Happiest Teenagers in the World: Shedding Light on the Shadow of School Stress

Does ethnicity matter?

J.E. Rousse (5729262)

Thesis based on existing Data Youth Studies (201800140)

Faculty Interdisciplinary Social Sciences (Master Youth Studies)

Supervising lecturer: G. Danner-Vlaardingerbroek

Second assessor: C. Finkenauer

Word count: 4820

Date: June 11th, 2019

Word of thanks

Special word of thanks to Chanel, Rosie and Marjolein for inspire and motivate me while writing my thesis.

Abstract

Although the potential consequences of Dutch adolescents' increased school stress on well-being have been addressed in many previous studies, the examination of differences in ethnicity and gender is scarce. Therefore, this study investigated the relationship of high levels of school stress and a low well-being, considering whether this association differs across ethnicity and gender. To test the hypotheses, the dataset of the Health Behavior in School-aged Children study (HBSC) was used. Analyses were based on data of 11-16 year old adolescents in the Netherlands (N=8306). Well-being was measured with the separated and total score of the following constructs: emotional,- conduct,- hyperactivity,- and peer problems. Adolescents were divided into a non-western ethnic minority group consisting of Moroccan, Turkish, Surinam and Antillean adolescents and the Dutch majority group. As hypothesized, experiencing more school stress was related to a lower well-being. The results provide no support that this association differs with ethnicity nor across boys or girls. Surprisingly, the results demonstrate that the ethnic minority groups seem to have more emotional problems, independently of school stress. The results emphasize the need for intervention programs on how to cope with school stress constructively in order to improve adolescents' well-being.

Keywords: adolescents, school stress, well-being, emotional problems, conduct problems, hyperactivity problems, peer problems, ethnicity, gender.

Samenvatting

School stress is toegenomen in Nederland. Ondanks dat dit mogelijk consequenties met zich meebrengt zoals een verminderd welzijn, is onderzoek schaars. Deze studie onderzocht de relatie tussen veel school stress en een laag welzijn, in overweging genomen of deze relatie verschilt tussen etnische minderheids- en meerderheidsgroepen en verschilt in sekse. Om de hypotheses te testen, is de Health Behavior in School-aged Children study (HBSC) dataset gebruikt. Analyses zijn gebaseerd op data van 11 tot 16-jarige adolescenten in Nederland (N=8306). Welzijn is zowel los als met een totale score van de volgende constructen gemeten: emotionele,- gedragsmatige,- hyperactieve- en *peer* problemen. Om deze hypothesen te testen zijn de adolescenten verdeeld in een niet-westerse etnische minderheidsgroep bestaande uit Marokkanen, Turken, Surinamers en Antilianen en een meerderheidsgroep bestaande uit Nederlanders. Zoals verwacht is het ervaren van school stress gerelateerd aan een lager welzijn. De resultaten geven geen reden om aan te nemen dat de relatie tussen school stress en welzijn verschilt met etniciteit, noch tussen jongens en meisjes. Opvallend is dat de etnische minderheidsgroep meer emotionele problemen lijkt te hebben, los van school stress. De resultaten benadrukken de noodzaak voor interventieprogramma's die zich focussen op school stress om het algemene welzijn te verhogen.

Keywords: adolescents, school stress, well-being, emotional problems, conduct problems, hyperactivity problems, peer problems, ethnicity, gender

Introduction

Dutch adolescents are commonly believed to be some of the happiest in the world. Studies have shown that they tend to score above the international average when it comes to happiness (Currie et al., 2012). Interestingly, research has also shed light on the fact that *school stress* – the feeling of anxiety over one's performance in academic activities (Prabu, 2015) – is increasing in the Netherlands (Stevens et al., 2017). School stress has been shown to have multiple adverse effects on adolescents' well-being, such as an inability to perform to the best of their abilities in examinations, depression, and other types of psychological problems (Prabu, 2015). Despite the evidence that school stress is strongly and negatively related to well-being (Bask and Salmela-Aro, 2013), it is remarkable that a recent and representative study in the Netherlands demonstrated an increase in school stress, but not a decrease in well-being among Dutch adolescents (Stevens et al., 2017).

One possible explanation for this contradiction is that bullying in Dutch high schools has decreased over the past few years (Stevens et al., 2017). A decrease in bullying might have counterbalanced the increase in school stress, and therefore, leading to the maintenance of a generally high level of well-being among adolescents in the Netherlands. But even though bullying has decreased in Dutch high schools, ethnic minority adolescents still experience more bullying than ethnic majority adolescents (Stevens et al., 2017). Today, many children and adolescents living in the Netherlands have an immigrant background, either because they have migrated themselves, or because they are born to immigrant families (Eurostat, 2011; Kuo, 2014). Bullies are argued to often target individuals because they differ from the majority, making ethnic minority adolescents prime targets for bullying victimization (Mendez, Bauman, and Guillory 2012; Qin, Way, and Rana, 2008). Thus, even if a decrease in bullying could compensate for the adverse effects of increased school stress on well-being, this might only be the case for ethnic majority and not for ethnic minority adolescents.

Ethnic minority adolescents are generally more vulnerable to develop psychological problems (Dunlop, Song, Lyons, Manheim, and Chang, 2003; Stevens et al., 2017). As a result, one could reason that ethnic minority adolescents are also more at risk to experience psychological problems when school stress occurs, compared to ethnic majority adolescents. However, research about the possible differences in the relationship between school stress and well-being based on ethnic background has so far been limited and inconsistent. Some studies

have demonstrated that ethnic minorities report higher rates of psychological problems after the occurrence of stress, compared to the majority group (e.g. Dunlop et al., 2003; Schwabe and, Kodras, 2000), whereas other studies indicate the opposite (e.g. Assari, 2018; Breslau, Su, Kendler, Aguilar-Gaxiola, and Kessler, 2005). Thus, the current study aims to shed light on the matter by investigating the relationship between school stress and wellbeing and to what extent this relationship differs in ethnicity. It will also be examined whether this difference is also dependent on adolescents' gender.

