

**Adolescents' Quality of Life and mental health needs
during the initial phase of detention**

Nele Van Hecke^a , Florian Meulewaeter^a, Sara Rowaert^a, Chijs van Nieuwenhuizen^b, Lore Van Damme^a, Wouter Vanderplasschen^a and Stijn Vandeveld^{a*}

^aDepartment of Special Needs Education, Ghent University, Ghent, Belgium; ^bTilburg School of Social and Behavioral Sciences, Tilburg University, Tilburg, The Netherlands

Contact details of the corresponding author:

Stijn Vandeveld

[e-mail: stijn.vandeveld@ugent.be](mailto:stijn.vandeveld@ugent.be)

telephone number: +32 9 331 03 07

Author's ORCID:

Nele Van Hecke: 0000-0003-3029-5973

Florien Meulewaeter: 0000-0002-1890-0125

Sara Rowaert: 0000-0003-3976-1491

Chijs van Nieuwenhuizen: 0000-0002-6684-1529

Lore Van Damme: 0000-0002-6349-8622

Wouter Vanderplasschen: 0000-0001-6513-4243

Stijn Vandeveld: 0000-0001-9491-9509

**Accepted for publication in International Journal of Forensic Mental Health (20
May 2021)**

Adolescents' Quality of Life and mental health needs during the initial phase of detention

This study investigated adolescents' Quality of Life and mental health needs during the first weeks in a closed institution for mandatory care and treatment to inform (gender-specific) rehabilitation. Questionnaires concerning socio-demographic variables, Quality of Life and mental health needs were administered (n = 182; 90 boys and 92 girls; mean age = 16.2). Given the high prevalence of mental health needs in this study population and their significant negative correlation with QoL, we argue for a holistic view on rehabilitation and to broaden treatment aims in youth forensic care by including not only determinants of recidivism but also determinants of QoL.

Keywords: Quality of Life; Mental health needs; Adolescents; Detention; Rehabilitation

Introduction

The interest in Quality of Life (QoL) has expanded in recent decades, both as an outcome measure of program evaluation (Bullinger & Quitmann, 2014; Kober & Eggleton, 2009), as well as a strengths-based supports paradigm for individuals who find themselves in vulnerable situations (De Maeyer et al., 2010; Laudet, 2011; Strada et al., 2017; Swerts et al., 2019). QoL has mostly been conceptualized as a dynamic, multidimensional concept, which covers a broad range of life domains and which can be measured by a combination of both objective and subjective indicators (Van Hecke et al., 2018, Verdugo et al., 2012). Gradually, the concept of QoL started to find its way to forensic (mental health) services for adults (Bouman et al., 2009; van Nieuwenhuizen et al., 2002a) and adolescents (Barendregt et al., 2015a; Colins & Van Damme, 2020).

Adolescents in detention are at risk of experiencing high levels of mental health needs, internalizing and externalizing problems, exposure to traumatic experiences, and socio-economic problems (Kerig et al., 2016, Livanou et al., 2019; Mendez et al., 2020; Penner et al., 2011; Vermeiren et al., 2006). Being able to live a personally meaningful

and fulfilling life is hypothesized to play a buffering role in relation to the risk of recidivism (Shepherd et al., 2016). Recent studies have used the QoL-concept to test the hypothesis that a higher QoL might play a protective role with regard to reoffending among detained adolescents (Barendregt et al., 2018; Van Damme, Hoeve et al., 2016). Results pointed to an association between QoL during detention and psychosocial functioning at follow-up for boys (Barendregt et al., 2018), and towards an indirect relationship between QoL and offending, through mental health needs, for girls (Van Damme, Hoeve et al., 2016). Furthermore, Van Damme et al. (2015) found that psychiatric disorders, traumatic experiences and socio-economic status in detained girls showed a negative association with several QoL-domains prior to detention, and that girls were most satisfied with regard to social relationships, and least satisfied with regard to psychological health.

Improvements in the various areas of life and with regard to perceptions of subjective wellbeing are important treatment aims, assumed by Ward & Fortune (2013) to be associated with reduced risk of recidivism. Hence, adopting a focus on QoL may assist practitioners in developing personalized rehabilitation plans that are tailored to adolescents' specific needs and aspirations. However, only a few studies have focused on detained adolescents' QoL up until now. Moreover, relevant research on QoL in justice-involved populations has focused heavily on adult and gender-specific adolescent study samples, focusing on either detained male (Barendregt et al., 2015a,b) or female (Van Damme et al., 2015, Van Damme, Colins et al., 2016) adolescents, and much less on examining differences between groups of male and female adolescents, hampering firm conclusions with regard to the influence of gender (Sawyer et al., 2010). As it is important to understand both the general and specific characteristics of delinquent girls and boys regarding their

patterns of offending and risk variables (Grigorenko et al., 2015), it is also important to understand factors such as QoL and mental health.

This study aims to explore adolescents' QoL and mental health needs in the initial phase of detention, and whether and how this differs between male and female adolescents. Correlates of detained adolescents' QoL will be explored, as clustering risk/need items for male and female justice-involved adolescents into meaningful factors may contain important information with regard to gender-responsive treatment planning (Hilterman et al., 2016).

Method

Setting

The study was conducted in De Zande, which is a closed institution for mandatory care and treatment (further referred to as 'closed institution') in Flanders, the Dutch speaking part of Belgium. Adolescents can be sent to a closed institution by the juvenile judge in case of one or several acts 'defined as a criminal offence', or in case of an 'alarming' or very problematic living and/or educational situation, when the safety of the adolescent or society cannot be guaranteed (Agency of Youth Welfare, 2016). Closed institutions are characterized by a confining infrastructure and strict rules, and are therefore comparable to youth detention centres or secure residential care facilities in other countries. They have both a restrictive and a pedagogical function and serve the dual aim of preventing adolescents from recidivism, and also enhancing their QoL (Agency of Youth Welfare, 2017). Adolescents go through different stages during their stay in a closed institution, in which they can steadily receive more freedom and responsibilities. In the initial phase, all educational, leisure and therapeutic activities take place on campus. Gradually, if adolescents display appropriate behaviour, they are allowed to have more contact with and visit their own social network. In 2016,

adolescents' average length of stay in a closed institution was 128 days. Furthermore, only a very small minority of adolescents in closed institutions were girls, 12.6% respectively (Agency of Youth Welfare, 2016).

Procedure

The study was approved by the management of the closed institution De Zande (Belgium) and by the Ethics Committee of the Faculty of Psychology and Educational Sciences of Ghent University (E.C. decision: 2016/11). This study is part of a four-wave longitudinal research project on adolescents' QoL during and after stay in a closed institution for mandatory care and treatment (Van Hecke, 2019). This paper focuses on the start of the adolescents' stay. Written informed consent was obtained from the adolescents, as well as a passive informed consent from parents or primary caregivers. Baseline measurement took place during adolescents' first three weeks of stay in the closed institution. Adolescents were eligible to participate if (1) they were expected to reside in the closed institution for at least one month, (2) they had sufficient knowledge of Dutch, and (3) they had sufficient cognitive abilities to understand and fill in the questionnaires. For each adolescent entering the closed institution between May 2016 and October 2017, the group workers examined the inclusion criteria. If the inclusion criteria were considered to be met, the adolescents were approached by the first author between the 3rd and 21st day of their stay to inform them about the aims, content and duration of the study. Confidentiality was assured and it was explained that refusing to participate would not have adverse consequences for them in any way. Moreover, adolescents were informed that they could terminate their participation to the study at any given moment. Data were collected individually in a separate room by means of face-to-face conversations with the first author or trained Master-

level students, or by means of self-report questionnaires, during which the researcher remained available in case of questions.

