School context and health in adolescence: The role of sense of coherence

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Abstract

The aim of this study was to examine the role of school variables and sense of coherence (SOC) in the explanation of health. For this purpose, data were collected from a representative sample of adolescents, aged 13 to 18 years, selected for the Health Behaviour in School-aged survey in Spain. Using Structural Equation Modelling, three nested models were tested that represented different hypothesised models of the relationships among school factors, SOC and health. According to goodness-of-fit indices, in the best model, school-related stress and SOC mediated the influence of support from classmates and teachers on health, and SOC had a direct effect on stress. The results supported the idea that a supportive school climate and SOC are relevant to adolescents' health. Furthermore, SOC was the most influential variable; apart from its direct positive effect on health, SOC seemed to condition the degree to which students perceived school demands to be stressful. Specifically, students with a high SOC were less likely to suffer from high levels of school-related stress.

Keywords: school context; sense of coherence; health; adolescence.

School is one of the most frequently studied developmental contexts in adolescent well-being. Supportive school environments, characterized by a positive climate, feelings of belonging and security, and high levels of support and participation, can act as health-promoting settings (Eccles & Roeser, 2011). Teachers and classmates seem to be important agents in the provision of such a supportive climate that, in the end, promotes the adolescents' health and well-being (Gådin & Hammarström, 2003; McLellan, Rissel, Donnelly & Bauman, 1999).

Some studies have drawn a parallel between the work context in adult life and the school context in previous developmental stages (Gådin & Hammarström, 2003), emphasising the importance of school demands as normative stressors in adolescents' lives. Thus, as a balance between job demands and employee resources and support from superiors and co-workers is beneficial for health among adults, an appropriate balance between school demands and support from teachers and classmates is significantly associated with students' well-being.

Similarly, consistent with the findings that work stress and conflictive relationships with co-workers lead to negative health outcomes, conflictive relationships with peers in the school context, demands perceived as too high (Gådin & Hammarström, 2003) and high levels of school-related stress (Hjern, Alfven & Östberg, 2008; Murberg & Bru, 2004; Natvig, Albrektsen & Qvarnstrøm, 2003) can have negative effects on adolescents' health. The likelihood of experiencing psychosomatic symptoms decreased if high levels of support from teachers were reported (Due, Lynch, Holstein & Modvig, 2003).

The aforementioned findings suggest a model in which the perceived level of school demands would have an effect on students' well-being. Support from

classmates and teachers would act as a positive resource that would increase the likelihood that students perceive school demands and available resources to be balanced, and this perceived balance would reduce the likelihood of experiencing negative stress-related effects on health.

However, the transactional approach in the study of stress and coping (Lazarus & Folkman, 1984) emphasises the importance of the interaction between the environment and the individual in cognitive appraisals of situations, thereby underlining the importance of including individual variables in investigation of the associations among potentially stressful situations, coping strategies and health.

Sense of coherence (SOC) is considered to be a key variable in the study of individual differences on health and coping (Antonovsky, 1987; Eriksson & Lindström, 2006, 2007). In adult populations, SOC has been found to condition adaptation to a wide variety of life demands (Lindström & Eriksson, 2010), including workplace demands (Albertsen, Nielsen & Borg, 2001; Feldt, 1997). In contrast, the relationship between SOC and school experiences has rarely been examined, although research on social support, school-related stress and health has shown limited contextual effect of shared classroom environment, which demonstrates the importance of individual factors (Torsheim, Aaore & Wold, 2003). Furthermore, to our knowledge, no previous research has explored the role of SOC in understanding the links between school support, school-related stress and health. Consequently, including SOC in these analyses may contribute to a more comprehensive understanding of these phenomena.

In the present study, we utilised the salutogenic model (Antonovsky, 1987) as a conceptual framework to understand the relationships among perceived support at school, school-related stress and adolescent health. A brief description of the model and its main principles applied to the present study is presented below.

The salutogenic model

The salutogenic model proposes two concepts to explain how people's health is created and maintained: General Resistance Resources (GRRs) and SOC.