School stress and well-being

Education is fundamental in the lives of adolescents and therefore, school is an important developmental context for adolescents' psychological functioning (Eccles and Roeser, 2011). It is important to create a low-pressure school environment where adolescents come to grow without psychological problems. However, a recent study shows an increase in school stress in The Netherlands (Stevens, et al., 2015), which can be a risk for adolescents psychological functioning. In line with this, the need for perfection and high achievements is known to increase the level of perceived school stress (Prabu, 2015), and this potentially leads to psychological problems (Moksnes, Løhre, Lillefjell, Byrne, and Haugan, 2014). This association of school stress with a negative well-being is consistently found in literature of different cultures (Byrne et al., 2007; Deardorff et al., 2003; Lazaratou et al., 2010). Therefore, one would expect that when there is an increase in school stress in the Netherlands, this would negatively affect adolescent' well-being. Thus, the current study hypothesized that school stress is negatively associated with well-being among adolescents in The Netherlands.

Ethnicity

It is commonly known that people perceive stressful situations differently and that the same situation is not necessarily stressful to all people (Prabu, 2015). Empirical and theoretical literature embraces contradicting viewpoints regarding the well-being of ethnic minorities after stressful events, such as school stress (e.g. Breslau et al., 2005). The current study will discuss two opposing theories which aim to (both) explain (a different outcome regarding) the relationship between ethnic background and psychological problems. The *risk perspective* (Guarnaccia and Lopez, 1998) focuses on stress resulting from the process of migration. This entails the need to adapt to a new cultural environment. Yet, this is not necessarily the case for every adolescent from an ethnic minority, because for some of these adolescents, it was rather

the parents that had to go through the migration process. Consequently, an asymmetric acculturation within families could arise, in which children tend to learn the host country's language and integrate into the new culture much faster than their parents. This phenomenon could lead to intergenerational conflicts and stress in migrant families, which is associated with a negative well-being (Le and Stockdale, 2008). In addition, the risk perspective also points out that ethnic minority adolescents are frequently confronted with bullying and discrimination, which could also negatively affect their well-being (Noh and Kaspar, 2003). Taking the migration process and the risk for bullying and discrimination together, ethnic minority adolescents are expected to show more psychological problems compared to the ethnic majority peers (Stevens et al., 2015). Based on the risk perspective, when adolescents are from an ethnic minority and experience school stress on top of the stress due to migration, bullying and discrimination, they are expected to show more psychological problems than ethnic majority adolescents.

In contrast, the *resilience perspective* implies that ethnic minority groups experience fewer psychological problems when they experience school stress compared to their ethnic majority peers (Keyes, 2009). This could be explained by the resilience perspective, being a part of an ethnic minority group is associated with being more resilient to stress than ethnic majority adolescents. The concept of resilience is generally defined as the process of adapting well in the face of adversity, threats or significant sources of stress. It could be argued that ethnic minority groups have developed a resilience to stress because they have faced more difficult experiences such as bullying and discrimination in combination with the stress of the migration process, but have found positive ways to cope with these. This perspective is confirmed by the study of Dryrbye and colleagues (2007), which has demonstrated that minorities appear to be at lower risk of problems. Thus, based on the resilience perspective, when adolescents are from an ethnic minority, they are more resilient to stress in general, and therefore are expected to experience less psychological problems after the occurrence of school stress.

Gender and ethnicity

In addition to ethnicity, gender is believed to moderate the relationship between school stress and adolescents' well-being for ethnic minority adolescents in some studies (Pels and De Haan, 2003; Salmela-Aro et al., 2017). Nowadays there is more pressure for parents to raise children who achieve as much as possible, as a consequence of the growing awareness that being

educated is essential for a high social and economic status (Elffers, 2018). However, ethnic minority boys are expected to be more vulnerable for school stress than ethnic minority girls, because it is more common that parents of ethnic minority adolescents have stronger academic ambitions for their sons than for their daughters (Pels and De Haan, 2003). Hence, to our knowledge, there is a scarce amount of literature about this specific difference in ethnicity across gender. One study which investigated school stress and well-being across gender and ethnicity is the study of Salmela-Aro and colleagues (2017). This study examined the longitudinal trajectories of school stress and psychological problems among 9223 adolescents in Finnish lower secondary school. The results showed that students experienced an increase of school stress over the years. In contrast to Pels and De Haan (2003), only ethnic minority girls experienced less psychological problems, compared to ethnic majority girls. There was no difference in psychological problems between ethnic majority and minority boys (Salmela-Aro et al., 2017). According to the scarce amount of literature and the contradictory results in literature, this study will explore this association further by hypothesizing that the relationship between school stress and well-being will differ across ethnicity and gender.

Present study

The current study will make use of a Dutch sample of the international cross-sectional study HBSC 2017. Five cultural groups in the Netherlands (Dutch mainstreamers, and Turkish, Moroccan, Surinamese, and Antillean immigrants) will be investigated. Given that empirical and theoretical literature supports contradicting perspectives on the topic, this study will follow an explorative nature. First, school stress is expected to be negatively related to well-being in The Netherlands among adolescents (Hypothesis 1). Second, it is hypothesized that ethnicity will positively or negatively moderate the relationship between school stress and well-being (Hypothesis 2). Last, it is expected that the moderation of ethnicity will also differ positively or negatively across gender (Hypothesis 3). These hypotheses are visually represented in Figure 1. It is worth taking into consideration that in previous research, ethnicity and Social Economic Status (SES) have been closely related, which makes it difficult to distinguish whether the resulting differences in the outcome are due to ethnicity or due to SES (Prelow and Guarnaccia, 1997). The present study will therefore include SES in the analyses as a control variable.

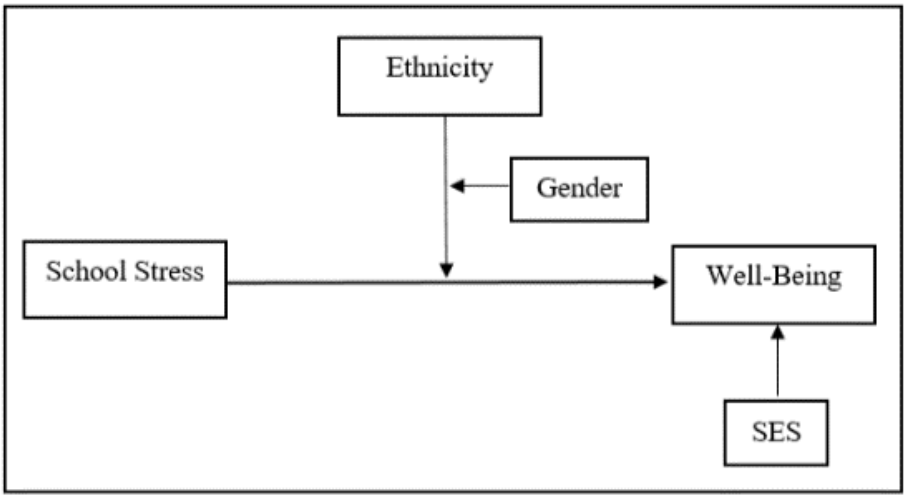

Figure 1. A visual representation of Hypotheses 1, 2 and 3.

