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Exploring the Impact of Parenting Strategies on Psychosomatic Symptoms in Swedish Youth

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Abstract

The connection between parents and their teenage children is vital for positive youth growth. This research investigates how different parenting approaches—specifically parental support, parental knowledge, and setting rules—relate to psychosomatic complaints during both middle and late adolescence. Data came from a large Swedish national cohort (n = 3,678). Teenagers answered self-report questionnaires first in 2017 (around 15–16 years old) and then again in 2019 (around 17–18 years old). Of the parenting practices examined, parental support showed the strongest and most reliable negative cross-sectional links with psychosomatic complaints in both middle and late adolescence. Moreover, growing levels of parental support and parental knowledge were connected to falling levels of psychosomatic complaints among the adolescents. However, the levels of parental support and knowledge present at age 15–16 years did not forecast psychosomatic complaints two years later at age 17–18 years. The findings underscore the need for parents to remain actively involved throughout middle and late adolescence, with particular emphasis on providing steady, reliable support.

Keywords: Parenting strategies, Psychosomatic symptoms, Swedish youth, Children

Introduction

Psychosomatic complaints are quite frequent in the teenage years, especially among girls and those in the older age brackets [1–3]. These complaints generally include a variety of self-reported psychological and bodily issues, for example, headaches, stomach pains, and problems with falling asleep. Research has linked these kinds of complaints to experiences of stress [4], and they are commonly viewed as a sign of broader "mental health problems" [5, 6]. Many countries, including Sweden, consider psychosomatic complaints an important public health issue [6, 7].

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The relationship between parents and adolescents plays a central role in how young people develop and has been linked to short- and long-term effects on both physical and mental health [8, 9]. Past studies suggest that teenagers who have weaker or lower-quality relationships with their parents often suffer from more psychosomatic complaints [10, 11]. Still, a Lancet commission focused on adolescent health and wellbeing has drawn attention to the fact that even though families and parents are highly important in most adolescents' lives, "the paucity of rigorous research into family influences on adolescent health and wellbeing is a striking knowledge gap" [12] (p. 15). Furthermore, Morris *et al*. noted in their paper that good strategies for preventing and treating mental health issues in teenagers are still limited. Because a better understanding of how parenting influences adolescent mental health could help develop more effective strategies [13], there is a clear need for additional research in this field. Given recent evidence that the influence of parent-adolescent

relationships remains strong even in older teenagers [13], examining parenting factors in relation to mental health during later adolescence is particularly worthwhile.

The bond between parents and teenagers is closely tied to how parents behave and interact with their teenagers [14]. Parenting practices are core aspects of the parenting role and consist of concrete actions parents use to fulfill their duties and foster their child's growth [15]. These practices generally reflect overlapping but separate elements of how parents stay involved in their children's lives [16, 17]. A large body of research has underlined the powerful impact that parenting practices can have on the health and wellbeing of young people [18, 19]. Furthermore, these practices are not fixed; they are flexible processes that can shift over time and in different circumstances. This study centers on three main parenting practices: parental support, parental knowledge, and rule-setting. Together, they capture related yet distinct sides of parental engagement that could influence teenagers' psychosomatic complaints.

Parental support is among the most important parenting behaviors and provides a major source of social support throughout the teenage years [20]. It has repeatedly been linked to healthier adolescent development and lower chances of mental health difficulties, including psychosomatic complaints [20–22]. In contrast, when teenagers feel they receive little support or warmth from their parents, they tend to experience more mental health issues [23]. Although the amount of support parents offer may naturally drop as children grow older, studies continue to show that it remains a valuable protective factor for mental health right through adolescence [20]. Parental support can also help offset shortages of support coming from friends or other sources [24]. While the effects of some parenting behaviors on mental health can differ from one culture to another, the benefits of parental support tend to appear consistently across cultural settings [25].

Parental knowledge is another central parenting practice tied to adolescent wellbeing [26, 27]. Researchers usually measure it by checking how much parents know about their teenager's daily activities, friends, and whereabouts. Some earlier studies saw this as proof that strict monitoring and control benefit young people. However, more recent evidence suggests that such knowledge often arises when teenagers choose to openly share information with their parents [28, 29]. In this way, it can indicate the overall strength of the parent-teen relationship and is generally associated with better adjustment during adolescence [27]. Levels of parental knowledge typically fall as teenagers get older [30]. While some studies found a steady association between parental knowledge and fewer mental health problems across the entire high school period [26], other work showed the connection was mainly present among younger teens and disappeared among older ones [30]. In addition, how different sources of parental knowledge affect outcomes may vary across cultural backgrounds [31].

