

Pathways to adolescent flourishing: linking perceived social support through emotional problems and resilience

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Samenvatting

Zowel ouderlijke steun als steun van leeftijdsgenoten is van belang om te kunnen floreren. Floreren is een staat waarin men goede mentale en sociale welzijn ervaart, onafhankelijk van de situatie. Er is weinig bekend over de onderliggende mechanismen van de relatie tussen waargenomen steun en floreren. Het doel van dit onderzoek is om te bepalen welke rol emotionele problemen en veerkracht spelen in de relaties tussen steun van ouders en leeftijdsgenoten enerzijds en floreren anderzijds. De analyses zijn uitgevoerd met cross sectionele data van het Peilstationsonderzoek behorende tot het Trimbos-instituut, bestaande uit 5.587 Nederlandse adolescenten tussen de 12 en 16 jaar ($M = 13.90$, $SD = 1.38$). Voor de mediatie analyse is PROCESS in SPSS gebruikt. De associaties tussen steun van ouders of leeftijdsgenoten aan de ene kant en floreren aan de andere kant, met emotionele problemen als onderliggend mechanisme, bleek significant negatief. Daarnaast zijn er significant positieve relaties gevonden voor de genoemde associaties met veerkracht als onderliggend mechanisme. De relaties tussen ouderlijke steun en floreren en steun van leeftijdsgenoten en floreren bleven significant tijdens de analyses, waarvan de eerstgenoemde relatie het sterkste was. Dit onderzoek laat zien dat inzetten op het versterken van veerkracht door het verbeteren van onderlinge relaties bij kan dragen aan het floreren van adolescenten.

Kernwoorden: floreren, ouderlijke steun, steun van leeftijdsgenoten, emotionele problemen, veerkracht, mediatie

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

Abstract

Both parental and peer support were found to be important factors in achieving flourishing; a state of positive psychological and social well-being in any situation. However, little is known of the underlying mechanisms of these associations. This study aims to determine the role of emotional problems and resilience in the associations between parental or peer support, and flourishing. The analyses were based on cross-sectional data of the Sentinel Survey for Students from the Trimbos Institute, consisting of 5587 Dutch adolescents aged 12-16 years ($M = 13.90$, $SD = 1.38$). For the mediation analysis, PROCESS in SPSS was used. The associations between parental or peer support and flourishing, with emotional problems as underlying mechanism, was significantly negative. For resilience as underlying mechanism, the associations were significantly positive. The associations between parental support and flourishing, and peer support and flourishing remained significant throughout the analyses, with the former being the strongest. The results indicate a need for increasing resilience by improving interpersonal relationships at school to enable flourishing in adolescents.

Keywords: flourishing, parental support, peer support, emotional problems, resilience, mediation

Pathways to adolescent flourishing: linking perceived social support through emotional problems and resilience

In western countries, adolescents' mental health and wellbeing have declined over the past decades (Twenge et al., 2019). To illustrate, significant increases of psychological distress, depressive symptoms, loneliness and suicidal behavior of adolescents have been reported (Twenge et al., 2019). Adolescence is a crucial period for psychosocial and biological development (Paus et al., 2008). During this period, adolescents' brains develop rapidly making them particularly vulnerable for the emergence of mental health problems (Paus et al., 2008). Due to the decreased mental health and wellbeing among adolescents, mental health promotion gained interest. Over decades, social support has shown to be a protective and beneficial factor to adolescents' well-being and health outcomes in adulthood (Segrin, 2003; Umberson et al., 2010). Therefore, the main aim of this study is to determine the association between social support and high levels of well-being in adolescents.

A concept that is used to describe high levels of well-being within an individual, is *flourishing* (Huppert, 2009; Keyes, 2002). Flourishing implies that an individual is feeling good and functioning well, independent of the situation (Huppert & So, 2013). Feeling good refers to emotional well-being and includes emotions, such as happiness, life satisfaction, interest, engagement, confidence, and affection (Huppert, 2009; Kim, 2020; Seligman, 2002). Whereas functioning well refers to psychological and social well-being, which includes feelings of autonomy and self-control, having a meaning and purpose, experiencing positive relationships, and developing one's potential (Huppert, 2009).

As previously stated, general well-being is affected by social support (Segrin, 2003). In fact, social contact, social support, and the need to belong are essential for human beings (Baumeister & Leary, 1995; Wilson, 1967). Similarly, the Self-Determination Theory states that relatedness, next to autonomy and competence, is a basic need for psychological growth and well-being of humans (Deci & Ryan, 2012). Especially, supportive interpersonal relationships are crucial for individual's flourishing (Diener & Seligman, 2004; Kim et al., 2020; Li et al., 2020). For adolescents specifically, family and peers are important sources of social support (Lee & Goldstein, 2016). They can provide emotional, practical, and informational support, as well as guidance (Thoits, 2011). With emotional support being the expression of love, sympathy, and encouragement (Lee et al., 2016; Scholte et al., 2001; Thoits, 2011; Uchino, 2009). Informational support refers to the provision of money and goods, and practical support implies help with specific tasks. Lastly, guidance includes advice and help in decision making (Eaude, 2009). Furthermore, a distinction is made between

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

perceived and received support. Perceived support refers to the availability of accessible sources of support, whereas received support is whether these sources are actually used (Uchino, 2009). This study focuses on perceived support, since awareness about support possibilities and belief in one's support system is most important (Cohen, 2004).

