

## **Mental Health Outcomes of Sense of Coherence in Individualistic and Collectivistic Culture: Moderating Role of Social Support**

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The present cross-cultural study aimed to examine the moderating role of social support between sense of coherence and mental health outcomes among university students of individualistic culture and collectivistic culture. Sense of Coherence Scale (Antonovsky, 1987), Perceived Social Support Scale (Zimet, Dahlem, & Farley, 1988), Short Warwick Edinburg Scale (Tennant et al., 2006), and Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995) were used for data collection. Sample of the study comprised of university students ( $N = 200$ ) further equally divided in individualistic culture that is, Germany and collectivistic culture, that is, Pakistan. Few hypotheses were fully supported; while some were partially accepted in the study. Senses of coherence positively predicted well-being in individualistic culture as well as collectivistic culture. Social support positively predicted well-being and negatively predicts stress in both cultures. Social support as a moderator of well-being is partially accepted in individualistic culture.

*Keywords.* Sense of coherence, social support, well-being, stress

Sense of coherence is a characteristic of an individual which reflects the individuals' ability to respond when confronted with stressful situation. Strong sense of coherence helps to gain insight

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into the nature of the stressor, perhaps even consider it as a challenge, then choose suitable coping resources needed for the particular situation and remain flexible if the situation demands modification of behaviour (Antonovsky, 1996). Sense of coherence comprises of three dimensions defined as comprehensibility (social life is understandable), manageability (person feel sense of control over their life), and meaningfulness (life has meaning; Antonovsky, 1987).

A good deal of research (Colff & Rothmann, 2009; Gibson & Parker, 2003; Feldt, 1997) showed that sense of coherence is positively associated with health related outcomes. But most of the evidences are related to individualistic cultures (Kalland et al., 2009; Lindstrom & Eriksson, 2010) and relatively less research is available in the collectivist context (Rohani, Khanjari, Abedi, Oskouie, & Langius, 2010; Suraj & Singh, 2011). As for as South Asia is concerned, it is perhaps the first ever research being conducted to study the sense of coherence and its outcomes (Lindstrom & Eriksson, 2010) in the collectivist context of Pakistan. Moreover it is also aimed to examine the individualist-collectivist (Germany and Pakistan) differences in sense of coherence.

Adolescence is a critical stage in development characterized by major changes in an individual's life and needs for new psychological adaptations (Dahl & Gunnar, 2009). The transition into adolescence seems to be the starting point for an increase in psychological problems like stress and anxiety (Graber & Sontag, 2009). Although a relatively large proportion of adolescents experience symptoms and report complaints, many adolescents do not. This has lead researcher's interest into what recognizes people who stays well and perceive health as good despite the experience of adversities in daily life.

The collection of systematic information on this issue is central to the planning of primary health care and educational services for the adolescent group in reference to focusing on resources for coping rather than on risk factors for ill health (Moksnes, Geir, Espnes, & Lillefjell, 2011). The present study will be helpful to explain how sense of coherence contributes in health related outcomes among adolescents.

### **Sense of Coherence and Its Outcomes**

Sense of coherence (SOC) is based on Salutogenic Model (physical and mental health is mainly determined by sense of coherence; Antonovsky, 1987). Salutogenesis Model emphasizes on the origins of health, or wellness and word salus means health, while genesis means origins so salutogenesis word would stand for origin of

health (Strumpfer, 1990). Antonovsky (1987) was basically interested to find out factors that can be helpful to manage the stressors and defined sense of coherence as “a global orientation that express the extent to which one has a pervasive enduring through dynamic feelings of confidence that 1) the stimuli, deriving from ones internal and external environment in the course of living are structured, predictable and explicable; 2) the resources are available for one to meet the demands posed by these stimuli; 3) these demands are challenges, worthy of investment and engagement” (p. 19). Later on researchers supported the positive connection between sense of coherence and person’s health (Kinnunen & Mauno, 2000); while, inverse relationship has been found between sense of coherence and psychological distress (Otto, 2002).