GRRs are biological, material and psychosocial factors that help people to develop a view of the world, the SOC, in which events are interpreted as comprehensible, manageable and meaningful. GRRs are varied and include not only individual and material resources (such as self-efficacy, intelligence or money) but also relational resources, such as social support (Wolff & Ratner, 1999).

GRRs facilitate the development of SOC because they increase the likelihood of experiencing consistency, load balance and active participation in everyday life (Antonovsky, 1987). Accordingly, some researchers have turned to the developmental contexts to explore the origins of SOC during adolescence. These works suggest that the proximate contexts in which adolescent lives take place play an important role in SOC development (García-Moya, Rivera, Moreno, Lindström & Jiménez-Iglesias, 2012; Marsh, Clinkinbeard, Thomas & Evans, 2007; Olsson, Hansson, Lundblad & Cederblad, 2006).

Regarding school, it seems that positive school characteristics, such as high levels of support from classmates and teachers and feelings of belonging and

security, can be seen as GRRs that tend to have a positive influence on SOC levels (Bowen, Richman, Brewster & Bowen, 1998; Natvig, Hanestad & Samdal, 2006). According to self-determination theory (Ryan & Deci, 2000), the positive impact of teacher and classmate support on school and life satisfaction has been attributed respectively to their potential to promote competence and autonomy among the students and to meet the students' need for relatedness (Danielsen, Samdal, Hetland & Wold, 2009). The former is consistent with the salutogenic-derived hypothesis that support from classmates and teachers may strengthen SOC by increasing the likelihood of so-called SOC-promoting experiences (consistency, load balance and active participation) at school.

In addition, a growing number of studies support the idea that SOC significantly influences health and quality of life (Eriksson & Lindström, 2006, 2007). Strong associations have been found between SOC and health behaviours during adolescence, too (for a revision, see Rivera, García-Moya, Moreno & Ramos, 2012).

There are three pathways through which SOC has been hypothesised to influence people's health and well-being (Antonovsky, 1987). First, SOC can affect the individuals' appraisals of everyday life situations as more or less stressful. Second, SOC is considered to condition the selection and use of coping strategies. Finally, when strain occurs, SOC could affect the degree to which strain leads to negative health outcomes.

Several works have examined the relationships between SOC and school-related stress (Moksnes, Rannestad, Byrne & Espnes, 2011; Natvig et al., 2006; Torsheim, Aaroe & Wold, 2001). Some of their findings are consistent with

Antonovsky's formulation, suggesting that SOC may condition people's appraisals of situations, thereby reducing the likelihood of experiencing stress (Torsheim et al., 2001).

Presentation of the hypothesised models

The general aim of this study was to explore the role of SOC in the relationships between school variables and health. By doing so, the present study advances research on two relatively unexplored issues: the analysis of school support as a potential source of SOC and the examination of the relationships between school-related stress and SOC in the explanation of health.

To address these objectives, this study tested several hypothesised models that represent different patterns of relationships among school support, school-related stress, SOC and health (see Figure 1). The strategy of competing nested models was used, taking as a starting point a simple model in which support at school affects health through school-related stress and SOC has an independent direct effect on health (Model 1). In Model 2, SOC was hypothesised to mediate the effects of teacher and classmate support on health, which is a natural development of the model if support at school is considered a GRR, as suggested by the salutogenic framework and some of the aforementioned findings (e.g., Natvig et al., 2006). Finally, in Model 3, SOC was hypothesised to have a direct effect on stress, as indicated by the literature that suggests that SOC could condition people's appraisals of situations as more or less stressful (Antonovsky, 1987; Torsheim et al., 2001).

Although the possibility existed that support from teachers and classmates might have additional direct effects on health, these effects were not initially

modelled for the sake of parsimony. Given the previously observed associations among support from classmates and teachers and both school-related stress and SOC, it seemed likely that support effects would mainly be mediated by these variables.

