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Research Paper

Social Support Perception of Early, Middle and Late Adolescents, and Its Impact on Physical Health Symptoms

Elsa Lumia Da Costa[1]*, S.G. Jadhav[2]

ABSTRACT

Adolescence as a developmental period is characterised by tremendous physiological and psychosocial change. Post-childhood, adolescents report a decline in social support and an increase in physical health symptoms. Social support during adolescence, has been linked to health outcomes both concurrently and longitudinally into adulthood. Limited research has explored the differences in social support perception and its effect on physical health symptoms across stages of adolescence and sociodemographic characteristics. The purpose of study was to examine differences in social support perception across three developmental substages and three sociodemographic subgroups of adolescents (10 to 19 years); and to measure the impact of social support and sociodemographic factors on physical health symptoms across these subgroups. The Interpersonal Support Evaluation List and Cohen-Hoberman Inventory of Physical Health Symptoms were utilised for data collection in nine educational establishments in South Goa, India. Using purposive sampling, 1242 adolescents (651 females) representing early (n=408), middle (n=433), and late (n=401) adolescents participated in the study. Results reveal that social support was significantly lower among middle (14-16 years) compared to early (10-13 years) and late (17-19 years) adolescents; and lower among rural compared to urban adolescents. Gender and joint/nuclear family status did not differentiate social support perception. Social support, progression in stages of adolescence (age), gender, and residence (in order of unique predictive variance), independently explained physical symptoms. Higher physical health symptoms were associated with lower social support, later stages of adolescence/age, female gender, and rural residence. Social support was the most influential predictor of symptoms in early, middle, late, male, female, urban, rural, and adolescents from joint families. Among adolescents from nuclear families, being female was a greater predictor of health symptoms than social support. In early adolescents, after social support, residence explained next most independent variance in symptoms. While among middle and late adolescents, gender explained most added variance in symptoms, after social support. Findings highlight differences in social support perception, and the role of social support and sociodemographic variables on physical health symptoms of adolescents. Findings suggest that improving interpersonal support of adolescents may benefit their physical health. Multi-stakeholder interventions are discussed.

Keywords: *Stages of Adolescence, Social Support, Physical Health Symptoms*

[1]Department of Studies in Psychology, Karnatak University, Dharwad, Karnataka, India.
[2]Department of Psychology, Karnataka Arts College, Dharwad, Karnataka, India.
*Corresponding Author

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Social Support Perception of Early, Middle and Late Adolescents, and Its Impact on Physical Health Symptoms

Adolescence is a critical period of psychosocial and physical development, during which various factors go on to influence lifetime health outcomes (Sawyer et al., 2012; Hetlevik et al., 2020; Steinhausen & Metzke, 2007). Social support has been identified as one such key determinant of health during adolescence, and throughout the lifespan (Uchino, 2009). Adolescent health is associated with multiple social factors at the interpersonal, family, community, and national level (Viner et al., 2012). Social support encompasses the availability of meaningful interactions with family, peers or community, and support in the form of informational, emotional or tangible aid, or a sense of belongingness (Cohen et al., 1985). Healthy adaptation to physical changes, increased autonomy from parents, and identity formation in the context of self, family, peers and society are prominent developmental tasks of adolescence (Aro & Paronen, 1989). Social support can be valuable in helping adolescents navigate through these major changes.

Social support is beneficial during adolescent development in many ways. It has been associated to increased physical activity (Mendonca, 2014; Ren 2020), greater mental health (Qi, 2020), well-being (Chu et al., 2010), life satisfaction (Bi et al., 2021), school adjustment (Demaray et al., 2005), clearer sense of self (Becht et al., 2017) and personal growth and thriving throughout the life-course (Deci & Ryan, 2000). Other studies have demonstrated its association with increased positive feelings such as security and hope (Archer et al., 2019) and reduced anxiety, depression, loneliness among adolescents (Gallagher, 2022; Cavanaugh & Buehler, 2016; Liu et al., 2022; Rueger et al., 2016). Furthermore, hormonal processes of puberty influence the organisation of neural circuits for adult social behaviours too (Sisk & Foster, 2004).

The protective role of social support on physical health has evolutionary underpinnings, and has been widely researched for its applications in health and illness management (Eisenberger, 2013; Uchino et al., 2018). As children enter adolescence, they report a decline in social support (Larson & Richards, 1991). Adolescents go through tremendous physiological changes, the associated growth spurt after puberty is linked to the incidence of musculoskeletal problems and pain syndromes (LeResche et al., 2005; Wedderkopp et al., 2005). Other commonly reported symptoms include headaches, stomach aches, abdominal pain, and fatigue (Kelly et al., 2010; Agarwal & Rohatgi, 2023). Physical health symptoms such as stomach aches and headaches contribute greatly to perceived quality of health (Charles & Almeida, 2006).

Existing studies have demonstrated a link between low social support from parents, family, peers, school or community and greater physical health symptoms among adolescents (Agarwal & Rohatgi, 2023; Sarkissian et al., 2022; Grigaityte & Soderberg, 2021; Kim et al., 2015; Nygren et al., 2012; Gini et al., 2009; Låftman & Ostberg, 2006; Geckova et al., 2003; Torsheim & Wold, 2001; Pikó, 1998). Among adolescents, poor social support, cross-sectionally and longitudinally was linked to greater psychosomatic symptoms, more so among those who had experienced adverse life events (Berg et al., 2022; Ling et al., 2022; Aro & Paronen, 1989). Peer victimization or bullying, an antithesis of social support, during adolescence was associated with greater frequency and intensity of somatic complaints concurrently and longitudinally during adolescence, as well as longitudinally in young adulthood (Hager & Leadbeater, 2016; Malhi & Bharti, 2021; Sumter & Baumgartner, 2016; Hansson et al., 2020; Nixon et al., 2011). Other social determinants of physical symptoms among adolescents were family dynamics, conflicts and environments; conflicts and stressors from friendships and peers; school environments, community violence, loss of a

loved one, parental support, and quality of relationships (Marshall et al., 2017; Hart et al., 2012; Gebreegziabher et al., 2024; Karadema et al., 2008; Natvig et al., 1999).

In this era of the internet, adolescents are spending increasingly more time with screens, and less time with real-life interactions. Additionally, the age of onset in a number of chronic conditions is receding (Rashmi & Mohanty, 2023). Adolescence is a crucial period is associated with adult health, and thus is a crucial period for intervention. With this background, the present study explores the interplay between social, developmental and health/medical psychology. The aim is to understand differences in social support perception of adolescents across three stages of adolescence and sociodemographic subgroups. Subsequently, we investigate the role of these variables on physical health symptoms of adolescents across each of these subgroups. There is a gap in studies assessing these variables and hypotheses across all three stages of adolescence with the contemporary 10-to-19-year categorisation. The purpose of this study is to gain insights in order to inform future research, policy, practice and other important stakeholders such as educators and parents.

Objectives of the study

- Assess the difference in social support perception across each stage of adolescence (early, middle and late) and sociodemographic subgroup (male/female gender, urban/ rural residence, and nuclear/joint family type).
- Measure the effect of social support on physical health symptoms, and its effect after adjusting for sociodemographic variables (progression in stages of adolescence (age), gender, residence and family type).
- Assess the hierarchical effects of social support and sociodemographic variables on physical health symptoms across each stage of adolescence and sociodemographic subgroup.

METHODOLOGY

Sample

This cross-sectional study was conducted among healthy adolescents (10-19 years) from the general population in South Goa, India. Utilising purposive sampling, participants were recruited from four high schools (grade 5 to 10), three higher secondary schools (grades 11 and 12), and two colleges (first and second year of undergraduate courses). Quota sampling was used to stratify the sample on the following criteria: stage of adolescence (33.3% with approximately 400 each for early, middle and late adolescence), gender (50% with approximately 600 males and 600 females), and grade (approximately equal number of students from grade 5 through to the second-year of undergraduate courses).

A total of 1242 adolescents between the ages of 10 and 19 years old (WHO, 2025) participated in the study. The total sample was further classified into early (10-13 years, *n*=408), middle (14-16 years, *n*=433), and late (17-19 years, *n*=401) stages of adolescence (WHO, 2019). Male adolescents (*n*=591) made up 47.6% of the sample along with 52.4% females (*n*=651). The sample is representative of adolescents from eighty-one villages (*n*=853) and eight municipalities (*n*=382). The majority were from nuclear families (*n*=714), while the remainder were from joint families (*n*=364). The total sample size with complete records (not a single missing response) was *n*=1078.

