Loneliness and (excessive) alcohol use among adolescents in the Netherlands and the effect of the parent-child relationship

A master thesis by Coco de Oude (6003613)

Utrecht University

MA: Youth Studies

Supervisor: Dr. Luzia Heu

Second assessor: Dr. Margreet de Looze

Wordcount: 4422

June 2022

Abstract

A small group of adolescents drink heavily, which may lead to negative health outcomes such as brain damage. Although alcohol is often consumed with others, research also shows that adolescents sometimes cope with feelings of isolation, by drinking more alcohol. In addition, the parent-child relationship might influence the relation between loneliness and alcohol use, serving as a protective factor. The current study investigates the longitudinal relation between loneliness and alcohol use among adolescents and the effect of having a positive parent-child relationship. Data from the first three waves of the *'YOUth Got Talent'*-project (Inchley et al., 2017; Stevens et al., 2018) is used. The sample contained 390 students (M_{age}= 17.33, SD_{age}= 1.34), from different MBO-schools in Utrecht. Results of the regression analysis showed an effect in the opposite direction than hypothesized: lonelier adolescents predict decreased alcohol use of adolescents. Accordingly, it was not found that lonely adolescents with a good parent-child relationship consume less alcohol. Other non-family related relationships may play a more important role in predicting alcohol consumption. The results suggest that further research should consider the social environment.

Keywords: alcohol use; loneliness; parent-child relationship; adolescents

Samenvatting

Een kleine groep adolescenten drinkt veel, wat kan leiden tot negatieve gezondheidseffecten, zoals hersenbeschadiging. Hoewel alcohol vaak samen met anderen wordt gedronken, blijkt uit onderzoek dat jongeren soms met gevoelens van isolement omgaan door meer alcohol te drinken. Daarnaast zou de ouder-kind relatie de relatie tussen eenzaamheid en alcoholgebruik kunnen beïnvloeden, als beschermende factor. Deze studie onderzoekt de longitudinale relatie tussen eenzaamheid en alcoholgebruik onder adolescenten en het effect van het hebben van een positieve ouder-kind relatie. Er wordt gebruik gemaakt van gegevens uit de drie meetmomenten van het 'YOUth Got Talent'-project (Inchley et al., 2017; Stevens et al., 2018). De steekproef bevatte 390 leerlingen (Mage= 17,33, SDage= 1,34), afkomstig van verschillende mbo-scholen in Utrecht. Resultaten van de regressieanalyse liet een effect zien in de tegenovergestelde richting dan werd verondersteld: eenzamere adolescenten voorspellen een verminderd alcoholgebruik van adolescenten. Er werd dan ook niet gevonden dat eenzame adolescenten met een goede ouder-kind relatie minder alcohol consumeren. Andere niet-familie gerelateerde relaties kunnen een belangrijkere rol spelen bij het voorspellen van alcoholgebruik. De resultaten suggereren dat toekomstig onderzoek naar de sociale omgeving zou moeten kijken.

Keywords: alcohol gebruik; eenzaamheid; ouder-kind relatie; adolescenten

Introduction

Adolescence is a period where alcohol is regularly consumed or experimented with (de Looze et al., 2014). Most adolescents develop a drinking pattern that is socially acceptable, but there is a small group of adolescents that drink heavily, which can lead to both short- and long-term negative health outcomes such as alcohol poisoning or brain damage (Van Laar et al., 2002). In 2020, excessive drinking among adolescents in the Netherlands aged 16 to 20 years has increased (NJI, 2021). Due to this increase and its possible negative outcomes, it is a concerning health problem. Yet less is known about the relation to loneliness, because when feeling alone, some adolescents may have the tendency to grab a beer faster than adolescents who do not feel this way (Brennan, 1982; Larson, 1999). There are several reasons for alcohol use discussed in the literature and loneliness may be one explanatory factor.

Alcohol is often consumed in social settings accompanied by others, but not always. Previous research showed that loneliness increases during adolescence (Brennan, 1982; Larson, 1999). Drinking is a way of coping with feelings of isolation because it can create an illusion of friendships and numb the pain of loneliness (Åkerlind & Hörnquist, 1992). Therefore, high feelings of loneliness may increase alcohol use among adolescents.

The quality of social relationships among an individual may hence be a key factor when looking at excessive alcohol use (Vakalahi, 2001). Social relationships could serve as a protective factor, therefore preventing an alcohol disorder. There is some evidence to suggest that people who are less lonely, drink less alcohol which is why social relationships may need to be fostered (Temple et al., 1991). One of these relationships is the parental relationship. Even though young people become autonomous during adolescence, parents still play an important role in the psychosocial development (Simpkins et al., 2009). When parents have a stronger bond with their children, they may feel less lonelier and this bond may protect them from drinking more alcohol.

This study will focus on the relation between loneliness and excessive alcohol use. The aim of this study is to examine how more loneliness may lead to more alcohol use among adolescents, that is being moderated by the parent-child relationship.

The relation between loneliness and alcohol use

There is a difference between adolescents who consume alcohol occasionally and those who are excessive alcohol users, since the last one could negatively affect adolescents. If boys drink six or more glasses of alcohol a day at least once a week, they are considered to be heavily drinkers. By contrast, girls are considered heavy drinkers when they drink four

glasses of alcohol in one day. 22 percent of adolescents in the Netherlands aged 16 to 20 years drink heavily, which is an increase compared to 2019, when it was 16 percent (NJI, 2021).

A possible explanation for excessive alcohol use among adolescents, might be feelings of loneliness. According to Hackney and Wrenn (1990) loneliness is something that every person has known or will know and is often understood as an unpleasant experience; a negative emotional response which occurs when the achieved quality of one's social network is not as desired (Perlman & Peplau, 1981). Therefore, one does not necessarily need to lack social interaction or social isolation to feel alone; loneliness can also occur if you have a large social network.