Parental rule-setting forms yet another key parenting practice that can aid healthy development in adolescence [17]. Although strong evidence supports the protective role of parental support, the influence of rule-setting on teenagers' mental health is less clear-cut. It appears to depend heavily on cultural context [32]. Some results suggest that while parental control can improve self-discipline and behavior in young people, it might also interfere with the important process of gaining independence, especially in middle and late adolescence when teens naturally want more freedom and self-reliance [33]. Consequently, overly strict control has sometimes been associated with poorer mental health among adolescents [14, 34].

On the other hand, encouraging autonomy generally supports positive growth [35], particularly when it occurs within a family where teens feel emotionally close to their parents [36]. Other studies have found that parental behavioral control can benefit development in general [37] and works especially well when combined with solid parental knowledge [38]. Given these mixed findings, it is useful to examine specific age ranges and cultural groups to better understand how different parenting practices function in different contexts.

Even though many earlier investigations linking parenting practices to adolescent psychosomatic complaints have used cross-sectional designs [21, 22, 39], experts have repeatedly called for more longitudinal research that tracks parenting behaviors and youth difficulties over time [28]. Most longitudinal studies conducted so far have examined how variables measured at the start point predict outcomes later, while statistically controlling for other influencing factors [40, 41].

The present study advances existing knowledge by using data collected at two time points on both parenting practices and psychosomatic complaints, and by applying two complementary yet distinct panel-data statistical techniques. Using the first-difference (FD) approach [42, 43], we examine how changes in parenting practices over

time relate to concurrent changes in psychosomatic complaints. This method sheds light on whether shifts in the other variable accompany shifts in one variable. In addition, we use the lagged dependent variable (LDV) approach to examine forward-looking associations by including the initial level of psychosomatic complaints in regression analyses. Combining these two methods provides a fuller, more nuanced picture of the temporal connections between parenting practices and psychosomatic complaints.

Beyond the effect of age, previous research has shown that parenting practices often differ by adolescent gender [44, 45], and paying attention to gender is essential when exploring how social relationships affect health during the teenage years [46]. Therefore, possible gender differences are investigated in all parts of the analysis. Furthermore, earlier studies have found that both parenting practices and adolescent health complaints are linked to family structure [47], parents' level of education [48], and parents' country of birth [49]. These background characteristics are therefore included as control variables.

The present study aimed to examine how adolescents view their parents' support, knowledge, and rule-setting during middle and late adolescence, and to assess the relationships between these parenting practices and adolescent psychosomatic complaints. The specific research questions were:

1) How do adolescents perceive their parents' support, knowledge, and rule-setting across middle and late adolescence?

2) Are these parenting practices cross-sectionally associated with psychosomatic complaints?

3) Are changes in parenting practices associated with changes in psychosomatic complaints?

4) Are there prospective associations between parenting practices and psychosomatic complaints?

5) Are there gender differences?

Materials and Methods

Study design and material

This study relied on information from Futura01, a national Swedish cohort that included young people in grade 9 in 2017, most of whom were born in 2001. Statistics Sweden randomly selected 500 schools and took one class from each. All participants completed self-report questionnaires on two occasions: first in 2017 (around ages 15–16 years, labeled T1) and again in 2019 (around ages 17–18 years, labeled T2). The initial data collection took place in the school setting, where students completed a paper-based questionnaire [50]. The subsequent data collection used both online and mailed surveys. Data from official administrative registers concerning parental education levels and country of birth were connected to the questionnaire responses. After removing individuals with any missing values on the study variables, the final dataset included 3,678 participants with complete information. **Figure 1** supplies additional details regarding the composition of the study sample.