Instruments

Research participants completed self-report questionnaires consisting of a sociodemographic form and two psychometric tests. These measures were as follows:

1. **Sociodemographic Schedule.** Participants self-reported sociodemographic details. Age and gender were recorded on open-ended items. Age was categorised into early, middle and late stages of adolescence (also: progression in developmental substages or stages of adolescence). Area of residence (urban, rural) and family type (nuclear, joint) were presented on closed-ended dichotomous response items.
2. **Interpersonal Support Evaluation List (ISEL-12).** ISEL-12 is a 12-item scale that gives a measure of overall interpersonal support and scores on three subscales: appraisal support, belonging support, and tangible support (Cohen et al., 1985). Each item consisted of four-point Likert response range with 1 - 'definitely false', 2 – 'probably false', 3 – 'probably true' and 4 – 'definitely true'. All scores were kept continuous. Items were scored positively for six items, while the other six items were reverse scored. Sample items of the scale which were scored positively include self-report on inquiries such as, "When I need suggestions on how to deal with a personal problem, I know someone I can turn to."; "If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me."; "If I were sick, I could easily find someone to help me with my daily chores." Sample items which were reverse scored include, "I feel that there is no one I can share my most private worries and fears with."; "I don't often get invited to do things with others."; "If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me." The Cronbach's α=.756 indicated acceptable reliability. For the present study, only the overall social support score was analysed.
3. **Cohen-Hoberman Inventory of Physical Symptoms (CHIPS).** This is a 33-item scale developed by Cohen et al. (1983) to obtain a total score of physical health symptoms. Respondents are required to indicate to what extent each of the symptoms in an item was a bother to them in the past two weeks. Responses are scaled on a 5-point Likert scale. With 0 representing that the respondent was not bothered at all by the problem, while 4 indicated that the problem had been an extreme bother. Eight subscales of the CHIPS classified by Allen and colleagues (2017) were included in the study. These were i) *Sympathetic-cardiac symptoms*: heart-pounding, chest pain, hands trembling, numbness or tingling, hot-cold spells, shortness of breath in the absence of physical exertion, blurred vision, and weakness; ii) *Muscular pain*: pulled muscles or ligaments, muscle pain, tension or soreness, back pain and other severe aches and pains; iii) *Metabolic symptoms*: sleep problems, weight change (loss or gain), loss of appetite, feeling fatigued or low energy; iv) *Gastro-intestinal symptoms*: constipation, diarrhoea, stomach pain or acidity, and nausea; v) *Vasovagal symptoms*: dizziness, faintness, systemic weakness and acne; vi) *Cold/flu*: cold, cough, and stuffy head or nose; vii) *Headache*: headaches, migraines; and, viii) *Minor haemorrhagic symptoms*: pulled ligaments, bruises and nosebleeds. The Cronbach alpha for the present study indicated very good excellent (α=.924).

Procedure

The principals/heads of nine educational institutes were approached to seek permission for data collection. Participants were debriefed about the purpose of study, informed about their rights as research participants such as the voluntary participation, confidentiality and withdrawal at any stage of the research. The researchers strictly adhered to ethical guidelines. Prior to commencement, the study received ethical clearance from the

institutional doctoral research committee. Data collection was scheduled at a time that did not interfere with regular classwork. A written informed consent from adolescents' parent/guardian and assent from adolescents were obtained. The following day, after debriefing, the sociodemographic schedule and psychometric tests were group-administered in classrooms. Instructions for completing each of the measures were clearly printed on the record form. Verbal instructions for the same were also provided. Respondents were instructed to answer the questions honestly, with no time limit, although completion took under 1 hour. Participants were encouraged to ask questions and clarify doubts, and were informed that they could withdraw participation at any time.

Hypotheses

Three general alternative hypotheses were formulated:

1. **H11.** Social support perception will differ on the basis of stage of adolescence, gender, residence, and family type.
2. **H12.** There will be a significant effect of social support on physical health symptoms, and an independent effect despite progression in stages of adolescence, gender, residence and family type.
3. **H13.** Social support will be the most influential predictor of physical health symptoms across each stage of adolescence and sociodemographic subgroup.

Specific hypotheses in each of the three general hypotheses were tested separately.

Data Processing and Analysis

Data was processed and analysed using IBM SPSS (Version 25). For cases with one or more missing values, listwise deletion command was used to eliminate the complete-case in every analysis. Cronbach's alpha (α) was computed for each scale to assess the reliability of the scaled responses. Descriptives statistics, viz. mean (*M*), standard deviation (*SD*) and mean difference (*MD*) in social support are reported. For evaluating statistical significance of differences between stages of adolescence, we utilised one-way analysis of variance (ANOVA) and calculated the omega-squared (ω^2) as a measure of effect size (Table 1). Bonferroni post hoc tests for pairwise comparisons are discussed. For comparing social support between two sociodemographic groups, were ran independent samples t-tests. Due to unequal sociodemographic group sizes, we calculated Hedge's *g* as a measure of effect size (Table 1).

We utilised three types of linear regression analyses based on the objective and hypothesis. The split file function was used to compare regression coefficients across different subgroups of the sample. Five explanatory variables were considered. Social support was measured on an interval scale. Age, categorised into early, middle or late adolescence, was treated as an ordinal variable, viz. progression in stages of adolescence, with (1 early, 2 middle, 3 late). Dummy variables (*k*-1) were created for gender (0 female, 1 male), residence (0 urban, 1 rural), and family type (0 nuclear, 1 joint). The outcome variable – physical health symptoms – was measured on a ratio scale. In all regression models, the Durbin-Watson values and tolerance statistics indicated no auto-correlation and no multicollinearity. General linear regression models were computed for measuring the effect of social support on physical health symptoms across stages of adolescence and sociodemographic subgroups of adolescents. The effect size β and the proportion of variance explained (R^2) are reported (Table 1 & Table 2). Next, we ran multiple linear regression (MLR) models to assess the effect of social support on symptom subscales after controlling for effects from progressing stages of adolescence (age), gender, area of residence and family type (Table 2).

Hierarchical multiple linear regression models were utilised to assess the relative predictive power and unique variance of each explanatory variable (social support, progressing stages in adolescence, gender, residence and family type) on the outcome of physical health symptoms. Hierarchical effects of explanatory variables were not hypothesized. The criteria for variable entry in the stepwise process were set as the probability of F-to-enter at ≤ .050, and for variable removal at the probability of *F*-to-removal at ≥ .100.

RESULTS

Table 1. presents results of (1) ANOVA and t-tests comparing social support across stages of adolescence and sociodemographic subgroups; (2) general linear regression coefficients measuring the effect of social support on physical health symptoms in each stage of adolescence and sociodemographic subgroup; and (3) multiple linear regression coefficients measuring the effect of social support, progression in stages of adolescence (age), gender, residence, and family type on physical health symptoms.

Table 1. Descriptives (M, SD), one-way ANOVA (F, ω^2) and independent samples t-tests (t, g) comparing social support across stages of adolescence and sociodemographic subgroups; and effects of social support (β, R^2) on physical health symptoms, after accounting for ($_{MLR}\beta$) progression in stages of adolescence and sociodemographic variables.

Social Support		**Early**	**Middle**	**Late**	***F***
Stage of Adolescence	***M* (*SD*)**	35.62 (6.81)	32.97 (5.51)	33.30 (6.30)	22.192* ω^2 = 0.033
	β R^2	-.584* .341	-.252* .064	-.373* .139	$_{MLR}\beta$ .207*
Gender		**Males**	**Females**	***t***	***g***
	***M* (*SD*)**	33.75 (6.40)	34.15 (6.35)	-1.134	0.064
	β R^2	-.444* .197	-.440* .194	$_{MLR}\beta$ = -.117*	
Area of Residence		**Rural**	**Urban**	***t***	***g***
	***M* (*SD*)**	33.48 (6.16)	35.14 (6.46)	4.344*	0.267
	β R^2	-.396* .157	-.486* .236	$_{MLR}\beta$ = .085*	
Family Type		**Nuclear**	**Joint**	***t***	***g***
	***M* (*SD*)**	34.13 (6.45)	34.31 (6.51)	-.498	0.032
	β R^2	-.407* .164	-.528* .277	$_{MLR}\beta$ = .028	

***** $p<.05$; Outcome Variable: Physical health symptoms. $_{MLR}$=Multiple linear regression $_{MLR}$ [$_{adj}R^2$=.263, $F(5,1064)$=77.247*]***

There was a significant difference in social support between every stage of adolescence, $F(2, 1237)$=22.192, p<.000, ω^2= 0.033. Early adolescents perceived significantly (Bonferroni-adjusted p<.05) greater social support than both middle (*MD*=2.64) and late (*MD*=2.316) adolescents. While, middle adolescents reported significantly lower social support than early and late (*MD*=.330) adolescents. Urban adolescents reported significantly greater support

than rural residents. Effect size *g* attributed 26.7% of the variance in social support to area of residence. Social support evaluation did not vary between males and female, nor between adolescents from nuclear and joint families. Thus, the HI 1. stating 'social support perception will differ on the basis of stage of adolescence, gender, residence, and family type' has been accepted for stages of adolescence and residence, and rejected for gender and family type.

General linear models revealed that social support was associated with fewer physical health symptoms among adolescents across each stage of adolescence and sociodemographic group. In terms of the substages of adolescence, the impact of social support on physical symptoms was the strongest among early adolescents (β=-.584) (34.1% variance) with moderate effect size, while, smaller effects are observed among late (β=-.373) and middle (β=-.252) adolescents. Effect sizes among male (β=-.444) and female (β=-.440) adolescents were small-to-moderate and similar. Moderate size effects of social support on symptoms were observed among adolescents from urban regions (β=-.486) and joint families (β=-.528), compared to slightly smaller effects on adolescents from rural regions (β=-.396) and nuclear families (β=-.407), respectively.