A high sense of coherence buffers the negative influence of emotion-oriented coping on suicidal indicators among adolescent girls (Edwards, & Holden, 2001). In addition, among college students, sense of coherence has been found to mediate the effect of challenges on depressive symptoms (Ying, Leeb, & Tsai, 2007). Erikson and Linderstom (2005) found that sense of coherence is a key factor to sustain psychological health even in such conditions which are seemingly unmanageable. A study by Wissing and Van Eeden (2002) showed that sense of coherence is a well-researched indicator of general psychological well-being. It has been supported by other studies, indicating that sense of coherence is an important coping construct for managing stress and increasing well-being (Diraz, Ortlepp, & Greyling, 2003; Hutchinson, 2005; Katalan, 2003).

Along with the sense of coherence, social support is also reported as a consistent predictor of well-being (Kaufmann & Beehr, 1989; Sarason, Sarason, & Pierce, 1990; Suhail & Chaudhary, 2004). Helliwell (2003) found perception of social support gives feeling of happiness and life satisfaction that is further an indicator of overall well-being. Need for social support become highly significant in critical life event and if the person unable to attain social support, the amount of stress is gradually increased and may result dramatic consequences (Sorkin, Rook, & Lu, 2002). According to Flaspohler et al. (2009) social support is very much crucial in academic setting and high level of social support from peers provide the strongest buffer against the negative effects of bullying and can protect students from poor academic achievement (Rothman, Steyn, & Mostert, 2011). Beside this it is helpful to reduce anxiety and stress symptoms (Holt & Espelage, 2007). Similarly family support is also important as it can reduce the adolescent’s behavioural and emotional problems (Yeung

& Leadbeater, 2010) and protect them from maladjustment (Stadler et al., 2010).

Previous cross-culture study on the construct of social support reported culture difference in perception of social support (Hashimoto, Imada, & Kitayama, 2007). As cross culture researchers found differences on the perception of social support among Asian and European American and further explained that people use social support to coping resource against different academic, social and health stressor (Sasaki & Kim, 2008). Similarly, social support serves as a buffer of the relationship between multiple concepts of positive psychology, that is, sense of coherence, meaningfulness and stress (Cohen & Willis, 1985).

### **Hypotheses**

1. Sense of coherence is likely to positively predict well-being in individualistic and collectivistic culture.
2. Social support is likely to positively predict well-being in individualistic and collectivistic culture.
3. Social support is likely to negatively predict stress in individualistic and collectivistic culture.
4. Social support is likely to moderate the relationship between sense of coherence and well-being in individualistic and collectivistic culture.

### **Method**

The present study was based on cross-sectional survey research design. The study aimed to examine the moderating role of social support between sense of coherence and mental health outcomes in individualistic (Germany) and collectivistic culture (Pakistan).

### **Participants**

Participants of the present study comprised of adolescent students ( $N = 200$ ) selected from two distinct cultures: Individualistic culture (Germany = 100) and collectivistic culture (Pakistan = 100) with age ranges between 19 to 23 years ( $M = 22.7$ ,  $SD = 3.22$ ). The age range of the adolescents was selected on the basis of criteria provided by well known developmental researchers (Newman & Newman, 1987).

Both male and female participants were the part of study. It was ensured that research participants were full time university students and had proper understanding of English language. Moreover, all participants from individualistic culture were native Germans. Data was collected through convenient sampling technique. Before administrating the scale, informed consent was obtained.

### **Instruments**

**Sense of Coherence Scale (SOCS).** Short version of SOCS (Antonovsky, 1987) was used to measure sense of coherence comprising of 13-items initially derived from 29-item Orientation to Life Questionnaire that is based upon the cognitive, behavioral and motivational components of Sense of coherence theory including comprehensibility, manageability and meaningfulness. The score for each item ranged from 1 (showing weak) to 7 (showing strong) with four items have reverse scoring. Total scores have been calculated by summing up the raw scores. The score on the scale ranged from 13 as minimum to 91 as maximum. High score indicates a high position on the sense of coherence continuum and vice versa. Alpha coefficient ranged from .70 to .92; while, test-retest reliability of this scale ranged from .69 to .78. However, in the present sample, internal consistency of SOCS was found to be marginally acceptable (.65).