Up until now, most research has focused on the importance of social support for adolescents' general well-being. However, minor attention has been paid to possible mediating factors in the association between social support and flourishing in youth. Possibly, parental support leads to emotional stability and a positive self-esteem, which in turn affects flourishing (Khaleque, 2012). Another hypothesis is that social support leads to increased resilience, thereby enhancing flourishing (Krueger & Upchurch, 2020). Hence, the purpose of this research is to gain insight in the mediating factors proposed by literature. Additionally, a distinction between parental and peer support is made, since these sources of support seem to have different effects on adolescents, yet they contribute to the same outcome: flourishing. Therefore, the main research question is: *'How are parental and peer support associated with flourishing in youth?'*. It is hypothesized that 'emotional problems' and 'resilience' are underlying mechanisms, depicted in Figure 1.

The main research question is supported by the following sub questions: 'To what extent is the association between parental or peer support and flourishing mediated by emotional problems?' and 'To what extent is the association between parental or peer support and flourishing mediated by resilience?'.

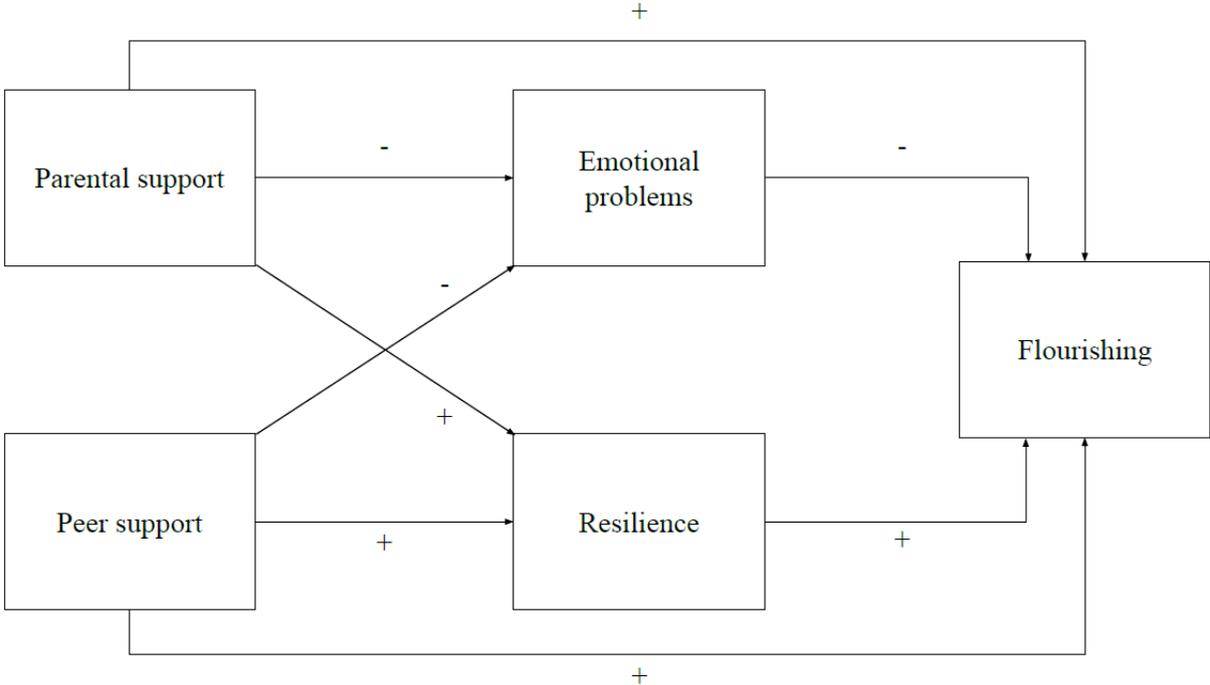
Firstly, it is hypothesized that the effect of social support on flourishing is mediated by emotional problems. In other words, social support leads to less emotional problems. The separate pathway from emotional problems to flourishing is officially depicted as negative in Figure 1, indicating more emotional problems cause less flourishing. However, this hypothesis focuses on the favorable effect of having few to no emotional problems, since this is expected to be positively associated with flourishing. The first part of the proposed association is explained by Khaleque (2012), who states that parental emotional support is associated with children's increased emotional stability, emotional responsiveness, and positive self-esteem. Moreover, positive supportive interactions with peers and reciprocal sensitivity to emotions promote a decrease in stress and anxiety in the school environment (Wang & Fletcher, 2016). Additional positive effects of parental and peer support on emotional well-being are reduced feelings of loneliness and depressive symptoms (Lee & Goldstein, 2016; Lee et al., 2016; Segrin, 2003). Frech (2012) sheds light on a different aspect of parental and peer support as they have proven to be protective factors for healthy behaviors

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

that persist throughout further developmental stages from adolescence onwards. These healthy behaviors include sufficient exercise, sleep, refrain from smoking and excessive drinking, and strengthen mental health and well-being (Frech, 2012; Tweed et al., 2020). On the contrary, Segrin (2003) did not focus on the presence of social support, but on the absence thereof. His findings suggest that a perceived lack of social support increases the likelihood of emotional distress. In turn, increased emotional distress and disability to regulate these emotions can lead to an increase of required support (Eaude, 2009). On the other hand, people with less or no emotional problems tend to provide more support to other people, compared to receiving it themselves (Thoits & Hewitt, 2001). These outcomes indicate that the association between social support and emotional problems might be reciprocal. Nevertheless, in view of comprehensibility, this study focuses on the effect of social support on emotional problems only.