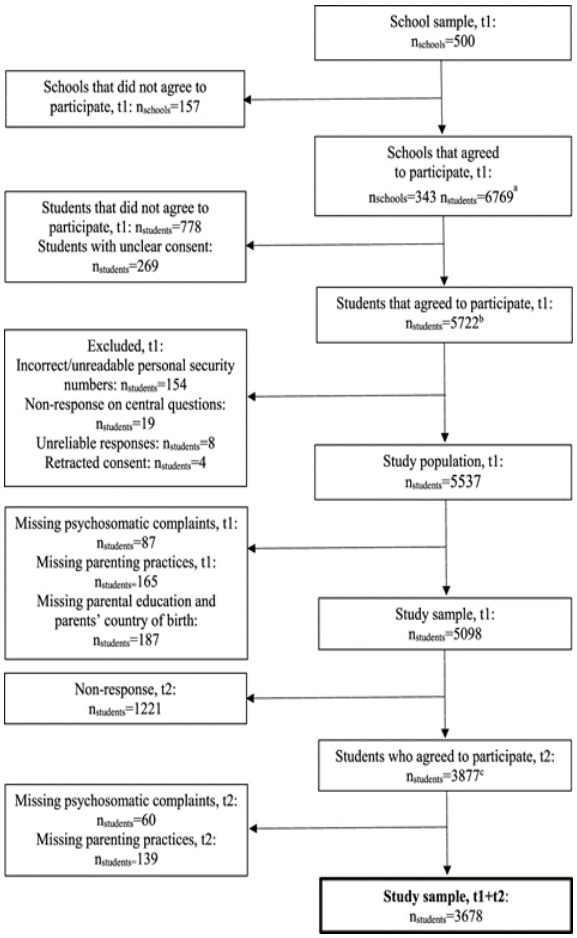

Figure 1. Flow chart of the study sample. Futura01, Sweden, 2017 and 2019: a) present at school on the day of the classroom survey, b) responded to the classroom survey, and c) responded to the web survey (83%) or the postal survey (17%).

The Swedish Ethical Review Authority granted ethical approval for the project (ref. nos. 2021-06504-01, 2022-02781-02, 2022-06502-02). All individuals taking part provided written informed consent.

Measurements

Parenting practices were evaluated using six statements, with two for each of three distinct dimensions: parental support, parental knowledge, and parental rule-setting. The dimension of parental support was captured by the statements "I can easily get warmth and caring from my mother and/or father" and "I can easily get emotional support from my mother and/or father". Statements addressing parental knowledge were "My parent(s) know who I am with in the evenings" and "My parent(s) know where I am in the evenings." For parental rule-setting, the statements used were "My parent(s) set definite rules about what I can do at home" and "My parent(s) set definite rules about what I can do outside the home." Respondents chose from five possible answers for every statement: 5 = "Almost always," 4 = "Often," 3 = "Sometimes," 2 = "Seldom," and 1 = "Almost never." Average scores were calculated for each of the three dimensions by taking the mean of the two relevant statements [51, 52]. In this way, each dimension produced a single overall score reflecting parenting practices from mother and/or father, an approach frequently adopted in studies of parenting [53, 54]. Reliability was strong across the scales (Cronbach's alpha for parental rule-setting: T1 = 0.75, T2 = 0.78; parental knowledge: T1 = 0.76, T2 = 0.80; parental support: T1 = 0.89, T2 = 0.93). Correlations between the different dimensions at each time point were generally weak to moderate (ranging from 0.03 to 0.40).

Psychosomatic complaints were assessed by asking "During the past 6 months, how often have you had…" followed by the specific symptoms "stomach ache," "difficulties falling asleep," and "headache." The five response choices ranged from 5 = "Every day," 4 = "A few times a week," 3 = "Once a week," 2 = "A few times a month," to 1 = "Less often or never." Identical items have been applied in earlier investigations of psychosomatic complaints [22]. A total score was calculated by summing the three items, yielding a possible range of 3 to 15, with higher scores indicating more frequent and overlapping symptoms. This combined index had acceptable reliability (Cronbach's alpha: T1 = 0.65, T2 = 0.62).

Information on gender and birth year was obtained directly from participants' personal identity numbers. Details on family structure were obtained from surveys completed at T1 and T2. In contrast, data on parental education (the highest level achieved by either parent) and parental country of birth were sourced from national administrative registers.