Method

Participants

The initial sample consisted of 8980 adolescents. With regard to the initial sample, all participants who were older than 16 years were eliminated, because the current study wants to align with the international requirements of the international HBSC study which prescribes age categories. After elimination, the final sample consisted of 8306 adolescents. The final sample of 8306 participants consisted of 49% boys and 51% girls in primary school and consisted of 51% boys and 49% girls in secondary school. The mean age of the adolescents was 11,11 years in primary schools and 13,33 years in secondary schools. A total of 15.3% belonged to nonwestern ethnic minority groups of which 10% Moroccan (N=398), 6% of Turkish (N=244), 4% of Surinamese (N=173), 2% of Antillean (N=78), and 40.4% of another nonwestern background (N= 517).

Measures

Well-being. The dependent variable well-being was measured in two ways. Firstly as a total score of emotional symptoms, conduct problems, hyperactivity problems and problems with peers. Secondly as independent construct scores. The four subscales consisted of 20 items from the Strength and Difficulties Questionnaire (SDQ); Goodman, Meltzer, and Bailey, 1998). The current study used the four subscales addressing *emotional symptoms* (i.e. worrying, feeling

fearful, unhappy, experiencing somatic complaints and nervousness), *conduct problems* (i.e. fighting, non-obedience, losing one's temper, lying or cheating, and stealing), *hyperactivity problems* (i.e. restless, easily distracted, lack of concentration, trouble with finishing of work) and lastly, *problems with peers* (i.e. loneliness, playing alone, number of friends, likeliness, bullying). Each subscale consisted of four items to which students rate themselves on a three-point response scale ('not true', 'somewhat true' and 'certainly true'), reflecting how they have felt over the past six months. A higher score means more problems. The internal reliability of the various self-report scales was assessed using Cronbach's alpha coefficient. The Cronbach's α =0.82 for the total score of difficulties, α =0.75 for emotional symptoms, α =0.72 for conduct problems, α =0.69 for hyperactivity and α =0.61 for peer problems. The internal reliability of the subscales is low, which will be taken into account when interpreting the results.

School Stress. The independent variable *School Stress* was also assessed with a single item: 'How pressured do you feel by the schoolwork you have to do?'. Answer categories were recoded ranging from 1 (= not at all) to 4 (=very much).

Ethnicity. The current study used the classification of ethnicity as defined by The Netherlands' Bureau of Statistics. Dutch ethnicity is assigned to citizens who are Dutch-born and whose parents were also born in the Netherlands. If a citizen, or (one of) his or her parents, was born abroad, he or she is assigned to the group of people born in that country. If the parents were born in different foreign countries, the country of birth of the mother determines the assignment to a particular group. Therefore, ethnic background is derived from responses to questions on country of birth of the adolescent, mother and father. The following categories were created on the basis of native child and parents according to guidelines Central Bureau for Statistics (CBS): 1=Dutch, 2=Surinamese, 3=Antillean, 4=Moroccan, 5=Turkish, 6=other non-western, 7=other western, 8=western, 9=not filled in/unknown, 10=different. In addition, those answer categories were divided into two groups: 0=Dutch adolescents and 1=non-western adolescents. The group non-western adolescents existed of adolescents with a Surinamese, Antillean, Moroccan, Turkish background or who answered the question with 6= other non-western.

Gender. Gender is derived from the demographic questions.

Social Economic Status. SES is included as a confounder. The Family Affluence Scale (FAS) is used as an indicator of adolescents SES. The FAS is comprised of four items on material assets in the family: number of cars, computers and family holidays and the adolescent's disposal of a

single bedroom. One example of an item is: ‘Does your family own a car, van or truck?’, with the following answering categories: ‘No’ (0), ‘Yes, one’ (1) and ‘Yes, two or more’ (2). Scale scores were calculated by summing up the mean scores of all four items.

Data

Data were drawn from the Dutch 2017 HBSC survey, a repeated study every four years involving adolescents aged 12–16 years, performed as part of the World Health Organization's cross-national HBSC Project. The HBSC survey is a representative study on the health and well-being of kids 12-16 years in the Netherlands. The current study uses data collected in 2017.

Procedure

A two-stage random sampling procedure was used. First, a random sample of schools was selected from a list of all schools providing primary and secondary education in the Netherlands. This resulted in a sample of 72 schools for primary education and 85 schools for secondary education (response rates of 39% and 37%). Reasons for nonresponse were primarily connected to frequently being asked to participate in studies (37 and 19%) or because of other research activities going on in the schools already (18 and 38%). Participating and nonparticipating schools did not differ in the type of education or the ethnic background of the students. However, smaller schools (<500 students) more often participated than large schools (>1,000 students). Second, from a list of all classes provided by each participating school, one class in each grade was randomly selected for participation. Within schools, the response rate of participants was 96%. Nonresponse of participants was mainly due to sickness during data collection. Self-report questionnaires in primary schools were collected by paper and pencil in classroom settings during a regular class. The self-report questionnaires in secondary schools were collected digitally. Parents of the adolescents of each participating schools received a letter which informed them about the study, and parents were asked to inform the school in case they did not give their consent with the participation of their child(ren). This procedure was based on the decision of the Ethical Advisory Committee and in accordance with prevailing Dutch law.

Data analysis

SPSS 25.0 for Windows is used for all statistical analyses. Firstly, multiple regression analyses were conducted to investigate the relationship between school stress and well-being (total). We used the listwise deletion procedure to exclude cases with missing variables on the core variables. After observational checking the outliers by checking a boxplot, no statistically

significant outliers have been found. Four separate models were run. In Model 1, adolescents' psychological problems were assessed for controlling for SES. In Model 2, the variables school stress, ethnicity and gender were added to check the direct effects of those variables on well-being. To examine whether differences in well-being between ethnic majority and ethnic minority adolescents occurred, the interaction school stress x ethnicity was added in model 3. To establish differences in well-being between boys and girls, the interaction school stress x gender was added in model 3 too. In Model 4, we examined whether the moderation of ethnicity was dependent on an interactive effect of adolescents' gender by adding the three-way interaction school stress x ethnicity x gender.