Figure 1

A conceptual model



The second part of this hypothesis indicates that few emotional problems increase one’s happiness. Happy people with high levels of well-being seem to perform better and more effectively in life compared to people who are less happy or high in well-being (Diener

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

& Seligman, 2004; Huppert, 2009). Performing well and achieving goals promotes autonomy and life satisfaction, which are significant aspects of flourishing. In addition, high levels of mental and social well-being are associated with adaptive behavior in specific contexts, creative thinking, and pro-social behavior (Diener & Lucas, 2000; Huppert, 2009). In short, social support decreases emotional problems due to enhanced developed emotional, psychological, and social well-being. Taken together, these developments are expected to promote one's personal flourishing.

The next hypothesis explores the mediating role of resilience in the association between parental and peer support on flourishing, as depicted in Figure 1. Resilience is the capacity to cope successfully with stressful circumstances and positively adapt to adversity (Eaude, 2009). It is well-known that the presence of caring family relationships and positive peer interactions are protective factors for a child's development (Brownlee et al., 2013). To illustrate, Krueger and Upchurch (2020) demonstrated that higher levels of parental and peer support are consistently related to greater (maintenance of) resilience as support promotes psychological adjustment (Barry, 2009; Taylor & Stanton, 2007). Diener and Seligman (2004) stated that perceived social support is an important predictor of adolescents' adjustment to stressors. Moreover, greater perceived friendship quality has been found to promote coping styles that increase resilience (Graber et al., 2016). On the other hand, negative parental and peer relationships are associated with lower levels of resilience, since poor social relationships may induce a rise in psychological problems (Flores et al., 2005).

Resilience itself is a key contributor to flourishing; it supports individuals to adjust to unfavorable situations (Huppert & So, 2013). According to Lee (2006), resilience in adolescents induces enhanced engagement, empathy, awareness of one's strengths and improved relationships. These internal and external protective factors and social and psychological resources are necessary for the application of effective coping strategies in the face of stress (Lee, 2016; Malkoç & Yalçın, 2015). Effective coping strategies are associated with higher psychological well-being (Malkoç & Yalçın, 2015). Interestingly, Eaude (2009) argues that excessive parental support does not enhance flourishing in children. Instead, he states that relying solely on parental support may prevent a child's development of autonomy and coping styles, due to the fact that the child does not get the opportunity to learn how to cope with specific situations. Likewise, Johnson and Benson (2012) demonstrated that excessive parental involvement and control during adolescence was negatively associated with later success in that adolescents' life, as it is important that a child learns how to deal with situations and believes in its own ability to do so. To summarize, it is expected that

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

positive social support helps individuals to learn how to be resilient in varying situations and how to cope with stressors. This increased resilience and psychological well-being adds to a state of flourishing.

Methods

Participants

The sample of the study consisted of 5587 respondents, both boys (51.2%) and girls (48.8%) of 110 secondary schools in the Netherlands. For this study, the data from ‘Geluk onder druk?’ [in English: Happiness under pressure] was used, which was part of the nationally representative population study ‘Peilstationsonderzoek Scholieren’ [in English: Sentinel Survey for Students] among adolescents aged 12-16 years in The Netherlands (mean age 13.9 years), see Appendix A (Kleinjan et al., 2020). A total of 29.2% attended a lower education level (preparatory middle-level applied education, profession-oriented learning path), 32.2% a low-middle education level (preparatory middle-level applied education, theoretic learning path), 24.2% a middle education level (higher general continued education) and 14.5% attended a higher education level (preparatory scientific education). Furthermore, 74.1% of adolescents in the sample had a Dutch background (native), 6.8% had a western migration background and 18.9% a non-western migration background.

Procedure

From April to September 2019, the municipal health services [in Dutch: GGD'en] and the Trimbos-institute invited schools to participate in the study. After permission to participate was obtained, the digital questionnaires were distributed and filled-out during class hours between October and November 2019. The process was overseen by a research assistant of the Trimbos-institute, who was present in the classroom and could answer any questions students had. Prior to the questionnaires, parents were informed about the research via a flyer and were given the possibility to object against participation of their child(ren). Ethical approval was obtained by the Ethical Committee of the Trimbos Institute (registration number: #52-1906).

Measures

This study can be labeled as participative youth research, meaning that youth themselves were involved in the questionnaire development process as co-investigators. This means that in some instances the choice was made not to incorporate all items of validated questionnaires, because scales were considered too long or items unclear. In this study, only the items assessing social support, emotional problems, resilience, and flourishing are used, which are described below.

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

Demographic variables

The demographics included participants' gender (1 = male), age (in years), education level (1 = vmbo-b), and migration background (1 = Dutch).

Parental support

Perceived parental support was assessed by means of the item "My parents support me in what I do" that could be rated as *not true*, *somewhat true* or *true*.

Peer support

Perceived peer support was assessed by the item "My friends support me in with what I do" that could be rated as *not true*, *somewhat true* or *true*.

Emotional problems

For the measurement of participants' emotional problems, a subscale of the Strength and Difficulties Questionnaire (SDQ) was used (Goodman et al., 1998). A total of 5 statements were proposed which were answered with *not true*, *a little true* and *not true*. Example items of the subscale on emotional problems are: "I am often unhappy, downhearted or tearful" or "I worry a lot". For the items on emotional problems, the Cronbach's alpha was 0.72.