A multiple linear regression (MLR) model was computed to assess the combined effect of social support, gender, progressing stages of adolescence (age), residence, and family type on physical symptoms. The overall model was statistically significant, $F(5, 1064)=77.247$, $p<.000$, with all variables explaining 26.3% of the variance ($R=.516$, ${}_{adj}R^2=263$) in symptoms. After controlling for each variable, lack of social support (β=-.414), progression in stages of adolescence (β=.207), female gender (β=-.117) and rural residence (β=.085) significantly predicted increased physical symptoms. Conversely, increased social support, earlier stages of adolescence, male and urban adolescents reported much lower physical symptoms. Family type did not exert a significant influence on physical health symptoms after the effects of other variables were controlled. Based on general and multiple linear regression analyses, the H1 2. stating 'there will be a significant effect of social support on physical health symptoms, and an independent effect despite progression in stages of adolescence, gender, residence and family type' has been accepted. Next, we undertook these same analyses with each symptom subscale as the outcome variable.

Table 2. Results of general linear regression and multiple linear regression examining the effect of social support on physical health symptoms subscales.

Outcome Variable - Physical Health Symptoms & Subscales	**Explanatory Variable -** Social support			
	β	R^2	${}_{MLR}\beta$	${}_{MLR\ adj}R^2$
Total Symptoms	-.433*	.187	-.414*	.263
Sympathetic-Cardiac	-.377*	.142	-.382*	.201
Muscular Pain	-.346*	.120	-.328*	.174
Metabolic	-.374*	.140	-.377*	.255
Gastro-intestinal	-.333*	.111	-.344*	.191
Vasovagal	-.330*	.109	-.323*	.228
Cold/Flu	-.229*	.052	-.240*	.064
Headache	-.288*	.083	-.274*	.227
Minor Haemorrhagic	-.245*	.060	-.250*	.091

***** *p <.05;* ${}_{MLR}\beta$ ***= beta coefficients of the regression after controlling for effects from progression in stages of adolescence, gender, area of residence and family type.***

Table 2. displays the beta (β) coefficients and the R-squared values (R^2) of general linear regression models examining the effect of social support on total physical health symptoms and eight symptom subscales; and multiple linear regression beta coefficients ($_{MLR}\beta$) of the effect of social support on each of the symptom subscale, after controlling for the effects of progression in stages of adolescence, gender, residence and family type.

Coefficients indicate that social support predicted total physical health symptoms (β= -.433; $_{MLR}\beta$=-.414) with moderate effect size, with smaller effects on each of the eight symptom subscales. These effects were also observed after controlling for effects of progression in stages of adolescence (age), male/female gender, urban/rural residence and nuclear/joint family status. Sympathetic-cardiac (β=-.377; $_{MLR}\beta$=-.382) and metabolic symptoms (β=-.374; $_{MLR}\beta$=-.377) were most sensitive to social support. Followed by gastrointestinal (β=-.333; $_{MLR}\beta$=-.344), muscular pain (β=-.346; $_{MLR}\beta$=-.328) and vasovagal (β=-.330; $_{MLR}\beta$=-.323) symptoms. Smaller effects of social support were observed on headaches (β=-.288; $_{MLR}\beta$=-.274), minor haemorrhagic (β=-.245; $_{MLR}\beta$=-.250), and cold/flu (β=-.229; $_{MLR}\beta$=-.240) symptoms.

Table 3. Final models of stepwise hierarchical multiple linear regression explaining physical health symptoms in each stage of adolescence and sociodemographic group.

Sample and Subgroups		Explanatory Variables	β	*p*	$_{adj}R^2$	ΔR^2	ΔF
Adolescents		Social Support	-.414	.000	.203	.204	273.71
		Stages of Adolescence	.204	.000	.244	.041	58.02
		Gender	-.116	.000	.256	.013	18.62
		Residence	.087	.001	.263	.008	10.94
Stages of Adolescence	**Early**	Social Support	-.568	.000	.339	.341	205.259
		Rural Residence	.130	.002	.354	.017	10.189
	Middle	Social Support	-.303	.000	.076	.079	23.295
		Male Gender	-.196	.001	.111	.038	11.614
	Late	Social Support	-.359	.000	.129	.131	59.888
		Male Gender	-.147	.002	.148	.022	10.138
Gender	**Males**	Social Support	-.427	.000	.210	.212	134.772
		Stages of Adolescence	.160	.000	.231	.023	14.926
		Residence	.100	.011	.240	.010	6.471
	Females	Social Support	-.405	.000	.206	.207	147.626
		Stages of Adolescence	.246	.000	.265	.060	46.183
		Residence	.073	.044	.269	.005	4.060
Area of Residence	**Urban**	Social Support	-.420	.000	.234	.236	115.583
		Stages of Adolescence	.319	.000	.324	.092	50.922
		Gender	-.155	.000	.347	.024	13.819
	Rural	Social Support	-.411	.000	.180	.181	153.200
		Stages of Adolescence	.152	.000	.204	.025	21.569
		Gender	-.104	.002	.213	.011	9.445
Family Type	**Nuclear**	Gender	-.137	.000	.167	.168	142.806
		Social Support	-.380	.000	.223	.057	52.073
		Stages of Adolescence	.237	.000	.241	.019	17.773
		Residence	.083	.011	.247	.007	6.490
	Joint	Social Support	-.493	.000	.275	.277	136.926
		Stages of Adolescence	.135	.003	.290	.017	8.672

Outcome Variable: Physical Health Symptoms

Hierarchical multiple linear regression analyses (stepwise) were run to assess the relative importance of variables that predict total physical health symptoms in the whole sample and in each subgroup (Table 3). The entered explanatory variables include social support, progression in stages of adolescence (age), gender, area of residence, and family type. We further categorically split the sample and examined hierarchical effects in each subgroup (early, middle, late, male, female, rural, urban, nuclear and joint). The Durbin-Watson and tolerance/VIF statistics values indicated absence of auto-correlation and multicollinearity in every model.

In the whole sample of adolescents, despite progression in stages of adolescence (age) and sociodemographic variables, social support (β=-.414) was the most influential predictor of physical health symptoms, accounting for 20.4% of the unique variance/decrease in symptoms. Progression in stages of adolescence (β=.204) explained an additional unique 4.1% increase (variance) in symptoms. Then, being female (β=.116, ΔR^2=.013) and rural residence (β=.087, ΔR^2=.008) added unique variance in (and predicted) greater symptoms than male and urban adolescents, respectively. Family type was not an independent predictor of physical health symptoms after accounting for other explanatory variables in the model.

Lack of social support was the most influential predictor of physical health symptoms in all stages of adolescence (early, middle, late), among males and females, urban and rural residents and adolescents from joint families. Among adolescents from nuclear families however, being female contributed most to increased physical symptoms, followed by lack of social support, progression in stages of adolescence and residence. Thus, the H1 3. stating 'social support will be the most influential predictor of physical health symptoms across each stage of adolescence and sociodemographic subgroup' has been accepted for all stages and subgroups except among adolescents from nuclear families.

The relative influence of predictors of physical health symptoms varied with regard to stages of adolescence. Among early adolescents, after social support the next most influential variable adding unique variance to symptoms was residence, with rural early adolescents reporting greater symptoms (β=.130). In middle and late adolescents however, following social support, gender (not residence) added unique variance to physical health symptoms. Middle (β=.196, ΔR^2=.038) and late (β=.147, ΔR^2=.022) female adolescents reported greater physical health symptoms than adolescence-stage-matched males counterparts.

In both male and female adolescents, after social support, physical symptoms were most prominently predicted by progression in stages of adolescence and residence. And among rural and urban adolescents, after social support, progression in stages of adolescence and gender added unique variance to physical health symptoms.

DISCUSSION

Existing evidence suggests that social support perception does not differ between early, middle and late adolescents (Mahon et al., 1994; Bokhorst et al., 2010). The present study included twice the sample size and found that social perception was significantly different in each stage of adolescence. Early adolescents (11-13 years) perceived most social support, followed by late adolescents (17-19 years), while middle adolescents (14-16 years) reported the lowest levels of support. Early adolescents are closer in age to the period of childhood, and may receive more structured and tangible support from parents and teachers during this period. The decline in social support during middle adolescence may arise from a

withdrawal of such support, with adults placing more significance on self-reliance and independence. A study by Clark-Lempers et al. (1991) supports findings of early adolescents experiencing greater social support, but found that late adolescents (not middle) had the lowest levels. Potential explanations for our findings are discussed. Such patterns of peak vulnerability during middle adolescence followed by stability in late adolescence have been identified in major developmental tasks of adolescence and in other factors related to social support.

Two major changes (stressors) that influence interpersonal relationships, emerge and peak during middle adolescence. Firstly, changes in the brain's information-processing centres (Salmela-Aro, 2011), which can be viewed as physiological and/or cognitive load. And two, the need for increased autonomy from adults and authority (*Adolescent Medicine,* 2020), a significant psychosocial change. These major changes are stressors during adolescence (Katz et al., 2019). During middle adolescence, the simultaneous occurrence of these stressors may lead to a peak in the 'storm and strain' characteristic of adolescence, especially during this mid-sub-developmental period. Middle adolescents also tend to change their primary source of social support during this period (Salmela-Aro, 2011). They lower their involvement with parents and adults, and diversify their social networks with peers. While also becoming more susceptible to peer pressure and linking romantic participation to social status. Adjusting to these social changes might be challenging for some adolescents. While mid-adolescents would benefit from seeking and receiving appropriate support for the surge in physiological, cognitive, emotional or social stress, the emerging need for autonomy may simultaneously prevent them from speaking to adults, and thus perceiving less support.