Figure 1

Method

Participants

This study is part of the 2010 edition of the international WHO *Health Behaviour in School-aged Children* (HBSC) study (Currie et al., 2009) in Spain, a survey with content and procedures that have been approved by the Research Ethical Committee of the University of Seville.

A random multi-stage sampling stratified by conglomerates that took into account geographic area (mirroring the current percentages of students from the northern, eastern, central and southern regions of Spain), type of school (mirroring the proportions of state and private schools in the four geographic areas, which resulted in 62.9% state schools and 37.3 private schools) and educational level (a balanced representation of students from each of the three pairs of grades distinguished in Spanish secondary education) was employed in order to ensure the representativeness of the sample. From the original sample, 7580 adolescents aged 13 to 18 years who had completed the SOC-29 Scale were selected (48.9% boys and 51.1% girls). Response rate was 85.43%.

Measures

Relevant variables for the purpose of this study were selected from the HBSC Spanish questionnaire of the 2010 edition. The following variables were included:

School-related variables.

Classmate support, teacher support and school-related stress were measured. Classmate support was evaluated through a 3-item scale that included items such as *Most of the students in my class(es) are kind and helpful* and *Other students accept me as I am*. Teacher support was measured with a 5-item scale that included items such as *My teachers are interested in me as a person* and *My teachers encourage me to express my own opinions in class*. Items in both scales were answered on a 5-point Likert-type scale. Measures on teacher and classmate support have been developed and validated within the international HBSC network (see Torsheim, Wold & Samdal, 2000). In the SEM model, the items of these two scales were used as indicators of two latent factors: classmate support and teacher support. Finally, school-related stress was evaluated by the question *How pressured do you feel by the schoolwork?* in which students were asked to select an option from 1- *Not at all* to 4- *A lot*.

Sense of coherence (SOC).

This variable was measured by using the SOC-29 Scale (Antonovsky, 1987), which consists of 29 items answered in a 7-point Likert-type scale with bipolar anchoring phrases. This scale provides a global SOC score (the average of the answers given to the 29 items), as well as separate scores for each component: comprehensibility, manageability and meaningfulness. An example of the items in the comprehensibility component is *Do you have the feeling that you are in an*

unfamiliar situation and don't know what to do?, with answer values from 1 *(very often* to 7 *(very seldom or never)*. The manageability component was assessed by items such as *What best describes how you see life* from 1 (*One can always find a solution to painful things in life)* to 7 (*There is no solution to painful things in life)*. Finally, an example of items tapping into the meaningfulness component is *How often do you have the feeling that there's little meaning in the things you do in your daily life?* from 1 (*very often*)to 7 (*very seldom or never)*. When necessary, items are reverse-coded so that higher scores indicates stronger SOC or a stronger that component the item represents. In the SEM analysis, mean values in the three subscales of the SOC-29 were used as indicators for a latent factor representing the SOC.

Global Health Score.

The following aspects of physical and psychological well-being were measured: self-rated health, ranging from 1 (*poor)* to 4 (*excellent)* (Idler & Benyamini, 1997), life satisfaction, ranging from 0 to 10 (Cantril, 1965), health-related quality of life, consisting of 10 items with a 5-point Likert-type response scale (Ravens-Sieberer & The European Kidscreen Group, 2006), and psychosomatic complaints, consisting of 8 items representing psychosomatic symptoms, with symptom frequency reported on a scale from 1 (a*lmost everyday)* to 5 (s*eldom or never)* (King, Wold, Tudor-Smith & Harel, 1996). In previous research, a global health score from these four indicators was developed using a representative sample of Spanish adolescents (Ramos, Moreno, Rivera & Pérez, 2010). Both exploratory and confirmatory factor analyses demonstrated that these indicators loaded on a unidimensional global health score, which has the advantage of taking into account both physical and psychological aspects of

health. In addition, this measure has been shown to be a reliable and valid measure of health in assessing gender, age and socioeconomic health differences among adolescents from several countries (Ramos, Moreno, Rivera, Gaspar & Morgan, 2012). Drawing on that empirical background, the adolescents' scores in each of the four measures that comprise the global health score were employed as indicators to obtain the latent factor Global Health in the SEM analysis.

