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The Relationship Among Sense of Coherence, Coping Strategies, and Interpersonal Patterns: A Cross-Cultural Study

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Abstract

The purpose of the study was to test a path analytic model linking sense of coherence (SOC), coping strategies (problem-solving, social support-seeking, avoidance), and interpersonal patterns (anxiety, close, depend) in a sample of 264 U.S. and 254 Chinese college students. Data were analyzed by Structural Equation Modeling. In both samples, participants who showed higher SOC had higher levels of social anxiety. SOC also indirectly influenced anxiety through avoidance. In addition, anxiety could predict close and depend interpersonal patterns in both samples. Social support-seeking could predict problem-solving and the interpersonal pattern of close in the U.S. sample. Social support-seeking could predict problem-solving and the interpersonal pattern of depend in the Chinese sample. These results showed that although individuals with higher levels of SOC perceive the world as understandable, manageable, and meaningful, they tend to be anxious in interpersonal interactions. The results also suggested that their anxiety can be counterbalanced by avoidance and social support-seeking coping strategies.

Introduction

The Salutogeni model (Antonovsky, 1987) suggested sense of coherence (SOC) as a central concept in understanding how individuals cope with stress and maintain mental health. Antonovsky (1987) conceptualized SOC as a global orientation that influences the extent to which individuals perceive the world as comprehensible (life is understandable and that there are explanations for what happens), manageable (things can be managed), and meaningful (demands in life are actually challenges, worthy of investment and engagement). Higher levels of comprehensibility, manageability, and meaningfulness contribute to a higher level of SOC. A strong SOC has been found to be correlated with higher levels of well-being and life satisfaction (Langeland, Wahl, Kristoffersen, Nortvedt, & Hanestad, 2007), and with lower levels of stress, distress, and

symptoms of mental health disorders such as depression and schizophrenia (e.g., Antonovsky, 1987; Bengtsson-Tops, Brunt, & Rask, 2005; Erim, Morawa, Atay, Aygün, Gökalp, & Senf, 2011; Konttinen, Haukkala, & Uutela, 2008; Siglen, Bjorvatn, Engebretsen, Berglund, & Natvig, 2007).

Nevertheless, not much is known about how SOC achieves the above-mentioned health effect. Although studies showed that SOC indirectly influences individuals' stress reactions and psychological health via coping strategies (Braun-Lewensohn, Sagy, & Roth, 2011; Kennedy, Lude, Elfström, & Smithson, 2010), the relationships between SOC and different coping strategies have not been fully explored. Coping strategies are strategies individuals apply to cope with life challenges. According to Amirkhan and Greaves (2003), three basic coping strategies are problem-solving, social support-seeking, and avoidance. Therefore, the present study explored the relationship between SOC and these three coping strategies.