We analyzed the variable well-being firstly as a total score and secondly as independent construct scores. Lastly, the variable school stress is a categorical variable, consisting of one question with four answer categories. Therefore, the assumption of linearity is violated. As a solution, the variable school stress is made into dummy-variables to check if the results would differ. Those analyses can be found in Appendix A.

Results

Descriptive Statistics

Means and standard deviations were calculated for the variables *SES*, *ethnicity*, *gender*, *school stress* and both the total scores of *well-being* as the *four constructs* for the total sample (Table 1). Table 2 presents the correlations between all variables of interest. The separate constructs of well-being are strongly correlated with the total construct, for the reason that the constructs are operationalized to measure the concept of well-being (total). Thus, it is important that those variables correlate in order to prove that they measure the (total) concept of well-being.

Table 1

Descriptive from the mean (M) and the standard deviation (SD) from the research variables.

	M	SD	Range	N
SES	2.32	8.97	0 – 13	8075
Ethnicity	0.17	2.15	0 – 1	7858
Gender	1.52	0.50	1 – 2	8306
Well-being	10.11	5.24	0 – 40	8236
Emotional Problems	2.44	2.23	0 – 10	8257
Behavior Problems	1.86	1.50	0 – 10	8239
Hyperactivity Problems	4.13	2.38	0 – 10	8239
Peer Problems	1.69	1.61	0 – 10	8238
School Stress	2.25	0.87	1 – 4	8138

Table 2

Pearson correlation matrix of research variables

	1	2	3	4	5	6	7	8	9
1. SES	-								
2. Ethnicity	-.184**	-							
3. Gender	-.068**	.025*	-						
4. Well-being	-.086**	.015	.081**	-					
5. Emotional Problems	-.099**	-.004	.299**	.724**	-				
6. Conduct Problems	-.037**	.087**	-.101**	.646**	.242**	-			
7. Hyperactivity Problems	.023*	-.090**	-.023*	.708*	.271**	.352**	-		
8. Peer Problems	-.142**	.108*	-.024*	.593**	.335**	.308**	.117**	-	
9. School Stress	.038**	.023*	.129**	.298**	.373**	.104**	.171**	.100**	-

Note: *$p < .05$. **$p < .01$.

Multiple linear regression analysis with well-being as the dependent variable

A multiple linear regression (see Table 3) was calculated to analyze the association between higher levels of school stress and lower levels of well-being. We also looked if ethnic minority adolescents differ from the ethnic majority group in this association. Lastly, we looked at differences for boys and girls within the ethnic groups. For the fact that SES and ethnicity have been closely related, current study included SES as an control variable. In line with our expectations, results imply that SES and ethnicity are significantly associated in the current study.

We expected an association between higher levels of *school stress* and lower levels of *well-being*. Results showed that school stress was significantly positively related to well-being. A significant regression equation of the main effect was found $F(8, 7638) = 107.213$, $p < .0001$, with an η^2 of .101. Meaning the results provided support of what we expected, as the more school stress adolescents reported, the more likely they were to report a low well-being. Additionally, after conducting multiple regression analyses, girls showed lower levels of well-being after they experience higher levels of school stress compared to boys. Contrary to what we expected, the association of higher levels of school stress and lower levels of well-being did not differ between the ethnic minority and the ethnic majority adolescents. Contrary to what we expected, the three-way interaction was not significant. This means that there was no difference in a low well-being between the boys or girls in the ethnic groups when they experience high levels of school stress. The three-way-interaction results are visually represented in Figure 2.

Table 3

Summary of Regression Analysis to predict well-being.

Measure	*B*	*SE B*	*β*	R^2
Model 1				.001**
SES	-.243	.032	.-086**	
Model 2				.000**
SES	-.273	.031	-.097**	
School Stress	1.776	.066	.279**	
Ethnicity (ref = Dutch)	-.143	.154	-.010	
Gender (ref = male)	.380	.115	.036**	
Model 3				.000**
SES	-.237	.031	-.097**	
School Stress	.837	.215	.140**	
Ethnicity (ref = Dutch)	-.542	.492	-.039	
Gender (ref = male)	.346	.126	.033*	
School Stress x Ethnicity	-.130	.165	-.010	
School Stress x Gender	.622	.131	.169**	
Gender x Ethnicity	.263	.304	.031	
Model 4				.977
SES	-.237	.031	- .097**	
School Stress	.840	.238	.141**	
Ethnicity (ref = Dutch)	-.542	.492	-.039	
Gender (ref = male)	.345	.126	.033*	
School Stress x Ethnicity	-.145	.550	-.011	
School Stress x Gender	.621	.147	.169**	
Gender x Ethnicity	.263	.304	.031	
Ethnicity x School Stress x Gender	.010	.334	.001	

Note: β: regression coefficients; SD: standard deviation. **$p < .01$. Ethnicity is coded as 1 = Ethnic minority, 0 = Ethnic majority, and gender is coded as 1 = Female, 0= Male.