Participants

From May 2016 until October 2017, 191 adolescents, who were admitted to a closed institution, agreed to participate in the study. For nine of them, parents refused participation, leading to a total participants group of 182 adolescents (90 boys and 92 girls). Participants were on average 16.2 years old (16.5 for the boys and 15.8 for the girls respectively). About half of the participants were of Belgian origin, and 66.5% of the adolescents could be placed in the low SES category, indicating that both parents are unemployed or holding a job as unskilled or skilled laborer. The majority of the boys (67.4%) had been detained because of an act defined as an offence, 10% because of an alarming living- or educational situation and 22.5% because of a combination of both reasons. Girls were more often detained because of an alarming living- or educational situation (30.8%), 39.6% of the girls were detained because of criminal offences, and 29.7% of the girls because of a combination of both. In this study, girls are oversampled to be able to draw robust conclusions with regard to gender differences, in contrast to other studies. A more detailed description of the participants and significant differences between girls and boys are depicted in the first part of the results section.

Measures

Socio-demographics

A socio-demographic questionnaire, which has also been used in previous studies with detained adolescents (e.g., Colins et al., 2009; Van Damme et al., 2015), was administered to gather information regarding age, origin, living situation before detention and socio-economic status (SES). Origin refers to adolescents' ethnic origin, and was dichotomized into 'Belgian' versus 'non-Belgian'. Living situation before

detention was operationalized as a dichotomous variable: living with at least one parent versus not. SES was operationalized by dichotomizing adolescents' parents' occupation; adolescents were either placed in the 'low' category (in case both parents were unemployed or worked as (un)skilled laborers), or otherwise in the 'moderate to high' category (in case at least one of the parents held a moderate-to-high-level job). Furthermore, information with regard to 'school attendance' and 'previous periods of detention' was systematically explored with the adolescents before administering the questionnaires. School attendance refers to adolescents' self-reporting of attending versus not attending school on a regular basis in the past few months. Past detention reflects whether or not the adolescent had previously resided in a closed institution.

Mental health needs (MAYSI-2)

The presence of symptoms related to mental health needs was assessed by means of the Dutch translation (Colins et al., 2015) of the Massachusetts Youth Screening Instrument-Second Version (MAYSI-2), which has been demonstrated to have good psychometric properties (Reilly et al., 2019). The MAYSI-2 is specifically designed to assist juvenile justice settings in identifying youths who may have special mental health needs (Grisso & Barnum, 2006). It is a self-report questionnaire, consisting of 52 items, which can be scored by 'yes' or 'no', depending on whether or not this specific item has been true for the adolescent in the past few months. The same scales are yielded for boys and girls; with the exception of the thought disturbance scale: 'alcohol/drug use' (e.g. 'have you gotten into trouble when you've been high or have been drinking?'; 8 items; range 0-8; $\alpha = .84$ in the current study; MIC = .39); 'angry-irritable' (e.g. 'have you lost your temper easily, or had a "short fuse"?'; 9 items; range 0-9; $\alpha = .78$; MIC = .28); 'depressed-anxious' (e.g. 'have you given up hope for your life?'; 9 items; range 0-9; $\alpha = .78$; MIC = .28); 'somatic complaints' (e.g. 'have

you had bad headaches?'; 6 items; range 0-6; $\alpha = .70$; MIC = .28); 'suicide ideation' (e.g. 'have you felt like life was not worth living?'; 5 items; range 0-5; $\alpha = .87$; MIC = .58); 'thought disturbance'¹ (e.g. 'have you had a bad feeling that things don't seem real, like you're in a dream?'; 5 items; range 0-5; $\alpha = .55$; MIC = .20); traumatic experiences (e.g. 'have you ever been badly hurt, or been in danger of getting badly hurt or killed?'; 5 items of which 1 is different for boys and girls²; range 0-5; $\alpha = .69$; MIC = .31 for girls; and $\alpha = .59$; MIC = .23 for boys). The scale 'thought disturbance' was not included in our study because the internal consistency was too low. For each MAYSI-subscale, a 'caution' cutoff-score and a 'warning' cutoff-score can be calculated. The caution cutoff identifies youth who may be in need of clinical attention, and the warning score identifies youth whose scores are as high as the top 10% of the original MAYSI US-sample; "youth who are even more in need of clinical attention" (Van Damme et al., 2015, p. 109; Grisso & Barnum, 2006).

Quality of Life (Lancashire QoL Profile)

Quality of Life was assessed by means of the modified Dutch youth version of the Lancashire Quality of Life Profile (LQoLP-vl-jeugd; van Nieuwenhuizen et al., 2002b), a structured interview which is an adapted version of the Lancashire Quality of Life Profile (LQoLP; Oliver et al., 1997). The LQoLP has been shown to have satisfactory to good psychometric properties (Oliver et al., 1997; van Nieuwenhuizen et al., 1998, 2001). The instrument is commonly used in mental health research (e. g. De Maeyer et al., 2011), and has recently been used in a study with boys in secure residential care as well (Barendregt et al. 2015b, 2018). The LQoLP comprises both

¹ This scale is only used for boys, as a "thought disturbance" scale could not be identified for girls, using MAYSI-2 items (Grisso & Barnum, 2006).

² For girls, there is the item "Have you ever been raped, or been in danger of getting raped?"; for boys, there is the item "Have people talked about you a lot when you're not there?"

objective and subjective indicators of QoL and measures satisfaction on 10 different life domains, as well as adolescents' global wellbeing. Adolescents' subjective evaluation of the life domains 'living situation' (4 items), 'leisure and social participation' (6 items), 'health' (7 items), 'finances' (4 items), 'family relations' (6 items) and 'safety' (5 items) was rated by means of a 7-point Likert scale, ranging from '1=could not be worse' to '7=could not be better'. The domains 'positive self-esteem' and 'negative self-esteem' (each 5 items; assessed by a modified version of the Self-Esteem Scale (Rosenberg, 1965)), and 'framework' (10 items) and 'fulfillment' (13 items) (assessed by the Life Regard Index (Debats et al., 1993)) were measured on a 3-point Likert scale, and afterwards recoded to a 7-point scale in view of comparability of all mean scale scores. The 'framework' scale refers to having meaningful perspectives in life. The 'fulfillment' scale refers to feeling able to fulfill one's life goals. A higher score on the subjective QoL-domains is indicative of a higher level of satisfaction on that domain. Global wellbeing (2 items) was assessed using a Life Satisfaction Scale (LSS). LSS represents the average score of (approximately) the same question asked both at the beginning and at the end of the interview, respectively 'How do you rate your life as a whole at this moment' and 'How do you rate your life as a whole' (a rating of 1 means life "could not be worse" and a rating of 7 means life "could not be better"). The internal consistency (Cronbach's α) and mean inter-item correlation (MIC)³ of most specific QoL-scales and the global wellbeing scale were acceptable in this study, with Cronbach's α ranging from .73 to .88 and MIC-values ranging from .27 to .71.