Other than stages of adolescence, area of adolescents' residence was a factor in differentiating social support. Rural residents in this study reported significantly lower social support than urban adolescents. Similarly, in a study among Indian adolescents, urban adolescents perceived greater support from parents, classmates, teachers, and friends compared to rural adolescents (Dhawan et al., 2024). While, Nautiyal et al. (2017) and Sidamo et al. (2024) reported contrary results of rural adolescents reporting greater support. Most of the villages included in this study are located at considerable distances from urban centres. Many rural respondents in this study were recruited from urban educational establishments, especially for higher education. Limited public transportation for accessing urban amenities/conveniences, extended daily travel time required for attending school/college and maintaining friendships with peers residing in urban regions, may contribute to these findings. Additionally, adolescents whose parents work in urban regions, may experience reduced parental presence at home, potentially diminishing opportunities for longer familial interaction or timely support. There is a need to enhance attention to the social support needs of rural adolescents, and improve their access to appropriate social support networks. Dhawan et al. (2024) suggest virtual support groups, and initiatives such as building a sense of community among peers in close vicinity to combat isolation and loneliness, organising social gatherings, or initiatives to bring urban and rural adolescents together.

Social support perception did not vary between male and female adolescents. Previous studies have provided mixed reports of greater support among females (Tam & Lim, 2009; Rueger et al., 2008; Sharir et al., 2007; Ikiz & Cakar, 2010; Cumsille & Epstein, 1994; Mahon et al. 1994; Clark-Lempers et al., 1991), with some suggesting male adolescents

perceived greater support (Prakash, 2016; Wesley et al., 2015). Prior studies found that adolescents from joint families had greater social adjustment, interpersonal adequacy and social maturity than nuclear counterparts (Malik & Ahmad, 2024; Mathur & Vaishav, 2017). This study provides evidence of no difference in social support perception based on joint and nuclear family status, as well as no gender difference.

Social support independently predicted physical health symptoms of adolescents (10-19 years) after controlling for progression in developmental substages (age), gender, residence and family type. While progression in developmental substages (age), gender, and residence also independently predicted physical health symptoms, but family type did not. Contrary to previous research, joint/nuclear family type was not associated with physical health (Malik & Ahmad, 2024). Social support was the most influential predictor of physical health symptoms of adolescents, followed by progression in stages of adolescence (age), gender and residence.

Adolescents with lower social support had greater physical health complaints compared to those with higher social support. These findings are consistent with numerous reports from geographically diverse adolescent populations, and across time (Tandon et al., 2024; Agarwal & Rohatgi, 2023; Berg et al., 2022; Ling et al., 2022; Malhi & Bharti, 2021; Grigaityte & Soderberg, 2021; Hansson et al., 2020; Marshall et al., 2017; Hager & Leadbeater, 2016; Kim et al., 2015; Nygren et al., 2012; Nixon et al., 2011; Gini et al., 2009; Karadema et al., 2008; Låftman & Ostberg, 2006; Geckova et al., 2003; Torsheim & Wold, 2001; Natvig et al., 1999; Cheever & Hardin, 1999; Pikó, 1998; Aro & Paronen, 1989).

Progression in stages of adolescence was linearly associated with physical health symptoms. As adolescents progressed from one stage to the other, physical health complaints rose. Previous research has implicated a gender difference in the effect of age on symptoms. With only older females adolescents reporting greater symptoms than older male adolescents (Nilsen et al., 2023; Eminson et al., 1996). Findings concur with existing reports of greater physical health symptoms in female adolescents relative to male adolescents (Gebreegziabher et al., 2024; Allemand et al., 2024; Sarkissian et al., 2022; Espejo-Siles et al. 2020; Steinhausen & Metzke, 2007; Smith et al., 2015; Kelly et al., 2010; Jellesma et al., 2011). Female adolescents had previously reported greater gastrointestinal issues vasovagal symptoms, headaches, dizziness, abdominal pain, problems with sleep, and tiredness (Thorsén et al., 2022; Philipp et al., 2019; Wiklund et al., 2012; Eminson et al., 1996).

Rural adolescents had greater symptoms than age- and gender-adjusted urban counterparts. Findings are consistent with results from prior investigations (Ramaswamy & Kumar, 2011; Jiang et al., 2023; Mendes et al., 2018). Existing evidence suggests that rural adolescents had greater inflammation markers (Gajewska et al., 2014) and respiratory infections (Reyes et al., 2023) compared to urban adolescents. In children, rural residents had decreased cardiorespiratory fitness, lower diversity of intestinal microbiota, and greater levels of triglycerides and metabolic risk (McCarthy et al., 2015; Zhao et al., 2023). Adolescents from urban regions may have better access to healthcare, more hygienic environments, and better recreational opportunities and infrastructure, which may boost one's sense of well-being. However, there is also contrary evidence of urban adolescents reporting a greater number of physical health complaints than rural residents (Frisenstam et al., 2017, Sankaran et al., 2021; Ramesh et al., 2022) as well as no difference in symptoms of adolescents based on residence (Petanidou et al., 2012; Togha et al., 2023; Philipp et al., 2019).

Social support predicted symptoms in all stages of adolescence (early, middle, late), male, female, rural and urban adolescents, and adolescents from both nuclear and joint families. Furthermore, social support emerged as the most dominant predictor of symptoms in all subgroups except adolescents from nuclear families. Although social support affects symptoms of adolescents from nuclear families, gender played a greater role in determining their symptoms.

Among adolescents from nuclear families, gender was the most influential predictor of physical health symptoms. Even though social support was similar between adolescents from nuclear and joint families, its effect on symptoms was greater among adolescents from joint families. Suggesting that female adolescents from nuclear family structures experience greater physical health symptoms, despite the effects of social support. It is plausible that compared to males, female children from nuclear homes may benefit more from the daily support received from grandparents, uncles/aunts, or cousins available in joint families. However, further research is needed for testing replicability and developing inferences.

Social support was the most influential predictor of physical health symptoms in every stage of adolescence. In early adolescents, after social support, residence was the next most influential variable explaining variance in symptoms. In middle and late adolescents however, gender followed social support as the variable exerting most influence over physical symptoms. Greater symptoms in rural adolescents during early adolescence, can be explained by their report of lower social support in the present study. In prior studies, the increase in physical symptoms in mid- and late female adolescents, has been attributed to painful menstrual periods, rather than to menarche or age (Eminson et al., 1996; Nilsen et al., 2023). As no such impact of age was found among male adolescents' physical health symptoms.

There are other possible explanations for why effects of gender on symptoms becomes more prominent during middle adolescence. As previously discussed, during middle adolescence, there is an emergence and peak in stressors, and in this study, they reported significantly lower social support than early and late stages. Other than social support, stress also has been associated with physical health symptoms among adolescents (Tandon et al., 2024; Pinto & Tauro, 2023; Gopal et al., 2021). During mid-adolescence years, girls are particularly more vulnerable as they experience these physiological stressors before boys, and with more severe physiological repercussions. Female adolescents undergo puberty, gonadarche, emotional and functional information-processing changes, 1-to-2 years earlier compared to their same-age male counterparts, and developmental alterations in stress processing systems occur earlier in females (Blakemore et al., 2010; Dorn, 2006; Marshall & Tanner, 1969; Gunnar et al., 2009; Salmela-Aro, 2011). Furthermore, in response to psychosocial stressors, male adolescents, particularly older male adolescents display a tighter coupling in the parallel release of cortisol and DHEA (anti-cortisol properties) compared to female adolescents (Marceau et al., 2014). These studies together indicate that stress increases earlier in females adolescents during middle adolescence, and this earlier increase in stress, may prompt the increased physical health symptoms. For instance, if the peak in physiological stress processes were to occur at age 15 in a female, the same changes would take place in a male at about 16-17 years. In addition to this, the delayed increase in physiological stressors among male adolescents, coincides with their advantage of tighter cortisol-DHEA coupling during later years of adolescence.

Additionally, mental health problems also increase among female during middle adolescence. Salmela-Aro (2011) report that during early adolescents, mental health problems were greater in boys, but the gender difference reverses throughout the rest of adolescence (middle and late stages), with female adolescents reporting greater mental health problems in later stages of adolescence. Mental illnesses are twice as common during adolescence than in childhood, and three-quarters of all mental health problems are diagnosed before adolescence ends. During middle adolescence, there is a peak in rates of anxiety, depression, behaviour problems and substance use. Furthermore, the incidence of depression is greater in middle adolescent females. Mental health has long been associated to physical health of adolescents. Mental health of adolescents has been linked to their physical health (Damme et al., 2014). Thus, the increase in symptoms in female middle adolescents could be attributed to the similar reported increase of mental health problems among female adolescents during middle adolescence. Findings provide further support to the increase in storm and strain during middle adolescence especially among females.

Specific adolescent subgroups with greater need of social support and at greater risk of physical health symptoms emerged. Middle adolescents and rural residents in particular need greater social support provisions. And, improving physical health of adolescents particularly with low social support, older (middle, late) adolescents, females (particularly from nuclear families; middle and late female adolescents) and rural adolescents (particularly rural early adolescents) need greater focus of public health initiatives. Interventions could focus on integrating social enhancement, and promoting stage-dependent interpersonal skills, social opportunities, physical health, and health behaviours. Public policies aimed at providing training to various stakeholders - adolescents, educators, family and parents, healthcare professionals, social workers, community leaders and health workers – may be useful for widespread implementation.