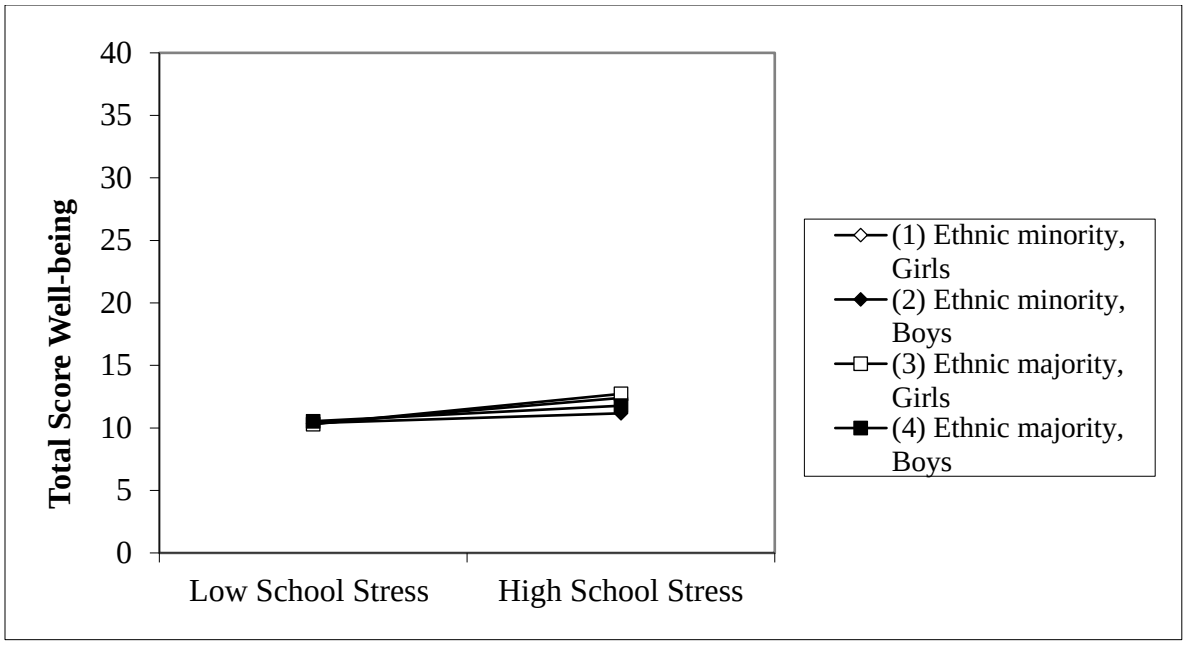

Figure 2. A visual representation of the three-way interaction.

A multiple regression was used to analyze the negatively association between school stress and the four different well-being constructs. Contrary to what we expected, no significant association was found between high levels of school stress and more **emotional problems** (see Table 4). Contrary to what we expected, this association did not differ between ethnic minority and ethnic majority adolescents. Contrary to what we expected, within these ethnicity groups, boys or girls did not differ in emotional problems (see the non-significant three-way-interaction in Table 4). In other words, both ethnic minority boys and girls did not have a stronger association between higher levels of school stress and higher levels of emotional symptoms than ethnic majority boys or girls. Interestingly, ethnic minority adolescents experienced higher levels of emotional problems compared to ethnic majority adolescents, independently of school stress.

Table 4
Summary of Regression Analysis to predict emotional problems.

Measure	*B*	*SE B*	*β*	R^2
Model 2				098**
SES	-.123	.012	-.102**	
Ethnicity (ref = Dutch)	.092	.023	.065**	
Gender (ref = male)	1.178	.047	.263**	
School Stress	.093	.095	.037	
School Stress x Ethnicity	.179	.217	.031	
School Stress x Gender	.530	.059	.336**	
Gender x Ethnicity	-.320	.061	-.088**	
School Stress x Ethnicity x Gender	-.236	.132	-.068	

Note: β: regression coefficients; SD: standard deviation. **$p < .01$

A multiple regression was used to analyze the negative association between school stress and the other three well-being constructs. In line with what we expected, a significant association was found between higher levels of school stress and higher levels of **conduct problems** (see Table 5). Contrary to what we expected, this association did not differ between ethnic minority and ethnic majority adolescents. Contrary to what we expected, within these ethnicity groups, boys or girls did not differ in conduct problems (see the non-significant three-way-interaction in Table 5). The same conclusions can be made by looking at **hyperactivity problems** (see Table 6) and **peer problems** (see Table 7). Interestingly, independently of school stress, ethnic minority adolescents reported fewer peer problems compared to ethnic majority adolescents.

Table 5.

Summary of Regression Analysis to predict conduct problems.

Measure	*B*	*SE B*	*β*	R^2
Model 2				.034
SES	-.031	.009	-.038*	
Ethnicity (ref = Dutch)	-.015	.017	-.016	
Gender (ref = male)	-.410	.035	-.137**	
School Stress	.216	.071	.125*	
School Stress x Ethnicity	-.143	.163	-.037	
School Stress x Gender	-.012	.044	-.011	
Gender x Ethnicity	.231	.045	-.095**	
School Stress x Ethnicity x Gender	.117	.099	.051	

Note: β: regression coefficients; SD: standard deviation. **$p < .01$

Table 6.

Summary of Regression Analysis to predict hyperactivity problems.

Measure	*B*	*SE B*	*β*	R^2
Model 2				.038
SES	.003	.015	.002	
Ethnicity (ref = Dutch)	-.012	.027	-.008	
Gender (ref = male)	-.179	.056	-.037*	
School Stress	.362	.112	.133*	
School Stress x Ethnicity	-.002	.258	.000	
School Stress x Gender	.060	.069	.036	
Gender x Ethnicity	-.290	.072	-.075**	
School Stress x Ethnicity x Gender	.084	.157	.023	

Note: β: regression coefficients; SD: standard deviation. **$p < .01$

Table 7.

Summary of Regression Analysis to predict peer problems.

Measure	*B*	*SE B*	*β*	R^2
Model 2				.041
SES	-.124	.010	-.143*	
Ethnicity (ref = Dutch)	-.042	.018	-.041*	
Gender (ref = male)	-.221	.038	-.069**	
School Stress	.183	.076	.100*	
School Stress x Ethnicity	-.114	.173	-.028	
School Stress x Gender	.021	.047	.019	
Gender x Ethnicity	.299	.049	.115**	
School Stress x Ethnicity x Gender	.028	.105	.011	

Note: β: regression coefficients; SD: standard deviation. $^{**}p < .01$

Discussion

The aim of this study was to investigate the relationship between higher levels of school stress and lower levels of well-being among Dutch adolescents (Hypothesis 1) and whether this would differ for ethnic minority adolescents compared to the ethnic majority adolescents or not (Hypothesis 2). In addition, the current study examined this relationship across gender (Hypothesis 3). In line with our expectations, the results indicated that higher levels of school stress are related to lower levels of adolescents' well-being. Furthermore, the results showed that higher levels of school stress are related to higher levels of the following well-being constructs: conduct,- hyperactivity- and peer problems. In contrast to our expectations, the current study showed no differences in the relationship of higher levels of school stress and lower levels of well-being between ethnic majority or minority adolescents. When analyzing this relationship, no differences have been found between boys and girls.

School stress and well-being

In line with the theoretical and empirical literature on the effect of school stress on well-being, the findings of the current study supports the strong relationship between higher levels of school stress which are related to lower levels of well-being (Bask and Salmela-Aro, 2015; Dunlop et al., 2003; Stevens et al., 2017). Thus, with the increased amount of school stress, we can be critical about the statement that Dutch adolescents are commonly believed to be among

the happiest in the world. In the current study, the association between higher levels of school stress and lower levels of well-being was measured with the total of the well-being constructs. We also measured the constructs separately and found that higher levels of school stress connect to higher levels of conduct,- hyperactivity- and peer problems significantly. Whereas the current study did find an connection between higher levels of school stress and more conduct,-hyperactivity and peer problems, results show no significant association between higher levels of school stress and higher levels of emotional problems. This finding could indicate that if adolescents struggle with adversities, such as their parents' divorce, it could be that school performance is 'the least of their problems' (Alexander, Entwisle and Kabbani, 2001). For example, adolescents have emotional problems due to adversities, but those emotional problems are not related to school stress. In addition, a lot of high schools in The Netherlands pay attention to emotional resilience in their classes (Havermans and Lammers, 2018). Future research could explore if this helped students (emotionally) cope with school stress.