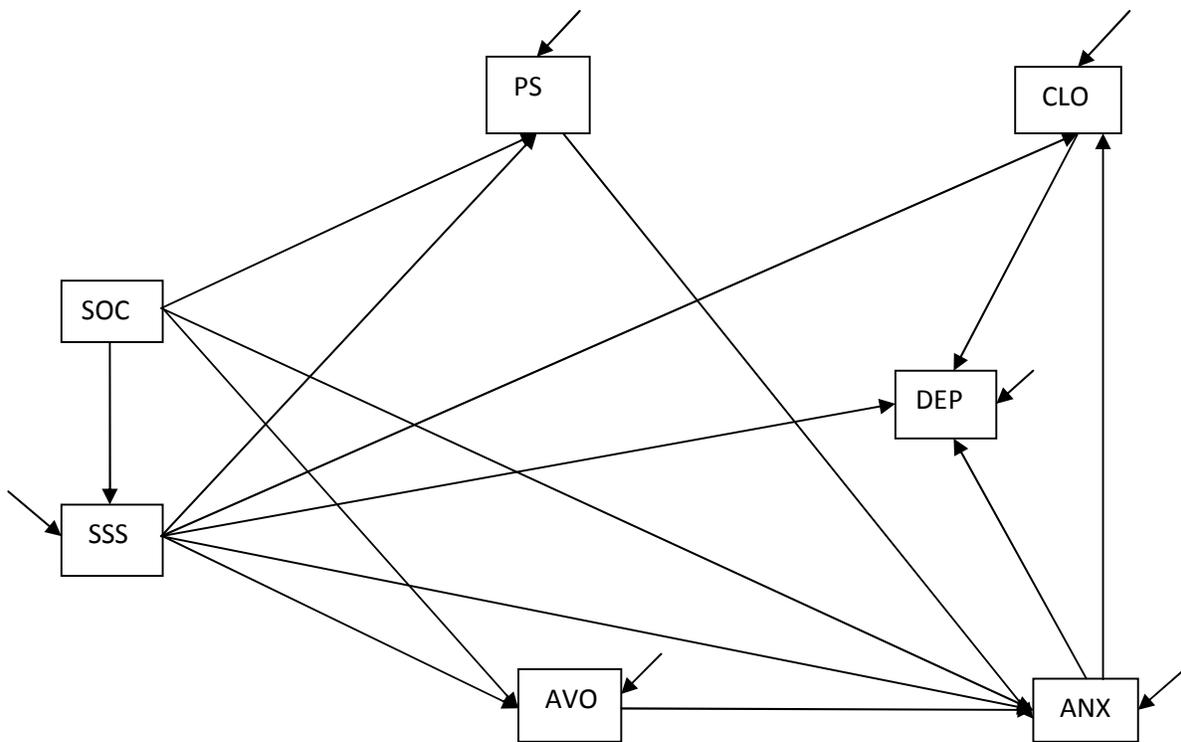


Figure 1. Hypothesized relationship among SOC, coping strategies, and interpersonal patterns.

Note: SOC = Sense of Coherence, SSS = Social Support-Seeking, PS = Problem-Solving, AVO = Avoidance, CLO = Close, DEP = Depend, ANX = Anxiety

In addition, little is known about the influence of SOC on interpersonal relationships, which, according to Alfred Adler's and William Glasser's counseling theories, are one of the foundations of good mental health (Corey, 2013). Neither Adler nor Glasser addressed the connection between SOC and interpersonal relationships. This connection has been studied by Kuwert and colleagues (2008) and Darling, McWey, Howard, and Olmstead (2007). The former focused on interpersonal problems and the latter concentrated on stressful relationships. In addressing interpersonal relationships,

the researcher of this study focused on individuals' patterns of interactions with others in social situations and adopted Collins' (1996) suggestion that major interpersonal patterns include anxiety, close, and depend. Individuals with the *anxiety* pattern do not feel safe in interpersonal interactions. Those who are categorized as *close* feel emotionally close to people. Individuals of the *depend* pattern tend to feel comfortable depending on others.

The present study addressed the above-mentioned less explored issues related to SOC. The study developed and tested a hypothesized path model linking SOC, coping strategies (problem-solving, social support-seeking, avoidance) and interpersonal patterns (anxiety, depend, close). In this model, SOC influences individuals' coping strategies which, in turn, influence their approaches to interacting with others (interpersonal patterns). Figure 1 presents the hypothesized path model. Since culture might influence the relationships among these variables, this study included a Chinese sample and a U.S. sample for the purpose of cross-cultural comparison.

The researcher of this study searched cross-cultural studies on SOC, in the databases of PsycINFO, MEDLINE, Academic Search Premier, MLA Directory of Periodicals, and Professional Development Collection. A total of 34 publications were retrieved. However, only 13 of these were cross-cultural comparison studies. None of the 13 publications addressed the relationships among SOC, coping strategies, and interpersonal patterns. Thus, the present study was probably the first cross-cultural comparison study that explored how SOC influences individuals' coping strategies (problem-solving, social support-seeking, avoidance) as well as interpersonal patterns (anxiety, depend, close). The purpose of the present study was to explore the relationships among SOC, coping strategies, and interpersonal patterns in both a U.S. and Chinese sample.