In prior *studies*, adolescents from all stages perceived low support from teachers (Lempers & Clark-Lempers, 1992; Bokhorst et al., 2010). Educators can play a vital role in the social development of adolescent students by fostering supportive environments, providing guidance, encouragement, and facilitating meaningful peer and teacher-student interactions. Schools and colleges could impart trainings to staff on how they can best support adolescents. Provisions could then be implemented to help adolescents with informational or tangible aid to cope with developmental tasks, coordinate peer-support networks, and facilitate access to appropriate healthcare networks. Incorporating stage/age-wise adolescent health courses into regular curriculum could be more effective tool for effective skill-building among adolescents. Thus, the potential of educational systems to improve adolescent health outcomes must be leveraged for its convenience of widespread dissemination.

Several interventions have been effective in building social support skills among adolescents. In a metanalysis by Bauer et al. (2021), effective social support interventions included explaining benefits of relationships and social support to families, modelling healthy relationships for improving social skills, emphasis on trust and reciprocity, and enhancing parents' abilities to mobilise support for self and their children. Other reviews have indicated the following useful components of effective social support-based interventions: family engagement, skills training, mentoring programs, peer support groups, buddy systems, positive peer coaching, mental health literacy, supporting help-seeking, combating isolation, enriching existing social ties, modification of dysfunctional social

networks and introducing new adaptive networks (Bennett et al., 2024; Manchanda et al., 2023; Barrera & Prelow, 2012). Social and emotional learning (SEL)-based programs, have emphasized the importance of training in communication skills (conflict resolution, active listening, assertiveness), empathy development, and self-awareness among adolescents (Sancassiani et al., 2015). School-based randomized control trials on life skills training and interventions targeting school connectedness, and fostering positive school environments have shown promise (Birrell et al., 2025).

Involvement of multiple stakeholders working collaboratively is essential. Besides targeting educators and peers, family involvement in understanding the importance of social support can be elicited through regular parent education workshops, family communication training and promotion of family-based activities. Similarly, for physical health improvement, family goal setting for physical activity and nutrition goals. Furthermore, community-based social interventions such as after-school clubs for shared interests like sports or arts, volunteer programs, walking groups, and youth leadership initiatives, can target both social and physical health.

All the data in this study was based on self-reports, and thus shares many inadequacies of questionnaire methods. However, since the surveys were group-administered in a classroom setup, the environment was controlled to a large extent. Moreover, emotional states of participants may have interfered with their perception of social support and symptoms. Furthermore, the sample represented residents of South Goa, India only, thereby limiting generalizability. And, the cross-sectional nature of the study limits causal inference. Future research should incorporate random sampling, longitudinal models, physiological biomarkers, other psychosocial variables, and larger, geographically diverse adolescent populations.

Adolescence is a period of rapid changes in multiple domains of life. Psychosocial adjustments to these developmental processes may play a role in influencing lifetime health outcomes. As the interactions between physiological, neurological, and behavioural changes during adolescence shape pathways to adulthood (Backes & Bonnie, 2019), thus intervening during this period may be particularly impactful for sustaining social and physical health in adulthood.

CONCLUSION

This research highlights differences in social support perception of adolescents on the basis of the stage of adolescence and area of residence. After adjusting for sociodemographic factors, social support impacted physical health of adolescents across early, middle and late stages of adolescence, male, female, rural, and urban adolescents, and adolescents from nuclear and joint families. Adolescents with lower social support, older (middle and late) adolescents, females and rural residents report greater physical symptoms. Social support was the most influential predictor of symptoms across all stages of adolescence and sociodemographic subgroups, except among adolescents from nuclear families. Among whom, female gender was a greater predictor of symptoms than social support. During early adolescence, following social support, rural residence added most independent variance in symptoms. While during middle and late adolescence, after social support, the female gender exerted most unique variance in symptoms. Improving social support of adolescents may benefit their physical health, and certain subgroups of adolescents are more vulnerable than others.

REFERENCES

Adolescent Medicine. (2020). University of Texas Medical Branch. https://www.utmb.edu/pedi_ed/CoreV2/Adolescent/Adolescent5.html

Agarwal, V., & Rohatgi, K. (2023). Identification and management of somatic symptoms and emotional disturbance. *Journal of Indian Association for Child and Adolescent Mental Health*, *19*(1), 47–52. https://doi.org/10.1177/09731342231178622

Allemand, M., Fend, H. A., & Hill, P. L. (2024). Negative Emotional Reactivity and Somatic Symptoms during Adolescence Predict Adult Health and Wellbeing in Early and Middle Adulthood. *Journal of Youth and Adolescence*, *53*(7), 1513–1528. https://doi.org/10.1007/s10964-024-01940-9

Allen, S. F., Wetherell, M. A., & Smith, M. A. (2017). The Cohen–Hoberman inventory of physical symptoms: Factor structure, and preliminary tests of reliability and validity in the general population. *Psychology & Health*, 32(5), 567–587. https://doi.org/10.1080/08870446.2017.1290237

Archer, C. M., Jiang, X., Thurston, I. B., & Floyd, R. G. (2019). The Differential Effects of Perceived social support on adolescent hope: Testing the moderating effects of age and gender. *Child Indicators Research*, *12*(6), 2079–2094. https://doi.org/10.1007/s12187-019-9628-x

Aro, H., Hänninen, V., & Paronen, O. (1989). Social support, life events and psychosomatic symptoms among 14-16-year-old adolescents. *Social science & medicine (1982)*, *29*(9), 1051–1056. https://doi.org/10.1016/0277-9536(89)90015-4

Backes, E., & Bonnie, R. (2019). Adolescent Development. In *The Promise of Adolescence: Realizing Opportunity for All Youth.* https://www.ncbi.nlm.nih.gov/books/NBK545481/#_ncbi_dlg_citbx_NBK545481

Barrera, M., & Prelow, H. M. (2012). Interventions to promote social support in children and adolescents. *ResearchGate*. https://www.researchgate.net/publication/232553862_Interventions_to_promote_social_support_in_children_and_adolescents#:~:text=In%20addition%2C%20research%20has%20also%20shown%20that,self%2Desteem%2C%20developing%20coping%20skills%2C%20and%20fostering%20a

Bauer, A., Stevens, M., Purtscheller, D., Knapp, M., Fonagy, P., Evans-Lacko, S., & Paul, J. (2021). Mobilising social support to improve mental health for children and adolescents: A systematic review using principles of realist synthesis. *PloS one*, *16*(5), e0251750. https://doi.org/10.1371/journal.pone.0251750

Becht, A. I., Nelemans, S. A., van Dijk, M. P. A., Branje, S. J. T., Van Lier, P. A. C., Denissen, J. J. A., & Meeus, W. H. J. (2017). Clear Self, Better Relationships: Adolescents' Self-Concept Clarity and Relationship Quality with Parents and Peers Across 5 Years. *Child development*, *88*(6), 1823–1833. https://doi.org/10.1111/cdev.12921

Bennett, A., Ravet, M., & Gabrirlli, J. (2017). A Systematic Review of social support interventions for youth in foster care. *Children and Youth Services Review*, *163*. https://www.sciencedirect.com/science/article/pii/S0190740924003220

Berg, N., Nummi, T., Bean, C. G., Westerlund, H., Virtanen, P., & Hammarström, A. (2022). Risk factors in adolescence as predictors of trajectories of somatic symptoms over 27 years. *European Journal of Public Health*, *32*(5), 696–702. https://doi.org/10.1093/eurpub/ckac081

Bi, S., Stevens, G. W. J. M., Maes, M., Boer, M., Delaruelle, K., Eriksson, C., Brooks, F. M., Tesler, R., van der Schuur, W. A., & Finkenauer, C. (2021). Perceived Social Support from Different Sources and Adolescent Life Satisfaction Across 42 Countries/Regions: The Moderating Role of National-Level Generalized Trust. *Journal of youth and adolescence*, *50*(7), 1384–1409. https://doi.org/10.1007/s10964-021-01441-z

Birrell, L., Werner-Seidler, A., Davidson, L., Andrews, J. L., & Slade, T. (2024). Social connection as a key target for youth mental health. *Mental Health & Prevention*, *37*. https://www.sciencedirect.com/science/article/pii/S2212657025000054

Blakemore, S. J., Burnett, S., & Dahl, R. E. (2010). The role of puberty in the developing adolescent brain. *Human brain mapping*, *31*(6), 926–933. https://doi.org/10.1002/hbm.21052

Bokhorst, C. L., Sumter, S. R., & Westenberg, P. M. (2010). Social support from parents, friends, classmates, and teachers in children and adolescents aged 9 to 18 years: Who is perceived as most supportive? *Social Development, 19*(2), 417–426. https://doi.org/10.1111/j.1467-9507.2009.00540.x

Cavanaugh, A. M., & Buehler, C. (2015). Adolescent loneliness and social anxiety. *Journal of Social and Personal Relationships*, *33*(2), 149–170. https://doi.org/10.1177/0265407514567837

Charles, S. T., & Almeida, D. M. (2005). Daily reports of symptoms and negative affect: Not all symptoms are the same. *Psychology and Health*, *21*(1), 1–17. https://doi.org/10.1080/14768320500129239