Surprisingly, ethnic minor adolescents reported fewer peer problems compared to ethnic majority adolescents. This was in contrast with our expectations because according to both the risk and the resilience perspective theories, ethnic minority adolescents are frequently confronted with bullying and discrimination (Stevens et al., 2015; Keyes, 2009). An explanation for this finding could be that the internal reliability of the construct of peer problems is low, and as the SDQ is self-report in nature, the validity of the tool is not always ensured (Vogels, Siebelink, Theunissen, De Wolff, and Reijneveld, 2011). This indicates that the construct of peer problems could measure different things. For example, there was only one question about bullying (='Other children or young people pick on me'). However, two other questions were about having friends ('I am rather solitary' and 'I have one good friend or more'). It could be that ethnic minority adolescents scored higher on the questions about friendship and, therefore, had lower peer problems. Furthermore, ethnic minority adolescents often engage in religious activities more frequently than the majority group, which is positively related to well-being (Klokgieters, Tilburg, Dees, and Huisman, 2018). Due to the low internal reliability of some of the subscales, this study aims to emphasize that the SDQ should be considered as part of a wider assessment process and not as a standalone tool to measure well-being.

Differences in ethnicity

In contrast to our expectations, the results provide no support that the association between higher levels of school stress and lower levels of well-being differ for ethnic minority and ethnic majority adolescents. Despite these results, the ethnic minority group did report significantly more emotional problems compared to the majority group, apart from school stress. When reasoning with the risk perspective theory, the current study expected that ethnic minority adolescents do experience a lot of stress due to the migration process and bullying and discrimination (Noh and Kaspar, 2003). When ethnic minority adolescents experience school stress simultaneously, this could affect their well-being negatively. The current study shows that this is partly true. Our results suggest that ethnic minority adolescents experience more emotional problems, which is possibly due to the migration process and discrimination that causes stress. However, school stress does not contribute in these variances of emotional problems. It could be that stress because of migration,- discrimination and bullying, counterbalances the stress they experience at school. Taking this into account, future studies should focus on exploring other possible explanations for the emotional problems of ethnic minority adolescents to eventually use this knowledge in order to improve their well-being.

Differences in ethnicity and gender

According to our expectations, the relationship between higher levels of school stress and lower levels of well-being could also differ across ethnicity and gender. However, the current study found no differences between boys and girls in the ethnicity groups with regard to the association between higher levels of school stress and lower levels of well-being. Notably, the current study did find that girls experience more emotional problems when they also experience school stress compared to boys, apart from ethnicity. Due to the fact that earlier literature showed limited and contradictory results about this association for both ethnicity as gender (Pels and De Haan, 2003; Salmela-Aro et al., 2017), and taking the lack of evidence of the current study on this subject in account, this study suggest that future studies should focus on possible differences in gender and school stress instead.

Strengths and limitations

The current study is based on a large representative sample data of Dutch adolescents (N=8306). To our knowledge, this is the first study that investigated the association with higher levels of school stress and lower levels of well-being by taking the possible differences between

ethnic minority and ethnic majority groups into account. Despite these strengths, there are several limitations that need to be mentioned. First, due to the design of the current study, the possibility of bi-directionality of the present association cannot be ignored. The occurrence of psychological problems could influence school stress. For example, adolescents who score higher on conduct problems may perceive the school-related stressor as more stressful. A longitudinal or experimental study should be conducted to verify these findings on the direction and causality. Secondly, school stress is measured with one question and in order to improve content validity, future studies could measure school stress with more and different constructs and scales.

Implications

The current study has shown that higher levels of school stress is associated with a lower well-being. For this reason, it is important to develop interventions that will decrease the amount of school stress in order to increase the level of well-being among adolescents. The results of the current study points out that there is no difference between ethnicity when experiencing school stress and well-being. Therefore, it is not necessary to take ethnicity into account in the interventions. However, the current study did find a difference in the emotional problems between the two ethnicity groups, independently of school stress. Therefore, it is important to conduct further research on the risk factors for ethnic minority adolescents, such as bullying and discrimination, which ethnic minorities do experience in emotional problems. In addition, those findings can be used in intervention programs that focus on the decrease of emotional problems for ethnic minority adolescents in The Netherlands.

Conclusion

In the current study, we shed more light on the shadow of school stress among Dutch adolescents who are commonly believed to be the happiest teenagers in the world. However, the study indicated that school stress is negatively associated with well-being of Dutch adolescents. The results showed neither differences in this association for ethnic minority- or ethnic majority groups, nor across gender. Lastly, this study did find differences between the ethnic minority and ethnic majority adolescents on emotional problems, which is also in line with the risk theory for ethnic minority adolescents. Surprisingly, those differences do not relate to school stress.

References

Assari, S. (2018). Health disparities due to diminished return among black Americans: Public policy solutions. *Social Issues and Policy Review, 12,* 112-145. doi:10.1111/sipr.12042

Alexander, K. L., Entwisle, D. R., & Kabbani, N. S. (2001). The dropout process in life course perspective: Early risk factors at home and school. *Teachers College Record, 103,* 760-822. doi.10.1111/0161-4681.00134

Ben, C. H. K. (2014). Coping, acculturation, and psychological adaptation among migrants: A theoretical and empirical review and synthesis of the literature. *Health Psychology and Behavioral Medicine: An Open Access Journal, 2*, 16-33. doi:10.1080/21642850.2013.843459

Breslau, J., Aguilar-Gaxiola, S., Kendler, K. S., & Su, M. (2005). Specifying race-ethnic differences in risk for psychiatric disorder in USA national sample. *Psychological Medicine, 36,* 57-68. doi:10.1017/S0033291705006161

Byrne, D. G., Davenport, S. C., & Mazanov, J. (2007). Profiles of adolescent stress: The development of the adolescent stress questionnaire (ASQ). *Journal of Adolescence, 30,* 393-416. doi:10.1016/j.adolescence.2006.04.004

Curran, T., & Hill., A. P. (2017). Perfectionism is increasing over time: A meta-analysis of birth cohort differences from 1989 to 2016. *Psychological Bulletin,* online voorpublicatie.