Analytical strategy and statistical methods

Descriptive statistics were used to summarise both parenting practices and psychosomatic complaints. Shifts in parenting practices and psychosomatic complaints between the two time points were analyzed using paired t-tests and the computation of change scores (Δ = T2-T1). Differences between boys and girls in average scores and in the amount of change were tested with independent t-tests. The magnitude of these differences was evaluated using Cohen's d. Linear regression models served to examine the links between parenting practices and psychosomatic complaints. Separate cross-sectional models were run for T1 and for T2. To determine whether shifts in parenting practices (T2-T1) corresponded to shifts in adolescents' psychosomatic complaints (T2-T1), the first-difference (FD) panel-data approach was employed. This involved regressing the change in the outcome variable (ΔY = T2-T1) onto the changes in the predictor variables (ΔX = T2-T1) across the two-year interval [43, 55]. One important strength of the FD method is that it helps minimize omitted-variable bias by adjusting for all time-invariant factors [42, 43, 56]. Prospective relationships were further investigated using the lagged dependent variable (LDV) technique, in which the outcome at T2 was predicted while controlling for its baseline level at T1. The LDV analyses were conducted as follow-up tests to the FD models; only those associations that proved statistically significant in the FD analyses were subsequently examined using the LDV method [55]. It should be noted that each technique offers advantages (for instance, the FD method "provides a better safeguard against omitted variable bias" [43] (p. 938). In contrast, the LDV method supports evaluation of temporal ordering) as well as drawbacks (such as elevated risk of type II error in the FD method when change is highly stable, or increased risk of type I error in the LDV method). Because the two approaches illuminate different features of the relationships, applying both allows for a more comprehensive exploration of the connections between the variables. Possible differences according to gender and the joint influence of multiple parenting practices were assessed by testing interaction effects. Robust standard errors were used to account for clustering within school classes at T1.

Results and Discussion

The final sample comprised 3,678 adolescents, including 1,641 boys (44.6%) and 2,037 girls (55.4%).

Table 1 presents average scores for the parenting dimensions and the psychosomatic complaints index, overall and stratified by gender, along with tests for gender differences and temporal changes. On average, adolescents reported the strongest levels of parental support and parental knowledge, with parental rule-setting scoring lowest. Perceived parental support did not differ between boys and girls, and it declined modestly over the study period in both genders (Δ = -0.12 among boys, Δ = −0.09 among girls, P = 0.283). Girls reported greater parental knowledge than boys at both assessment points (P < 0.001). Parental knowledge declined slightly only among boys (P = 0.015), although the extent of the change did not differ significantly by gender (Δ = −0.06 for boys, Δ = −0.02 for girls, P = 0.226). No gender difference in parental rule-setting was evident at T1, but at T2, girls perceived somewhat fewer rules set by parents (P = 0.001). Yet, these differences vanished once the items were averaged into the overall scale score. Girls scored higher than boys on the psychosomatic complaints index at both time points (P < 0.001), and the index increased to a comparable degree for both genders between T1 and T2 (Δ = 0.21 for boys, Δ = 0.17 for girls, P = 0.659).

Table 1. Average scores for the parenting dimensions and the psychosomatic complaints index

	All (*n* = 3678)						**Girls (*n* = 2037)**				**Boys (*n* = 1641)**						
	Mean (SD)	Mean (SD)	p time[a]	Effect size[b]	Δ (SD)[c]	p time[a]	Effect size[b]	Δ (SD)[c]	Mean (SD)	p time[a]	Effect size[b]	Δ (SD)[c]	p gender[d]	Effect size[e]	p Δ gender[d]	Effect size[e]	Range[f]
Parental support																	1–5
T1	4.43 (0.90)	4.42 (0.91)	< 0.001	**−0.09**	−0.09 (0.94)	< 0.001	**−0.11**	−0.10 (0.95)	4.44 (0.87)	<0.001	**−0.13**	−0.12 (0.97)	0.536	0.02	0.283	−0.04	
T2	4.32 (0.97)	4.33 (0.98)							4.32 (0.97)				0.630	−0.02			
Parental knowledge																	1–5
T1	4.45 (0.79)	4.55 (0.74)	0.243	−0.03	−0.02 (0.88)	0.011	−0.05	−0.04 (0.94)	4.34 (0.84)	0.015	−0.07	−0.06 (1.01)	< 0.001	**−0.27**	0.226	−0.04	
T2	4.41 (0.87)	4.53 (0.80)							4.28 (0.94)				< 0.001	**−0.29**			
Parental rule-setting																	1–5
T1	3.07 (1.07)	3.06 (1.07)	< 0.001	**−0.38**	−0.42 (1.14)	< 0.001	**−0.34**	−0.37 (1.15)	3.09 (1.07)	< 0.001	**−0.29**	−0.32 (1.16)	0.510	0.02	0.009	**0.09**	
T2	2.70 (1.12)	2.64 (1.11)							2.77 (1.14)				0.001	**0.11**			
Psychosomatic complaints																	
T1	7.06 (2.75)	7.80 (2.78)	0.002	**0.06**	0.17 (2.51)	< 0.001	**0.07**	0.19 (2.46)	6.14 (2.43)	<0.001	**0.09**	0.21 (2.40)	< 0.001	**−0.63**	0.659	0.01	3–15
T2	7.25 (2.72)	7.97 (2.74)							6.35 (2.43)				< 0.001	**−0.62**			