However, Cronbach's α was poor for four QoL-domains: 'living situation' (Cronbach's

³ *Cronbach's α guidelines of interpretation (Gliem & Gliem, 2003, referring to George & Mallery, 2003): >.9 excellent, >.8 good, >.7 acceptable, >.6 questionable, >.5 poor, and <.5 unacceptable.

** MIC value guidelines of interpretation (Colins & Grisso, 2019, referring to Clarke & Watson, 1995): should be at minimum in the range of .15 to .50 to be considered adequate.

$\alpha = .60$), 'leisure and social participation' (Cronbach's $\alpha = .48$), 'health' (Cronbach's $\alpha = .56$), and 'finances' (Cronbach's $\alpha = .53$). Therefore, these domains are not included as separate QoL-scales in our analyses.

In order to obtain a comprehensive measure of QoL, a total QoL-score (Cronbach's $\alpha = .78$ and MIC = .27), which is the sum score of the ten domain specific QoL-scores, was calculated and serves as the dependent variable in our analyses (De Maeyer et al., 2011; Schneider et al., 2002). Alongside the subjective QoL-domains, a number of categorical objective QoL-indicators were also assessed using the LQoLP (e.g. having a paid job, being in a romantic relationship, having at least one close friend, having been hospitalized for mental health problems during the past year).

Statistical analyses

All statistics were carried out using SPSS version 25. Participants' main characteristics were assessed using descriptive statistics, and were tested for significant differences between boys and girls. Chi square tests were used to compare categorical variables (Table 1) and independent samples t-tests were used to compare continuous variables (Table 2). A Bonferroni-correction was applied to correct for multiple comparisons and to preserve from type-1 errors – the incorrect rejection of a true null-hypothesis (Field, 2009). By doing this, the α -level was set at 0.004 (0.05/13) for the categorical variables, and at 0.004 (0.05/14) for the continuous variables. Descriptives and comparisons between boys and girls were calculated for variables with regard to adolescents' origin, their living situation before detention, school attendance in the months before detention, having a history of detention, SES, financial problems, being in a relationship, having a paid job, having been a victim of violence in the past year, having a good friend, treatment for psychological problems (now and in the past), QoL

and mental health needs. Findings concerning differences between boys and girls are discussed in the first part of the results section.

The need for clinical attention with regard to mental health needs was assessed by means of the cutoff-scores of the MAYSI-2 scales, leading to three categories: 'no caution', 'caution', and 'warning' (Table 3). Chi square tests were performed to investigate significant differences between boys and girls. A Bonferroni-correction was applied, setting the α -level at 0.01 (0.05/5).

Correlations were explored between QoL – with the Lancashire total score as dependent variable – and both categorical and continuous predictors, such as age, SES, living situation before detention, truancy before detention, detention history and mental health needs. This was done for the total group, as well as for the group of boys and girls separately. The variables were theoretically selected based on findings in previous research (e.g. Barendregt et al., 2015b; De Maeyer et al., 2011).

Finally, a multiple linear regression model was built to investigate the independent contribution of individual predictors to QoL for the total group, and for boys and girls (Table 4). The total QoL-score served as the dependent variable. A stepwise procedure with backward elimination was used, in which the selection of initially included predictors was based on the statistically significant correlations (with $\alpha \leq .01$) as found in the previous step. Model assumptions were satisfied for the three final models (for the total group, for boys and for girls), and no significant multicollinearity was detected between the predictors in the final models.

Results

Descriptives

Table 1 provides an overview of the participants' characteristics and significant differences between boys and girls, using Chi square tests. With regard to school

attendance, we see that just over half of the participants attended school in the past few months on a regular basis, indicating that the other half did not. About 44% experienced financial problems during the past year, and 22.5% of the adolescents held a paid job. About half of the participants had been a victim of violence during the past year, and the vast majority of adolescents (87.9%) indicated having at least one good friend. With regard to living situation before admission to the closed institution, we see that a significantly higher proportion of boys was living with at least one of their parents (74.4% boys vs 50.0% girls). A significantly higher proportion of girls as compared to boys reported the experience of at least one previous period of detention before admission to the closed institution (71.4% girls vs 44.4% boys). In the same way, a significantly higher proportion of girls reported being in a romantic relationship (58.7% girls vs 33.3% boys), having been hospitalized for psychological problems in the past (47.8% girls vs 20.0% boys) and having visited a professional caregiver due to psychological problems in the past year (56.5% girls vs 26.7% boys).

< insert Table 1 here >

Table 2 provides an overview of participants' mean scores on the continuous variables of interest and significant differences between boys and girls, using independent samples t-tests. When looking at QoL, we see the lowest score for 'global wellbeing', and the highest scores for the domains 'positive self-esteem' and 'framework'. In relation to significant differences between boys and girls, we see that boys have significantly higher scores for almost all QoL-scales than girls, except for the framework scale. Girls, on the other hand, have significantly higher scores with regard to mental health needs (scales 'depressed-anxious', 'suicide ideation', and 'somatic complaints').

< insert Table 2 here >

Table 3 provides an overview of the proportion of adolescents who display scores on the MAYSI-2 scales, which fall within the ‘no caution’, ‘caution’ and ‘warning’ range. We see that for all scales except ‘suicide ideation’ about half of the participants fall below the caution cutoff, and the other half can be situated in the ‘caution’ or ‘warning’ zone. Chi square tests were performed to investigate significant differences between boys and girls, with the significance level set at $\alpha \leq .01$ after applying a Bonferroni-correction. The scale ‘alcohol-drugs’ is the only scale for which the proportion of boys above the caution cutoff is higher than the proportion of girls (although not significant). For the scales ‘depressed-anxious’, ‘somatic complaints’ and ‘suicide ideation’, there is a significantly higher proportion of girls above the caution cutoff, as compared to boys.

< insert Table 3 here >

Correlations

Biserial correlations were run to determine the relationship between QoL (the total score of the subjective QoL-domains of the LQoLP) and dichotomous variables of interest. Correlation coefficients can be interpreted as follows: small correlation if $r \geq .10$, moderate correlation if $r \geq .30$ and large correlation if $r \geq .50$ (Field, 2009, referring to Cohen, 1992). The total group of adolescents shows small to moderate significant correlations between QoL and most of the dichotomous variables. Positive correlations were observed between QoL and living situation before detention, having a paid job, and having a good friend. Negative correlations were observed between QoL and having a history of detention, experience of financial problems in the past year, having been a victim of violence in the past year, having been hospitalized for psychological problems (both ever and in the past year), and having visited a professional caregiver due to psychological problems during the past year. Gender shows a moderate correlation with QoL. When splitting the results according to gender, the boys show

small to moderate negative significant correlations between QoL and the following variables: experience of financial problems in the past year, having been a victim of violence in the past year, having been hospitalized for psychological problems (both ever and in the past year), and having visited a professional caregiver due to psychological problems during the past year. The girls show small to moderate significant correlations between QoL and living situation before detention (positive), having a history of detention (negative), experience of financial problems in the past year (negative), and having visited a professional caregiver due to psychological problems during the past year (negative). When looking at the relationship between QoL and the continuous variables, high inverse correlations between QoL and mental health needs for both boys and girls can be discerned. The correlation Tables are available upon request.