There are several studies that find a link between loneliness and alcohol use. First, the longitudinal study by McKay et al. (2017) examined the effect of loneliness on drinking behavior. The participants consisted of school children aged 13 and 14 years in the United Kingdom (UK) and completed questionnaires investigating, among others, alcohol use indicators and loneliness (McKay et al., 2017). Loneliness has a significant positive indirect effect, through self-efficacy, on alcohol use among early adolescents. So, this study indicates that more feelings of loneliness lead to more alcohol use, though it is indirect. When looking at gender, girls who experience loneliness are at a greater risk of unsupervised drinking than lonely boys. Another research conducted in Russia and the United States found that the feelings of loneliness were also related to the substance use of adolescents, where both lonely boys and girls had a higher chance of engaging in some sort of substance use risk behavior (Stickley et al., 2014). As mentioned in the introduction, drinking alcohol might be to mitigate the feelings of loneliness. If this behavior continues in a problematic manner, it can lead to the excessive use of alcohol. Consequently, numerous studies show that there is an association between loneliness and substance use, with some suggesting that loneliness may lead to more alcohol use.

However, the link between loneliness and alcohol use is not entirely clear. Sadava and Thompson (1986) found no direct relation between loneliness and the quantity or frequency of alcohol use. Similarly, there was no link found between loneliness and plans to drink alcohol according to Korn and Maggs (2004). Although these cross-sectional studies show other results than the previous studies mentioned, the vast majority of studies indicate that loneliness is related to more substance use. Thus, supporting the assumption in the current study that more loneliness may result in more alcohol use.

The parent-child relationship as a moderator

The parent-child relationship may serve as a protective factor when looking at loneliness and alcohol use. Parents are seen as active managers of their child's environment because of their ability to adapt to the context and the willingness to respond to their child' signals (Broberg, 2000). When a child shows feelings of loneliness, their parents can adapt to this context by giving him or her the support they need, for example by discussing it together. Affective support and a good family environment are present when the parents and their child communicate clearly. If the interaction between the parent and their child is good, this positively influences the child's wellbeing and behavior (Popov & Ilesanmi, 2015). Applying this to the current study, a lonely adolescent with a good parent-child relationship may consume less alcohol because his behavior is being positively influenced by his or her parents. For instance, if a girl feels lonely but her parents are always there for her to talk about her feelings, she feels heard and may feel less alone. This may reduce the risk of excessive alcohol use. On the other hand, lonely adolescents with bad parent-child relationships may consume more alcohol because they lack this positive influence. Thus, when the parent-child relationship is good, it may serve as a buffer between the association of more loneliness and alcohol use.

There are several longitudinal studies conducted regarding the relationship between the parent-child relationship and change in alcohol use during adolescence. A review by Visser et al. (2012) consisted of 28 relevant longitudinal studies where five studies found that a negative parent-child relationship was associated with more alcohol use, while seven studies found this association only for specific groups such as a specific age group. There was no association found in the remaining 16 studies. All in all, weak evidence was found for the effect of the parent-child relationshipon adolescent alcohol us, taking into account the criteria of the best-evidence synthesis (Visser et al., 2012). There were less than 75% of the studies that agreed on the relation between the parent-child relationship and alcohol use. Whereas these studies did not use the parent-child relationship as a moderator, their results and suggestions can be used as a starting point for the current study. The authors state that the effect of the parent-child relationship was stronger as a protective factor than as a risk factor; in the current study it will also serve as a protective factor for the relation between loneliness and alcohol use.

The current study

Based on the literature, there seems to be a relation between loneliness and alcohol use. Lonelier adolescents may drink more alcohol to cope with feelings of loneliness, but the causal link is not entirely clear. Even though the current study will examine if more loneliness leads to more alcohol use, it will also not be able to truly test the causal link. However, this study may help in understanding this link somewhat more. Most of the existing studies are conducted in the US and the UK and not in the Netherlands. Therefore, this research can contribute to the literature because it focuses on adolescents in the Netherlands. Also, the parent-child relationship will be used as a moderator on the relation between loneliness and alcohol use, which has not been done yet.

The aim of this study is to investigate if more loneliness leads to more alcohol use and if the parent-child relationship can serve as a buffer between these two (see figure 1).

Following the literature review and previous studies, the following central research question has been formulated: *'How does loneliness influence (excessive) alcohol use among adolescents in the Netherlands and to what extent is this relationship moderated by the quality of the parent-child relationship?'*

Based on the existing studies that were considered, this leads to the following hypothesis: *H1: Lonelier adolescents predict increased alcohol use of adolescents.*

In addition to this, the second hypothesis is as follows: *H2: The relationship between loneliness and alcohol use is weaker for adolescents who have a good parent-child relationship.* In other words, if the relationship between the parent and the child is good, the relationship may serve as a protective factor possibly leading to less alcohol use if the child feels lonely. If this relationship is bad, it may serve as a risk factor and eventually lead to more alcohol use.

Figure 1 Research model.
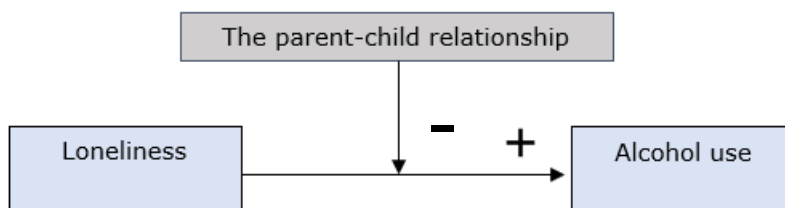
Method

Design and sample

The research questions of the present study are tested with a longitudinal design. This study uses data from the YOUth Got Talent project (Inchley et al., 2017; Stevens et al., 2018), initiated at Utrecht University in 2016. Starting from September 2019 till January 2021, data was collected in three waves. The sample in the YOUth Got Talent project consist of 1471 students. From these participants, there were 44.3% boys and 55.7% girls, aged 16 to 25 (M_{age}= 17.81, SD_{age}= 1.82). The current study includes information from participants that participated in both wave 1 and wave 3. In addition to this, only the participants who met the condition that had completed all items on the relevant variables for this study, were included in this study. This subsample (*N*= 390) consisted of 44.1% boys and 55.9% girls, aged from 16 to 25 (M_{age}= 17.33, SD_{age}= 1.34).

