



FACULTEIT PSYCHOLOGIE EN
PEDAGOGISCHE WETENSCHAPPEN

Psychopathology and quality of life in detained female adolescents

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Proefschrift ingediend tot het behalen van de academische graad
van Doctor in de Pedagogische Wetenschappen

2015

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Orthopedagogische Reeks Gent, nr 49, 2015

ISSN: 0779/1046

D/2015/6585/49

V. z. w. Consultatie- en Begeleidingsdiensten en Orthopedagogisch Observatie- en Behandelingscentrum, J. Guislainstraat 47, 9000 Gent.

Cover (drawing): one of the girls who participated in this study

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Preface

The present dissertation is the result of four years of research, which have been very inspiring to me, and hopefully to many others as well. The research reflected in this dissertation focuses on psychopathology and quality of life (QoL) in detained female adolescents. The overall aim of the study was to enhance the current scientific knowledge on this particularly vulnerable, yet understudied, group of minors. In addition, the study aimed to provide insight on how interventions can be tailored to the particular problems, challenges, needs and strengths these girls display. The research was conducted in a sample of 147 girls from a youth detention center in Flanders, Belgium. By means of a prospective cohort study, the girls' psychopathology, QoL, socio-demographics and other (ortho)pedagogically relevant features were explored at the start of, during and after their stay in the detention center.

The dissertation starts with a general introduction, describing the major themes of this dissertation, subsequently highlighting the problem definition, aims, methodology and orthopedagogical focus of the study. Chapter 1 reports on gender differences in psychiatric disorders and self-esteem, and is based on a previously gathered sample of detained boys and girls. Chapters 2-5 report on the four studies that have been conducted on the current sample of detained girls, gathered within the context of this dissertation. These chapters, respectively, address parent-youth agreement on the new specifier for conduct disorder, determinants of QoL, detained girls' treatment engagement over time, and the effects of QoL on mental health problems and offending after discharge. The dissertation ends with a general discussion, in which the main findings are discussed and important recommendations and implications are described. This dissertation is a compilation of papers, which have been published, are accepted, or are currently under review. Consequently, in order to make each of the papers self-containing and in order to meet the editors' requirements, the content of certain chapters may overlap. All references are collected in one reference list, appearing at the end of this dissertation.

I sincerely hope that the present papers (or the research process leading to these papers) may (have) yield(ed) new insights about detained girls and new perspectives for the development of tailored care, treatment and rehabilitation for these youngsters.

Acknowledgements

By now, I have learned (or at least, should have learned) how to write a scientific paper. Instead, I am not really familiar with writing acknowledgements, as they always appear at the end of a paper, and, most of the time, have to be as brief as possible, in order not to cross the tight word limit of the particular journal. Here, I am supposed to fill some pages with it, and the large amount of people who put large amounts of time, interest and effort into this Ph.D. compel me to get out of my comfort zone and start writing.

Words of thanks ... many words of thanks ... starting with those two who invited Annelien and me on a snowy day to have a drink and talk about the idea of doing a Ph.D. on girls in detention. I was very thrilled about their proposal. Fortunately, at the end of these four years, I am still very thrilled, and maybe even more. Wouter, as a promotor you supported me from the very beginning until the finish. It took a long time to get my first, master thesis, paper published. Nevertheless, you never stopped believing in me or encouraging me. You showed confidence in the things I was doing. You had to cope with my moments of confusion, disappointment, chaos and stubbornness. Still, you were there, throughout the whole Ph.D. adventure, and even beyond, already helping to look for research opportunities in the future. Thank you!

Olivier, by now, I am officially allowed to call you my copromotor. So, dear copromotor, as we arrive at the end of my Ph.D., I made the final calculation and I guess I owe you three beach houses at the Côte d'Azur, as we discussed a long time ago. One beach house for all the opportunities you gave me: the Ph.D. project in itself, the involvement in InForSANA (the international forensic screening and assessment network for adolescents; why not making some promotion over here: <http://www.inforsana.eu/>), the research stay at Curium-LUMC, the involvement in symposia at congresses, the opportunities to write papers together (others than the Ph.D. papers), ... Another beach house for your often hallucinating, yet very inspiring, enriching and helpful feedback (including the most absurd metaphors referring to Bambi and Snow White, repeated frustrations about the name of the WHOQOL-BREF, ...). It was always a pleasure to start revising a paper, based on your comments! A third beach house for your everlasting and contagious energy and your unconditional encouragements and support. Without any further comments, I guess the latter house will be the biggest of all three. I hope we can continue working together in the future (so maybe I can come over to one of your beach houses). Thanks (in advance)!

I would also like to thank the members of the Guidance Committee for providing me interesting feedback and for broadening my perspective on the research topic. In addition, a word of thank to the members of the jury for their interest in this dissertation and their willingness, time and effort to read and evaluate it critically.

A sincere thank you to all my dear colleagues at the Department of Special Needs Education. First of all my colleagues from the office at the Henri Dunantlaan, with whom I spend the first years of my Ph.D.: Ilse, Laura, Kathy and Jessica. Thank you very much for the warm welcome, support, and nice time we had! Also in particular my colleagues from the so-called 'unit 2' at the Begijnhoflaan: Stijn, Sofie, Julie, Sara, Natalie, Mieke, Jan, Sven, Nele, Elke, Lies, Maria, David, and Eric. Thank you so much for being there, for showing interest in what I am doing, for supporting me, for abiding my 'earplug-moments' of isolation, and for sharing thoughts, frustrations, insights and experiences.