Currie, C., Zanotti, C., Morgan, A., Currie, D., Looze, de, M., Roberts, C., Samdal, O., Smith, O., & Barnekow, V. (2012). Social determinants of health and well-being among young people. Health Behaviour in School-aged Children (HBSC) study: international report from the 2009/2010 survey. *Health Policy for Children and Adolescents, 6,* Copenhagen: WHO Regional Office for Europe.

Dunlop, D. D., Song, J., Lyons, J. S., Ma1nheim, L. M., & Chang, R.W. (2003). Racial/ethnic differences in rates of depression among preretirement adults. *American Journal of Public Health, 93,* 1945-1952. doi:10.2105/AJPH.93.11.194

Dyrbye, L. N., Thomas, R. M., Eacker, A., Harper, W., Massie, F. S., Power, D. V., . . . Shanafelt, T. (2007). Race, ethnicity, and medical student well-being in the United States. *Internal Medicine, 167,* 2103-2109. doi:10.1001/archinte.167.19.2103

Elffers, L. (2018). De bijlesgeneratie: Opkomst van de onderwijscompetitie. Amsterdam: Amsterdam University Press.

Eccles, J., & Roser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence, 21,* 225–241. doi:0.1111/j.1532-7795.2010.00725.x

Eurostat. (2011). *Migrants in Europe: A statistical portrait of the first and second generation.* Luxembourg: Statistical Books, European Commission.

Fandrem, H., Sam, D. L., & Roland, E. (2009). Depressive symptoms among native and immigrant adolescents in Norway: The role of gender and urbanization. *Social Indicators Research, 92,* 91-109. doi:10.1007/s11205-008-9291-y

Goodman, R., Meltzer, H., & Bailey, V., (1998). The strengths and difficulties questionnaire: A pilot study on the validity of the self-report version. *European, Child & Adolescent Psychiatry, 7,* 125-130. doi:10.1007/s007870050057

Grant, K. E., Compas, B. E., Thurm, A. E., McMahon, S. D., Gipson, P. Y., & Campbell, A. J. (2006). Stressors and child and adolescent psychopathology: Evidence of moderating and mediating effects. *Clinical Psychology Review, 26,* 257-283. doi:10.1016/j.cpr.2005.06.011

Guarnaccia, P. J., & Lopez, S. (1998). The mental health and adjustment of immigrant and refugee children. *The Child Psychiatrist in the Community, 7,* 537-553. doi:10.1016/S1056-4993(18)30228-1

Haverman, M. & Lammers, J. (2018). Jong en onbezorgd – hoe helpen we de nieuwe generatie? *Tijdschrift Gezondheidswet, 96,* 137-139. doi:10.1007/s12508-018-0144-z

Keyes, C. L. M. (2009). The black–white paradox in health: Flourishing in the face of social inequality and discrimination. *Journal of Personality, 77,* 1677-1706. doi:10.1111/j.1467-6494.2009.00597.x

Klokgieters, S. S., Van Tilburg, T. G., Deeg, D. J. H., Huisman, M. (2019). Do religious activities among young–old immigrants act as a buffer against the effect of a lack of resources on well-being? *Aging & Mental Health, 5,* 625-632. doi:10.1080/13607863.2018.1430739

Le, T. N., & Stockdale, G. D. (2008). Acculturative dissonance, ethnic identity, and youth violence. *Cultural Diversity Ethnicity and Minority Psychology, 14,* 1-9. doi:10.1037/1099-9809.14.1.1

Mendez, J. J., Bauman, S., & Guillory, R. M. (2012). Bullying of Mexican immigrant students by Mexican American students: An examination of intracultural bullying. *Hispanic Journal of Behavioral Sciences, 34,* 279-304. doi:10.1177/0739986311435970

Moksnes, U. K., Løhre, A., Lillefjell, M., Byrne, D. G., & Haugan, G. (2014). The association between SS, life satisfaction and depressive symptoms in adolescents: Life satisfaction as a potential mediator. *Social Indicators Research, 125,* 339-357. doi:10.1007/s11205-014-0842-0

Noh, S., & Kaspar, V. (2003). Perceived discrimination and depression: Moderating effects of coping, acculturation, and ethnic support. *American Journal of Public Health, 93,* 232-238. doi:10.2105/AJPH.93.2.232

Prabu, S. P. (2015). A study on academic stress among higher secondary students. *International Journal of Humanities and Social Science Invention, 4,* 63-68.

Prelow, H. M., & Guarnaccia, C. A. (1997). Ethnic and racial differences in life stress among high school adolescents. *Journal of Counseling & Development, 75,* 442-450. doi:10.1002/j.1556-6676.1997.tb02360.x

Pels, T., & Haan, de, M. (2003). Continuity and change in Moroccan socialization: A review of the literature on socialization in Morocco and among Moroccan families in the Netherlands. Utrecht: University of Utrecht/Verwey-Jonker Institute.

Prelow, H., & Guarnaccia, C. (1997). Ethnic and racial differences in life stress among high school adolescents. *Journal of Counseling & Development, 75,* 442-450. doi:10.1002/j.1556-6676.1997.tb02360.x

Qin, D. B., Way, N., & Rana, M. (2008). The ”model minority” and their discontent: Examining peer discrimination and harassment of Chinese American immigrant youth. *New Directions for Child and Adolescent Development, 121*, 27–42. doi:10.1002/cd.221

Rijksinstituut voor Volksgezondheid en Milieu (2018). Volksgezondheid Toekomst Verkenning 2018: Een gezond vooruitzicht: Synthese. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu.