Multiple linear regression through backward elimination

All variables that showed a significant correlation with overall QoL (at the $\alpha < .01$ level) for the total group, and for boys and for girls separately, were included in the stepwise multiple linear regression model. This leads to a model in which 13 independent variables⁴ are included for the total group of adolescents, 9 independent

⁴ Gender, living situation before detention, detention history, experience of financial problems < year, victim of violence in < year, ever been hospitalized for psychological problems, < year been hospitalized for psychological problems, visited a professional caregiver due to psychological problems, MAYSI-scale 'alcohol-drugs', MAYSI-scale 'angry-irritable', MAYSI-scale 'depressed-anxious', MAYSI-scale 'suicide ideation', MAYSI-scale 'somatic complaints'.

variables⁵ are included for the group of boys, and 10 independent variables⁶ are included for the group of girls.

Total group

The final model of the backward elimination procedure for the total group of adolescents includes seven independent variables, jointly explaining 54.3% of the variance of total QoL (Table 4). Living with at least one of the parents before detention is significantly associated with a higher QoL. On the contrary, being a girl, having experienced financial problems during the past year, and higher scores on the MAYSI-2 scales ‘alcohol-drugs’, ‘depressed-anxious’, ‘suicide ideation’, and ‘somatic complaints’ are significantly associated with a lower QoL. A higher score on the scale ‘depressed-anxious’ shows the strongest negative association with QoL for the total group of adolescents.

The model of the backward selection procedure for boys includes four independent variables, jointly explaining 56.1% of the variance of total QoL. Higher scores on four MAYSI-scales are significantly associated to lower QoL-scores. The strongest negative association is seen with the scale ‘suicide ideation’, followed by the scales ‘depressed-anxious’, ‘traumatic experiences’ and ‘alcohol-drugs’.

The model of the backward selection procedure for girls includes four independent variables, jointly explaining 41.4% of the variance of total QoL, consistently showing a negative association with QoL. A higher score on the scale

⁵ Experience of financial problems < year, < year been hospitalized for psychological problems, visited a professional caregiver due to psychological problems, MAYSI-scale ‘alcohol-drugs’, MAYSI-scale ‘angry-irritable’, MAYSI-scale ‘depressed-anxious’, MAYSI-scale ‘suicide ideation’, MAYSI-scale ‘somatic complaints’, and MAYSI-scale ‘traumatic experiences boys’.

⁶ Living situation before detention, detention history, experience of financial problems < year, visited a professional caregiver due to psychological problems, MAYSI-scale ‘alcohol-drugs’, MAYSI-scale ‘angry-irritable’, MAYSI-scale ‘depressed-anxious’, MAYSI-scale ‘suicide ideation’, MAYSI-scale ‘traumatic experiences girls’, MAYSI-scale ‘somatic complaints’.

‘depressed-anxious’ shows the strongest negative association with QoL, closely followed by ‘having seen a professional caregiver due to psychological problems in the past year’, ‘experience of financial problems during the past year’, and a higher score on ‘somatic complaints’.

< insert Table 4 here >

Discussion

The main goal of this study was to gain insight into adolescents’ QoL and mental health needs during the initial phase of detention. The study identified significant differences between boys and girls, and by that contributed to relevant knowledge on gender-specific characteristics.

Consistent with Hjern et al. (2018) in a study on QoL in adolescents during detention, low QoL-scores for global wellbeing were revealed for the total group of adolescents during the initial phase of detention. However, descriptives regarding QoL revealed a striking discrepancy between adolescents’ global wellbeing (LSS; $M = 3.87$, $SD = 1.47$, range 1-7) – which gives an indication of how satisfied adolescents currently feel about their life as a whole – and the sum score of all QoL-domains, as measured with the LQoLP ($M = 52.2$, $SD = 6.65$, range 10-70). Even though adolescents are relatively satisfied with separate life domains at the start of detention, their overall subjective feeling of wellbeing is low. This might be explained by Cummins’ (2018) distinction between happiness as a ‘short-term emotional state’ or happiness as a ‘mood or a trait’. It might be that adolescents interpreted the global wellbeing items as the short-term emotional evaluation of their current situation (“how satisfied are you with your life as a whole at the moment?”). As admission to a closed institution can be considered a stressful life event (Kroll et al., 2002; Van Hecke et al., 2019), it is likely to influence adolescents’ general feeling of wellbeing in the initial phase of detention,

whereas one's satisfaction on different life domains might be less susceptible to a general feeling of discomfort. Moreover, studies have indicated that QoL is mainly determined by one's subjective appraisal of his/her life, rather than by objective conditions or circumstances (Buitenweg et al., 2018; Jasovic-Gasic et al., 2010).

In this study, the highest domain-specific QoL-scores for the total group of adolescents were found on the domains 'positive self-esteem' and 'framework', indicating that the adolescents feel good about themselves and have a sense of purpose and meaning in life, which is also found by Barendregt et al. (2018) in a sample of detained boys. Significant differences between boys and girls were found on almost all life domains, with exception of the 'framework'-scale. Strikingly, these differences are consistently displayed to the detriment of girls.

In the same vein, girls reported significantly higher scores with regard to mental health needs, more specifically for the scales 'depressed-anxious', 'suicide ideation' and 'somatic complaints'. Girls' lower levels of QoL and higher levels of (mostly internalizing) mental health needs shows similarities with findings in the general population (Costello et al., 2003; Marcotte et al., 2002) and is reflective of findings in other studies that have identified girls as a particularly vulnerable group within the criminal justice system (e.g. Colins et al., 2010; Wareham et al., 2020). This was also reflected in the significant differences between boys and girls on some of the categorical variables. A significantly smaller proportion of girls (as compared to boys) lived with at least one of her parents before detention. Stein et al. (2015) found that detained adolescent girls (as compared to boys) experienced more family difficulties at first arrest. Detained girls also demonstrate significant associations between stress and family problems, drug problems, and elevated depression (Wareham et al., 2020). Moreover, a significantly higher proportion of girls had already known previous periods

of detention, had already been hospitalized for psychological problems in the past, and had visited a professional caregiver due to psychological problems in the past year. This is in line with a study of Stephan et al. (2018), with girls showing a significantly higher level of anxiety and posttraumatic stress disorders, and a higher risk for suicide.

The fact that a higher proportion of girls had received treatment with regard to psychological problems in the past (year), is probably a reflection of the higher prevalence of mental health needs in the group of detained female adolescents (Plattner et al., 2009; Van Damme et al., 2014). It might also be a consequence of a system in which girls are only referred to closed facilities in ‘the most extreme cases’, when other – less invasive – measures appear insufficient (Grisso & Barnum, 2006). However, caution is needed when interpreting these data, as it might also be the case that boys’ mental health needs remain unrecognized more frequently due to a disproportionate focus on problematic behaviour, with the risk of remaining untreated.

Correlations suggest that traumatic experiences show a significant negative association with QoL and a significant positive association with mental health needs for both boys and girls. A recent systematic review conducted by Huei-Jong et al. (2021) confirmed the high rates of adverse childhood experiences (ACEs) in detained adolescents. These findings support the importance of implementing trauma-informed care in criminal justice settings (Levenson et al., 2016) – particularly in services for adolescents (Branson et al., 2017; Ezell et al., 2018; Zelechowski et al., 2020) –, both in view of enhancing their QoL (de Ruigh et al., 2019), as in view of reducing their risk of recidivism (Jaggi et al., 2021; Turner et al., 2020).