Resilience

Resilience was measured using 2 statements from the Brief Resilience Questionnaire (Smith et al., 2008): "I find it difficult to endure stressful situations" and "After a hard period I recover quickly". The latter item was used for the current study since the consistency between the two items was low (Cronbach's alpha: 0.30). Answers were given on a 5-point-scale ranging from *totally disagree* to *totally agree*.

Flourishing

Flourishing was measured by twelve items. These items were formulated based on interviews with adolescents on their well-being (Kleinjan et al., 2020). The items were questions that could be answered on a 3-point-scale; *yes*, *a little* and *no*. Examples of questions are: "Do you see your life as meaningful?", "Do you enjoy life?", and "Are you happy?". The Cronbach's alpha was 0.91.

Data analysis

Before the data analysis was performed, normality, missing values, and outliers were examined. Descriptive statistics and analysis were obtained for all demographic and model variables using IBM SPSS Statistics 26. Spearman correlations were obtained for dichotomous and ordinal variables and Pearson correlations for continuous variables ($p < .05$).

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

To examine the direct associations between parental and peer support and flourishing a hierarchical multiple regression analysis was performed. Once the assumptions for this analysis were checked, the control variables gender, age, education, and migration background were added in the first block (model 1). In the second block parental and peer support were added (model 2).

To investigate whether parental and/or peer support could lead to more flourishing via decreased emotional problems or increased resilience, the PROCESS-macro tool version 3.0 by Andrew F. Hayes was used (Hayes, 2018). Model 4 was selected for the mediation analysis. In total, four analyses were performed, two per hypothesis. The coefficients, significance levels, R-squares and confidence intervals were analyzed to examine how parental and peer support, with and without emotional problems or resilience as a mediator, influenced flourishing.

Results

Descriptive statistics

The descriptive statistics of all variables are shown in Table 1. Results on the predictor variable parental support showed that a total of 81.4% of the participants felt supported by their parents. For peer support, 73.8% indicated to experience this. Most of the participants (81%), scored in the lower range for emotional problems. The average score on resilience was 3.55 ($SD = 1.06$; range 1-5). On average, the participants scored relatively high on flourishing ($M = 2.62$, $SD = .41$; range 1-3).

Correlations

The Spearman and Pearson correlations for all model and control variables are depicted in Table 2. Spearman correlations were obtained for dichotomous and ordinal variables and Pearson correlations for continuous variables. Of all variables, the correlation between parental support and peer support was highest with .44. Flourishing correlated mediocre and significantly with parental support, peer support, emotional problems and resilience.

For the correlations between the model variables (parental support, peer support, emotional problems and resilience) and control variables (gender, education level, age, ethnicity) only small positive and negative correlations were found. Hereof, gender correlated highest with the variables emotional problems, resilience, and flourishing.

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

Table 1

Descriptive statistics

	N	Min	Max	M	SD	%total	% missing (N)
Parental support	5530	1	3				0 (2)
Not true	178					3.2	
A little	853					15.4	
True	4499					81.4	
Peer support	5530	1	3				0.1 (2)
Not true	211					3.8	
A little	1236					22.3	
True	4083					73.8	
Emotional problems	5532	0	2				0 (1)
Normal	4478					81.0	
Borderline	357					6.4	
Abnormal	696					12.6	
Resilience	5532	1	5	3.55	1.06		0.1 (5)
Flourishing	5512	1	3	2.62	.41		
Demographic variables							
Gender	5528						0.1 (4)
Male	2824					51.1	
Female	2704					48.9	
Education level	5532						0 (0)
VMBO-b/t	1055					19.1	
VMBO-t/HAVO	1544					27.9	
HAVO/VWO	1421					25.7	
VWO	1511					27.3	
Age	5532	10	16	13.90	1.38		0 (0)
Ethnicity	5517	1	3				0.3 (15)
Dutch	4091					74.1	
Western	412					7.5	
Non-western	1015					18.4	

Note. N = number of respondents, M = mean, SD = standard deviation.

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

Table 2

Pearson and Spearman correlations between all variables

Variables	1	2	3	4	5	6	7	8	9
1. Parental support	1.00								
2. Peer support	.44**	1.00							
3. Emotional problems	-.18**	-.15**	1.00						
4. Resilience	.22**	.22**	-.33**	1.00					
5. Flourishing	.38**	.34**	-.40**	.41**	1.00				
6. Gender	.01	.07**	.27**	-.23**	-.12**	1.00			
7. Education level	.06**	.07**	.03	.07**	.05**	.05**	1.00		
8. Age	-.06**	-.00	.07*	-.03	-.06**	-.01	.03*	1.00	
9. Ethnicity	-.08**	-.02	-.04**	.02	-.06**	-.02	-.11**	-.03*	1.00

Note. Spearman correlations were used for ordinal and dichotomous variables. Pearson correlations were used for continuous variables. * $p < .05$, ** $p < .01$, *** $p < .001$ (2-tailed).

Hierarchical Multiple Regression analysis

A hierarchical multiple regression analysis was carried out to test the direct associations within the hypothesized mediation model. Before the analysis was performed, the assumptions were checked. Linearity of the relationships between peer and parental support and flourishing was tested by visually inspecting scatterplots (Jeong & Yung, 2016). Absence of multicollinearity between the independent variables parental and peer support was tested with a Pearson correlation matrix and Variance Inflation Factor (VIF) values. The P-P plot was examined to determine if the residuals of flourishing were normally distributed. The last assumption, homoscedasticity, was checked by looking at the plot of standardized residuals versus predicted values. The assumptions of no multicollinearity, independence of the continuous dependent variable, ordinal independent variables, and the independent variables with each at least 10 observations were met. However, the assumptions of normality, linearity and homoscedasticity were violated. Therefore, the results of the regressions should be interpreted with caution.