An attrition analysis was conducted to check if the missing data significantly differs from the adolescents from wave 3 with adolescents who dropped out in wave 3. The analysis showed no significant results in loneliness or alcohol use; no differences in loneliness and alcohol use were found.

Procedure

Participants were recruited by approaching MBO schools in the Utrecht region of the Netherlands. Grafisch Lyceum Utrecht, Nimeto Utrecht and ROC Midden Nederland agreed to participate and within these schools 73 classes were selected randomly. Students (16+) were asked to fill in a questionnaire regarding several topics in their first, second and third year, taking 20-30 minutes. Trained researchers visited the classrooms to administer the self-report questionnaires.

Alcohol use in the last 4 weeks (T1, T3)

The dependent variable is alcohol use, assessed by the item *'On how many days have you drunk alcohol? In the last 4 weeks'* and is measured on a seven-point Likert scale (*1 = never, 2 = 1 - 2 days, 3 = 3 - 5 days, 4 = 6 - 9 days, 5 = 10 – 19 days, 6 = 20 – 29 days and 7 = 30 days or more*). A high score indicates more alcohol use.

Loneliness (T1)

The independent variable is loneliness. The items for loneliness are based on the revised UCLA Loneliness Scale (Russell et al., 1980). The full scale has 20 items, but 10 items are used in this study. Examples of items are *'I feel alone'* and *'I have no real friends'*. All items are measured on a five-point Likert scale (*1 = not correct at all, 5 = completely*

correct). A higher score indicates more loneliness. Cronbach's α is .883, which can be considered good (0.9 > α ≥ 0.8).

The parent-child relationship (PCR) (T1)

The moderator is the parent-child relationship. The items for the parent-child relationship are based on The Multidimensional Scale of Perceived Social Support (Zimet at al., 1988). Four items are used and examples of items are *'The people in my family really go out of their way to help me'* and *'I get the emotional support and help I need at home'*. All items are measured on a seven-point Likert scale (*1 = totally disagree, 7 = totally agree*). A higher score indicates a better parent-child relationship. Cronbach's α is .929 which is excellent (α ≥ 0.9).

Analysis

IBM SPSS Statistics 28 was used for the data-analysis. It was noticed that alcohol use is a categorical variable, but has a scale with seven steps. There was no recoding otherwise the precise answers of the participants would have been lost. If it was not included as a scale, the possibilities to analyze the data were very limited. Assumptions were checked for a longitudinal linear regression analysis, by examining histograms and boxplots. Loneliness and alcohol use T3 were right skewed and the parent-child relationship was left skewed. Outliers were not removed because the values were possible. Variables were not normally distributed, but there was also no clear boundary between groups. Running a scatter plot, the assumption of linearity between the dependent and independent variable was violated, however there was no parabola visible. This should be considered when looking at the results.

Descriptive statistics and correlations were analyzed. Correlations showed that there was no multicollinearity, meaning there are no variables that are similar. A hierarchical regression analysis was conducted to test the main effect of the model and the interaction effect. Whether loneliness predicts alcohol use at T3 was examined by testing the direct effect of loneliness at T1 on alcohol use at T3, controlled for alcohol use at T1. To investigate if this relationship differs depending on the parent-child relationship, the interaction effect between loneliness and the parent-child relationship was tested. The interaction variables were created by saving the standardized values as variables. Finally, all analyses were controlled for alcohol use T1, gender and age, as research suggests that there are gender and age differences in the outcome of alcohol use (Marceau & Jackson, 2017; Taga et al., 2006). The missings were deleted listwise.

Results

Descriptive statistics and correlations

The descriptive statistics of the variables are presented in the first column of table 1. The mean of alcohol use at T3 ($M = 2.25$, $SD = 1.30$) means that on average a participant has drunk alcohol on two to five days in the last 4 weeks. The table also shows that participants score low on loneliness at T1 ($M = 1.78$, $SD = 0.62$) meaning that most participants did not experience loneliness. On the other hand, the parent-child relationship at T1 ($M = 5.91$, $SD = 1.32$) scores high on the seven-point Likert scale; indicating most participants had a good relationship with their parents. The table also presents the bivariate correlations. Alcohol use at T1 and T3 were positively significantly associated with a large effect size ($r = .59$, $p < .001$); participant who drunk more alcohol at T1, were more likely to drink alcohol at T3. Loneliness at T1 was significantly negatively associated with alcohol use at T3 with a small effect size ($r = -.25$, $p < .001$) and at T1 also with a small effect size ($r = -.20$, $p < .001$); participants who were lonelier at T1, were less likely to drink alcohol at T3 and T1. The parent-child relationship at T1 was positively significantly associated with alcohol use at T3 with a small effect size ($r = .12$, $p = .017$) and negatively associated with loneliness at T1 with a medium effect size ($r = -.48$, $p = < .001$); participants who had a somewhat good parent-child relationship, were more likely to drink alcohol at T3 and those who had a bad parent-child relationship, were more likely to feel lonely at T1. Additionally, age at T1 was significantly associated with loneliness at T1 with a small effect size ($r = .23$, $p < .001$) and negatively associated with the parent-child relationship at T1 with a small effect size ($r = -.22$, $p < .001$). So, older participants feel lonelier and younger participants have a better relationship with their parents.

