirical analysis demonstrated their consistent interlinkage. The psychological experience of sense of belonging functions as the organizing construct. Thus, the two factor-based scales supported the theoretical components of the construct, with the first scale (SOBI-P) representing the psychological experience of sense of belonging and the second scale (SOBI-A) representing antecedents. The moderate (.45) intercorrelation of the two scales suggests that these indeed measure different but related concepts within a broader theoretical domain.

Construct validity of the SOBI was supported further by contrasted groups and correlations with similar measures. The significant differences of the means between each of the three sample groups on both the SOBI-P and SOBI-A scores in the directions hypothesized attest to the instrument's ability to differentiate between high and low levels of sense of belonging and its antecedents. Certainly, both scales of the instrument should be tested with additional sample groups to examine further its discriminant validity. The moderate correlation between the measure of social support and sense of belonging in all three groups advances the premise that while one may influence the other, these are related but distinct phenomena. In the depressed sample, there was a low but positive correlation between sense of belonging and reciprocity. The correlations between the antecedents to belonging and reciprocity were higher in the depressed sample. While reciprocity taps perceptions of the give-and-take in relationships, with a focus on external relatedness, sense of belonging taps a person's inner psychological experience. Depression influences that inner experience, and affect becomes a predominant focus. Sense of belonging is tied to a person's inner self, which is emphasized in depression. This is different from, yet related to, an external focus on interaction. This may explain the low, positive correlation between reciprocity and sense of belonging in the depressed group.

The relationship between loneliness and sense of belonging requires additional investigation. The higher correlation attests to their similarity as internal, psychologically embedded, experiential states. The depressed group reflected the highest correlation, which can be understood by the focus on mood and internal emotion-

al state in depression. This is supported by the more moderate correlation between these two concepts exhibited by the nuns. Theoretically, the researchers proposed that loneliness was not a polar-opposite concept of sense of belonging but rather a potential outcome of a deficit in sense of belonging (Hagerty et al., 1992). Interestingly, there were low to moderate correlations between the measure of antecedents and the measure of loneliness, suggesting that the desire and ability for belonging are not as closely tied to the experience of loneliness. Additional research about the performance of the measures of these concepts in relation to various groups and in relation to other concepts such as depression may clarify further the similarities and differences between them.

The internal consistency of SOBI-P is high in all three sample groups. Its test-retest reliability, studied only in the student group, was .84 after 8 weeks, suggesting stability of the measure over this period of time. The internal consistency of the SOBI-A is somewhat lower in all three groups. Nunnally (1978) suggested that an instrument reliability of .70 or higher will suffice in preliminary research, thus placing the student SOBI-A coefficient alpha of .72 within an acceptable range. The lower reliability in the depressed group (.63) might be attributable, in part, to the lower standard deviation for that group, which tends to lower the reliability coefficient (Nunnally, 1978). It could prove useful to increase the number of items on the SOBI-A and reduce measurement error through increased attention to the broad range of antecedents necessary for sense of belonging.

The support for the validity and reliability of SOBI-P suggests that this may be a valuable measure of an important psychological experience that influences an individual's social and psychological processes. There is equivocal support for the validity and reliability of the SOBI-A; however, additional testing could enhance this measure. With the operationalization of sense of belonging, additional research can be conducted on its expression in various groups and its relationship to a broad range of health care problems, including mental illness, suicide, and coronary disease.

NR

Accepted for publication April 27, 1994.

This research was funded by NIMH grant No. 1 T01 MH19643-01. The author thanks Judith Lynch-Sauer, PhD, RN, Wes Neal, BA, Claire Caruso, MS, RN, Laurie Whisenout, and James Coyne, PhD, for their assistance with the project.

BONNIE M. K. HAGERTY, PhD, RN, CS, is an assistant professor, School of Nursing, University of Michigan, Ann Arbor, MI.

KATHLEEN PATUSKY, MA, RN, CS, is a research assistant and doctoral candidate, School of Nursing and Department of Psychology, University of Michigan, Ann Arbor, MI.

### References

- AMERICAN PSYCHIATRIC ASSOCIATION. (1987). *Diagnostic and Statistical Manual III-R*. Washington, DC: The Author.
- ANANT, S. S. (1966). The need to belong. *Canada's Mental Health*, 14, 21-27.
- ANANT, S. S. (1967). Belongingness and mental health: Some research finds. *Acta Psychologica*, 26, 391-396.

- ANANT, S. S. (1969). A cross-cultural study of belongingness, anxiety, and self-sufficiency. *Acta Psychologica*, 31, 385-393.
- CASE, R. B., MOSS, A. J., CASE, N., McDERMOTT, M., & EBERLY, S. (1992). Living alone after myocardial infarction: Impact on prognosis. *Journal of the American Medical Association*, 267, 515-519.
- DASBERG, H. (1976). Belonging and loneliness in relation to mental breakdown in battle. *Israeli Annals of Psychiatry*, 14 (4), 307-321.
- HAGERTY, B. M. K., LYNCH-SAUER, J., PATUSKY, K. L., BOUWSEMA, M., & COLLIER, P. (1992). Sense of belonging: A vital mental health concept. *Archives of Psychiatric Nursing*, 6, 172-177.
- HOUSE, J. S., LANDIS, K. R., & UMBERSON, D. (1988). Social relationships and health. *Science*, 241, 540-545.
- KESTENBERG, M., & KESTENBERG, J. S. (1988). The sense of belonging and altruism in children who survived the Holocaust. *Psychoanalytic Review*, 75, 533-560.
- KIM, J. O., & MUELLER, C. W. (1978). *Factor analysis: Statistical methods and practical issues*. Beverly Hills, CA: Sage.
- KNAPP, T. R. (1985). Validity, reliability, and neither. *Nursing Research*, 34, 189-192.
- LINDGREN, C. L. (1990). Burnout and social support in family caregivers. *Western Journal of Nursing Research*, 12, 469-487.
- LYNN, M. R. (1986). Determination and quantification of content validity. *Nursing Research*, 35, 382-385.
- MARKUS, H. R., & KITAYAMA, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98 (2), 224-253.
- MASLOW, A. (1954). *Motivation and personality*. New York: Harper.
- NUNNALLY, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- RUSSELL, D., PEPLAU, L. A., & CUTRONA, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminative validity evidence. *Journal of Personality and Social Psychology*, 39, 472-480.
- RUSSELL, D., PEPLAU, L. A., & FERGUSON, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment*, 42, 290-294.
- STEINKAMP, M. W., & KELLY, J. R. (1987). Social integration, leisure activity, and life satisfaction in older adults: Activity theory revisited. *International Journal of Aging and Human Development*, 25, 293-307.
- THORNTON, P. A. (1982). Conceptual, methodological, and theoretical problems in studying social support as a buffer against life stress. *Journal of Health and Social Behavior*, 23, 145-159.
- TILDEN, V. P. (1989). Interpersonal relationships inventory: Scoring information. Unpublished manuscript.
- TILDEN, V. P., NELSON, C. A., & MAY, B. A. (1990). The IPR Inventory: Development and psychometric characteristics. *Nursing Research*, 39, 337-343.
- WALKER, L. O., & AVANT, K. C. (1988). *Strategies for theory construction in nursing*. Norwalk, CT: Appleton and Lange.
- WALTZ, C. F., STRICKLAND, O. L., & LENZ, E. R. (1991). *Measurement in nursing research*. Philadelphia: Davis.

## CALL FOR POSTER ABSTRACTS

Abstracts for poster sessions on clinical and research projects related to medical surgical and gerontological nursing topics are requested for The Seventh National AJN Conference, sponsored by the American Journal of Nursing, a publication of the American Journal of Nursing Company. The conference will be held on October 13-16, 1995 at the Hyatt Regency in New Orleans, Louisiana. Deadline for submission is **JUNE 15, 1995**. For more information contact: Merritt Villone, American Journal of Nursing Company, 555 West 57th Street, New York, NY 10019; 212/582-8820, ext. 538.