Procedure

Information and Communication Technologies (ICTs) were used in data collection. Specifically, a computer-assisted web interviewing (CAWI) system was employed that allowed students to fill out the questionnaires over the Internet. This computer-assisted procedure made it possible to automatically incorporate answers into the project database, thus reducing potential human errors associated to data computerization. In accordance with the HBSC international standardised procedure (Roberts et al., 2009), questionnaires were filled in by the students during a regular school hour and students' anonymity was guaranteed.

Statistical analysis

Pearson-*r* correlations were used to obtain a descriptive analysis of the relationships between all the examined indicators. Afterwards, the different hypothesized models described in the introduction section were assessed through Structural Equation Modelling (SEM) using Maximum Likelihood estimation with EQS 6.1. All the observed variables were standardised prior to model estimation.

The strategy of comparing competing nested models was employed. The three hypothesised models were tested and compared in terms of their goodness of

fit. Chi-square differences were used to compare the changes in fit among the three nested models. In addition, several alternative indices were used because of their relatively decreased dependency of sample size and their ability to penalise the lack of parsimony in the models (Abad, Olea, Ponsoda & García, 2011; Hu & Bentler, 1999): NNFI or TLI; CFI; RMSEA; and SRMR. According to Hu and Bentler (1999), NNFI and CFI values of 0.95 or higher, RMSEA values lower than 0.06 and SRMR of 0.08 or less are desired in a good fitting model. To reduce the disadvantages associated with large sample size (especially the risk of Type I Error) and to obtain a more reliable estimation of goodness-of-fit indices, bootstrapping techniques were used. In particular, 100 processes of resampling with replacement were conducted with random subsamples of 200 individuals, a sample size that has been considered critical in preventing unwanted increases in the model sensitivity due to large sample size (Hoelter, 1983).

Results

The correlation matrix for the observed indicators used in estimating the structural equations is presented in Table 1.

Table 1

Preliminary analysis of the measurement model was conducted by allowing the four latent factors consisting of multiple indicators to correlate. Appropriate goodness-of-fit indices are indicative of unidimensionality for each of the latent factors. In this analysis, the obtained indices supported goodness of fit: NNFI= .95, CFI= .96, RMSEA = .04 (90% CI= .040, .044) and SRMR = .03. In addition, factor-loading-based composite reliability for each of these factors

was calculated, and the following results were obtained: .73 for classmates

support, .85 for teacher support, .80 for SOC and .63 for health.

As for the structural model, the three hypothesised models were tested as a

series of nested models. Table 2 shows the absolute fit indicator chi-square for

each of the models as well as the χ^2-difference statistic employed for the

comparison between alternative models. In Table 3, alternative fit indices are

calculated for each model. Mean values and standard deviations resulting from the

bootstrapping procedures are reported in both Table 2 and 3.

Table 2 and Table 3

As shown in Tables 2 and 3, the initial model, in which classmate support

and teacher support were hypothesised to affect adolescents' health via school-

related stress and in which SOC had an independent direct effect on health,

showed a poor fit. The incorporation of the influence of classmate support and

teacher support on SOC, in Model 2, led to a significant improvement of fit (p

<.001), but the goodness-of-fit indices did not reach acceptable levels. Finally,

Model 3, which included a possible effect of SOC in the perception of school

demands as stressful, showed another significant improvement in fit (p <.001),

and was the only model that showed a good fit to the data, as indicated by all the

examined goodness-of-fit indices (see Table 3).