Table 1

Descriptive statistics of variables and Pearson correlations between variables

	M (SD)	1.	2.	3.	4.	5.
1. Alcohol use (T3)	2.25 (1.30)					
2. Alcohol use (T1)	2.13 (1.25)	.59**				
3. Loneliness (T1)	1.78 (0.62)	-.25**	-.20**			
4. The PCR (T1)	5.91 (1.32)	.12*	.05	-.48**		
5. Gender (T1)	0.44 (0.50)	.05	.15**	-.05	.06	
6. Age (T1)	17.33 (1.34)	-.04	.03	.23**	-.22**	.06

Note. Effect is significant at **$p < .01$ and *$p < .05$ (two-tailed).

Hierarchical regression analysis for relationship between loneliness and alcohol use

In Model 1 the control variables alcohol use T1, gender and age were added to test whether they were significant predictors of alcohol use at T3 (see table 2). Only alcohol use T1 ($B = 0.61$, $t = 14.26$, $p < .01$, 95% CI [0.53, 0.70]) was a significant positive predictor of alcohol use at T3; higher scores on alcohol use at T1 predicted an increase in alcohol use at T3. The control variables explained 34.8% of the variance in alcohol use at T3 ($R^2 = .35$, $F(3, 386) = 68.71$, $p < .01$).

Loneliness was added in model 2 to test whether it was a significant predictor of alcohol use at T3, controlled for alcohol use T1, gender and age. Loneliness T1 was a significantly negative predictor of alcohol use T3 ($B = -0.29$, $t = -3.23$, $p < .01$, 95% CI [-0.47, -0.11]); lower scores on loneliness predicted an increase in alcohol use at T3. Model 2 explained 36.5% of the variance in alcohol use at T3 ($R^2 = .37$, $F(4, 385) = 55.40$, $p < .01$).

Interaction effect of the parent-child relationship

Model 3 included the direct effect of the parent-child relationship on alcohol use T3, before testing the interaction effect. The parent-child relationship was not a significant predictor of alcohol use T3. The third model explained 36.6% of the variance in alcohol use T3 ($R^2 = .37$, $F(5, 384) = 44.39$, $p < .01$).

Ultimately, the interaction effect was tested in the fourth model. It was tested whether the relationship between loneliness and alcohol use differed depending on the parent-child relationship (see table 2). No significant interaction effect was found.

Table 2

Hierarchical regression analysis of loneliness, the parent-child relationship and their interaction on alcohol use at T3

	Model 1	Model 2	Model 3	Model 4
	Alcohol use (T3) *B* (SE)	Alcohol use (T3) *B* (SE)	Alcohol use (T3) *B* (SE)	Alcohol use (T3) *B* (SE)
Alcohol use (T1)	0.61 (0.04)**	0.58 (0.04)**	0.59 (0.04)**	0.59 (0.04)**
Gender (T1)	-0.08 (0.11)	-0.09 (0.11)	-0.10 (0.11)	-0.10 (0.11)
Age (T1)	-0.06 (0.04)	-0.02 (0.04)	-0.02 (0.04)	-0.02 (0.04)
Loneliness (T1)		-0.29 (0.09)**	-0.26 (0.10)*	-0.25 (0.10)*
The parent-child relationship (T1)			0.04 (0.05)	0.03 (0.05)
Loneliness x the parent-child relationship				0.00 (0.04)
R2	.35**	.37**	.37	.37

Note. Effect is significant at **$p < .01$ and *$p < .05$ (two-tailed).

Discussion

The aim of this study was to investigate whether more feelings of loneliness would predict more alcohol use among adolescents. The expectation that there was a relation between loneliness and alcohol use was supported, but not the positive relation as expected. Furthermore, results revealed that the parent-child relationship did not moderate in the relationship between loneliness and alcohol use among adolescents. Lonely adolescents with a good parent-child relationship do not significantly drink less alcohol than adolescents with a bad relationship with their parents.

As previous research suggested, loneliness influences alcohol use among adolescents (McKay et al., 2017; Stickley et al., 2014). However, results showed that there was a negative relationship, which is not in line with the first hypothesis. It was expected that more feelings of loneliness among adolescents leads to drinking more alcohol, because the misuse of

alcohol may be to avoid feelings of loneliness (Stickley et al., 2014). On the contrary, the current study found that lonelier adolescents predict decreased alcohol use of adolescents. A first explanation for this negative effect might be the social context. Research indicates that most adolescents drink alcohol in social settings (Skrzynski & Creswell, 2020). Thus, less lonely adolescents, drink more alcohol. Peer relationships are particularly relevant in adolescence, so being surrounded by peers may increase alcohol use. In the Netherlands… Second, a possible explanation are the biased self-reports to measure alcohol use, although this method has shown to be valid for measuring alcohol use (Del Boca & Darkes, 2003). Another explanation might be that alcohol use is not that common to cope with loneliness in this age group yet. In this study, alcohol use was low among adolescents; this might have been different when testing an older age group. Perhaps adolescents use other distractions from feeling lonely, such as gaming (Traş, 2019); older people may have less distractions, so drinking alcohol might be an easy and fast solution for them. This might be an interesting topic to focus on in future research.