Cheever, K. H., & Hardin, S. B. (1999). Effects of traumatic events, social support, and self-efficacy on adolescents' self-health assessments. *Western journal of nursing research*, *21*(5), 673–684. https://doi.org/10.1177/01939459922044117

Chu, P. S., Saucier, D. A., & Hafner, E. (2010). Meta-Analysis of the relationships between Social Support and Well-Being in Children and Adolescents. *Journal of Social and Clinical Psychology*, *29*(6), 624–645. https://doi.org/10.1521/jscp.2010.29.6.624

Clark-Lempers, D. S., Lempers, J. D., & Ho, C. (1991). Early, Middle, and Late Adolescents' Perceptions of Their Relationships with Significant Others. *Journal of Adolescent Research*, *6*(3), 296–315. https://doi.org/10.1177/074355489163003

Cohen, S., & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology, 13*(2), 99–125. https://doi.org/10.1111/j.1559-1816.1983.tb02325.x

Cohen, S., & Syme, S. L. (1985). *Social support and health.* Academic Press. https://link.springer.com/chapter/10.1007/978-94-009-5115-0_5

Cumsille, P. E., & Epstein, N. (1994). Family cohesion, family adaptability, social support, and adolescent depressive symptoms in outpatient clinic families. *Journal of Family Psychology, 8*(2), 202–214. https://doi.org/10.1037/0893-3200.8.2.202

Damme, K. S. F., Vargas, T. G., Walther, S., Shankman, S. A., & Mittal, V. A. (2024). Physical and mental health in adolescence: novel insights from a transdiagnostic examination of FitBit data in the ABCD study. *Translational Psychiatry*, *14*(1). https://doi.org/10.1038/s41398-024-02794-2

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Demaray, M. K., Malecki, C. K., Davidson, L. M., Hodgson, K. K., & Rebus, P. J. (2005). The relationship between social support and student adjustment: A longitudinal analysis. *Psychology in the Schools*, *42*(7), 691–706. https://doi.org/10.1002/pits.20120

Dhawan, V., Kang2, T. K., & Sharma, S. (2024). Locale differences in perception of social support among. *Journal of Community Mobilization and Sustainable Development*, *19*(Special issue), 239–245. https://www.researchgate.net/profile/Vitasta-Dhawan/publication/378852625_Locale_Differences_in_Perception_of_Social_Support_among_Indian_Adolescents/links/65ed6c71aaf8d548dcbdf525/Locale-Differences-in-Perception-of-Social-Support-among-Indian-Adolescents.pdf

Dorn, L. D. (2006). Measuring puberty. *Journal of Adolescent Health*, *39*(5), 625-626.

Eisenberger, N. I. (2013). An empirical review of the neural underpinnings of receiving and giving social support: Implications for Health. *Psychosomatic Medicine*, *75*(6), 545–556. https://pmc.ncbi.nlm.nih.gov/articles/PMC3763941/pdf/nihms-500339.pdf

Eminson, M., Benjamin, S., Shortall, A., Woods, T., & Faragher, B. (1996). Physical symptoms and illness attitudes in adolescents: an epidemiological study. *Journal of child psychology and psychiatry, and allied disciplines*, *37*(5), 519–528. https://doi.org/10.1111/j.1469-7610.1996.tb01438.x

Espejo-Siles, R., Zych, I., & Llorent, V. J. (2020). Empathy, social and emotional competencies, bullying perpetration and victimization as longitudinal predictors of somatic symptoms in adolescence. *Journal of Affective Disorders*, *271*, 145–151. https://doi.org/10.1016/j.jad.2020.03.071

Frisenstam, K. L., Van Den Bosch, M., Chen, Y., Friberg, P., & Osika, W. (2017). Self-Reported Psychosomatic Complaints in Swedish children, adolescents, and young adults living in rural and urban areas: an Internet-Based survey. *JMIR Public Health and Surveillance*, *3*(1), e9. https://doi.org/10.2196/publichealth.5902

Gajewska, E., Kalmus, G., Buraczyńska-Andrzejewska, B., & Sobieska, M. (2014). Obesity in adolescents from urban and rural areas--a comparison of physical fitness and markers of inflammation. *European review for medical and pharmacological sciences*, *18*(16), 2318–2325.

Gallagher, S., Haugh, C., Solano, A. C., De La Iglesia, G., & McMahon, J. (2022). Social support imbalance and depressive symptoms in young adolescents: the negative effect of giving but not receiving. *International Journal of Adolescence and Youth*, *27*(1), 528–540. https://doi.org/10.1080/02673843.2022.2151715

Gebreegziabher, Z. A., Eristu, R., & Molla, A. (2024). Determinants of adolescents' depression, anxiety, and somatic symptoms in Northwest Ethiopia: A non-recursive structural equation modeling. *PLoS ONE*, *19*(4), e0281571. https://doi.org/10.1371/journal.pone.0281571

Gecková, A., van Dijk, J. P., Stewart, R., Groothoff, J. W., & Post, D. (2003). Influence of social support on health among gender and socio-economic groups of adolescents. *European journal of public health*, *13*(1), 44–50. https://doi.org/10.1093/eurpub/13.1.44

Gini, G., Carli, G., & Pozzoli, T. (2009). Social support, peer victimisation, and somatic complaints: a mediational analysis. *Journal of paediatrics and child health*, *45*(6), 358–363. https://doi.org/10.1111/j.1440-1754.2009.01501.x

Gopal, N., Pune, A. S., Takhelmayum, R., & Ahirwar, A. K. (2021). Does serum TSH level act as a surrogate marker for psychological stress and cardio-metabolic risk among adolescent and young people? *Hormone molecular biology and clinical investigation*, *43*(1), 41–46. https://doi.org/10.1515/hmbci-2021-0021

Grigaitytė, I., & Söderberg, P. (2021). Why does perceived social support protect against somatic symptoms: Investigating the roles of emotional self-efficacy and depressive symptoms? *Nordic Psychology*, *73*(3), 226–241. https://doi.org/10.1080/19012276.2021.1902845

Gunnar, M. R., Wewerka, S., Frenn, K., Long, J. D., & Griggs, C. (2009). Developmental changes in hypothalamus-pituitary-adrenal activity over the transition to adolescence: normative changes and associations with puberty. *Development and psychopathology*, *21*(1), 69–85. https://doi.org/10.1017/S0954579409000054

Hager, A. D., & Leadbeater, B. J. (2016). The Longitudinal Effects of Peer Victimization on Physical Health from Adolescence to Young Adulthood. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, *58*(3), 330–336. https://doi.org/10.1016/j.jadohealth.2015.10.014

Hansson, E., Garmy, P., Vilhjálmsson, R., & Kristjánsdóttir, G. (2020). Bullying, health complaints, and self-rated health among school-aged children and adolescents. *Journal*

of International Medical Research, *48*(2), 030006051989535. https://doi.org/10.1177/0300060519895355

Hart, S. L., Hodgkinson, S. C., Belcher, H. M. E., Hyman, C., & Cooley-Strickland, M. (2012). Somatic symptoms, peer and school stress, and family and community violence exposure among urban elementary school children. *Journal of Behavioral Medicine*, *36*(5), 454–465. https://doi.org/10.1007/s10865-012-9440-2

Hetlevik, Ø., Meland, E., Hufthammer, K. O., Breidablik, H. J., Jahanlu, D., & Vie, T. L. (2020). Self-rated health in adolescence as a predictor of 'multi-illness' in early adulthood: A prospective registry-based Norwegian HUNT study. *SSM - Population Health*, *11*, 100604. https://doi.org/10.1016/j.ssmph.2020.100604

Ikiz, F. E., & Cakar, F. S. (2010). Perceived social support and self-esteem in adolescence. *Procedia - Social and Behavioral Sciences*, *5*, 2338–2342. https://doi.org/10.1016/j.sbspro.2010.07.460

Jellesma, F. C., Rieffe, C., Terwogt, M. M., & Westenberg, P. (2011). Children's sense of coherence and trait emotional intelligence: A longitudinal study exploring the development of somatic complaints. *Psychology and Health*, *26*(3), 307–320. https://doi.org/10.1080/08870440903411021

Jiang, Q., Huang, X., & Cui, D. (2023). Rural-Urban Differences in Physical Fitness and Overweight Prevalence of Children and Adolescents from Central South China. *International journal of environmental research and public health*, *20*(3), 2390. https://doi.org/10.3390/ijerph20032390

Karademas, E. C., Peppa, N., Fotiou, A., & Kokkevi, A. (2008). Family, school and health in children and adolescents. *Journal of Health Psychology*, *13*(8), 1012–1020. https://doi.org/10.1177/1359105308097965

Katz, D. A., Peckins, M. K., & Lyon, C. C. (2019). Adolescent stress reactivity: Examining physiological, psychological and peer relationship measures with a group stress protocol in a school setting. *Journal of adolescence*, *74*, 45–62. https://doi.org/10.1016/j.adolescence.2019.05.002

Kelly, C., Molcho, M., Doyle, P., & Gabhainn, S. N. (2010). Psychosomatic symptoms among schoolchildren. *International journal of adolescent medicine and health*, *22*(2), 229–235. https://doi.org/10.1515/ijamh.2010.22.2.229