Mean values, standard deviations, and p-values from t-tests and Cohen's d for gender and time differences in parenting practices and psychosomatic complaints. T1: 15–16 years, T2: 17–18 years. Futura01, Sweden, 2017 and 2019. a) Paired t-test for differences over time (between T1 and T2); b) Cohen's d effect size: T2 as reference group (positive effect sizes denote higher mean values at T2; negative effect sizes denote higher mean

values at T1). Bold values denote statistical significance at the 95% confidence interval (CI); c) Degree of change (Δ= mean value at T2—mean value at T1); d) Unpaired t-test for gender differences in mean values; e) Cohen's d effect size: boys as reference group (positive effect sizes denote higher mean values for boys; negative effect sizes denote higher mean values for girls). Bold values denote statistical significance at the 95% confidence interval (CI); f) Range of scales (minimum—maximum).

Findings from the cross-sectional linear regression models appear in **Table 2**. Greater parental support consistently corresponded to lower psychosomatic complaints across all models at both T1 and T2. Parental knowledge showed a significant negative relationship with psychosomatic complaints in nearly every model, except Model 2 at T2 (where it approached significance at P = 0.057). In contrast, stronger parental rule-setting was associated with higher psychosomatic complaints across most models (except the unadjusted model at T2). However, these associations were weaker than those for support and knowledge. Interaction effects involving gender and the parenting dimensions were also examined (not shown in the table). A significant interaction emerged at T1 between gender and parental support, indicating that the protective effect of parental support against psychosomatic complaints was more pronounced for girls than for boys. Additionally, parental knowledge and parental support interacted significantly at T1, such that the beneficial association of parental knowledge with fewer complaints was stronger when parental support levels were higher (not shown in the table).

Table 2. Findings from the cross-sectional linear regression models.

Psychosomatic Symptoms at T1	**Model 2[c]**		**Model 1[b]**		**Unadjusted[a]**	
	b	**95% CI**	**b**	**95% CI**	**b**	**95% CI**
Parental support measured at T1	−0.49	−0.60; −0.39	−0.52	−0.63; −0.41	−0.59	−0.69; −0.48
Parental knowledge measured at T1	−0.24	−0.36; −0.13	−0.28	−0.39; −0.16	−0.45	−0.56; −0.34
Parental rule-setting measured at T1	0.14	0.06; 0.22	0.12	0.04; 0.20	0.09	0.00; 0.17
Psychosomatic Symptoms at T2	**Model 2[c]**		**Model 1[b]**		**Unadjusted[a]**	
	b	**95% CI**	**b**	**95% CI**	**b**	**95% CI**
Parental support at T2	−0.44	−0.53; −0.34	−0.46	−0.55; −0.37	−0.51	−0.59; −0.42
Parental knowledge at T2	−0.10	−0.21; 0.00	−0.14	−0.24; −0.04	−0.34	−0.43; −0.24
Parental rule-setting at T2	0.09	0.02; 0.16	0.09	0.01; 0.16	0.07	−0.01; 0.14

Results from cross-sectional analyses of psychosomatic complaints by parenting practices at T1 (15–16 years) and at T2 (17–18 years). Coefficients from linear regressions and 95% confidence intervals. n = 3,678. Futura01, Sweden, 2017 and 2019. A) Includes one independent variable at a time, adjusting for gender; b) Mutually adjusts for all parenting practices and gender; c) Mutually adjusts for all parenting practices, gender, family structure (T1/T2), parental education, and parental country of birth.

The first-difference (FD) results in **Table 3** reveal that increases in parental support and parental knowledge (but not parental rule-setting) were associated with reductions in psychosomatic complaints over time. The association between changes in parental support and the adjustment remained consistent across adjustments. In contrast, the estimate for changes in parental knowledge weakened somewhat when all parenting dimensions were included together in Model 1. Additional controls for family structure, parental education, and parental country of birth in Model 2 left the estimates largely unchanged.