The second hypothesis which stated that a good parent-child relationship serves as a buffer between the association of loneliness and alcohol use, was not supported. Previous studies stated that children's wellbeing and behavior is positively influenced when the interaction between the parent and the child is good (Popov & Ilesanmi, 2015), meaning this may lead to children feeling less lonely and drinking less alcohol. The results in the current study showed no support for this. A possible explanation could be that the parent-child relationship has less influence on alcohol use than peer relationships. Peers may have more influence on adolescents than their parents, which can lead to less loneliness and less alcohol use among adolescents. The social learning theory explains how children imitate the behaviors of others, cognitive processes such as self-efficacy and social reinforcement. Peers play a crucial role in the development of adolescents in both harmful and positive activities (Berndt, 1999; Maxwell, 2002), including alcohol use. Second, the parent-child relationship may have more influence on the behavior of young children, who usually do not drink alcohol, than adolescents. Since results revealed that lonelier adolescents drink less alcohol, future studies should focus on peer relationships, in spite of parents possibly remaining aa crucial source of authority (Welborn et al., 2016).

Limitations and future directions

When looking at the strengths of the current study, it is based on a large sample and longitudinal data. The sample size was sufficient for statistical measurements. The

longitudinal design made it possible to investigate changes over time and gain more insight into cause and effect relationships. The current study also contributes to an area of research that is often executed in the US, while few studies have been conducted in the Netherlands. On the other hand, there are several limitations which need to be addressed. An additional logistic regression analysis was conducted due to the violation of some assumptions and the outcome variable alcohol use. The results of this analysis revealed no big differences in comparison with the linear regression, which is why the results of the linear regression have been reported. Second, only MBO schools in the region of Utrecht participated in the current study, meaning only this specific region of the Netherlands is represented. Besides, HBO schools and universities are not present in terms of educational levels. This could have impacted the results of this study because a lot of HBO and university students do not live at home anymore; they often move to the city where they will be studying. You may feel lonelier when moving to a new city where you do not know anyone which may lead to more loneliness. When looking at alcohol use, adolescents have more opportunities to drink because they are less supervised by their parents; this may result in an association between more loneliness and more alcohol use. Besides, if we want to generalize adolescents more broadly to obtain a more representative sample, all education levels should be included. In addition, loneliness is measured on a relatively short term, though there were three waves. It is possible that more people feel lonely during adolescence and not later on in life which is why it is necessary to test the link between loneliness and excessive alcohol use over a longer period of time. Lastly, the results show that loneliness and alcohol use are negatively related; future studies should focus on this negative relation, because loneliness seems to relate to less alcohol use. A possible explanation might be that adolescents drink more in social environments, as previously argued. Other research could extend this approach by looking at other educational levels where adolescents often live on their own and are less supervised; measuring alcohol use in these circumstances may be significantly different. Since peers play an important role in drinking behavior, it is important that future interventions and youth policy take this into account if they want to influence excessive alcohol use among adolescents.

Conclusion

To conclude, there was a relation found between loneliness and alcohol use among adolescents. Results revealed that lonelier adolescents drink less alcohol two years later. This implies that the social environment of adolescents needs to be taken into account.

Furthermore, there might be other possible distractions to cope with loneliness. Another possible explanation is that older people may feel lonelier than adolescents. The parent-child relationship was not a buffer, because it did not lead to less loneliness in turn leading to less alcohol use. This may be due to the fact that parents have more influence on young children who do not drink and peers have more influence on adolescents then parents. Loneliness as well as excessive drinking remains a problem in society, which is why it is important that adolescents have enough leisure activities, such as sports, to distract them from using alcohol. At the same time, such activities also contribute to social relations, and therefore may also buffer feelings of loneliness. The current study mentions the importance of the social context which provides support that interventions should not only focus on the individual.

Reference list

Åkerlind, I., & Hörnquist, J. O. (1992). Loneliness and alcohol abuse: A review of evidences of an interplay. *Social science & medicine*, *34*(4), 405-414. https://doi.org/10.1016/0277-9536(92)90300-F

Berndt, T. J. (1999). Friends' influence on students' adjustment to school. *Educational psychologist*, *34*(1), 15-28. https://doi.org/10.1207/s15326985ep3401_2

Brennan, T. (1982). Loneliness at adolescence. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research and therapy* (pp. 269-290). New York: Wiley.

Broberg, A. G. (2000). A review of interventions in the parent-child relationship informed by attachment theory. *Acta Paediatrica*, *89*, 37-42. https://doi.org/10.1111/j.16512227.2000.tb03094.x

Del Boca, F. K., & Darkes, J. (2003). The validity of self-reports of alcohol consumption: state of the science and challenges for research. *Addiction*, *98*, 1-12. https://doi.org/10.1046/j.1359-6357.2003.00586.x

de Looze, M., Vermeulen-Smit, E., Ter Bogt, T. F., van Dorsselaer, S. A., Verdurmen, J., Schulten, I., Engels, R.C., & Vollebergh, W. A. (2014). Trends in alcohol-specific parenting practices and adolescent alcohol use between 2007 and 2011 in the Netherlands. *International Journal of Drug Policy*, *25*(1), 133-141. https://doi.org/10.1016/j.drugpo.2013.09.007

Hackney, H., & Wrenn, C. G. (Eds.). (1990). *The contemporary counselor in a changed world* (Monograph, Association for Counselor Education and Supervision). Alexandria, VA. American Counseling Association.

Inchley, J., Currie, D., Cosma, A., Piper, A., & Spanou, G. (Eds.). (2017). Health Behaviour in School-aged Children (HBSC) Internal Protocol 2017/18. Retrieved from http://www.hbsc.org/methods/index.html

Korn, M. E., & Maggs, J. L. (2004). Why drink less? Diffidence, self-presentation styles, and alcohol use among university students. *Journal of Youth and Adolescence, 33*(3), 201 211. https://doi.org/10.1023/B:JOYO.0000025319.57979.13

Larson, R. W. (1999). The uses of loneliness in adolescence. In K.J. Rotenberg & S. Hymel (Eds.), *Loneliness in childhood and adolescence* (pp. 244-262). Cambridge: Cambridge University Press.