Method

The study recruited 254 undergraduate students enrolled in a university in China and 264 undergraduate students enrolled in a university in the United States. Both universities are located in a metropolitan area. All the students majored in a business-related field such as accounting, economics, and finance. The mean ages of the Chinese sample (95 males and 159 females) and the U.S. sample (129 males and 135 females) were 20.6 (SD = 1.4) and 21.2 (SD = 1.2), respectively. In this study, the same process of recruitment was applied in both countries, and convenience sampling was used for both samples. A research assistant visited different classrooms to recruit participants. The research assistant read a recruitment statement that introduced the study to the students, invited them to participate in the study, and informed them of the contribution they would make by participating in the study. Voluntary participation was emphasized. An informed consent and a questionnaire were given to those who agreed to participate. The participants completed the questionnaire in 15 minutes and returned it to the research assistant.

The questionnaire contained three instruments: the Orientation to Life Questionnaire (OLQ; Antonovsky, 1987), the Revised Adult Attachment Scale (AAS-R; Collins, 1996), and the Coping Strategy Indicator (CSI; Amirkhan, 1990). In addition, questions related to demographic information (gender, age, and major) were included in the questionnaire. All of the instruments were developed in English and thus were applied

to the U.S. participants. The instruments were properly translated into Chinese for Chinese participants. A standard “translate and back-translate” procedure (Werner & Campbell, as cited in Geisinger, 2003) was done to ensure the correction of language transference. An English professor, who was blind to the original, translated, and the back-translated instruments, compared the back-translated version with the original one. This professor found the two versions to be close in *meaning*, which indicated that the translation was correct.

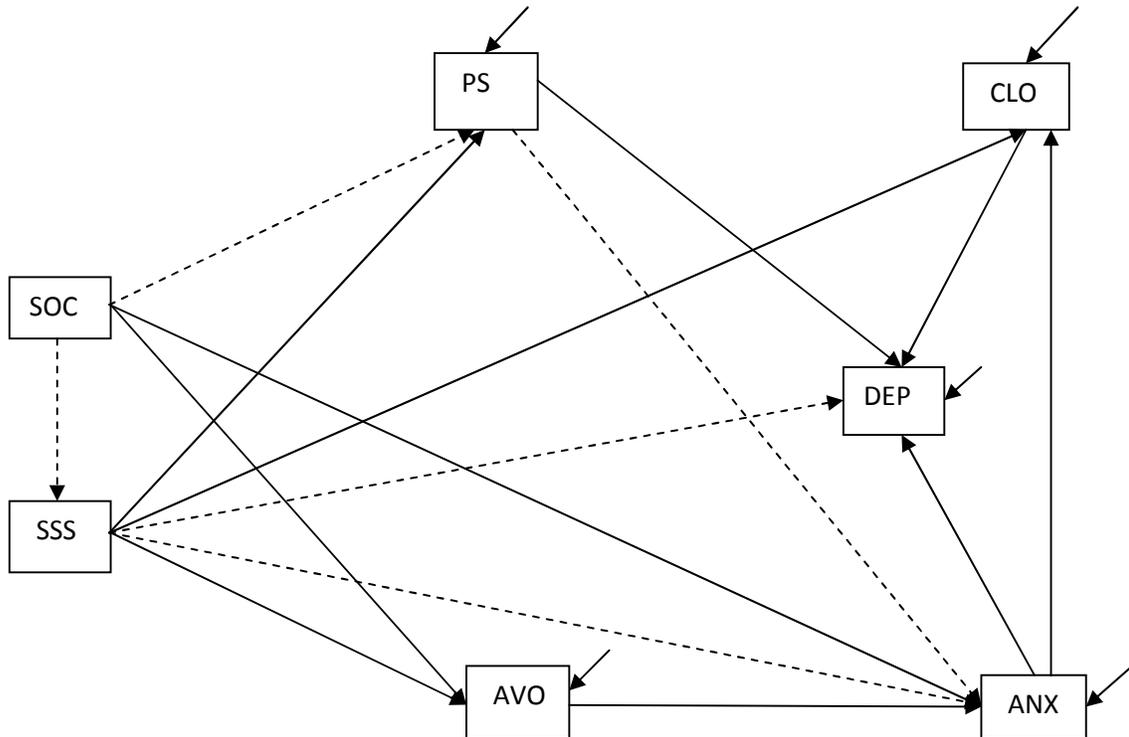


Figure 2. Relationship among SOC, coping strategies, and interpersonal patterns in the U.S. sample

Note: 1. SOC = Sense of Coherence, SSS = Social Support-Seeking, PS = Problem-Solving, AVO = Avoidance, CLO = Close, DEP = Depend, ANX = Anxiety; 2. Solid lines represent significant paths; 3. Dotted lines represent insignificant paths.