Table 3. The first-difference (FD) results

Variation in Psychosomatic Complaints (T2 − T1)	**Model 2[c]**		**Model 1[b]**		**Unadjusted[a]**	
	b	**95% CI**	**b**	**95% CI**	**b**	**95% CI**
Change in parental support between T2 and T1	−0.30	−0.40; −0.20	−0.30	−0.40; −0.20	−0.33	−0.43; −0.23
Change in parental knowledge between T2 and T1	−0.10	−0.20; −0.01	−0.10	−0.19; −0.01	−0.19	−0.28; −0.09
Change in parental rule-setting between T2 and T1	−0.03	−0.10; 0.05	−0.02	−0.10; 0.05	−0.03	−0.10; 0.05

Results from analyses of change scores in psychosomatic complaints (T2-T1) by change in parenting practices (T2-T1) (first difference method). Coefficients from linear regressions and 95% confidence intervals. T1: 15–16

years, T2: 17–18 years. n = 3,678. Futura01, Sweden, 2017 and 2019. A) Includes one independent variable at a time, adjusting for gender; b) Mutually adjusts for change in all parenting practices and gender; c) Mutually adjusts for change in all parenting practices, gender, family structure (T1), parental education, and parental country of birth.

Table 4 presents the lagged dependent variable (LDV) findings, in which parenting practices at T1 were examined as predictors of psychosomatic complaints at T2, after accounting for initial complaint levels. None of the parenting practices at T1 showed a significant prospective relationship with psychosomatic complaints at T2. Gender interaction terms were tested, but none proved statistically significant (not shown in the table).

Table 4. The lagged dependent variable (LDV) findings

Psychosomatic Symptoms at T2	Model 2[c]		Model 1[b]		Unadjusted[a]	
	b	95% CI	b	95% CI	b	95% CI
Parental support measured at T1	−0.04	−0.13; 0.05	−0.06	−0.14; 0.03	−0.06	−0.15; 0.02
Parental knowledge measured at T1	−0.03	−0.13; 0.07	−0.04	−0.14; 0.05	−0.05	−0.15; 0.04
Psychosomatic complaints at T1	0.54	0.51; 0.56	0.54	0.52; 0.57	0.55	0.52; 0.58

Results from analyses of psychosomatic complaints at T2 by parenting practices at T1, controlling for psychosomatic complaints at T1 (lagged dependent variable method). Coefficients from linear regressions and 95% confidence intervals. T1: 15–16 years, T2: 17–18 years. n = 3,678. Futura01, Sweden, 2017 and 2019. A) Includes one parenting practice, adjusting for psychosomatic complaints at T1 and gender; b) Mutually adjusts for all parenting practices, psychosomatic complaints at T1, and gender; c) Mutually adjusts for all parenting practices, psychosomatic complaints at T1 and gender, family structure (T1), parental education, and parental country of birth.

Although certain estimates and significance levels varied slightly, the overall pattern and direction of associations remained largely the same for boys and girls.

This study investigated how adolescent boys and girls perceived parental support, knowledge, and rule-setting during middle and late adolescence, and the relationships between these parenting behaviors and psychosomatic complaints, including any gender differences.

Mean scores indicated that most adolescents felt they could obtain support from their parents, and that their parents generally knew who they were with and where they were during the evenings. Among the parenting practices examined, the largest shift with age was a reduction in parental rule-setting, followed by a more modest drop in parental support. These patterns are consistent with earlier studies that have documented declines in both parental rule-setting and support throughout middle and late adolescence [57].

Cross-sectional models revealed that greater parental support and knowledge were associated with fewer psychosomatic complaints, whereas higher parental rule-setting was associated with more complaints. Analyses of change over time showed that increases in parental support and knowledge were associated with reductions in psychosomatic complaints. In contrast, when parenting practices at T1 were used to predict psychosomatic complaints at T2 after accounting for baseline complaint levels, no significant long-term effects of parental support or knowledge emerged. Overall, the results point to concurrent links between parenting practices and psychosomatic complaints, without evidence of lasting predictive effects. These observations align with findings from an Australian study [58], which indicated that parenting behaviors were associated with subjective wellbeing in the present but not at later time points. This implies that beneficial parenting experiences may not accumulate or be stored by adolescents; instead, positive parental involvement needs to be regular and sustained [58]. Nevertheless, it is worth noting that the absence of clear prospective associations might partly stem from the relatively wide gap between the two measurement waves, and that more frequent assessments could have produced different outcomes [59].