**Multidimensional Scale of Perceived Social Support.** Perceived Social Support Scale developed by Zimet, Dahlem, and Farley (1988) was used to measure perceived ability of support from three sources known as family, friends, and significant others. This scale was based on 12 items and responses can be acquired on 7-point Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree). The score on the scale ranged from 12 as minimum to 84 as maximum. Higher scores on this scale reflects higher perceived social support and vice versa. Perceived Social Support Scale possesses high level of internal consistency as well as good test-retest reliability. Cronbach alpha for Perceived Social Support Scale was found to be .86 for the current sample.

**Warwick Edinburg Mental Well-Being Scale.** A short version of Warwick Edinburg Mental Well-Being Scale developed by Tennant et al. (2006) was used. It consisted of 7 items with five categories, which have been specifically designed to measure both feeling and functioning aspects of positive mental well-being. Response options could be assigned along 5-point Likert scale from 1 to 7 and possible

scores ranged from 7 to 35. There are no cut off scores as it is not designed to identify individuals with exceptionally high or low on positive mental health. Alpha coefficient of .68 was acquired for Warwick Edinburg Mental Well-Being Scale in the present sample.

**Depression Anxiety Stress Scale (DASS-21).** A Stress Subscale of short version of Depression Anxiety Stress Scales was used to measure stress among students. This scale was developed by Lovibond and Lovibond (1995) and overall scale was comprised of 21 items and three subscales including depression, anxiety and stress with 7 items for each. Stress Subscale was a 4-point Likert-type scale and response options ranged from 0 (*did not apply at all over the past week*) to 3 (*applied very much over the last week*) and possible scores ranged from 0 to 28. In the present study, low and high scores were used to measure stress among students. In the present study, alpha coefficient of .75 was achieved for Stress Subscale of DASS-21.

### **Procedure**

Present study was based on cross sectional survey research design. Data was collected from students belonging to both individualistic (Germany) and collectivistic (Pakistan) cultures. Researcher personally approached the students from different departments of University of Sargodha and Quaid-i-Azam University, Islamabad for collecting information from collectivist culture. First of all permission was asked from the concerning authorities and participants were briefed regarding the purpose of the study. Then informed consent was obtained in written form research participants. Specific instructions were provided about the questionnaires and all queries on the part of participants were satisfied by researcher courteously. On the other hand, for collecting information from Germany, the principal author personally visited Germany as she had family settlement over there and identified a key referral source (Gilani, 2006 German Psychologist having good understanding of English) who later on helped in identifying and collecting information. Data was collected from two English speaking universities in Germany including Freie University, Berlin and Ludwig Maximilian University, Munich. Same data collection procedure was followed as in Pakistan. Data was collected from Pakistan in two months; while, it consumed about six months in Germany.

**Results**

For computing the results and testing the hypotheses, varying analysis were performed.

Table 1  
*Correlations and Reliability Indices of Study Variables (N = 200)*

Variables	1	2	3	4
	Total Sample (N = 200)			
1. Sense of coherence	–	.25 <sup>***</sup>	.34 <sup>***</sup>	-.22 <sup>**</sup>
2. Social support		–	.37 <sup>***</sup>	-.37 <sup>***</sup>
3. Well-being			–	-.38 <sup>***</sup>
4. Stress				–
Collectivistic Culture (n = 100)				
1. Sense of coherence	–	.14	.23 <sup>*</sup>	-.12
2. Social support		–	.27 <sup>**</sup>	-.32 <sup>***</sup>
3. Well-being			–	-.40 <sup>***</sup>
4. Stress				–
Individualistic Culture (n = 100)				
1. Sense of coherence	–	.38 <sup>***</sup>	.43 <sup>***</sup>	-.30 <sup>**</sup>
2. Social support		–	.46 <sup>***</sup>	-.41 <sup>***</sup>
3. Well-being			–	-.37 <sup>***</sup>
4. Stress				–

\* p < .05. \*\* p < .01. \*\*\* p < .001.