Marceau, K., & Jackson, K. (2017). Deviant peers as a mediator of pubertal timing–substance use associations: The moderating role of parental knowledge. *Journal of Adolescent Health*, *61*(1), 53-60. https://doi.org/10.1016/j.jadohealth.2016.12.020

Maxwell, K. A. (2002). Friends: The role of peer influence across adolescent risk behaviors. *Journal of Youth and adolescence*, *31*(4), 267-277. https://doi.org/10.1023/A:1015493316865

McKay, M. T., Konowalczyk, S., Andretta, J. R., & Cole, J. C. (2017). The direct and indirect effect of loneliness on the development of adolescent alcohol use in the United Kingdom. *Addictive behaviors reports*, *6*, 65-70. https://doi.org/10.1016/j.abrep.2017.07.003

Nederlands Jeugdinstituut (NJI). (2021, May 17.). Cijfers over jeugd en opvoeding. Retrieved from: https://www.nji.nl/cijfers/alcoholgebruik

Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. *Personal relationships*, *3*, 31-56.

Popov, L. M., & Ilesanmi, R. A. (2015). Parent-child relationship: Peculiarities and outcome. *Review of European Studies, 7*(5), 253. http://doi.org/10.5539/res.v7n5p253

Van Laar, M.W., Cruts, A.A.N., Rigter, H.G.M., Verdurmen, J.E.E., Meijer, R.F., Van Ooyen, M.M.J., (2002). Nationale Drugmonitor: Jaarbericht 2002 [National Drugmonitor: Annual Report 2002], Trimbosinstituut, Utrecht.

Visser, L., De Winter, A. F., & Reijneveld, S. A. (2012). The parent–child relationship and adolescent alcohol use: a systematic review of longitudinal studies. *BMC Public Health, 12*(1), 1-16. https://doi.org/10.1186/1471-2458-12-886

Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, *39*(3), 472-480. https://doi.org/10.1037/0022-3514.39.3.472

Sadava, S. W., & Thompson, M. M. (1986). Loneliness, social drinking, and vulnerability to alcohol problems. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement, 18*(2), 133. https://doi.org/10.1037/h0079980

Simpkins, S. D., Bouffard, S. M., Dearing, E., Kreider, H., Wimer, C., Caronongan, P., & Weiss, H. B. (2009). Adolescent adjustment and patterns of parents' behaviors in early and middle adolescence. *Journal of Research on Adolescence*, *19*(3), 530-557. https://doi.org/10.1111/j.1532-7795.2009.00606.x

Skrzynski, C. J., & Creswell, K. G. (2020). Associations between solitary drinking and increased alcohol consumption, alcohol problems, and drinking to cope motives in adolescents and young adults: a systematic review and meta-analysis. *Addiction*, *115*(11), 1989-2007. https://doi.org/10.1111/add.15055

Stevens, G.W.J.M., van Dorsselaer, S., Boer, M., de Roos, S., Duinhof, E.L., Ter Bogt, T., Van Den Eijnden, R.J.J.M., Kuyper, L., Visser, D., Vollebergh, W.A.M., & de Looze, M. HBSC 2017: Gezondheid En Welzijn van Jongeren in Nederland. [Health and Wellbeing in Adolescents in the Netherlands]. Utrecht University. Utrecht, The Netherlands, 2018.

Stickley, A., Koyanagi, A., Koposov, R., Schwab-Stone, M., & Ruchkin, V. (2014). Loneliness and health risk behaviours among Russian and US adolescents: a cross sectional study. *BMC public health*, *14*(1), 1-12. https://doi.org/10.1186/1471-2458-14-366

Taga, K. A., Markey, C. N., & Friedman, H. S. (2006). A longitudinal investigation of associations between boys' pubertal timing and adult behavioral health and well-being. *Journal of Youth and Adolescence*, *35*(3), 380-390. https://doi.org/10.1007/s10964-006-9039-4

Temple, M. T., Fillmore, K. M., Hartka, E., Johnstone, B., Leino, E. V., & Motoyoshi, M. (1991). A meta-analysis of change in marital and employment status as predictors of alcohol consumption on a typical occasion. *British journal of addiction, 86*(10), 1269-1281. https://doi.org/10.1111/j.1360-0443.1991.tb01703.x

Traş, Z. (2019). Internet addiction and loneliness as predictors of internet gaming disorder in adolescents. *Educational Research and Reviews*, *14*(13), 465-473. https://doi.org/10.5897/ERR2019.3768

Vakalahi, H. F. (2001). Adolescent substance use and family-based risk and protective factors: A literature review. *Journal of drug education, 31*(1), 29-46. https://doi.org/10.2190/QP75-P9AR-NUVJ-FJCB

Welborn, B. L., Lieberman, M. D., Goldenberg, D., Fuligni, A. J., Galván, A., & Telzer, E. H. (2016). Neural mechanisms of social influence in adolescence. *Social cognitive and affective neuroscience*, *11*(1), 100-109. https://doi.org/10.1093/scan/nsv095

Zimet, G.D., Dahlem, N.W., Zimet, S.G., & Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, *52*(1), 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Appendix 1: SPPS-syntax

* Encoding: UTF-8.

*open dataset.

GET

  FILE='C:\Users\cocod\OneDrive\Documenten\Master Youth

studies\YGT_MBOs010203_2.0_copy.sav'.

*inspection variables with descriptives.

DESCRIPTIVES VARIABLES=BG01age BG01sex SR01famsupp1 SR01famsupp2

SR01famsupp3 SR01famsupp4

  SR01MSPSS_FAMS SR01lonely1 SR01lonely2 SR01lonely3 SR01lonely4 SR01lonely5

SR01lonely6 SR01lonely7

  SR01lonely8 SR01lonely9 SR01lonely10 SR01lonely1_r SR01lonely5_r SR01lonely6_r

SR01lonely9_r

  SR01lonely10_r SR01LONE SU01alchlm SU03alchlm

 /STATISTICS=MEAN STDDEV MIN MAX.