Of the parenting practices studied, parental support stood out as the strongest factor connected to adolescents' psychosomatic complaints. This result echoes previous work highlighting the protective influence of parental support on adolescent mental and psychosomatic wellbeing [20, 21, 23]. The negative relationship

observed in both cross-sectional and change analyses can be interpreted as parental support supplying psychological resources that help young people manage stress more effectively [60]. In addition, parental support contributes to a sense of acceptance and inclusion, which, in turn, supports the development of self-esteem and better self-regulation among youth [61, 62].

Parental knowledge was also associated with psychosomatic complaints in the cross-sectional and change analyses, though these associations weakened after controlling for parental support. While parental support and knowledge were correlated at the same time points, further checks (not shown) revealed a prospective link from parental support at T1 to parental knowledge at T2, but not vice versa. This aligns with earlier research proposing that parental warmth and support lay the foundation for adolescents' openness and information sharing, which, in turn, leads to greater parental knowledge [63, 64], underscoring the central role of support.

The questions assessing parental knowledge relied on adolescents' perceptions of how much their parents knew about their everyday activities—the most frequently used method for measuring parental monitoring [28]. However, this approach has been criticized, with suggestions that such knowledge may primarily reflect adolescents' readiness to disclose rather than parents' active monitoring behaviors [28]. A longitudinal Swedish study by Stattin and Kerr [29] further supported this view. On this basis, the current study treats the parental knowledge measure mainly as an indicator of youth disclosure rather than active parental monitoring. Still, because the items do not identify the exact source of the knowledge, the precise meaning and underlying processes remain open to interpretation.

The modest positive link between parental rule-setting and psychosomatic complaints observed in the cross-sectional models held up after adjustments. One possible explanation is that during the process of developing independence and autonomy, overly strict or numerous rules may leave adolescents feeling incapable or doubting their own abilities. For instance, research by Gittins and Hunt [65] showed that parental rules can heighten self-criticism and weaken self-confidence in 12–14-year-olds. This pattern may intensify with age, as the desire for autonomy grows stronger. An alternative explanation draws on evidence that adolescents interpret parental control differently across specific areas of life [66]. Since this study focused on a limited set of behaviors, caution is needed when extending the results to other domains of parental rule-setting. Moreover, the small effect sizes for rule-setting in cross-sectional models and the absence of associations in the change analyses suggest that the other parenting practices examined here have a more prominent influence on adolescent psychosomatic complaints.

Although some gender differences appeared in how parenting practices were perceived across middle and late adolescence, the overall connections between these practices and psychosomatic complaints were largely comparable for boys and girls. The main exception was a stronger link between parental support and psychosomatic complaints at T1 among girls, which matches patterns reported in prior studies [21]. As noted earlier, self-esteem serves as one pathway connecting social support [67] — and parental support in particular [62] — to better health. Extensive research has repeatedly found that girls tend to report lower self-esteem than boys [68, 69]. Self-esteem is also negatively related to mental health difficulties [69] and helps account for the higher rates of psychosomatic complaints observed among girls [70]. Consequently, girls may gain particular benefits from parental support, including reinforcement of their sense of identity and self-worth.

A major advantage of this study lies in its use of a sizable national cohort with the same measures of parenting practices and psychosomatic complaints collected at two time points. However, several limitations should be acknowledged. First, despite a fairly high response rate, non-participation at the school level during T1 and at the individual level at both waves may have limited the extent to which the findings can be applied. Another constraint concerns the measurement of parenting practices, as each dimension was assessed with only two items. Because separate ratings for mothers and fathers were not collected, it was not possible to explore potential differences in how maternal versus paternal behaviors related to adolescents' psychosomatic complaints. In addition, the way parental knowledge was measured made it impossible to clarify whether it reflected youth disclosure or actual parental monitoring, so findings related to this dimension warrant careful interpretation. Finally, the psychosomatic complaints index comprised only three items and demonstrated only moderate internal consistency. Future research would benefit from using more detailed instruments, such as scales that distinguish among different types of complaints.

Conclusion

The results of this study highlight the value of continued, active parenting throughout middle and late adolescence. Although increases in parental support and knowledge between the two time points were associated with fewer psychosomatic complaints, these behaviors did not show forward-looking effects on the outcome after baseline complaints were taken into account. This emphasizes the need for steady, ongoing parental involvement, especially through emotional support. The findings indicate that programs designed to strengthen parental support during this developmental stage are likely to benefit adolescent mental health.

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