Salmela-Aro, K., & Bask, M. (2012). Burned out to drop out: Exploring the relationship between school burnout and school dropout. *European Journal of Psychology of Education, 28,* 511-528. doi:101.1007/s10212-012-0126-5

Salmela-Aro, K., Read, S., Minkkinen, J., Kinnunen, J., & Rimpela, A. (2017). Immigrant status, gender, and school burnout in Finnish lower secondary school students: A longitudinal study. *International Journal of Behavioral Development, 42,* 225-236. doi:10.1177/0165025417690264

Schwabe, A. M., & Kodras, J. E. (2000). Race, class, and psychological distress: Contextual variations across four American communities. *Health, 4*, 234-260. doi:10.1177/136345930000400206

Sklad, M, Diekstra, R., De Ritter, M., Ben, J., & Gravesteijn, C. (2012) Effectiveness of school-based universal social, emotional and behavioral programs: Do they enhance students' development in the area of skill, behavior, and adjustment? *Psychology in the Schools, 49.* 892-907. doi.10.1002/pits.21641

Stevens, G., Dorsselaer, S., Boer, M., Roos, de, S., Duinhof, E., Bogt, ter, T., . . . Looze, de, M. (2017). *Gezondheid en welzijn van jongeren in Nederland: HBSC 2017.*

Stevens, G., Walsh, S. D., Huijts, T., Maes, M., Madsen, K. R., Cavallo, F., & Molcho, M. (2015). An internationally comparative study of immigration and adolescent emotional and behavioral problems: Effects of generation and gender. *Journal of Adolescent Health, 57*, 587-594. doi:10.1016/j.jadohealth.2015.07.001

Vogels, A. G. C., Siebelink B. M., Theunissen M. H. C., De Wolff M. S., & Reijneveld S. A. (2011). Vergelijking van de KIVPA en de SDQ als signaleringsinstrument voor problemen bij adolescenten in de Jeugdgezondheidszorg. Leiden: TNO.

Appendices

Appendix A – Analyses regarding School Stress

Regarding the matter that I used multiple regression and school stress is a categorical predictor, in consultation with the bureau of Statistics, I have chosen to devide the predictor school stress into dummy variables to check for linearity. You can find the output below (See Table 8 – Table 12). A higher score of the SDQ means more problems. As you can see, when adolescents experience no school stress at all, the level of total problems decreased (β=-5.279, p <. 001). The same conclusion can be made for emotional problems, conduct problems and peer problems. How higher the level of school stress, how more problems adolescents experience (B=-1.463). However, when adolescents experience lots (answer category 3= lots of school stress) of school stress, this is not significantly associated with conduct- and peer problems.

Table 8.

Summary of Regression Analysis to predict total SDQ problems.

Measure		B	Std. Error	Beta	t	Sig.
1	(Constant)	15.785	.419		37.682	.000
	FAS score	-.277	.031	-.098	-8.868	.000
	geslacht	.274	.126	.026	2.174	.030
	Etnische groep	.070	.064	.021	1.094	.274
	SSnotatall	-5.270	.249	-.392	-21.166	.000
	SSalittle	-4.455	.219	-.426	-20.351	.000
	SSquitealot	-2.286	.240	-.180	-9.521	.000
	SSlots	-1.463	.705	-.042	-2.073	.038

Note: β: regression coefficients; SD: standard deviation. **p < .01

Table 9.

Summary of Regression Analysis to predict emotional problems.

Model		B	Std. Error	Beta	t	Sig
1	(Constant)	3.535	.167		21.146	.000
	SES	-.124	.012	-.103	-9.955	.000
	Gender	1.130	.050	.253	22.455	.000
	Etnische groep	.110	.026	.079	4.303	.000
	SSnotatall	-2.648	.099	-.461	-26.647	.000
	SSalittle	-2.146	.087	-.480	-24.560	.000
	SSquitealot	-1.016	.096	-.188	-10.604	.000
	SSlots	-.907	.282	-.062	-3.221	.001

Note: β: regression coefficients; SD: standard deviation. **$p < .01$

Table 10.

Summary of Regression Analysis to predict conduct problems.

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.201	.124		25.729	.000
	FAS score	-.029	.009	-.036	-3.141	.002
	Gender	-.393	.037	-.131	-10.487	.000
	Etnische groep	-.025	.019	-.027	-1.319	.187
	SSnotatall	-.603	.074	-.156	-8.155	.000
	SSalittle	-.656	.065	-.219	-10.081	.000
	SSquitealot	-.397	.071	-.109	-5.564	.000
	SSlots	.235	.210	.024	1.120	.263

Note: β: regression coefficients; SD: standard deviation. **$p < .01$

Table 11.

Summary of Regression Analysis to predict hyperactivity problems.

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.479	.197		27.745	.000
	SES	-.002	.015	-.002	-.133	.894
	Gender	-.274	.059	-.058	-4.613	.000
	Etnische groep	.047	.030	.032	1.567	.117
	SSnotatall	-1.400	.117	-.229	-11.923	.000
	SSalittle	-1.019	.103	-.214	-9.867	.000
	SSquitealot	-.543	.113	-.094	-4.799	.000
	SSlots	-1.135	.333	-.072	-3.412	.001

Note: β: regression coefficients; SD: standard deviation. **$p < .01$

Table 12.

Summary of Regression Analysis to predict peer problems.

Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.568	.133		26.882	.000
	SES	-.122	.010	-.141	-12.299	.000
	Gender	-.189	.040	-.059	-4.720	.000
	Etnische groep	-.062	.020	-.062	-3.062	.002
	SSnotatall	-.619	.079	-.150	-7.847	.000
	SSalittle	-.636	.069	-.198	-9.161	.000
	SSquitealot	-.330	.076	-.085	-4.334	.000
	SSlots	.345	.224	.033	1.544	.123

Note: β: regression coefficients; SD: standard deviation. $^{**}p < .01$

Appendix B - Contract Data Use

Contract data use (TED)

Utrecht, 2019

This letter constitutes formal confirmation of the fact that the data from the Utrecht University Youth Studies 2018-2019 been made available to Janneke Rousse 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 Gonneke Stevens.

Janneke Rousse 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:

The relationship between SS and well-being will be explored by the following research question: 'To what extent does school stress relates to well-being in The Netherlands among adolescents?'. It is hypothesized that ethnicity will moderate the relationship between school-stress and well-being. In addition, it is suggested that the moderation of ethnicity will also differ across gender.

The following variables will be used:

Dependent variable: well-being: Strength and Difficulties Questionnaire: emotional symptoms, conduct problems, hyperactivity problems, problems with peers.

Independent variables:

- School Stress
- Ethnicity: Dutch mainstreamers, and Turkish, Moroccan, Surinamese, and Antillean.

Other variables: SES, gender

No report based on the data from the project entitled may be made public, unless permission has been obtained in advance from the Project Coordinator for the project called: Health Behaviour in School-aged Children (HBSC).

After the expiration of this contract, dated 09-04-2019, Janneke Rousse shall delete the Health Behaviour in School-aged Children (HBSC) data.

Dates and signature: 09-04-2019

Name of student: Janneke Rousse Name of Project Coordinator: Gonneke Stevens