*inspection variables with frequencies.

FREQUENCIES VARIABLES=BG01age BG01sex SR01famsupp1 SR01famsupp2

SR01famsupp3 SR01famsupp4

  SR01MSPSS_FAMS SR01lonely1 SR01lonely2 SR01lonely3 SR01lonely4 SR01lonely5

SR01lonely6 SR01lonely7

  SR01lonely8 SR01lonely9 SR01lonely10 SR01lonely1_r SR01lonely5_r SR01lonely6_r

SR01lonely9_r

  SR01lonely10_r SR01LONE SU01alchlm SU03alchlm

 /ORDER=ANALYSIS.

*select variables that are relevant into new dataset.

MATCH FILES file = * /KEEP BG01age BG01sex SR01famsupp1 SR01famsupp2

SR01famsupp3 SR01famsupp4

  SR01MSPSS_FAMS SR01lonely1 SR01lonely2 SR01lonely3 SR01lonely4 SR01lonely5

SR01lonely6 SR01lonely7

SR01lonely8 SR01lonely9 SR01lonely10 SR01lonely1_r SR01lonely5_r SR01lonely6_r
SR01lonely9_r

   SR01lonely10_r SR01LONE SU01alchlm SU03alchlm

SAVE OUTFILE='C:\Users\cocod\OneDrive\Documenten\Master Youth
studies\YGT_Thesis_CocodeOude_sample_Romy.sav'
  /COMPRESSED.

*define missings.
RECODE BG01age BG01sex SR01famsupp1 SR01famsupp2 SR01famsupp3 SR01famsupp4
   SR01MSPSS_FAMS SR01lonely1 SR01lonely2 SR01lonely3 SR01lonely4 SR01lonely5
SR01lonely6 SR01lonely7

   SR01lonely8 SR01lonely9 SR01lonely10 SR01lonely1_r SR01lonely5_r SR01lonely6_r
SR01lonely9_r

   SR01lonely10_r SR01LONE SU01alchlm SU03alchlm
   (SYSMIS=999).
   EXECUTE.

MISSING VALUES BG01age BG01sex SR01famsupp1 SR01famsupp2 SR01famsupp3
SR01famsupp4

   SR01MSPSS_FAMS SR01lonely1 SR01lonely2 SR01lonely3 SR01lonely4 SR01lonely5
SR01lonely6 SR01lonely7

   SR01lonely8 SR01lonely9 SR01lonely10 SR01lonely1_r SR01lonely5_r SR01lonely6_r
SR01lonely9_r

   SR01lonely10_r SR01LONE SU01alchlm SU03alchlm (999).

*exclude missings for sample and make new dataset.
DATASET ACTIVATE DataSet2.
DATASET COPY YGT_Thesis_CocodeOude_Romy_REALSAMPLE.
DATASET ACTIVATE YGT_Thesis_CocodeOude_Romy_REALSAMPLE.
FILTER OFF.
USE ALL.

SELECT IF

(((NVALID(BG01age,BG01sex,SR01MSPSS_FAMS,SR01LONE,SU01alchlm,SU03alchlm)

=6))).

EXECUTE.

DATASET ACTIVATE DataSet2.

*check with frequencies if missing=0.

DATASET ACTIVATE YGT_Thesis_CocodeOude_Romy_REALSAMPLE.

FREQUENCIES VARIABLES=BG01age BG01sex SR01MSPSS_FAMS SR01LONE

SU01alchlm SU03alchlm

 /STATISTICS=STDDEV MINIMUM MAXIMUM MEAN

 /ORDER=ANALYSIS.

*390 participants.

descriptives.

DESCRIPTIVES VARIABLES=BG01age BG01sex SR01MSPSS_FAMS SR01LONE

SU01alchlm SU03alchlm

 /STATISTICS=MEAN STDDEV MIN MAX.

*check normality and outliers with boxplot and histogram.

*loneliness T1.

EXAMINE VARIABLES=SR01LONE

 /PLOT BOXPLOT HISTOGRAM

 /COMPARE GROUPS

 /STATISTICS NONE

 /CINTERVAL 95

 /MISSING LISTWISE

 /NOTOTAL.

*7 outliers, not deleted.

*right skewed

*alcohol use T3.
EXAMINE VARIABLES=SU03alchlm
  /PLOT BOXPLOT HISTOGRAM
  /COMPARE GROUPS
  /STATISTICS NONE
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
*2 outliers, not deleted.
*right skewed

*parentchild relation (famsupport) T1.
EXAMINE VARIABLES=SR01MSPSS_FAMS
  /PLOT BOXPLOT HISTOGRAM
  /COMPARE GROUPS
  /STATISTICS NONE
  /CINTERVAL 95
  /MISSING LISTWISE
  /NOTOTAL.
*13 outliers, not deleted.
*left skewed

*linearity with alcohol use T3.

GRAPH
  /SCATTERPLOT(BIVAR)=SR01LONE WITH SU03alchlm
  /MISSING=LISTWISE.

GRAPH
  /SCATTERPLOT(BIVAR)=SR01MSPSS_FAMS WITH SU03alchlm
  /MISSING=LISTWISE.

GRAPH

```
  /SCATTERPLOT(BIVAR)=SU01alchlm WITH SU03alchlm
   /MISSING=LISTWISE.
```

*no/barely linearity between variables and alcohol use T3.

scale creation

*loneliness 1, 5, 6, 9 and 10 already recoded and loneliness alreay computed into one variable (SR01LONE)

 parentchild relation already computed into one variable (SR01MSPSS_FAMS).