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

Direct relations between independent and dependent variables

Parental and peer support were found to be significant predictors of flourishing, whilst controlling for gender, education level, age, and ethnicity. See Table 3. The R square of this model was 0.28.

Table 3

Hierarchical Multiple Regression Analysis for the direct relations between independent and dependent variables (N = 5489).

	Unstandardized coefficients		Standardized coefficients
	<i>B</i>	<i>SE B</i>	β
Constant	3.08	0.05	
Gender	-0.10	0.01	-.13***
Education level	0.01	0.00	.02
Age	-0.01	0.00	-.04***
Ethnicity	-0.01	0.01	-.03*
Parental support (true)			
Not true	-0.68	0.03	-.29***
Somewhat true	-0.27	0.01	-.23***
Peer support (true)			
Not true	-0.33	0.03	-.15***
Somewhat true	-0.19	0.01	-.19***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Mediation

Within PROCESS four analyses were run to investigate whether parental and/or peer support could lead to an increase in flourishing via a decrease in emotional problems or an increase in resilience. The predictor variables parental support and peer support were categorized as multicategorical, which meant that PROCESS automatically created dummy variables for these categorical variables. The coefficients of the second dummy variables are

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

depicted in the Figure 2 - 5, as these dummy variables were based on the answer 'true' for experienced parental or peer support.

First, a positive total effect was found between parental support and flourishing ($b=.91, t(5477)=32.42, p<.001$). In other words, whether an adolescent felt supported by their parent(s) had a significant effect on flourishing. The association between peer support and flourishing was positive as well, $b=.74, t(5475)=27.75, p<.001$. This meant that experienced peer support, significantly impacted an adolescent's flourishing.

As said, both hypotheses were tested with four analyses, two analyses per hypothesis. Therefore, the hypotheses are each split up into two parts, a and b, as this will contribute to the readability of this study. The letter 'a' depicts the associations with parental support as independent variable and 'b' depicts the associations with peer support as independent variable.

Analyzing the indirect effects for hypothesis 1a, results revealed that emotional problems significantly mediated the association between parental support and flourishing ($b=-.0672, SE=.0131, 95\% CI [.0420, .0939]$), see Figure 2. Parental support negatively affected emotional problems ($b=-.30, t(5477)=-6.03, p<.001$) and emotional problems, in turn, negatively affected flourishing ($b=-.23, t(5476)=-32.17, p<.001$). However, the results also showed that even after accounting for the mediating role of emotional problems, parental support still had a significantly positive impact on flourishing ($b=.84, t(5476)=32.62, p<.001$). Therefore, there was partial mediation.

Results showed that emotional problems significantly mediated the association between peer support and flourishing ($b=.0747, SE=.0125, 95\% CI [.0511,.0999]$), see Figure 3. Therefore, hypothesis 1b was confirmed. Peer support negatively affected emotional problems ($b=-.32, t(5477)=-7.13, p<.001$). Emotional problems negatively impacted flourishing ($b=-.23, t(5476)=-31.86, p<.001$). Despite the admission of the mediator in the analysis, the association between peer support and flourishing remained significant, which pointed to partial mediation ($b=.66, t(5476)=27.01, p<.001$).

Figure 2

Standardized Regression Coefficients for the association between parental support and flourishing, mediated by emotional problems (hypothesis 1a)