Kim, J., & Jang, Y. H. (2015). *Effects of adolescent stress on somatic symptoms: The moderating effects of social support*. https://www.semanticscholar.org/paper/Effects-of-Adolescent-Stress-on-Somatic-Symptoms%3A-KimJang/cbb1c4e631f7922597a6539b9a971bb6d193f3ab

Låftman, B. S., & Ostberg, V. (2006). The pros and cons of social relations: an analysis of adolescents' health complaints. *Social science & medicine (1982)*, *63*(3), 611–623. https://doi.org/10.1016/j.socscimed.2006.02.005

Larson, R., & Richards, M. H. (1991). Daily companionship in late Childhood and early adolescence: Changing developmental contexts. *Child Development*, *62*(2), 284–300. https://doi.org/10.1111/j.1467-8624.1991.tb01531.x

Lempers, J. D., & Clark-Lempers, D. S. (1992). Young, middle, and late adolescents' comparisons of the functional importance of five significant relationships. *Journal of youth and adolescence*, *21*(1), 53–96. https://doi.org/10.1007/BF01536983

LeResche, L., Mancl, L. A., Drangsholt, M. T., Saunders, K., & Von Korff, M. (2005). Relationship of pain and symptoms to pubertal development in adolescents. *Pain*, *118*(1-2), 201–209. https://doi.org/10.1016/j.pain.2005.08.011

Ling, Y., Hu, X., Liu, C., Huebner, E. S., & Wei, Y. (2022). The interaction between peer social support and stressors predicts somatic and psychological depressive symptoms in Chinese adolescents: Adolescents' depressive symptoms. *Applied Research in Quality of Life, 17*(1), 333–349. https://doi.org/10.1007/s11482-020-09883-6

Liu, Y., Hu, J., & Liu, J. (2022). Social support and depressive symptoms among adolescents during the COVID-19 pandemic: The mediating roles of loneliness and meaning in life. *Frontiers in Public Health*, *10*. https://doi.org/10.3389/fpubh.2022.916898

Mahon, N. E., Yarcheski, A., & Yarcheski, T. J. (1994). Differences in social support and loneliness in adolescents according to developmental stage and gender. *Public health nursing (Boston, Mass.)*, *11*(5), 361–368. https://doi.org/10.1111/j.1525-1446.1994.tb00199.x

Malhi, P., & Bharti, B. (2021). School Bullying and Association with Somatic Complaints in Victimized Children. *The Indian Journal of Pediatrics*, *88*(10), 962–967. https://doi.org/10.1007/s12098-020-03620-5

Malik, A., & Ahmad, I. (2024). General Well-Being of Adolescents of Joint and Nuclear Family- A Systematic Review. *International Journal of Creative Research Thoughts*, *12*(8), 68–74. https://www.ijcrt.org/papers/IJCRT2408009.pdf

Manchanda, T., Stein, A., & Fazel, M. (2023). Investigating the Role of Friendship Interventions on the Mental Health Outcomes of Adolescents: A Scoping Review of Range and a Systematic Review of Effectiveness. *International journal of environmental research and public health*, *20*(3), 2160. https://doi.org/10.3390/ijerph20032160

Marceau, K., Shirtcliff, E. A., Hastings, P. D., Klimes-Dougan, B., Zahn-Waxler, C., Dorn, L. D., & Susman, E. J. (2014). Within-adolescent coupled changes in cortisol with DHEA and testosterone in response to three stressors during adolescence. *Psychoneuroendocrinology*, *41*, 33–45. https://doi.org/10.1016/j.psyneuen.2013.12.002

Marshall, E. M., van Dulmen, M. H. M., & Stigall, L. A. (2017). The occurrence of earlier changes in family dynamics and friendship conflict predicting adolescent functional somatic symptoms: A large-scale prospective study. *Health psychology: official journal of the Division of Health Psychology, American Psychological Association*, *36*(10), 1006–1015. https://doi.org/10.1037/hea0000550

Marshall, W. A., & Tanner, J. M. (1969). Variations in pattern of pubertal changes in girls. *Archives of disease in childhood*, *44*(235), 291.

Mathur, N., & Vaishnav, R. (2017). Intelligence and social adjustment of joint and nuclear family children studying at high school level. *Voice of Research*, *6*(3). https://www.voiceofresearch.org/Doc/Dec-2017/Dec-2017_1.pdf

McCarthy, K., Cai, L., Xu, F., Wang, P., Xue, H., Ye, Y., Xiong, S., Liu, Z., & He, Q. (2015). Urban-Rural differences in cardiovascular disease risk factors: A Cross-Sectional study of schoolchildren in Wuhan, China. *PLoS ONE*, *10*(9), e0137615. https://doi.org/10.1371/journal.pone.0137615

Mendes, A., Mendes, E., Caldeira, H., Gomes, L., Lima, P., Menino, E., Francisco, S., & Corte, A. (2018). Health risk of adolescents in the rural and urban environment: integrative review. *Advances in Obesity Weight Management & Control*, *8*(5). https://doi.org/10.15406/aowmc.2018.08.00256

Mendonça, G., Cheng, L. A., Mélo, E. N., & de Farias Júnior, J. C. (2014). Physical activity and social support in adolescents: a systematic review. *Health education research*, *29*(5), 822–839. https://doi.org/10.1093/her/cyu017

National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Division of Behavioral and Social Sciences and Education; Board on Children, Youth, and Families; Committee on the Neurobiological and Socio-behavioral Science of Adolescent Development and Its Applications; Backes EP, Bonnie RJ, editors. The Promise of Adolescence: Realizing Opportunity for All Youth. Washington (DC): National Academies Press (US); 2019 May 16. Available from: https://www.ncbi.nlm.nih.gov/books/NBK545476/

Natvig, G. K., Albrektsen, G., Anderssen, N., & Qvarnstrøm, U. (1999). School-related stress and psychosomatic symptoms among school adolescents. *The Journal of school health*, *69*(9), 362–368. https://doi.org/10.1111/j.1746-1561.1999.tb06430.x

Nautiyal, R., Velayudhan, A., & Gayatridevi, S. (2017). Perceived social support of the adolescents from rural and urban setting. *The International Journal of Indian Psychology*, *4*(2). https://ijip.in/wp-content/uploads/2019/02/18.01.098.20170402.pdf

Nilsen, S. A., Stormark, K. M., Heradstveit, O., & Breivik, K. (2023). Trends in physical health complaints among adolescents from 2014 - 2019: Considering screen time, social media use, and physical activity. *SSM - population health*, *22*, 101394. https://doi.org/10.1016/j.ssmph.2023.101394

Nixon, C. L., Linkie, C. A., Coleman, P. K., & Fitch, C. (2011). Peer relational victimization and somatic complaints during adolescence. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, *49*(3), 294–299. https://doi.org/10.1016/j.jadohealth.2010.12.018

Nygren, K., Bergström, E., Janlert, U., & Nygren, L. (2012). Parents matter--but relations to parents do not explain gender differences in self-reported health in adolescents. *Scandinavian journal of caring sciences*, *26*(4), 643–653. https://doi.org/10.1111/j.1471-6712.2012.00973.x

Petanidou, D., Giannakopoulos, G., Tzavara, C., Dimitrakaki, C., Ravens-Sieberer, U., Kolaitis, G., & Tountas, Y. (2012). Identifying the sociodemographic determinants of subjective health complaints in a cross-sectional study of Greek adolescents. *Annals of General Psychiatry*, *11*(1). https://doi.org/10.1186/1744-859x-11-17

Philipp, J., Zeiler, M., Wöber, C., Wagner, G., Karwautz, A. F. K., Steiner, T. J., & Wöber-Bingöl, Ç. (2019). Prevalence and burden of headache in children and adolescents in Austria – a nationwide study in a representative sample of pupils aged 10–18 years. *The Journal of Headache and Pain*, *20*(1). https://doi.org/10.1186/s10194-019-1050-8

Pikó, B. (1998). Social support and health in adolescence: A factor analytical study. *British Journal of Health Psychology*, *3*(4), 333–344. https://doi.org/10.1111/j.2044-8287.1998.tb00578.x

Pinto, J. M., & Tauro, V. G. (2023). A study to assess the correlation between stress, body mass index and blood pressure among adolescents in selected Pre-University colleges, Mangaluru. *A and V Pub Journal of Nursing and Medical Research*, *2*(4), 125–130. https://doi.org/10.52711/jnmr.2023.31

Prakash, O. (2016). Gender differences in social relationships and social support of school children. *The International Journal of Indian Psychology*, *4*(1). https://ijip.in/wp-content/uploads/2019/02/18.01.133.20160401.pdf

Qi, M., Zhou, S. J., Guo, Z. C., Zhang, L. G., Min, H. J., Li, X. M., & Chen, J. X. (2020). The Effect of Social Support on Mental Health in Chinese Adolescents During the Outbreak of COVID-19. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, *67*(4), 514–518. https://doi.org/10.1016/j.jadohealth.2020.07.001

Ramaswamy, C., & Kumar, G. V. (2011). Assessment of male and female adolescent problems in urban and rural areas. *Asian Journal of Development Matters*, *5*(2), 159–163.https://www.indianjournals.com/ijor.aspx?target=ijor:ajdm&volume=5&issue=2&article=024