Table 1 shows that sense of coherence has significant positive correlation with well-being in overall, collectivistic culture, and individualistic culture. Sense of coherence with social support in both culture and individualistic culture has significant positive correlation; while, there is non significant correlation in collectivistic culture. Sense of coherence with stress in both culture and individualistic culture has significant positive correlation; while, there is non significant correlation in collectivistic culture. Social support has significant positive correlation with well-being in overall, collectivistic culture, and individualistic culture. Well-being has significant negative correlation with stress in overall, collectivistic culture, and individualistic culture.

Table 2  
*Regression analysis showing the Interaction Effect of Sense of Coherence and Social Support on Well-being and Stress (N = 200)*

Culture	Criterion	Predictor	Mod.	IE	R <sup>2</sup>	F	ΔR <sup>2</sup>	ΔF
Collectivist	Well-being	.20*	.25*	.23	.11	6.24**	.00	0.08
	Stress	-.08	-.31**	-.76	.10	5.96**	.00	0.91
Individualist	Well-being	.30***	.35***	1.49*	.29	19.94***	.03	4.34*
	Stress	-.16	-.36***	-1.40	.19	11.92***	.02	3.36
Total scores	Well-being	.27***	.30***	.80	.20	24.85***	.00	2.23
	Stress	-.13	-.38***	-1.87	.15	17.82***	.01	3.49

Note. Mod. = Moderator; IE = Interaction Effect (between sense of coherence and social support) \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

Moderated Regression analysis was computed to measure the moderating effect of social support on the relationship between sense of coherence and its outcomes in two cultures separately and then collectively. Result shows that social support positively predicts well-being. The Table showed that 7.6%, 21.3%, and 13.5% variance in the criterion variable can be accounted for in collectivistic culture, individualistic culture, and overall sample; respectively. Social support negatively predicts stress. Moreover, 10.3%, 17.5%, and 13.7% variance in the criterion variable can be accounted for by the predictors with in collectivistic culture, individualistic culture, and overall sample; respectively. Similarly, sense of coherence positively predicts well-being and 5.4%, 19%, and 11.7% variance in the criterion variable can be accounted for by the predictors in collectivistic culture, individualistic culture, and overall sample; respectively.

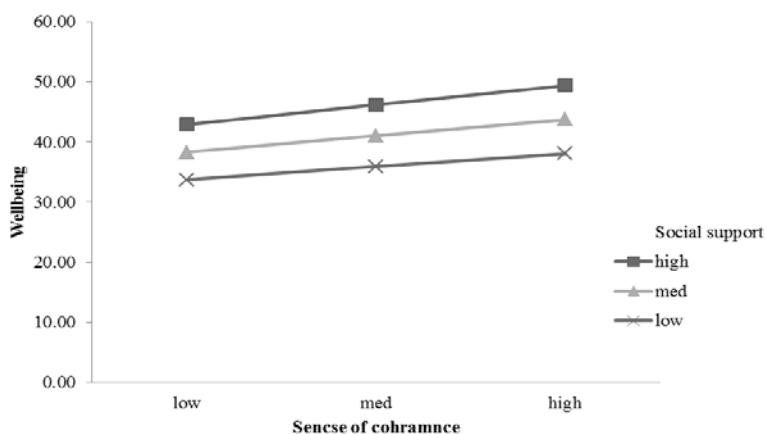




Figure 1. Mod-Graph showing the moderating role of social support in the relationship between sense of coherence and well-being.

Regression analysis is computed to measure the moderating effect of social support on the relationship between sense of coherence and well-being in individualistic culture and z-score was computed to calculate moderating effect. Sense of coherence and social support were entered in regression equation to examine main effect of both variables on the prediction of well-being in collectivistic culture. Results showed significant positive main effect of sense of coherence and social support on well-being. In next step, moderation effect of social support calculated. Results showed significant moderation effect of social support on the relationship between sense of coherence and well-being. The value of  $R^2$  change explains variance of 31% by additional effect in well-being.