A multivariate research design was applied to identify determinants of adolescents’ QoL in the initial phase of detention, as these may have the potential to guide treatment goals. In summary, mental health needs – mostly internalizing problems

– as well as variables pertaining to contextual and structural disadvantage (e.g. financial problems and not being able to live with parents) were found to show negative associations with adolescents' QoL.

Clinical and practical implications

This study confirmed the high rates of mental health needs and various intricate threats to the wellbeing of adolescents during the initial phase of detention (Casiano et al., 2019), which has implications for the rehabilitation of adolescents who become involved with the forensic youth care system. Clinicians play a critical role in promoting adolescents' mental health and wellbeing (Soulmer & McBride, 2016), as they must view their situation holistically and invest efforts into a broad range of life domains (e.g., family relations). Findings point among other things to the importance of focusing on strengthening and enhancing the relation between adolescents and their context during their stay in a closed institution (Fortune, 2018), adopting an integrative approach in which adolescents' social context and structural difficulties are taken into account as well (Van Damme, Hoeve et al., 2016). Findings underscore that mental health screening and psychological assistance might be even more salient in working with girls in closed institutions, as well as strengthening girls' relationships with their context and supporting them in overcoming structural barriers.

When postulating treatment aims, focusing on adolescents' QoL in order to capture their needs and to provide them with positive prospects should be valued. Hence, a combined focus on risk reduction and enhancement of QoL might in the long run be effective both in guiding adolescents away from a deviant pathway, but also in guiding them towards a meaningful and more fulfilling life (Henry et al., 2015). Knowing which determinants affect adolescents' QoL (both in a positive or negative way) may help to define and prioritize treatment aims. A holistic approach to

rehabilitation is therefore recommended, in which adolescents' QoL is promoted, next to risk reduction.

Furthermore, gender differences in mental health needs were highlighted, suggesting the need for gender-sensitive considerations (Viljoen et al., 2016). In addition to emphasizing the relevance of risk-need assessment in adolescents, study findings underscore a greater need for gender-specific risk-need assessment tools (Odgers et al., 2005), in line with recent findings among adult offenders (Goulette, 2020).

1.2 Limitations of the study

To our knowledge, this is one of the first studies investigating detained adolescents' QoL and mental health needs in a gender-mixed sample, thereby enabling comparisons between boys and girls. However, there are also some limitations connected to our study.

First, the cross-sectional design of the present part of this study hampered to firmly distinguish between variables that predict QoL and variables that are associated to QoL. Although all information that was used in the multiple regression model was gathered at the initial phase of staying in the closed institution, the reference periods of the variables varied from 'now', 'in general', 'during the past months', 'during the past year', to 'ever'. Caution is therefore warranted when interpreting the results, as predictors and determinants in this study rather refer to a general association, without necessarily indicating a causal relationship, nor the direction of the association. Longitudinal research is needed to further explore potential bi-directional relationships to exist between variables, and to draw conclusions with regard to causality, to figure out which elements contribute to adolescents' QoL, and which elements are induced by their experienced QoL.

Second, the most comprehensive regression model (for the total group of adolescents) explained 54.3% of the variance in QoL. There may be more appropriate and/or additional independent variables for the group of detained adolescents than the ones that were included in our test battery. Furthermore, the fact that we found only one positive determinant of QoL can be seen as a consequence of our research design in which, apart from the QoL-questionnaires, there was an overemphasis on problem-oriented variables, such as mental health needs and SES. Therefore, we would recommend including additional strengths-based variables in future research.

Third, the instrument we chose to measure QoL had limitations. We used an adapted youth version of the LQoLP, which was designed for use with adult psychiatric patients. This instrument captures QoL in a broad and comprehensive way, with attention for both objective and subjective indicators. However, the adaptation of the scale to adolescents was limited and therefore, the questions do not always relate to what is important for adolescents in this specific situation. In the context of adolescents' first weeks in a closed institution, this may not be the most convenient instrument to use. Whereas some questions were not applicable to adolescents' current situation (e.g. questions relating to social activities outside the house during the past two weeks), the adolescents perceived some other questions as strange and difficult to answer (e.g. "how satisfied are you with the extent to which you accept your own psychological complaints"). This might partly explain the low internal consistency scores on four of the domains.

Lastly, consideration of how sex-specific effects are being investigated in this study is warranted. Predictors were examined separately in boys and girls, which ultimately resulted in non-nested models with different variables in the male vs. female models. Further research with adolescents in the context of mandatory care and

treatment could be conducted to include a sex interaction term in the regression analyses, to expedite direct statistical comparison of differences in the strength of predictors across sexes. We would also recommend to consider some further adaptations to the questionnaire, or to consider the use of a shorter, yet comprehensive QoL-instrument, such as the MANSA-VN12 (van Nieuwenhuizen et al., 2017), which can then be complemented with a more qualitative approach to capture those elements that matter for the adolescents themselves, in the context they find themselves in.

Conflict of interest

The authors declare no conflicts of interest.

Ethical statement

The study has been approved by the Ethical Commission of the Faculty of Psychology and Educational Sciences of Ghent University (Number 2016/11).

References

- Agency of Youth Welfare. (2016). *Jaarverslag Gemeenschapsinstellingen 2016*. Vlaamse Overheid.
- Agency of Youth Welfare. (2017). *Conceptnota Gemeenschapsinstellingen 3.0*. Vlaamse Overheid.
- Barendregt, C. S., van der Laan, A. M., Bongers, I. L., & van Nieuwenhuizen, C. (2015a). Stability and change in subjective Quality of Life of adolescents in secure residential care. *Journal of Forensic Psychiatry & Psychology*, *26*(4), 493-509. <https://doi.org/10.1080/14789949.2015.1034751>
- Barendregt, C. S., van der Laan, A. M., Bongers, I. L., & van Nieuwenhuizen, C. (2015b). Adolescents in secure residential care: The role of active and passive coping on general well-being and self-esteem. *European Child & Adolescent Psychiatry*, *24*(7), 845-854. <https://doi.org/10.1007/s00787-014-0629-5>
- Barendregt, C. S., van der Laan, A. M., Bongers, I. L., & van Nieuwenhuizen, C. (2018). Quality of Life, delinquency and psychosocial functioning of adolescents in secure residential care: Testing two assumptions of the Good Lives Model. *Child and Adolescent Psychiatry and Mental Health*, *12*(4). <https://doi.org/10.1186/s13034-017-0209-9>
- Bouman, Y. H. A., Schene, A. H., & De Ruiter, C. (2009). Subjective well-being and recidivism in forensic psychiatric outpatients. *International Journal of Forensic Mental Health*, *8*(4), 225-234. <https://doi.org/10.1080/14999011003635647>
- Branson, C. E., Baetz, C. L., McCue Horwitz, S., & Hoagwood, K. E. (2017). Trauma-informed juvenile justice systems: A systematic review of definitions and core components. *Psychological Trauma: Theory, Research, Practice, and Policy*, *9*(6), 635–646. <https://doi.org/10.1037/tra0000255>.
- Buitenweg, D. C., Bongers, I. L., van de Mheen, D., van Oers, H. A. M., & van Nieuwenhuizen, C. (2018). Subjectively different but objectively the same? Three profiles of Quality of Life in people with severe mental health problems. *Quality of Life Research*, *27*(11), 2965-2974. <https://doi.org/10.1007/s11136-018-1964-7>
- Bullinger, M., & Quitmann, J. (2014). Quality of Life as patient-reported outcomes: Principles of assessment. *Dialogues in Clinical Neuroscience*, *16*(2), 137-145.