Ramesh, S., Abraham, R. A., Sarna, A., Sachdev, H. S., Porwal, A., Khan, N., Acharya, R., Agrawal, P. K., Ashraf, S., & Ramakrishnan, L. (2022). Prevalence of metabolic syndrome among adolescents in India: a population-based study. *BMC Endocrine Disorders*, *22*(1). https://doi.org/10.1186/s12902-022-01163-8

Rashmi, R., & Mohanty, S. K. (2023). Examining chronic disease onset across varying age groups of Indian adults using competing risk analysis. *Scientific reports*, *13*(1), 5848. https://doi.org/10.1038/s41598-023-32861-5

Ren, Z., Hu, L., Yu, J. J., Yu, Q., Chen, S., Ma, Y., Lin, J., Yang, L., Li, X., & Zou, L. (2020). The Influence of Social Support on Physical Activity in Chinese Adolescents: The Mediating Role of Exercise Self-Efficacy. *Children*, *7*(3), 23. https://doi.org/10.3390/children7030023

Reyes, M. J. M., Vidal-Alaball, J., Suwezda, E. A., Catalina, Q. M., Homs, M., & Ruiz-Comellas, A. (2023). Prevalence of Respiratory Infections during the 2018–2020 Period in the Paediatric Population of Primary Care Centres in Central Catalonia. *Healthcare*, *11*(9), 1252. https://doi.org/10.3390/healthcare11091252

Rueger, S. Y., Malecki, C. K., Pyun, Y., Aycock, C., & Coyle, S. (2016). A meta-analytic review of the association between perceived social support and depression in childhood and adolescence. *Psychological bulletin*, *142*(10), 1017–1067. https://doi.org/10.1037/bul0000058

Salmela-Aro, K. (2011). Stages of Adolescence. In Encyclopedia of Adolescence (pp. 360- 368). Academic Press. https://doi.org/10.1016/B978-0-12-373951-3.00043-0

Sancassiani, F., Pintus, E., Holte, A., Paulus, P., Moro, M. F., Cossu, G., Angermeyer, M. C., Carta, M. G., & Lindert, J. (2015). Enhancing the Emotional and Social Skills of the Youth to Promote their Wellbeing and Positive Development: A Systematic Review of Universal School-based Randomized Controlled Trials. *Clinical practice and epidemiology in mental health: CP & EMH*, *11*(Suppl 1 M2), 21–40. https://doi.org/10.2174/1745017901511010021

Sankaran, S., John, J., Patra, S. S., Das, R. R., & Satapathy, A. K. (2021). Prevalence of musculoskeletal pain and its relation with weight of backpacks in School-Going children in Eastern India. *Frontiers in Pain Research*, *2*. https://doi.org/10.3389/fpain.2021.684133

Sarkissian, A. D., Sharkey, J. D., & Cerezo, A. (2022). Mental health stigma, community support, and somatic complaints among Latinx youth. *Children and Youth Services Review*, *143*, 106699. https://doi.org/10.1016/j.childyouth.2022.106699

Sawyer, S. M., Afifi, R. A., Bearinger, L. H., Blakemore, S. J., Dick, B., Ezeh, A. C., & Patton, G. C. (2012). Adolescence: a foundation for future health. *Lancet (London, England)*, *379*(9826), 1630–1640. https://doi.org/10.1016/S0140-6736(12)60072-5

Sharir, D., Tanasescu, M., Turbow, D., & Maman, Y. (2006, July 1). *Social support and Quality of life among psychiatric patients in residential homes. | International Journal of Psychosocial Rehabilitation | EBSCOHost*. https://openurl.ebsco.com/EPDB%3Agcd%3A10%3A21479450/detailv2?sid=ebsco%3Aplink%3Ascholar&id=ebsco%3Agcd%3A27801375&crl=f

Sidamo, N. B., Kerbo, A. A., Wado, Y. D., Koyira, M. M., & Gidebo, K. D. (2024). Factors associated with perceived social support among adolescents in Gamo Zone, Southern Ethiopia: a community-based cross-sectional study. *Frontiers in Psychiatry*, *15*. https://doi.org/10.3389/fpsyt.2024.1429886

Sisk, C. L., & Foster, D. L. (2004). The neural basis of puberty and adolescence. *Nature neuroscience*, *7*(10), 1040–1047. https://doi.org/10.1038/nn1326

Smith, N. R., Lewis, D., Fahy, A., Eldridge, S., Taylor, S. J. C., Moore, D. G., Clark, C., Stansfeld, S., & Cummins, S. (2015). Individual socio-demographic factors and perceptions of the environment as determinants of inequalities in adolescent physical and psychological health: the Olympic Regeneration in East London (ORiEL) study. *BMC Public Health*, *15*(1). https://doi.org/10.1186/s12889-015-1459-1

Steinhausen, H., & Metzke, C. W. (2007). Continuity of functional-somatic symptoms from late childhood to young adulthood in a community sample. *Journal of Child Psychology and Psychiatry*, *48*(5), 508–513. https://doi.org/10.1111/j.1469-7610.2006.01721.x

Sumter, S. R., & Baumgartner, S. E. (2016). Psychosomatic complaints in adolescence: Untangling the relationship between offline and online peer victimization,

psychosomatic complaints and social support. *European Journal of Developmental Psychology*, *14*(4), 399–415. https://doi.org/10.1080/17405629.2016.1215980

Tam, T., & Lim, L. (n.d.). Perceived social support, coping capability and gender differences among young adults. *Sunway Academic Journal*, *6*, 75–88. https://www.researchgate.net/publication/265101750_Perceived_social_support_coping_capability_and_gender_differences_among_young_adults

Tandon, T., Piccolo, M., Ledermann, K., McNally, R. J., Gupta, R., Morina, N., & Martin-Soelch, C. (2024). Mental health markers and protective factors in students with symptoms of physical pain across WEIRD and non-WEIRD samples – a network analysis. *BMC Psychiatry*, *24*(1). https://doi.org/10.1186/s12888-024-05767-3

Thorsén, F., Antonson, C., Palmér, K., Berg, R., Sundquist, J., & Sundquist, K. (2022). Associations between perceived stress and health outcomes in adolescents. *Child and Adolescent Psychiatry and Mental Health*, *16*(1). https://doi.org/10.1186/s13034-022-00510-w

Togha, M., Jafari, E., Salami, Z., Kamali, K., Mirzaee Godarzee, H., Mirzaee Godarzee, M., & Bavarnegin, S. (2023). The prevalence and impact of tension-type headache in school-aged children in Iran. *Frontiers in neurology*, *14*, 1259624. https://doi.org/10.3389/fneur.2023.1259624

Torsheim, T., & Wold, B. (2001). School-related stress, support, and subjective health complaints among early adolescents: a multilevel approach. *Journal of adolescence*, *24*(6), 701-713.

Uchino, B. N. (2009). Understanding the links between social support and physical health: A Life-Span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, *4*(3), 236–255. https://doi.org/10.1111/j.1745-6924.2009.01122.x

Uchino, B. N., Bowen, K., De Grey, R. K., Mikel, J., & Fisher, E. B. (2018). Social support and physical health: models, mechanisms, and opportunities. In *Springer eBooks* (pp. 341–372). https://doi.org/10.1007/978-0-387-93826-4_12

Viner, R. M., Ozer, E. M., Denny, S., Marmot, M., Resnick, M., Fatusi, A., & Currie, C. (2012). Adolescence and the social determinants of health. *The Lancet (London, England)*, *379*(9826), 1641–1652. https://doi.org/10.1016/S0140-6736(12)60149-4

Wedderkopp, N., Andersen, L. B., Froberg, K., & Leboeuf-Yde, C. (2005). Back pain reporting in young girls appears to be puberty-related. *BMC musculoskeletal disorders*, *6*, 52. https://doi.org/10.1186/1471-2474-6-52

Wesley, K. M., Zelikovsky, N., & Schwartz, L. A. (2013). Physical symptoms, perceived social support, and affect in adolescents with cancer. *Journal of psychosocial oncology*, *31*(4), 451–467. https://doi.org/10.1080/07347332.2013.798761

Wiklund, M., Malmgren-Olsson, E., Öhman, A., Bergström, E., & Fjellman-Wiklund, A. (2012). Subjective health complaints in older adolescents are related to perceived stress, anxiety and gender – a cross-sectional school study in Northern Sweden. *BMC Public Health*, *12*(1). https://doi.org/10.1186/1471-2458-12-993

World Health Organisation: Representative office for the Philippines. (2019). *Adolescent Health: Stages of Adolescence*. https://www.google.com/url?sa=i&url=https%3A%2F%2Fx.com%2FWHOPhilippines%2Fstatus%2F1028447130476638208%3Flang%3Dar&psig=AOvVaw2sT9NjkITSrwuzGwkN-Pkb&ust=1739480772446000&source=images&cd=vfe&opi=89978449&ved=0CBcQjhxqFwoTCMiMhv2Ev4sDFQAAAAAdAAAAABAE

World Health Organization: WHO. (2025). *Adolescent health*. https://www.who.int/health-topics/adolescent-health#tab=tab_1

Zhao, G., Xie, L., Wu, Y., Wang, B., Teng, W., Sun, Z., Kao, Q., Liu, W., Pi, X., & Ma, H. (2023). Effects of urbanization and lifestyle habits on the intestinal microbiota of

adolescents in eastern China. *Frontiers in Microbiology*, *14*. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10291051/

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