Figure 2 shows the path standardised coefficients of Model 3. The analysis

of path coefficients and effect decomposition showed significant direct effects (p

<.001) of classmate support and teacher support on stress and on SOC. School-

related stress had a negative direct effect on health. Finally, SOC had a negative

direct effect on stress and a positive direct effect on health. Furthermore, the

Sobel Test indicated that SOC and school-related stress functioned as partial mediators in the model ($p <. 001$). Significant indirect effects of classmate support and teacher support on health via stress (B= 0.07, $z = 5.16$ and B= 0.09, z = 6.10, respectively) and via SOC (B = 0.09, $z =8.27$ and B = 0.06, $z = 8.04$, respectively) were found. Furthermore, in addition to its aforementioned direct effect on health, SOC significantly affected health through stress (B = 0.14, $z = 7.39$, $p < .001$).

Figure 2

Overall, the model accounted for 61.4% of the variance in school-related stress, 15.3% of the variance in SOC and 74.4% of the variance in the global health score.

Discussion

The present study was designed to investigate the relationships among school variables, SOC and adolescent health. Specifically, the potential contributions of school variables in shaping SOC were examined and the relationships among support at school, school-related stress and SOC in explaining health were analysed.

School variables and SOC

The results support the hypothesis that significant relationships exist between school variables (classmate support, teacher support and school-related stress) and SOC levels.

A supportive school environment seems to play a significant role in shaping SOC, since support from classmates and teachers had a direct effect on SOC, accounting for 15.3% of the variability in SOC scores. This finding

coincides with previous research on this topic (Bowen et al., 1998; Natvig et al., 2006), and is in line with the original theoretical formulation by Antonovsky (1987) with respect to SOC-promoting experiences, where social support was considered a key element. The importance of social support in the development of a strong SOC has also been pointed out by Wolff and Ratner (1999).

On the other hand, a negative association was found between SOC and school-related stress. Although the cross-sectional design of the study does not allow conclusions about the direction of the relationship between these variables, these results, as well as the results of previous research (García-Moya, Moreno, Rivera, Ramos & Jiménez-Iglesias, 2011; Torsheim et al., 2001), seem to indicate that SOC may condition adolescents' appraisals of school demands.

This view can be understood in light of the formulations about stress and coping by Antonovsky (1979), and Lazarus and Folkman (1984). Taking into account both approaches, SOC could be seen as a variable that conditions the primary and secondary assessments of the situations that the coping process involves, thus resulting in more or less threatening assessments of the situations and higher or lower levels of confidence in the availability of the necessary coping resources that, in the end, would lead to different stress levels. Therefore, adolescents with a strong SOC would be less likely to perceive school demands as stressful, because of their tendency to interpret the events in terms of order and comprehension, as well as their confidence that they could face those demands successfully. Conversely, similar school demands would result in higher levels of stress for adolescents with a low SOC, which could be attributed to their difficulties in understanding and making sense of the situation and their lack of confidence on their ability to respond to it successfully. Consistent with this view,

a supportive school environment also tended to reduce the likelihood of perceiving school demands as stressful, not only by reinforcing SOC, but also through a direct effect on school-related stress. Together, support at school and SOC explained 61.4% of the variability in school-related stress.

Support at school, school-related stress and SOC in the explanation of health

School variables and SOC showed a significant influence on adolescents' health, representing 74.4% of the variability in adolescents' global health scores.

More precisely, school-related stress showed significant direct associations with health. These results are consistent with other works that have found associations between high levels of stress and negative effects on adolescents' well-being (Gådin & Hammarström, 2003). In addition, scientific findings have demonstrated the relationship between support at school and positive health outcomes (Carter, McGee, Taylor & Williams, 2007; Danielsen et al., 2009). Similarly, in this study, classmate support and teacher support also contributed to the explanation of variance in adolescents' health, but sources of support exerted their influence via SOC and school-related stress. Thus, a supportive school environment seemed to contribute to adolescents' health through two different pathways: their positive contribution of the supportive school environment to SOC levels and the reduction of adolescents' likelihood of experiencing school-related stress (both directly and by reinforcing SOC). Despite the different nature of teacher (formal and school-centred) support and classmate (informal and more broad) support, both sources of support seemed to be complementary in the facilitation of positive health outcomes.