- Casiano, H., Bolton, S. L., Katz, L. Y., Bolton, J. M., & Sareen, J. (2019). Evaluation of a suicide risk assessment tool in a large sample of detained youth. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 28(3), 105-114.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. <https://doi.org/10.1037//0033-2909.112.1.155>
- Colins, O. F., & Grisso, T. (2019). The relation between mental health problems and future violence among detained male juveniles. *Child and Adolescent Psychiatry and Mental Health*, 13(4).
- Colins, O. F., Grisso, T., Vahl, P., Guy, L., Mulder, E., Hornby, N., Pronk, C., Markus, M., Doreleijers, T., & Vermeiren, R. (2015). Standardized screening for mental health needs of detained youths from ethnic origins: The Dutch Massachusetts Youth Screening Instrument-Second Version (MAYSI-2). *Journal of Psychopathology and Behavioral Assessment*, 37(3), 481-492. <https://doi.org/10.1007/s10862-014-9476-4>
- Colins, O. F., & Van Damme, L. (2020). Psychiatric disorders and future violent arrests: A prospective study among detained girls. *Youth Violence and Juvenile Justice*, 18(4), 365-380. <https://doi.org/10.1177/1541204020916826>
- Colins, O. F., Vermeiren, R., Vreugdenhil, C., Schuyten, G., Broekaert, E., & Krabbendam, A. (2009). Are psychotic experiences among detained juvenile offenders explained by trauma and substance use? *Drug and Alcohol Dependence*, 100(1-2), 39-46. <https://doi.org/10.1016/j.drugalcdep.2008.08.013>
- Colins, O. F., Vermeiren, R., Vreugdenhil, C., van den Brink, W., Doreleijers, T., & Broekaert, E. (2010). Psychiatric disorders in detained male adolescents: A systematic literature review. *Canadian Journal of Psychiatry*, 55(4), 255-263. <https://doi.org/10.1177/070674371005500409>
- Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, 60, 837-844. <https://doi.org/10.1001/archpsyc.60.8.837>
- Cummins, R. A. (2018). Subjective wellbeing as a social indicator. *Social Indicators Research*, 135, 879-891. <https://doi.org/10.1007/s11205-016-1496-x>
- da Silva, D. R., Rijo, D., Salekin, R. T., Paulo, M., Miguel, R., & Gilbert, P. (2020). Clinical change in psychopathic traits after the PSYCHOPATHY.COMP program: Preliminary findings of a controlled trial with male detained youth.

Journal of Experimental Criminology. <https://doi.org/10.1007/s11292-020-09418-x>

- De Maeyer, J., Vanderplasschen, W., & Broekaert, E. (2010). Quality of Life among opiate-dependent individuals: A review of the literature. *International Journal of Drug Policy*, *21*(5), 364-380. <https://doi.org/10.1016/j.drugpo.2010.01.010>
- De Maeyer, J., Vanderplasschen, W., Lammertyn, J., Van Nieuwenhuizen, C., Sabbe, B., & Broekaert, E. (2011). Current Quality of Life and its determinants among opiate-dependent individuals five years after starting methadone treatment. *Quality of Life Research*, *20*(1), 139-150. <https://doi.org/10.1007/s11136-010-9732-3>.
- Debats, D. L., van der Lubbe, P. M., & Wezeman, F. R. A. (1993). On the psychometric properties of the Life Regard Index (LRI): A measure of meaningful life: An evaluation in three independent samples, based on the Dutch version. *Personality and Individual Differences*, *14*(2), 337-345.
- de Ruigh, E. L., Popma, A., Twisk, J. W. R., Wiers, R. W., van der Baan, H. S., Vermeiren, R. R. J. M., & Jansen, L. M. C. (2019). Predicting Quality of Life during and post detention in incarcerated juveniles. *Quality of Life Research*, *28*, 1813–1823. <https://doi.org/10.1007/s11136-019-02160-6>
- Ezell, J., Richardson, M., Salari, S., & Henry, J. A. (2018). Implementing trauma-informed practice in juvenile justice systems: What can courts learn from child welfare interventions? *Journal of Child & Adolescent Trauma* *11*(4). <https://doi.org/10.1007/s40653-018-0223-y>
- Field, A. (2009). *Discovering statistics using SPSS. Third Edition*. Sage Publications Ltd.
- Fortune, C. A. (2018). The Good Lives Model: A strength-based approach for youth offenders. *Aggression and Violent Behavior*, *38*, 21-30. <https://doi.org/10.1016/j.avb.2017.11.003>
- George, D., & Mallery, P. (2003). *Using SPSS for Windows Step by Step: A Simple Guide and Reference (4th ed.)*. London: Pearson Education.
- Gliem, J. A., & Gliem, R. R. (2003). Calculating, Interpreting, And Reporting Cronbach's Alpha Reliability Coefficient For Likert-Type Scales. *Midwest Research to Practice Conference in Adult, Continuing, and Community Education*, 82-88.
- Grigorenko, E. L., Sullivan, T., & Chapman, J. (2015). An investigation of gender differences in a representative sample of juveniles detained in Connecticut.

- International Journal of Law and Psychiatry*, 38, 84-91.
<https://doi.org/10.1016/j.ijlp.2015.01.011>
- Grisso, T., & Barnum, R. (2006). *Massachusetts Youth Screening Instrument – Version 2: User’s Manual and Technical Report*. Professional Resource Press.
- Henry, S., Henaghan, M., Sanders, J., & Munford, R. (2015). Engaging youth in youth justice interventions: Well-being and accountability. *Youth Justice*, 15(3), 240-255. <https://doi.org/10.1177/1473225414562636>
- Hilterman, E. L. B., Bongers, I., Nicholls, T. L., & van Nieuwenhuizen, C. (2016). Identifying gender specific risk/need areas for male and female juvenile offenders: Factor analyses with the Structured Assessment of Violence Risk in Youth (SAVRY). *Law and Human Behavior*, 40(1), 82-96. <https://doi.org/10.1037/lhb0000158>.
- Hjern, A., Rajmil, L., Kling, S., & Vinnerljung, B. (2018). Gender aspects of health-related Quality of Life of youth in secure residential care in Sweden. *International Journal of Social Welfare*, 27(4), 358-363. <https://doi.org/10.1111/ijsw.12342>
- Jaggi, L., Schmid, M., Burgin, D., Saladin, N., Grob, A., & Boonmann, C. (2021). Shared residential placement for child welfare and juvenile justice youth: Current treatment needs and risk of adult criminal conviction. *Child and Adolescent Psychiatry and Mental Health*, 15(1). <https://doi.org/10.1186/s13034-020-00355-1>
- Jasovic-Gasic, M., Lackovic, M., Dunjic-Kostic, B., Pantovic, M. M., Cvetic, T., Damjanovic, A., Vukovic, O., Cokovic, J., & Jovanovic, A. A. (2010). Critical review of studies on Quality of Life in psychiatric patients published in Serbian medical journals from 2000 to 2009. *Psychiatria Danubina*, 22(4), 288-294.
- Kerig, P. K., Chaplo, S. D., Bennett, D. C., Armour, C., Modrowski, C. A., & McGee, A. B. (2016). Validation of the factor structure of the adolescent dissociative experiences scale in a sample of trauma-exposed detained youth. *Psychological Trauma-Theory Research Practice and Policy*, 8(5), 592-600. <https://doi.org/10.1037/tra0000140>
- Kober, R., & Eggleton, I. R. C. (2009). Using Quality of Life to evaluate outcomes and measure effectiveness. *Journal of Policy and Practice in Intellectual Disabilities* 6(1). <https://doi.org/10.1111/j.1741-1130.2008.00194.x>
- Kroll, L., Rothwell, J., Bradley, D., Shah, P., Bailey, S., & Harrington, R. C. (2002). Mental health needs of boys in secure care for serious or persistent offending: A