The Orientation to Life Questionnaire

Participants’ SOC was assessed by the Orientation to Life Questionnaire (OLQ; Antonovsky, 1987), which is also referred to as the Sense of Coherence Scale by many SOC researchers (e.g., Amirkhan & Greaves, 2003; Bengtsson-Tops et al., 2005; Braun-Lewensohn et al., 2011; Cohen, Ben-Zur, & Rosenfeld, 2008; Feldt, Metsäpelto, Kinnunen, & Pulkkinen, 2007; García-Moya, Rivera, & Moreno, 2013). The present study used the short version of the OLQ, which is a 7-point Likert-type scale that contains 13 items. The internal consistency of this total scale has been shown to range from .86 to .95 (Antonovsky, 1993). Regarding validity of the OLQ, Antonovsky (1993) reported evidence of criterion validity and construct validity. The convergent validity of

the OLQ has been demonstrated by correlating it to measures of personality constructs such as hardiness, locus of control, and self-efficacy (Smith & Meyers, 1996).

The Coping Strategies Indicator

Coping strategies in this study were assessed by the Coping Strategies Indicator (CSI; Amirkhan, 1990). The CSI is a 33-item, 3-point Likert-type scale that measures individual’s coping styles. It is composed of three subscales that measure three coping styles: problem-solving, social support-seeking, and avoidance. Amirkhan’s (1990) study showed that Cronbach’s alpha coefficients for the problem solving subscale, seeking social support subscale, and avoidance subscale were .89, .93, and .84, respectively. Amirkhan demonstrated concurrent validity of the CSI by testing the correlation between the CSI and another coping scale that had been previously validated. He found that the CSI was significantly correlated with the Ways of Coping checklist (Vitaliano, Pusso, Carr, Maiuro, & Beker, 1985).