Finally, SOC not only had the largest direct effect on health, but also seemed to affect adolescents' perceptions of school-related stress and thus had a double impact on adolescents' health. These results support the idea that strong relationships between SOC and health exist in adolescence as well as in adulthood (Eriksson & Lindström, 2006; Mosknes, Espnes & Lillefjell, in press; Nielsen & Hansson, 2007). Moreover, these results underscore the relevance of SOC in understanding health and the connections between SOC and experiences from proximate contexts, such as school.

Strengths and limitations

This work has some limitations that should be taken into account in interpreting the results. First, the cross-sectional design of the study does not allow definitive conclusions regarding the direction of the examined relationships. Previous research has shown complex reciprocal relationships among some of the variables examined here (Torsheim et al., 2003), and different pathways for the association between SOC and school-related stress have been proposed. Therefore, although the finding that SOC could condition the adolescents' appraisals of school demands as more or less stressful is consistent with the theoretical formulations by Antonovsky (1987), the literature on the relationships among SOC, school-related stress and health would benefit from longitudinal studies. Second, caution is needed with respect to the proposed model, given that SEM is a confirmatory technique. Thus, although the included variables and their relations were proposed on the basis of scientific literature and research findings, other variables that are not present in the model may account to some extent for some of the observed relations, and consequently, alternative models might exist that also appropriately fit the data. Nevertheless, testing competing nested models

based on existing literature on the topic of interest, as in the present study, is considered the most useful strategy to reduce the aforementioned risks associated with the confirmatory nature of SOC (Hair, Anderson, Tatham & Black, 2009).

In addition, this study provides interesting findings about the relationships between the school context and adolescent health. Additionally, it examined an unexplored topic, since SOC had rarely been included in this kind of analysis. Furthermore, this work was carried out with a large sample of adolescents and the use of SEM has made it possible to analyze an interesting set of variables and their interrelations simultaneously, providing a meaningful picture of the relationships between school variables and SOC in explaining adolescent health.

Conclusions and implications

The results from this study indicate that school experiences not only have a direct impact on adolescents' health but also seem to have the potential to provide meaningful support experiences that can contribute to the development of a strong SOC. This work also indicates that SOC, apart from having a strong direct effect on health, seems to minimise the perception of life demands as threatening or stressful, which prevents high levels of stress and their negative effects on health.

Some life experiences have a positive influence on shaping SOC.Regarding the school context, support from teachers and support from classmates seem to be key elements during adolescence. Given that school is one of the most promising contexts for health promotion, interventions aimed at creating positive relationships between the school community members and transforming schools into supportive environments should be encouraged. Moreover, further research should examine the school in investigating the key

factors in the development of a strong SOC. Identifying those resources is essential for designing effective health promotion interventions that increase adolescents' health assets, and consequently, improve the ability of adolescents and adults to lead healthy lives.

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Table 1

Pearson-r correlations among the observed variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CS 1	-	.50*	.36*	.18*	.16*	.16*	.15*	.15*	-.07*	.16*	.12*	.13*	.13*	-.10*	.18*	.15*
CS 2	-	-	.51*	.23*	.20*	.20*	.20*	.22*	-.07*	.19*	.16*	.15*	.13*	-.14*	.20*	.20*
CS 3	-	-	-	.17*	.13*	.14*	.15*	.12*	-.08*	.30*	.22*	.25*	.17*	-.16*	.22*	.26*
TS 1	-	-	-	-	.55*	.55*	.55*	.50*	-.18*	.18*	.14*	.20*	.08*	-.10*	.20*	.18*
TS 2	-	-	-	-	-	.54*	.50*	.57*	-.21*	.19**	.17*	.19*	.10*	-.14*	.21*	.17*
TS 3	-	-	-	-	-	-	.59*	.53*	-.15*	.18*	.12*	.20*	.06*	-.08*	.19*	.16*
TS 4	-	-	-	-	-	-	-	.55*	-.17*	.18*	.15*	.21*	.10*	-.08*	.19*	.18*
TS 5	-	-	-	-	-	-	-	-	-.19*	.18*	.13*	.22*	.06*	-.08*	.20*	.15*
Stress	-	-	-	-	-	-	-	-	-	-.23*	-.19*	-.21*	-.11*	.18*	-.23*	-.17*
SOC										-	.50*	.71*	.29*	-.33*	.37*	.45*