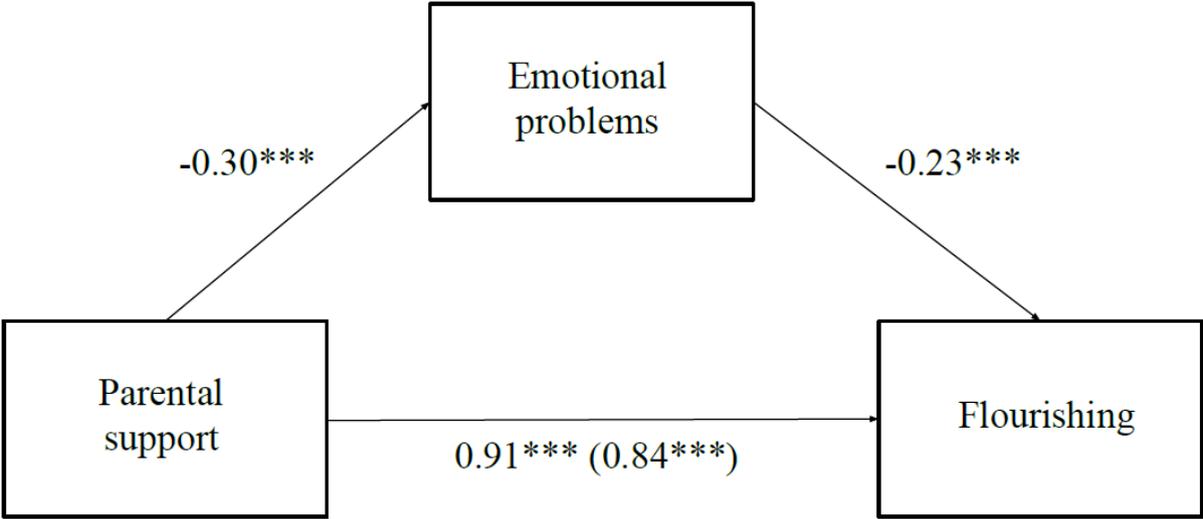
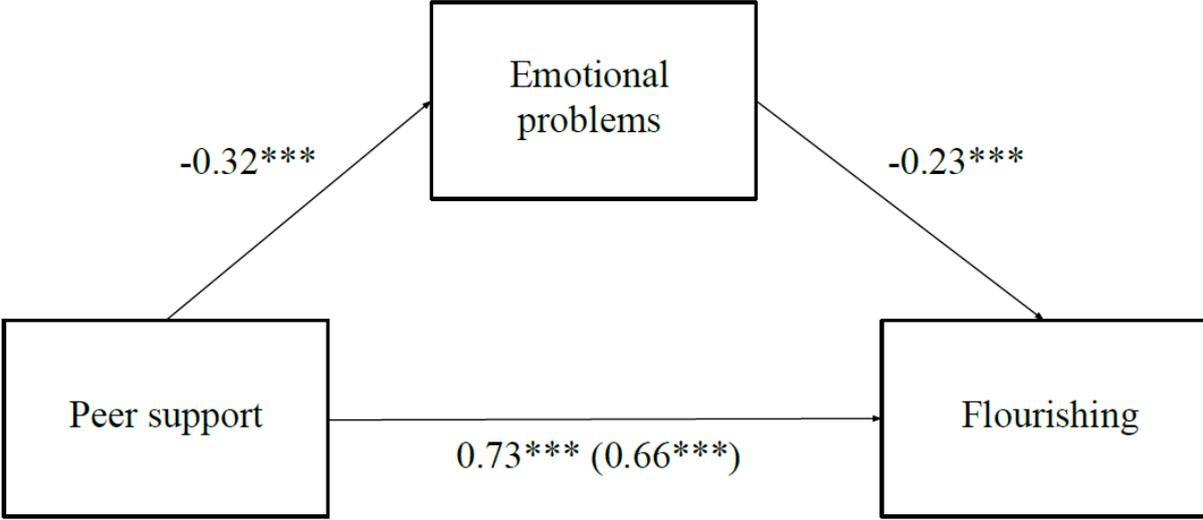


Figure 3

Standardized Regression Coefficients for the association between peer support and flourishing, mediated by emotional problems (hypothesis 1b)



SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

Analyzing the indirect effects for hypothesis 2a, results confirmed that resilience mediated the association between parental support and flourishing ($b=.1866, SE=.0177, 95\% CI [.1528,.2222]$). Parental support positively affected resilience ($b=1.36, t(5475)=17.49, p<.001$) and resilience positively affected flourishing ($b=.14, t(5474)=30.52, p<.001$). Even after controlling for the mediating role of resilience, the association between parental support and flourishing remained significant which means that this relationship was partially mediated by resilience ($b= .72, t(5474)=27.10, p<.001$), see Figure 4.

The results of the last mediation analysis supported hypothesis 2b; resilience mediated the association between peer support and flourishing ($b=.1690, SE=.0163, 95\% CI [.1383,.2013]$). The results are depicted in Figure 5. Peer support positively affected resilience ($b=1.17, t(5475), p<.001$). Then, resilience had a small but positive impact on flourishing ($b=.14, t(5474)=31.32, p<.001$). The association between peer support and flourishing continued to be positive, while controlling for the mediating effect of resilience ($b= .57, t(5474)=22.65, p<.001$). Resilience partially mediated the association between peer support and flourishing.

Figure 4

Standardized Regression Coefficients for the association between parental support and flourishing, mediated by resilience (hypothesis 2a)