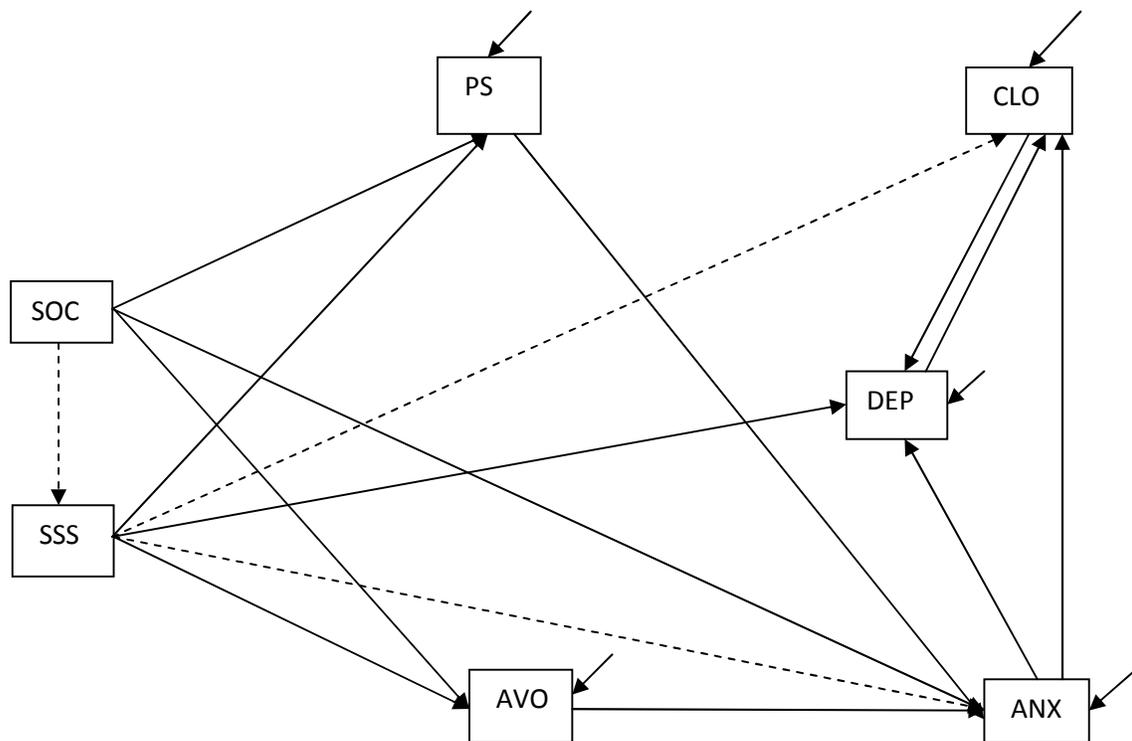


Figure 3. Relationship among SOC, coping strategies, and interpersonal patterns in the Chinese sample

Notes: 1. SOC = Sense of Coherence, SSS = Social Support-Seeking, PS = Problem-Solving, AVO = Avoidance, CLO = Close, DEP = Depend, ANX = Anxiety; 2. Solid lines represent significant paths; 3. Dotted lines represent insignificant paths.

The Revised Adult Attachment Scale

The Revised Adult Attachment Scale (AAS-R; Collins, 1996) was used to evaluate participants’ interpersonal patterns. The AAS-R is a 5-point Likert-type instrument that contains 18 items. This scale assessed individual’s interpersonal patterns

related to attachment: anxiety, depend, and close. Collins reported values of Cronbach’s alphas for the anxiety, depend, and close subscales as .85, .78, and .77, respectively. The AAS-Revised is based on the original Adult Attachment Scale (Collins & Read, 1990). Construct validity of the AAS was demonstrated by Collins and Read (1990).

Results

The hypothesized path model was evaluated in AMOS 17.0 by applying the maximum likelihood estimation method. Table 1 presents model chi-square and fit indices for the model for each sample. The model fitted the data for the Chinese sample and poorly for the U.S. sample. Modification indices and path coefficients provided information for revising the model. Modification indices suggested adding a path linking depend to close (depend → close) in the Chinese sample and a path linking problem-solving to depend (problem-solving → depend) in the U.S. sample. Individual path coefficients in the model revealed eight non-significant path coefficients ($p > .05$). In the Chinese sample, the non-significant paths were SOC → social support-seeking, social support-seeking → anxiety, and social support-seeking → close. In the U.S. sample, the non-significant paths were SOC → social support-seeking, SOC → problem-solving, social support-seeking → depend, social support-seeking → anxiety, and problem solving → anxiety. Consequently, Model 1 was revised by (1) adding a path from depend to close in the Chinese sample and a path from problem-solving to depend in the U.S. sample, and (2) removing all non-significant paths. Because the two samples each revealed unique non-significant paths and each added a unique path, their corresponding revised models look different from each other. The revised models, presented in Figures 2 and 3, were evaluated in AMOS 17.0 by applying the maximum likelihood estimation method. Results showed that the revised models fitted the data well for the Chinese and the U.S. samples, indicating that no further revision was suggested. Table 2 presents model chi-square and fit indices for the revised model for each sample.

Table 1.

Fit Indexes of Model 1

Model 1	χ^2	<i>df</i>	CFI	NFI	RMSEA
U.S.	5.56*	10	.90	.91	.61
China	4.34	10	1.0	.98	.00

* $P < .05$

Effect of SOC on Coping Strategies and Interpersonal Patterns

Regarding the direct effect, SOC was found to predict avoidance coping strategy (negative correlation) in both the U.S. and Chinese samples and to predict problem-solving coping strategy in the Chinese sample. SOC could predict anxiety (one of the interpersonal patterns) in both the U.S. and Chinese samples. As for the indirect effect,

SOC was found to indirectly influence anxiety through avoidance coping strategy in both samples.

Table 2.

Fit Indexes of Revised Models

Revised Models	χ^2	<i>df</i>	CFI	NFI	RMSEA
U.S.	7.65	11	1.0	.97	.00
China	4.46	9	1.0	.98	.00

* $P < .05$

Effect of Anxiety on Depend and Close

As mentioned, anxiety, close, and depend are major interpersonal patterns. In this study, anxiety was found to predict depend and close in both the U.S. and Chinese samples. In addition, anxiety indirectly influenced depend through close in both samples.