- prospective, longitudinal study. *Lancet*, 359(9322), 1975-1979.
[https://doi.org/10.1016/S0140-6736\(02\)08829-3](https://doi.org/10.1016/S0140-6736(02)08829-3)
- Laudet, A. B. (2011). The case for considering Quality of Life in addiction research and clinical practice. *Addiction Science & Clinical Practice*, 6(1), 44-55.
- Levenson, J. S., Willis, G. M., & Prescott, D. S. (2016). Adverse childhood experiences in the lives of male sex offenders: Implications for trauma-informed care. *Sexual Abuse: A Journal of Research and Treatment*, 28(4), 340-359.
<https://doi.org/10.1177/1079063214535819>
- Livanou, M., Furtado, V., Winsper, C., Silvester, A., & Singh, S. P. (2019). Prevalence of mental disorders and symptoms among incarcerated youth: A meta-analysis of 30 studies. *International Journal of Forensic Mental Health*, 18(4), 400-414.
<https://doi.org/10.1080/14999013.2019.1619636>
- Marcotte, D., Fortin, L., Potvin, P., & Papillon, M. (2002). Gender differences in depressive symptoms during adolescence: Role of gender-typed characteristics, self-esteem, body image, stressful life events, and pubertal status. *Journal of Emotional and Behavioral Disorders*, 10(1), 29-42.
<https://doi.org/10.1177/106342660201000104>
- Mendez, L., Mozley, M. M., & Kerig, P. K. (2020). Beyond trauma exposure: Discrimination and posttraumatic stress, internalizing, and externalizing problems among detained youth. *Journal of Interpersonal Violence*.
<https://doi.org/10.1177/0886260520926314>
- Odgers, C. L., Moretti, M. M., & Reppucci, N. D. (2005). Examining the Science and Practice of Violence Risk Assessment with Female Adolescents. *Law and Human Behavior*, 29(1), 7-27. <https://doi.org/10.1007/s10979-005-1397-z>
- Oliver, J. P. J., Huxley, P. J., Priebe, S., & Kaiser, W. (1997). Measuring the Quality of Life of severely mentally ill people using the Lancashire Quality of Life Profile. *Social Psychiatry and Psychiatric Epidemiology*, 32(2), 76-83.
<https://doi.org/10.1007/BF00788924>
- Penner, E. K., Roesch, R., & Viljoen, J. L. (2011). Young offenders in custody: An international comparison of mental health services. *International Journal of Forensic Mental Health*, 10(3), 215-232.
<https://doi.org/10.1080/14999013.2011.598427>
- Plattner, B., Steiner, H., The, S. S., Kraemer, H. C., Bauer, S. M., Kindler, J., Friedrich, M. H., Kasper, S., & Feucht, M. (2009). Sex-specific predictors of criminal

- recidivism in a representative sample of incarcerated youth. *Comprehensive Psychiatry*, 50(5), 400-407. <https://doi.org/10.1016/j.comppsy.2008.09.014>
- Reilly, C., Johnson, D. R., & Ferguson, K. (2019). Validation of the Massachusetts Youth Screening Instrument with a looked after population. *Clinical Child Psychology and Psychiatry*, 24(3), 593-607. <https://doi.org/10.1177/1359104518799119>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.
- Sawyer, M. G., Guidolin, M., Schulz, K. L., McGinnes, B., Zubrick, S. R., & Baghurst, P. A. (2010). The mental health and wellbeing of adolescents on remand in Australia. *Australian & New Zealand Journal of Psychiatry*, 44(6), 551-559. <https://doi.org/10.3109/00048671003601418>
- Schneider, J., Wooff, D., Carpenter, J., Brandon, T., & McNiven, F. (2002). Community mental healthcare in England: Associations between service organisation and Quality of Life. *Health & Social Care in the Community*, 10(6), 423-434. <https://doi.org/10.1046/j.1365-2524.2002.00394.x>
- Schreurs, P. J. G., van de Willige, G., Brosschot, J. F., Tellegen, B., & Graus, G. M. H. (1993). *De Utrechtse coping lijst omgaan met problemen en gebeurtenissen*. Pearson Assessment & Information B.V.
- Shepherd, S., Luebbers, S., & Ogloff, J. (2016). The role of protective factors and the relationship with recidivism for high-risk young people in detention. *Criminal Justice and Behaviour*. <https://doi.org/10.1177/0093854815626489>
- Soulier, M., & McBride, A. (2016). Mental health screening and assessment of detained youth. *Child and Adolescent Psychiatric Clinics of North America*, 25(1), 27-39. <https://doi.org/10.1016/j.chc.2015.08.002>
- Stein, L. A. R., Clair, M., Rossi, J. S., Martin, R. A., Cancilliere, M. K., & Clarke, K. G. (2015). Gender, ethnicity and race in incarcerated and detained youth: Services and policy implications for girls. *Psychiatric Rehabilitation Journal*, 38(1), 65-73. <https://doi.org/10.1037/prj0000089>
- Stephan, P., Constanty, L., Habersaat, S., Guillod, L., & Urben, S. (2018). Gender differences in psychiatric disorders in an educational center for youth delinquents. *Annales Medico-Psychologiques*, 176(2), 177-182. <https://doi.org/10.1016/j.amp.2016.02.018>
- Strada, L., Vanderplasschen, W., Buchholz, A., Schulte, B., Muller, A., Verthein, U., & Reimer, J. (2017). Measuring Quality of Life in opioid dependent people: A