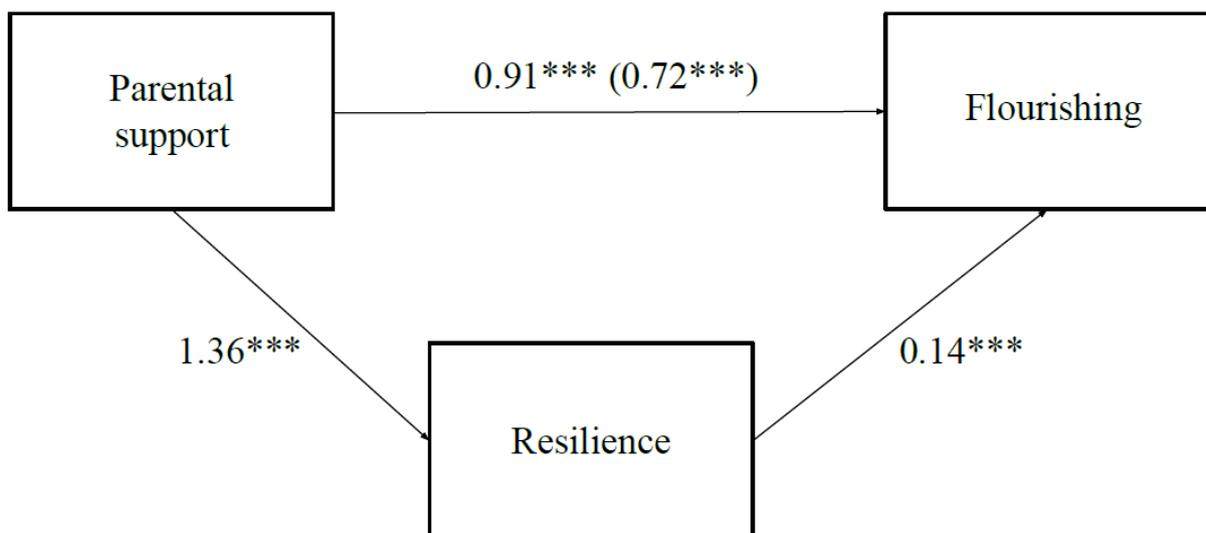
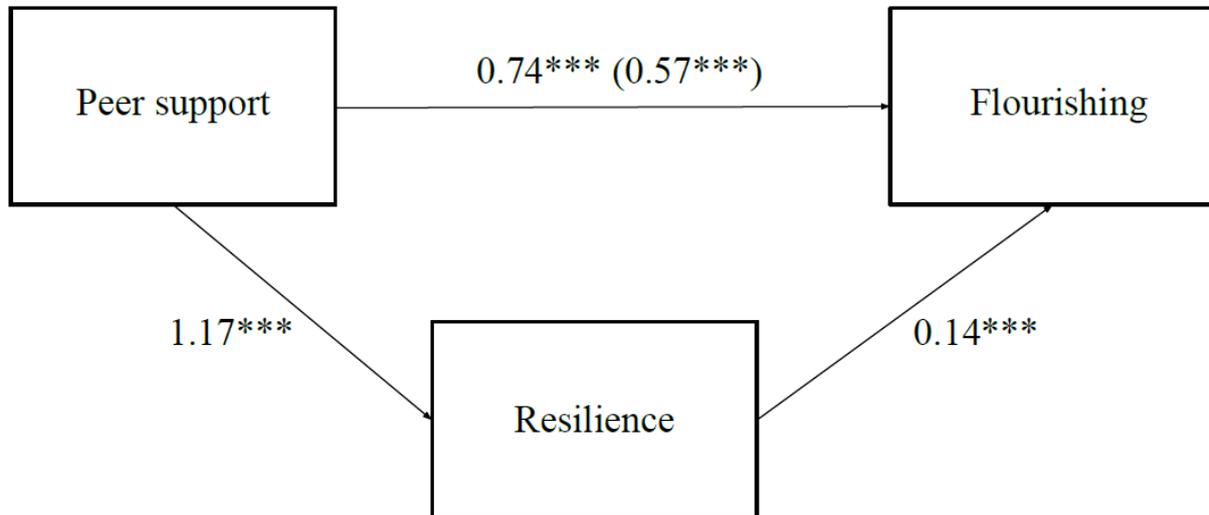


Figure 5

Standardized Regression Coefficients for the association between peer support and flourishing, mediated by resilience (hypothesis 2b)



Discussion

The aim of this study was to examine the associations between parental and peer support on the one hand and flourishing on the other hand. In addition, the roles of emotional problems and resilience as possible underlying mechanisms for these associations were assessed.

The findings of this study regarding significantly positive associations between parental or peer support and flourishing are consistent with Li et al. (2020) who found that individuals with higher levels of perceived social support tend to engage in more prosocial behavior towards others and form healthy relationships, enhancing flourishing. Additionally, perceived parental and peer support are both strong predictors for adolescents' mental health and life satisfaction (Kekkonen et al., 2020; Kim et al., 2020; Stewart & Suldo, 2011).

As hypothesized, both emotional problems and resilience were significant mediators for the association between both types of support and flourishing, be it partially. For emotional problems, the association was significantly negative. This is in line with Khaleque (2012) who stated that parental warmth is associated with positive self-esteem, emotional responsiveness, and emotional stability; factors that promote flourishing. For resilience, the association was significantly positive, comparable with the results of Graber et al. (2016) and Krueger and Upchurch (2020) who highlighted the importance of social support for adapting

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

to and thriving in the face of stress. Results showed that both parental and peer support increased resilience, yet the association from resilience to flourishing was low. A reason might be that flourishing is a comprehensive term that already includes aspects of resilience, such as self-control, confidence, and psychological adjustment (Huppert, 2009). If so, the low association is understandable. However, the correlation between resilience and flourishing was 0.41, which is weak to moderate and therefore rules out this explanation. Although, it is possible that this weak correlation is due to the fact that the construct resilience was only measured with one item as compared to the twelve items for the construct flourishing.

This study's findings extended previous studies by revealing that parental and peer support were associated with flourishing by way of emotional problems and resilience. Since the association between parental and peer support and flourishing continued to be significantly positive after the addition of the mediators, there was evidence for partial mediation. In other words, parental and peer support remained directly associated with flourishing. Apparently, guidance and emotional, practical, and social support of parents and peers, account for significant change in flourishing without the interference of other prominent factors (Kim, 2020).

A study of Lee et al. (2016) found a notable exception for the indirect relationship between parental support and flourishing via emotional problems. They stated that adolescents with a strong support system at home are more vulnerable to feeling lonely when separated from family. This implies that in some cases, more parental support may increase the occurrence of specific emotional problems, possibly explaining the moderate association between parental support and emotional problems. Besides the effect of parental support, the likelihood to experience emotional problems is dependent on inherited personality traits (Huppert, 2009). That is to say, more or fewer emotional problems are not always a direct result of a change in social support but merely a difference in personality traits (Diener & Lucas, 2000). For example, individuals with the trait neuroticism are more likely to experience negative emotions, while individuals high in extraversion tend to experience more positive well-being (Denollet, 2013). This remark should be considered while interpreting the results as these were based on 'the average adolescent', therefore not directly applicable to all adolescents.