*alcohol use T3 (SU03alchlm) and T1 (SU01alchlm) one item.

*factor analysis not needed.

reliability analysis

*loneliness.

```
RELIABILITY
  /VARIABLES=SR01lonely1_r SR01lonely5_r SR01lonely6_r SR01lonely9_r
SR01lonely10_r SR01lonely2
    SR01lonely3 SR01lonely4 SR01lonely7 SR01lonely8
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```

*parentchild relation.

```
RELIABILITY
  /VARIABLES=SR01famsupp1 SR01famsupp2 SR01famsupp3 SR01famsupp4
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /SUMMARY=TOTAL.
```

attrition analysis

open dataset including missings

```
GET
```

```
    FILE='C:\Users\cocod\OneDrive\Documenten\Master Youth '+
     'studies\YGT_Thesis_CocodeOude_allvariables.sav'.


IF  (MISSING(SU01alchlbg_r) = 1) Missing_A=1.
EXECUTE.


RECODE Missing_A (MISSING=0).
EXECUTE.


DATASET ACTIVATE DataSet3.
T-TEST GROUPS=Missing_A(0 1)
  /MISSING=ANALYSIS
  /VARIABLES=SR01LONE SU03alchlm
  /ES DISPLAY(TRUE)
  /CRITERIA=CI(.95).


*open dataset excludings missing; 390 participants*



GET
  FILE='C:\Users\cocod\OneDrive\Documenten\Master Youth '+
   'studies\YGT_Thesis_CocodeOude_sample_Romy.sav'.



***correlations***


CORRELATIONS
  /VARIABLES=BG01age BG01sex SR01MSPSS_FAMS SR01LONE SU01alchlm
SU03alchlm
  /PRINT=TWOTAIL NOSIG FULL
  /MISSING=LISTWISE.



*creating centered variables for interaction*.
```

DESCRIPTIVES VARIABLES=SR01LONE SR01MSPSS_FAMS
  /SAVE
  /STATISTICS=MEAN STDDEV MIN MAX.

COMPUTE ZLonelinessxZparentchild=ZSR01LONE * ZSR01MSPSS_FAMS.
EXECUTE.

regression*.

REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS CI(95) R ANOVA CHANGE
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT SU03alchlm
  /METHOD=ENTER SU01alchlm BG01sex BG01age
  /METHOD=ENTER SR01LONE
  /METHOD=ENTER SR01MSPSS_FAMS
  /METHOD=ENTER ZLonelinessxZparentchild
  /SCATTERPLOT=(*ZRESID ,*ZPRED).

check for logistic regression.

making alcohol use T3 dichotomous variable

RECODE SU03alchlm (Lowest thru 4=0) (ELSE=1) INTO Alc3_logd.
EXECUTE.

LOGISTIC REGRESSION VARIABLES Alc3_logd
  /METHOD=ENTER SU01alchlm BG01sex BG01age
  /METHOD=ENTER SR01LONE SR01MSPSS_FAMS

/METHOD=ENTER SR01LONE*SR01MSPSS_FAMS
/CRITERIA=PIN(.05) POUT(.10) ITERATE(20) CUT(.5).

Information about your thesis

Please save this form, modify it and e-mail it to your supervisor together with the digital final version of your thesis. For further questions see:
http://studion.fss.uu.nl/helpdesk/student/scrol

Student nummer:	6003613
Initials & prefixes:	C I de
Family name:	Oude
Master:	Youth Studies

Begeleider

Name supervisor/assesor: *	Dr. Luzia Heu
Name 2th assesor:	Dr. Margreet de Looze

Scriptie

Title thesis: *	Loneliness and (excessive) alcohol use among adolescents in the Netherlands and the effect of the parent-child relationship
Language thesis: *	English
Abstract:	A small group of adolescents drink heavily, which may lead to negative health outcomes such as brain damage. Although alcohol is often consumed with others, research also shows that adolescents sometimes cope with feelings of isolation, by drinking more alcohol. In addition, the parent-child relationship might influence the relation between loneliness and alcohol use, serving as a protective factor. The current study investigates the longitudinal relation between loneliness and alcohol use among adolescents and the effect of having a positive parent-child relationship. Data from the first three waves of the 'YOUth Got Talent'-project (Inchley et al., 2017; Stevens et al., 2018) is used. The sample contained 390 students (Mage= 17.33, SDage= 1.34), from different MBO-schools in Utrecht. Results of the regression analysis showed an effect in the opposite direction than hypothesized: lonelier adolescents predict decreased alcohol use of adolescents. Accordingly, it was not found that lonely adolescents with a good parent-child relationship consume less alcohol. Other non-family related relationships may play a more important role in predicting alcohol consumption. The results suggest that further research should consider the social environment.
Key words: (seperated by ;)	alcohol use; loneliness; parent-child relationship; adolescents
Make public: *	Yes/ No
Make public after date:	

Ingevuld op: * 09/06/2022
Door: * Coco Ida de Oude

* = Obliged to fill in

Registration Form: Research Activities for TED-students (in total 60 hrs)

………………Coco de Oude………………………………………(Name)
…………………6003613………………………………………(Student number)

Research Activities	Total number of Hours	Signature YS staff
Feedback blog post (Luzia Heu)	**1**	
Making comments and recording feedback of the questionnaire (Luzia Heu)	**2**	
Preparing a study invitation for data collection (Luzia Heu)	**1**	
Data collection Questionnaire Loneliness (Luzia Heu)	**Julia; 0,5** **Merel; 0,5** **Lotte; 0,5** **Marije; 0,5** **Floor; 0,5** **Melina; 0,5** **Katmer; 0,5** **Eva; 0,5** **Nienke; 0,5** **Zoë; 0,5** **5**	

	30	

Total		