Additional Findings

In the U.S. sample, social support-seeking could predict problem-solving coping strategy and the interpersonal pattern of close. In the Chinese sample, social support-seeking could predict problem-solving and the interpersonal pattern of depend.

Discussion

In both the U.S. and Chinese samples, people who showed higher SOC had higher levels of anxiety when interacting with other people (social anxiety). SOC also indirectly influenced anxiety through avoidance. The higher the SOC, the less the avoidance became. The less the avoidance, the higher the anxiety became. In both samples, anxiety could predict close and depend. The higher levels of social anxiety individuals experienced, the more likely they were willing to depend on significant others and were motivated to form a close relationship with them.

In order to examine whether the three attributes of SOC (comprehensibility, manageability, meaningfulness) were in conflict with SOC in relating to anxiety, avoidance, close, and depend, the researcher reevaluated the revised U.S. and Chinese models. In the reevaluation, SOC was replaced by the three attributes, one at a time. A total of six reevaluations were conducted and the data fit the model well in all six reevaluations. These findings showed that SOC was not in conflict with any of the three attributes, regardless of the participants' cultural backgrounds.

High SOC Individuals Feel Anxious in Interpersonal Interactions

In this study, two pathways leading from SOC to anxiety were found; one was direct and the other one was indirect via avoidance coping strategy. It is possible that high SOC people feel anxious in interpersonal interactions because (1) they may spend

much time working on achievements and may be reluctant to seek social support (i.e., they may feel competitive among friends and colleagues, thus they may be reluctant to find support from friends and colleagues, because by doing so they expose weakness to others) and (2) they may be so confident about their ability that they do not apply avoidance coping strategy to deal with stressful situations. Because they do not avoid, they tend to expose themselves directly to stressful situations such as dealing with difficult individuals and events, making them feel more anxious.

Although higher levels of social anxiety motivate people to get close and depend on significant others, such a pathway is not preferred. In fact, too much social anxiety might negatively impact people's mental health and hinder them from building healthy interpersonal relationships. For example, do you prefer your significant others to get close to you and depend on you only at the time when they experience a lot of social anxiety? According to Collins (1996), a combination of lower levels of anxiety and higher levels of depend and close lays a foundation for a healthy social life. Based on Collin's proposal, it seems that high SOC people can benefit from (1) lowering their levels of anxiety and (2) raising their levels of depend and close without raising their levels of anxiety.

Lower Levels of Anxiety and Raise Levels of Depend and Close

Regarding lowering levels of anxiety in individuals with higher levels of SOC, counseling practitioners can encourage them to learn to use avoidance coping strategy, as it mediates the effect of SOC on anxiety. By using more avoidance, people decrease anxiety levels. In terms of raising levels of depend and close, counseling practitioners can enhance high SOC individuals' social support-seeking coping strategy, because it predicts close in the U.S. sample and depend in the Chinese sample, without increasing their anxiety levels. In addition, social support-seeking enhances Chinese participants' problem-solving coping strategy, which in turn, lowers anxiety levels.

Limitations

The major limitation of this study was the sampling strategy used for recruiting participants. Since convenience samples were used, the two samples of the study might not perfectly represent the U.S. and Chinese college student populations. Another limitation was related to the self-report method used for data collection. Since the data were collected based on the participants' responses to the questionnaire, they may not accurately reflect participants' life experiences and personality traits.

Conclusion

This study contributes to the field of counseling by developing a path model connecting SOC, coping strategies, and interpersonal patterns and comparing the results of testing this path model across both a U.S. and a Chinese sample. A previously unnoticed character of SOC was found in both the U.S. and Chinese samples—the higher the levels of SOC, the higher the levels of social anxiety individuals might have. This is a significant finding of this study. Although high social anxiety motivates high SOC people to get close and depend on significant others, such a pathway is not preferred. Another significant finding of this study is that this less preferred pathway can be counterbalanced

by avoidance and social support-seeking coping strategies. Thus, for the purpose of promoting clients' mental health, counseling practitioners can encourage high SOC clients to learn to avoid some difficult situations/people and to seek social support.

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