- systematic review of assessment instruments. *Quality of Life Research*, 26(12), 3187–3200. <https://doi.org/10.1007/s11136-017-1674-6>
- Swerts, C., De Maeyer, J., Lombardi, M., Waterschoot, I., Vanderplasschen, W., & Claes, C. (2019). 'You shouldn't look at us strangely': An exploratory study on personal perspectives on Quality of Life of adolescents with emotional and behavioral disorders in residential youth care. *Applied Research in Quality Of Life*, 14(4), 867–889. <https://doi.org/10.1007/s11482-017-9534-7>
- Turner, D., Wolf, A. J., Barra, S., Muller, M., Hertz, P. G., Huss, M., Tuscher, O., & Retz, W. (2020). The association between adverse childhood experiences and mental health problems in young offenders. *European Child & Adolescent Psychiatry*. <https://doi.org/10.1007/s00787-020-01608-2>
- Van Damme, L., Colins, O. F., De Maeyer, J., Vermeiren, R., & Vanderplasschen, W. (2015). Girls' Quality of Life prior to detention in relation to psychiatric disorders, trauma exposure and socioeconomic status. *Quality of Life Research: An International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation*, 24(6), 1419-1429. <https://doi.org/10.1007/s11136-014-0878-2>
- Van Damme, L., Colins, O. F., & Vanderplasschen, W. (2014). Gendersverschillen in psychopathologie bij adolescenten in gemeenschapsinstellingen. In B. Spruyt & J. Siongers (Eds.), *Gender(en): over de constructie en deconstructie van gender bij Vlaamse jongeren* (pp. 319-340).
- Van Damme, L., Colins, O. F., & Vanderplasschen, W. (2016). The limited prosocial emotions specifier for conduct disorder among detained girls: A multi-informant approach. *Criminal Justice and Behavior*, 43(6), 778-792. <https://doi.org/10.1177/0093854815613104>
- Van Damme, L., Grisso, T., Vermeiren, R., Guy, L., Verbeke, L., De Clercq, B., Schmid, M., Vanderplasschen, W., & Colins, O. F. (2016). Massachusetts Youth Screening Instrument for mental health needs of youths in residential welfare/justice institutions: Identifying gender differences across countries and settings. *Journal of Forensic Psychiatry & Psychology*, 27(5), 645-664. <https://doi.org/10.1080/14789949.2016.1183034>
- Van Damme, L., Hoeve, M., Vermeiren, R., Vanderplasschen, W., & Colins, O. F. (2016). Quality of Life in relation to future mental health problems and offending: Testing the Good Lives Model among detained girls. *Law and Human Behavior*, 40(3), 285-294. <https://doi.org/10.1037/lhb0000177>

- Van Damme, L., Vanderplasschen, W., Fortune, C.-A., Vandeveldde, S., & Colins, O. (2019). Determinants of female adolescents' Quality of Life before, during and after detention: A four-wave follow-up study examining a theory of individual Quality of Life. *Applied Research in Quality Of Life*. <https://doi.org/10.1007/s11482-019-09775-4>
- van der Laan, A. M., & Blom, M. (2005). *Jeugddelinquentie: risico's en bescherming: Bevindingen uit de WODC monitor zelfgerapporteerde jeugdcriminaliteit 2005*. Boom Juridische Uitgevers.
- Van Hecke, N. (2019). *Towards a better future : Quality of Life of adolescents who reside(d) in closed institutions for mandatory care and treatment*. Ghent University. Faculty of Psychology and Educational Sciences, Ghent, Belgium. [doctoral dissertation].
- Van Hecke, N., Claes, C., Vanderplasschen, W., De Maeyer, J., De Witte, N., & Vandeveldde, S. (2018). Conceptualisation and measurement of Quality of Life based on Schalock & Verdugo's model: A cross-disciplinary review of the literature. *Social Indicators Research*, *137*(1), 335-351. <https://doi.org/10.1007/s11205-017-1596-2>
- Van Hecke, N., Vanderplasschen, W., Van Damme, L., & Vandeveldde, S. (2019). The bumpy road to change: A retrospective qualitative study on formerly detained adolescents' trajectories towards better lives. *Child and Adolescent Psychiatry and Mental Health*, *13*(10). <https://doi.org/10.1186/s13034-019-0271-6>
- van Nieuwenhuizen, C., Janssen-de Ruijter, E. A. W., & Nugter, M. A. (2017). *The Manchester Short Assessment of Quality of Life (MANSA): Handleiding*. Geestelijke Gezondheidszorg: Tranzo, Scientific center for care and wellbeing.
- van Nieuwenhuizen, C., & Nijman, H. (2009). Quality of Life of forensic psychiatric inpatients. *International Journal of Forensic Mental Health*, *8*(1), 9-15. <https://doi.org/10.1080/14999010903014671>
- van Nieuwenhuizen, C., Schene, A. H., Boevink, W., & Wolf, J. (1998). The Lancashire Quality of Life Profile: First experiences in the Netherlands. *Community Mental Health Journal*, *34*(5), 513-524. <https://doi.org/10.1023/A:1018794530481>
- van Nieuwenhuizen, C., Schene, A. H., & Koeter, M. W. J. (2002a). Quality of Life in forensic psychiatry: An unreclaimed territory? *International Review of Psychiatry*, *14*(3), 198-202. <https://doi.org/10.1080/09540260220144993>

- van Nieuwenhuizen, C., Schene, A. H., & Koeter, M. W. J. (2002b). *Lancashire Kwaliteit van Leven Profiel: Uitgebreide Nederlandse versie incl. aanpassingen voor gebruik in Vlaanderen – Concept jeugd (LQoLP-vl-jeugd)*. GGzE centrum kinderen jeugdpsychiatrie.
- van Nieuwenhuizen, C., Schene, A. H., Koeter, M. W. J., & Huxley, P. J. (2001). The Lancashire Quality of Life Profile: Modification and psychometric evaluation. *Social Psychiatry and Psychiatric Epidemiology*, 36(1), 36-44. <https://doi.org/10.1007/s001270050288>
- Vandavelde, S., Vander Laenen, F., Van Damme, L., Vanderplasschen, W., Audenaert, K., Broekaert, E., & Vander Beken, T. (2017). Dilemmas in applying strengths-based approaches in working with offenders with mental illness: A critical multidisciplinary review. *Aggression and Violent Behavior*, 32, 71-79. <https://doi.org/10.1016/j.avb.2016.11.008>
- Verdugo, M. A., Navas, P., Gómez, L. E., & Schalock, R. L. (2012). The concept of Quality of Life and its role in enhancing human rights in the field of intellectual disability. *Journal of Intellectual Disability Research*, 56(11). <https://doi.org/10.1111/j.1365-2788.2012.01585.x>
- Vermeiren, R., Jaspers, I., & Moffitt, T. (2006). Mental health problems in juvenile justice populations. *Child and Adolescent Psychiatric Clinics of North America*, 15(2), 333-351. <https://doi.org/10.1016/j.chc.2005.11.008>
- Viljoen, S., Nicholls, T. L., Roesch, R., Gagnon, N., Douglas, K., & Brink, J. (2016). Exploring Gender Differences in the Utility of Strength-Based Risk Assessment Measures. *International Journal of Forensic Mental Health*, 15(2), 149-163. <https://doi.org/10.1080/14999013.2016.1170739>
- Ward, T., & Fortune, C. A. (2013). The Good Lives Model: Aligning risk reduction with promoting offenders' personal goals. *European Journal of Probation*, 5(2), 29-46. <https://doi.org/10.1177/206622031300500203>
- Ward, T., Mann, R. E., & Gannon, T. A. (2007). The Good Lives Model of offender rehabilitation: Clinical implications. *Aggression and Violent Behavior*, 12(1), 87-107. <https://doi.org/10.1016/j.avb.2006.03.004>
- Wareham, J., Dembo, R., Krupa, J., Faber, J., Terminello, A., & Cristiano, J. (2020). Gender differences in an exploratory model of family problems and stress-related experiences among justice-involved youth. *Victims & Offenders*. <https://doi.org/10.1080/15564886.2020.1850581>

Zelechowski, A. D., Cross, H. L., Luehrs, R., Freedle, A., Bruick, S., Harrison, K., Havrynen, A., Hrebic, L., Dibley, E., & Will, K. (2020). Trauma assessment in juvenile justice: Are we asking the right questions in the right ways? *Journal of Aggression Maltreatment & Trauma*.
<https://doi.org/10.1080/10926771.2020.1832167>