Ma						
SOC C	-	.42*	.27*	-.33*	.29*	.40*
SOC Me	-	.26*	-.26*	.37*	.45*
SRH			-	-.23*	.30*	.32*
PSS				-	-.23*	-.26*
QoL					-	.41*
LS						-

Note: CS= Classmate support; TS= Teacher support; SOC C=Comprehensibility; SOC Ma= Manageability; SOC Me=

Meaningfulness; SRH= Self-rated health; PSS= Psychosomatic symptoms; QoL= Quality of Life; LS= Life Satisfaction.

* *p* <.001

Table 2

Comparison of nested models using χ^2-difference statistic

	Model 1	Model 2	Model 3
χ^2	188.08	160.29	151.60
df	99	97	96
p	.12	.10	.24
χ^2-*difference*	-	27.79*	8.69*
df-difference	-	2	1

* Significant improvement in model fit: $p < .001$.

Table 3

Summary of goodness-of-fit indices for the tested models

| Model	NNFI	CFI	RMSEA	RMSEA 90%CI (LB)	RMSEA 90%CI (UB)	SRMR
Model 1	.914(.11)	.918(.08)	.053(.02)	.043(.02)	.074(.02)	.114(.01)
Model 2	.942(.05)	.948(.03)	.044(.02)	.027(.02)	.063(.01)	.063(.01)
Model 3	.973(.07)	.963(.03)	.034(.02)	.020(.01)	.059(.01)	.058(.01)

Note: Robust indices are used with the exception of SRMR. For each index, bootstrapped means and standard deviations (between parentheses) are reported.

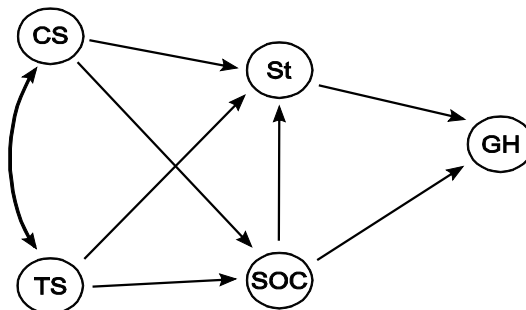*Figure 1.* The three hypothesised models

Model 1
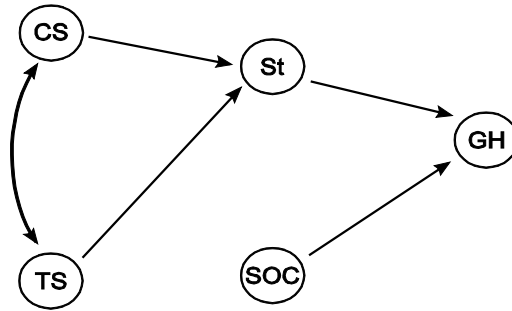
Model 2
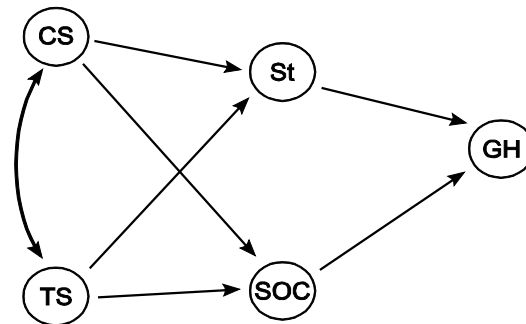
Model 3

Note: CS= Classmate support; TS= Teacher support;
St= School-related stress; GH= Global health

Figure 2. Standardised path coefficients for Model 3