There were several strengths to this study. The first one being the large sample size. In total, 110 randomly assigned secondary schools participated in the study. This benefitted the representativeness of the sample and thereby the validity of this study. Secondly, the Happiness under pressure study was a participative youth study, indicating that adolescents

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

were involved in the process of designing the study and the selection of the study instruments, for instance the questionnaires. This can be considered as both strength and limitation. As strength, since all important topics for youth are included, making the study more relevant to the target group (Kelly et al., 2020). And conversely as limitation, because some validated scales were only partly incorporated in the questionnaire. This may have had consequences for the reliability or validity of the questions. For example, resilience was assessed by only two items of the Brief Resilience Scale (Smith et al., 2008), of which only one was incorporated in the analyses for this study. This may have decreased the reliability and validity of the construct of resilience. Furthermore, as the data collection was based on self-reports, participants may have provided socially desirable answers, resulting in over- or underreports (Kleinjan et al., 2020). Another limitation of this study is the cross-sectional design, which prohibits the interpretation of the association directions.

A recommendation for further research would be to perform longitudinal studies to determine the direction of the associations and elaborate on the underlying mechanisms in the association between parental or peer support and flourishing. Some researchers already shared their thoughts on the possibility of a reciprocal association between social support and flourishing. For example, Huppert (2009) stated that flourishing increases feelings of connectedness and perceived social support through improved social engagement with others. This emphasizes the importance of both factors for maintenance of psychological and social well-being (Diener & Seligman, 2004; Huppert, 2009). Another improvement might be the use of Ecological Momentary Assessments (EMA), which involves repeated sampling of adolescents' behaviors and experiences to track if and how adolescents' changes in flourishing are dependent on changes in social support (Shiffman et al., 2008). The final recommendation for further research relates to one of the most important social contexts in which adolescents learn how to interact with peers, teachers, and adults: the school (Crosnoe, 2011). The relationships at school have become increasingly important for adolescents' cognitive, psychological, and social development (Davison & Jago, 2009; Giordano, 2003). Unfortunately, teachers were not involved in this study, while research indicates their importance for adolescents' understanding of the world and the development of cognitive and academic capabilities, which are needed for dealing with problems or achieving goals (Sulistiowati, 2020). Therefore, the addition of support of teachers as a third predictor in this studies' conceptual model is recommended. Besides this, future studies can be improved by not only relying on participants' self-report, but on assessments of how peers, parents, and

SOCIAL SUPPORT AND FLOURISHING IN ADOLESCENTS

teachers view, experience, and provide support to enhance the understanding of the roles of different types and forms of social support in adolescents' well-being.

Based on the findings of this study, it is beneficial to invest in interventions focusing on improving intercommunication and resilience in order to enhance adolescent's flourishing. For instance, the acknowledged Dutch intervention 'Levensvaardigheden' [in English: life skills] aims to teach adolescents five social, emotional, and moral skills (self-awareness, self-management, social conscience, responsible decision making, and social skills) (Gravesteyn & Diekstra, 2017). These skills enable adolescents to effectively cope with challenges in daily life, to be resilient in the face of stress and to apply and maintain a positive mindset (Gravesteyn & Diekstra, 2017). Teachers implement the program in class and challenge adolescents to collaboratively participate in the discussions and role-plays. For instance, situations of conflict with parents are imitated to demonstrate adolescents which problem solving skills are necessary to overcome such situations. In short, prosocial and coping behaviors are promoted and problem behaviors reduced.

Conclusion

This study demonstrated that emotional problems and resilience, partially and significantly, mediated the associations between parental and peer support and flourishing. Parental and peer support contributed significantly to adolescents' abilities to flourish, despite the addition of the mediators. Moreover, strong associations were found between parental and peer support and resilience. The results underscore the importance of peer support for resilience and flourishing in the school context. Therefore, the strong associations indicate the urge for implementation of interventions aimed at increasing resilience by improving interpersonal relationships at school.

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Appendix A

Contract data use (TED)

Utrecht, 2021

This letter constitutes formal confirmation of the fact that the data from the Utrecht University Youth Studies 2020-2021 have been made available to Romy Hordijk of Utrecht University.

These data will not be made available to others, and the data may be used only for analysis and reporting on topics for the thesis, about which agreement has been reached with Marloes Kleinjan.

Romy Hordijk will receive access to the data from the dataset in order to answer the following research questions within the framework of the thesis:

Research question: ‘How are parental and peer support associated with flourishing in youth?’

The following variables will be used:

Dependent variable: Flourishing, Q82 and Q85

Independent variables: Social support, Q82

Other variables: Resilience, Q83 and Emotional Problems, Q80

No report based on the data from the project entitled ‘‘Geluk onder druk’’ [in English: Happiness under Pressure] may be made public, unless permission has been obtained in advance from the Project Coordinator for the ‘‘Geluk onder druk’’ [in English: Happiness under Pressure] study.

After the expiration of this contract, dated 1 July 2021, Romy Hordijk shall delete the ‘‘Geluk onder druk’’ [in English: Happiness under Pressure] data.

Dates and signature:

21-1-2021

Romy Hordijk:



Marloes Kleinjan:

