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ABSTRACT
        The Sense of Coherence (SOC) construct, proposed by
Antonovsky, has the following three components: (1) Comprehensibility
(COMP), the cognitive sense that stimuli confronted convey structured
and clear information; (2) Manageability (MAN), the sense that
resources at one's disposal are adequate for successful coping; and
(3) Meaningfulness (MEAN), the emotional counterpart of
comprehensibility. Research instruments developed by Antonovsky,
Payne, and Rumbaut to measure the Sense of Coherence construct were
employed in this study. Subjects were 179 Univeristy of Arkansas
psychology students. The following findings are reported: (1)
Antonovsky and Rumbaut total scores measure a similar construct; (2)
Antonovsky subscales are highly correlated with the total SOC score;
(3) relationships between most Antonovsky and Payne subscales are
significant; (4) subscale intercorrelations are appreciably higher
for Antonovsky subscales than for Payne subscales; (5) independent
construct measures for COMP, MAN, and MEAN are consistently
associated only with Antonovsky subscales, (6) Antonovsky total and
subscale correlations with health measures are consistent in
direction and significance; (7) Antonovsky total score and subscale
measures are consistently and predictably related to Multidimensional
Health Locus of Control (MHLC) components; and (8) Antonovsky total
score and subscore measures are positively and significantly related
to both social support indices. The Antonovsky SOC instrument is a
more adequate measure of salutogenesis than either the Payne or
Rumbaut instruments. References and eight tables are appended.
(LMO)

Sense of Coherence: Examination of the Construct

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Introduction

Aaron Antonovsky has proposed the Sense of Coherence construct (SOC) to facilitate understanding of salutogenesis or health (Antonovsky, 1984). Sense of Coherence refers to a "global orientation that expressed the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected (Antonovsky, 1979, p. 123)". There are 3 components of Sense of Coherence. Comprehensibility (COMP) is the cognitive sense that stimuli confronted convey structured and clear information and hence predictability is assumed. Manageability (MAN) refers to a sense that resources at one's disposal are adequate for successful coping. Meaningfulness (MEAN) is the emotional counterpart of comprehensibility that makes the engagement with daily life a welcome rather than a burdensome commitment.

Antonovsky (1983) developed a 29-item research instrument to measure these components and to provide a total score for Sense of Coherence. He used two formats -- multiple-choice and semantic differential -- with a national Israeli sample (N = 608) and found only minor differences in index reliability (Cronbach Alpha) between formats. Independently, two other researchers haveattempted to measure the Sense of Coherence construct. Payne (1982) developed a 40-item scale with a total score and three components while Rumbaut and colleagues (Rumbaut, Anderson, Kaplan & Turek, 1981) developed a 22-item Likert-type index using factor analysis to obtain a total score.

Method

This study examined three separate measures of Sense of Coherence (SOC) and subscales from two of these measures, Comprehensibility (COMP), Manageability (MAN), and Meaningfulness (MEAN). Table 1 lists all measures which were selected to include criterion health, health locus of control, independent measures of each subscale, three response sets, and two social support indices. Subjects were 179 University of Arkansas General Psychology students, 82 males and 97 females. Intercorrelations for the entire sample only are reported here.

Results

1. Antonovsky and Rumbaut total scores measure a similar construct (Table 2).

2. Antonovsky subscales are highly correlated with the total SOC score (Table 3).

3. Significant relationships were found between most Antonovsky and Payne subscales (Table 4).

4. Subscale intracorrelations were appreciably higher for Antonovsky subscales than for Payne subscales (Table 5).

5. Independent construct measures for COMP, MAN, and MEAN were consistently associated only with Antonovsky subscales (Table 6). These construct measures did not distinguish among Antonovsky subscales.

6. Antonovsky total and subscale correlations with health measures were consistent in direction and significance (Table 7). Rumbaut total score correlations with health measures were less consistent in direction and magnitude. Payne total score and subscale correlations with health measures were largely non-significant. Social Desirability

and Acquiescence response set scores are positively corerlated with Antonovsky measures while Opposition response set is negatively correlated.

7.   Antonovsky total score and subscale measures are consistently and predictably related to MHLC components, i.e., positively and significantly with I, negatively and significantly with C, and unrelated to PO (Table 8). Payne total and subscale measures show a similar pattern but without the consistency, predictability, or significance. The Rumbaut measure is similar to the Antonovsky total score.

8.   Antonovsky total score and subscale measures are positively and significantly related to both social support indices. Payne and Rumbaut measures show a similar pattern of lesser magnitude relationship.

Discussion

The Antonovsky SOC instrument is a more adequate measure of salutogenesis than either the Payne or Rumbaut instruments, although all three measure a similar construct. However, the Antonovsky subscale scores -- COMP, MAN, MEAN -- are highly intercorrelated and not distinguishable by criterion measures of the subscale components. While these subscales provide useful empirical conceptualizations of the SOC components, they should be used with caution.

The Antonovsky SOC score was consistently and significantly related to all positive health measures while being significantly and negatively related to all illness measures. The significant and positive correlations with Social Desirability are consistent with Edwards' findings (1970). Antonovsky's conceptualization of salutogenesis is given considerable support by these correlations.

The Antonovsky-MHLC relationships are also congruent with salutogenesis; i.e., an internal health locus of control, rejection of chance, and indifference to influence from powerful cthers. Similarly, social support measures that include numbers of support persons and a satisfaction index are also clearly associated with SOC.

This demonstration of predictable SOC relationships with a variety of external measures is remarkably consistent. The power of the SOC construct as a global measure of holistic health is supported. Since the status of all holistic health measures derived from components is psychometrically suspect (Dana & Hoffmann, 1985), the SOC construct provides one psychometrically sound alternative, global measure.

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TABLE 1

Measures

1. Payne Health Coherence Attitude Scale (Payne, 1982)
   a. Comprehensibility Subscale
   b. Manageability Subscale
   c. Meaningfulness Subscale

2. Antonovsky Sense of Coherence, Semantic Differential version (Antonovsky, 1983)
   a. Comprehensibility Subscale
   b. Manageability Subscale
   c. Meaningfulness Subscale

3. Sense of Coherence (Rumbaut, Anderson, Kaplan & Turek, 1981)

4. General Health Rating Index (Davies & Ware, 1981)
   a. Current Health Subscale
   b. Prior Health Subscale
   c. Health Outlook Subscale
   d. Resistance to Illness Subscale
   e. Health Worry Subscale
   f. Sickness Orientation Subscale
   g. Ladder of Health
   h. General Health, Question 1 (Health Status)
   i. General Health, Question 2 (Pain)
   j. General Health, Question 3 (Worry)
   k. Social Desirability Response Set
   l. Acquiescence Response Set
   m. Opposition Response Set

5. Multidimensional Health Locus of Control (Wallston & Wallston, 1978)
   a. Internal Health Locus of Control Subscale
   b. Powerful Others Health Locus of Control Subscale
   c. Chance Health Locus of Control Subscale

6. Comprehensibility: Edwards Personal Preference Schedule, Order

7. Manageability: Coping Strategy Inventory Items (Tobin, Holroyd & Reynolds, 1982)
   a. Self-Denigration items
   b. Avoidance items
   c. Problem-centered items
   d. Social-centered items
   e. Cognitive restructuring items
   f. Emotion-centered items

8. Meaningfulness: Ego Identity Scale (Tan, Kendis, Fine & Porac, 1977).

9. Social Support Questionnaire (Sarason, Levine, Basham & Sarason, 1983)
   a. Number of Support Persons
   b. Satisfaction score

Note. Listed in order of administration.

TABLE 2

Intercorrelat_ons Between Total Sense of Coherence Scores

Antonovsky/Rumbaut	72
Antonovsky/Payne	39
Payne/Rumbaut	35

Note. Significance level in all tables is .0001 unless indicated. Decimal points are omitted from all tables.

TABLE 3

Intercorrelations Between Comprehensibility (COMP), Manageability (MAN), and Meaningfulness (MEAN) Subscales

and Total Coherence Scores for Antonovsky and Payne

ɔscale	Antonovsky	Payne
COMP	88	51
MAN	90	53
MEAN	78	46

TABLE 4

Antonovsky-Payne Intercorrelations Between Coherence Subscales Comprehensibility (COMP), Manageability (MAN), and Meaningfulness (MEAN).

PAYNE   ANTONOVSKY

	COMP	MAN	MEAN
COMP	19**	30	38
MAN	44	48	42
MEAN	12 (ns)	22*	32

*p .005. **p .01.

TABLE 5

Antonovsky/Payne Intracorrelations Among Comprehensibility (COMP), Manageability (MAN), and Meaningfulness (MEAN) Subscales.

	COMP	MEAN
MAN	72/27***	60/20*
MEAN	52/26**	

*p .01. **p .0007. ***p .0004

TABLE 6

Correlations Between SOC Subscales, Comprehensibility (COMP), Manageability (MAN), Meaningfulness (MEAN), and Their Construct Equivalents

Construct Equivalent

	COMP.	MEAN	MAN					
Antonovsky			a	b	c	d	e	f
Total	20 (01)	57 (0001)	-18 (01)	-33 (0001)	38 (0001)	15 (06)	44 (0001)	22 (004)
COMP	19 (01)	51 (0001)	-16 (04)	-33 (0001)	36 (0001)	09 (ns)	39 (0001)	20 (008)
MAN	16 (03)	50 (0001)	-16 (03)	-28 (0002)	38 (0001)	17 (02)	37 (0001)	16 (03)
MEAN	15 (04)	47 (0001)	-15 (05)	-24 (001)	23 (002)	14 (ns)	35 (0001)	23 (003)
Payne								
Total	-02 (ns)	29 (0001)	-18 (02)	-19 (01)	26 (0008)	06 (ns)	14 (ns)	26 (0009)
COMP	-009 (ns)	20 (009)	-17 (03)	-12 (ns)	10 (ns)	19 (01)	03 (ns)	16 (04)
MAN	03 (ns)	33 (0001)	-20 (009)	-23 (002)	33 (0001)	03 (ns)	17 (02)	10 (ns)
MEAN	-04 (ns)	11 (ns)	01 (ns)	05 (ns)	23 (003)	13 (ns)	11 (ns)	19 (01)

Note. p values are contained in parentheses

TABLE 7

Antonovsky/Payne, and Rumbaut Correlations with Health and Response Set Measures

					Health								Response Set	
Antonovsky	Index	S1	S2	S3	S4	S5	S6	Ladder	GH1	GH2	GH3	SD	A	0
Total														
	40 (0001)	37 (0001)	29 (0001)	31 (0001)	32 (0001)	-04 (ns)	-16 (03)	33 (0001)	28 (0003)	-31 (0001)	-21 (006)	24 (001)	19 (01)	-19 (01)
COMP	34 (0001)	29 (0002)	25 (001)	31 (0001)	25 (009)	-04 (ns)	-10 (ns)	26 (0007)	23 (002)	-25 (001)	-16 (03)	24 (001)	17 (02)	-17 (02)
MAN	44 (0001)	41 (0001)	35 (0001)	25 (0008)	36 (0001)	-12 (ns)	17 (02)	28 (0003)	26 (0005)	-27 (0004)	-25 (001)	28 (0002)	22 (004)	-22 (003)
MEAN	22 (004)	25 (0009)	13 (ns)	18 (02)	19 (01)	05 (ns)	-12 (ns)	32 (0001)	20 (009)	-28 (0003)	-15 (04)	07 (ns)	12 (ns)	-12 (ns)
Payne														
Total	16 (03)	12 (ns)	05 (ns)	07 (ns)	08 (ns)	-01 (ns)	-08 (ns)	16 (03)	13 (ns)	-04 (ns)	-02 (ns)	12 (ns)	07 (ns)	-07 (ns)
COMP	09 (ns)	08 (ns)	-02 (ns)	-06 (ns)	07 (ns)	01 (ns)	-06 (ns)	13 (ns)	07 (ns)	-07 (ns)	-10 (ns)	09 (ns)	02 (ns)	-02 (ns)
MAN	16 (04)	16 (04)	13 (ns)	16 (04)	11 (ns)	06 (ns)	04 (ns)	12 (ns)	10 (ns)	-14 (ns)	-14 (ns)	08 (ns)	11 (ns)	-11 (ns)
MEAN	09 (ns)	07 (ns)	10 (ns)	02 (ns)	12 (ns)	00 (ns)	-06 (ns)	10 (ns)	06 (ns)	-06 (ns)	06 (ns)	20 (009)	12 (ns)	-12 (ns)
Rumbaut														
Total	24 (001)	28 (003)	19 (01)	17 (02)	09 (ns)	02 (ns)	08 (ns)	22 (003)	18 (01)	20 (009)	06 (ns)	15 (05)	24 (001)	-24 (001)

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TABLE 8

Antonovsky (A), Payne (P), and Rumbaut (R) Correlations with Multidimensional Health Locus of Control (MHLC)

Subscales and Social Support Measures

	MHLC			Social Support	
	I	PO	C	Number	Satisfaction
A Total	37 (0001)	-12 (ns)	-29 (0001)	32 (0001)	38 (0001)
A COMP	35 (0001)	-14 (ns)	-27 (0004)	24 (002)	28 (0004)
A MAN	31 (0001)	-09 (ns)	-23 (002)	32 (0001)	38 (0001)
A MEAN	27 (0003)	-10 (ns)	-26 (0006)	29 (0003)	31 (0001)
P Total	31 (0001)	-06 (ns)	-16 (04)	24 (003)	18 (03)
P COMP	21 (005)	08 (ns)	-06 (ns)	20 (01)	17 (03)
P MAN	19 (01)	-21 (005)	-31 (0001)	22 (005)	20 (01)
P MEAN	21 (006)	-02 (ns)	-16 (04)	19 (02)	17 (03)
R Total	32 (0001)	-15 (04)	-29 (0002)	19 (02)	33 (0001)

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18   19