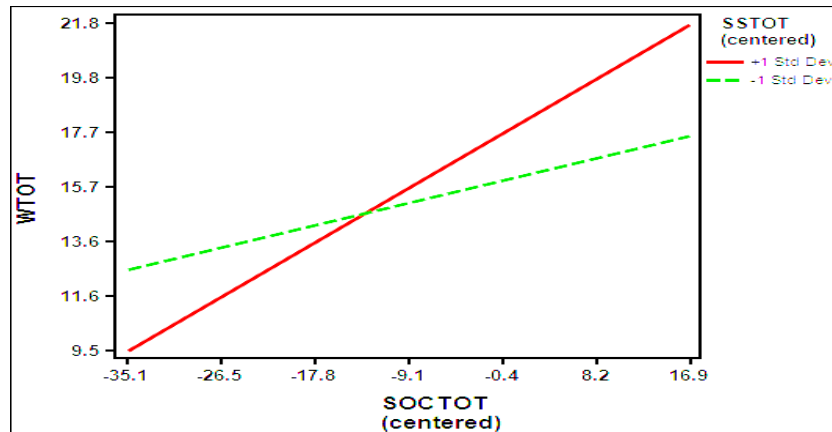


Figure 2. Interaction chart showing the interaction effect of social support and sense of coherence on the prediction of well-being among students.  
 Note. SOCTOT = Sense of Coherence Total; WTOT = Well-being Total; SSTOT = Social Support Total

The present study aimed to examine the role of sense of coherence and social support in the prediction of well-being and stress among students of a collectivist and individualist cultures. The study also investigated the moderating role of social support in the relationship between sense of coherence and well-being. Three of the hypotheses were supported in the present study while fourth hypotheses was partially supported. The present study was based on the theory of sense of coherence proposed by Antonovsky (1987) who stated that sense of coherence is ability in a person to cope with stressors and increase well-being. The findings contribute to the theory in terms of the role of sense of coherence in increasing well-being and decreasing stress.

## Discussion

In the present study, four main variables were studied including sense of coherence, social support, well-being, and stress. Correlation coefficients were obtained in the desired directions providing support for convergent and divergent validity of the constructs used in the present study. All the hypotheses were tested by employing moderated regression analysis.

The first hypothesis of the present study that sense of coherence will positively predict well-being in individualistic and collectivistic culture is supported by the findings indicating that sense of coherence in overall sample as well as in both cultures separately is an important predictor of well-being. These findings are consistent with the previous evidences that suggest sense of coherence contributes mental health and well-being (Antonovsky, 1987; Rothmann, 2003). Moreover, good deal of literature is also evident that sense of coherence is an excellent predictor of well-being and increases the individual's coping recourses to deal with stressful situations in a better way (Bezuidenhout & Cilliers 2010; Rothmann, Jackson, & Kruger, 2003; Rothmann, Steyn, & Mostert, 2005).

Besides sense of coherence, social support (perception of support from family, friends, and significant others) is also anticipated as a predictive factor for well-being. This hypothesis also receives support in the present study. Consistent research evidences show that social support is an important predictor of well-being (Henley, Danziger, & Offer, 2005; Harknett 2006; Thoits, 1985). Ryan et al. (2009) stated that people getting support from their close relationship (as there is a network of friends and significant others) enjoy good mental health. Researchers claimed that need for social relationship is fundamental factor in human life as human beings are social animals and they are unable to spend healthier life without social networks (Baumeister & Leary, 1995; Reis, Collins, & Berscheid, 2000) and these social relationships are essential to maintain psychological well-being (Berkman, 1995; Berkman, Glass, Brissette, & Seeman, 2000). The current findings are more important for a collectivist society like Pakistan where these social networks are already available as an inbuilt mechanism of the culture. In the present study, most of the Pakistani students belonged to extended families which exhibit strong and stable relations among family members and consequently serving as a facilitator to enhance well-being among students.

Besides ensuring well-being, social support also serves as a shield to prevent students from the negative effects of stress. The third hypothesis that social support will negatively predict stress in individualistic and collectivistic culture also acquired support from the results. Many evidences support the hypothesis of the present study and confirm that social support has direct effect on life stressors and mental health (Bruhn & Phillips, 1984; House, 1981; Lin, 1986). Thus, in the light of the present findings, social support networks including family, friends, and significant others should be effectively incorporated while designing different anti-stress strategies for students.

Along with the direct effect of sense of coherence and social support on well-being, the study also investigated the interaction effect of these variables. The fourth hypothesis that social support will moderate the relationship between sense of coherence and well-being in individualistic and collectivistic culture is partially supported in this study. Social support moderated the relationship between sense of coherence and well-being in individualistic culture but not in collectivistic culture. According to Cohen and Wills (1985) social support moderates the effect on well-being (Biggam, & Powers, 1997). Moreover, social support protects persons from the potentially deleterious influence of stressful events (Cohen & Wills, 1985). People having more interpersonal contacts and social support can protect their mental health and wellbeing as the social support directly affect wellbeing and may be a barrier against the experience of stress (Nelson, Dell'Oliver, Koch, & Buckler, 2001). According to the social buffering model (Cohen & Wills, 1985); the confidence that others are available for facilitate and providing necessary resources can alter the perception of challenges, may enhance the ability to cope and ultimately increase the wellbeing (Wethington & Kessler, 1986).

In the present study, social support did not moderate the relationship sense of coherence and well-being in collectivistic culture. It can be due to cultural differences because studies showed that social support is sensitive to the cultural context (Gurung, 2006). Taylor et al. (2004) portrayed a very interesting picture depicting that Asians are less likely to use social support to deal with life stressor and enhancing wellbeing than individuals from individualistic societies like European-Americans. Chu, Kim, and Sherman (2008) pointed out that Asians are more concerned with group harmony. They perceive that seeking social support while dealing with personal stressor may cause a serious relational consequences and group criticism. Hence, there may be a major concern of relational harmony that discourages them to use support of their loved ones.

### **Limitations and Suggestions**

Present study instils some limitations. First, main problem detected in both cultures during the research was the problem of language barrier because in both cultures first language was not English such as in Pakistan native language is Urdu while among Germans native language is Germane. Therefore data collection procedure became difficult. Secondly sample from both countries was collected from limited locales so therefore nation wise generalizability is not possible. Third, data was collected through self-report measures which may raise the questions of social desirability. Finally, common method variance may also affect the findings; while, cross-sectional designs usually have low internal validity, thus triangulation could be more appropriate. For future researches translation and validation of the scales according to the culture native language can be helpful to collect the more authentic information from the participants. Presence of researcher in both cultures during data collection is an important factor to be considered. The present study was based on one individualist and one collectivist culture. Future research may focus on two individualistic or two collectivistic cultures in a single investigation. Most specifically future cross-culture research should focus on general resistance resources model of sense of coherence. Finally, it would be more important to consider other countries which are not yet researched on the construct of sense of coherence.

### **Implications**

Implication of the present research can be subdivided into two parts that is, theoretical significance and applied significance. As far as the theoretical implications are concerned, present study supported the existing literature on theory of Antonovsky (1987) and made a significant contribution in the existing prior literature. Moreover, moderating role of social support in the relationship between sense of coherence and well-being was investigated. The findings supported the conceptual model and provided worthy addition in the existing literature on the theory of sense of coherence. It is worth mentioning that present study grasps applied significance for students of individualistic and collectivistic culture. It explained how sense of coherence and social support contribute in reducing stress and enhancing well-being among students. This study is also important to

understand that in which manners students of individualistic culture are different from collectivistic culture and on what protocols they are similar to each other.

### Conclusion

In Pakistani context, the present study is an initiative to investigate sense of coherence and associated variables from a cross-cultural perspective. Overall hypotheses were supported in the present study and confirmed the previous literature in this context. Results showed that sense of coherence is a positive predictor of well-being among students both from individualistic and collectivistic cultures; while, social support positively predicted well-being and negatively predicted stress in both cultures. The results indicated that social support moderated the relationship between sense of coherence and well-being in individualistic culture but not in collectivistic culture.

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