Anne, I didn't forgot to mention you in the list of colleagues above. Instead, I think you deserve a special word of thank, as my 'personal coach and friend' throughout this Ph.D. I don't think anyone could estimate better what I felt, thought, and needed at different moments of this journey. Thank you for all the 'stupid' but very meaningful things, such as checking the mail at the Henri Dunantlaan when I wasn't around, and tolerating my (or maybe more correctly: each other's) 'control freak traits' by checking and double-checking silly, yet important, details upon request. Thanks a lot, and here I also have to mention Gert, for the great study trips to Torino and Vienna. Interesting, but, above all, very amusing and memorable! And, of course, thank you for our weekly running appointments, something to look forward to, and the ideal moment to ventilate about both work-related and personal things. Clearly, you're another great example of unconditional support and believe, and I still think the Doctoral Schools should ask you to establish your own course on team support and colleague skills. I would be the first one to sign in!

Also a sincere thanks to all InForSANA members. I am really happy and honored to be part of such a wonderful, interdisciplinary and international group of researchers, who are all concerned about mental health among juvenile justice involved youth. We met in Berlin, Barcelona, Manchester and Amsterdam: one by one meetings that inspired me and gave me lots of energy to go on and to go even further! In this respect, a special thanks to Tom, the father of InForSANA and author of the MAYSI (the Massachusetts Youth Screening Instrument; why not making some more promotion over here: <http://nysap.us/MAYSI2.html>). Thanks for your confidence, for letting me take the lead in what I called 'The Amazing MAYSI Merge Plan'. Thanks for your interest in my work and your willingness to collaborate on one of the Ph.D.

papers. I am really looking forward to future InForSANA projects and developments and I sincerely hope I can join you all in Porto next year!

A genuine thank you to all my dear colleagues at Curium-LUMC. I enjoyed my research stay in the Netherlands so much! The particular working environment of the child and adolescent psychiatry and the diversity of colleagues, who often combine clinical activities with research, worked really inspiring. It offered me multiple opportunities to reflect, discuss, and learn. Robert, thanks a lot for giving me this opportunity. Also, thanks for your overall interest and engagement regarding my Ph.D, including your enriching feedback on several of the Ph.D. papers! I hope we can keep working together, within the light of future papers, InForSANA meetings, ... Also a special thanks to Erica, Kore, Anna and Inge for making me feel 'at home' really quickly, regardless of the Dutch-Flemish confusions (of which I will not give a concrete example, Inge). Machteld, during my stay at the Netherlands, you were willing to welcome me at your office at the University of Amsterdam for statistical support. I am so happy we could collaborate on two of my Ph.D. papers and it would be great to continue this nice and fruitful collaboration in the future!

And, as I just referred to statistical support, maybe it is the right time to also express a word of thank to Andy Field, for making statistics fun!

I also want to thank the final-year university students who have worked together with me on the data-collection.

I sincerely thank all the staff from De Zande in Beernem for making data-collection possible. In particular, thanks to Patrick Defoor and Steven Belet for their consent to conduct the research, and for their confidence and interest in what we were doing. Also a special thanks to the team of the reception unit, with whom I worked most closely together. Thanks for the invested time and effort, for your flexibility, interest, caution when needed and support! In addition, I want to thank the directors and the staff of the reception unit for their willingness and openness to let me reside in the institution for five days and four nights. It enabled me to experience the day-to-day organization of the institution, among the other girls, and it yielded many small, though essential and memorable insights. Thanks a lot!

Of course, also a genuine thank you to all the participating girls and parents, for their openness about their thoughts, feelings, behaviors, wishes and concerns, and for their perseverance during the long and often worrisome assessments. Special thanks to the girl who, during the assessment, drew different pictures on the timeline of the diagnostic interview, and who allowed me to use one of these drawings for the cover of the Ph.D. I also still remember one of the girls asking me 'can you get me out of here'. I was not in the position to fulfill her request, but I sincerely hope that I at least succeeded to increase

our understanding of girls in detention, in order to create new perspectives for care, treatment and rehabilitation.

Thanks to my friends for all the involvement, support, care and fun (for example the visits in Leiden) during these four years! In particular, thanks to my roommates Lien and Annelien. You were there from the very beginning: I still remember us returning from Venice by boat after a tumultuous, hot, but very amusing day, when receiving a message from Wouter that I got the Ph.D. scholarship. I couldn't imagine a better start than celebrating the good news with you, Riet and some cocktails on a sunny evening in Croatia. From then on, the both of you experienced every single step of the Ph.D. journey, together with me. Thanks for listening, for your patience, for your advice, for the gifts when having an article accepted (ranging from sardines to Cava), for your care, for your support. Thanks for being there unconditionally!

Thanks to my family for their genuine interest in the content and progress of my research. In particular, thanks to moeke, vake, Fien, Bert and Sara. To be honest, I think I have to repeat some of the things that also pertain to Lien and Annelien: thanks for listening, for your patience, for your advice, for the gifts when having an article accepted (no sardines, but encouraging cards and Cava), for your care, for your support. Thanks for your believe, for the visit during my five days of placement in De Zande (even though it was 'my own fault'), for the enthusiasm to do some graphic design work (InForSANA's logo and the Ph.D. cover), for the nice weekends in Leiden, for calming me down when I was distressed. Thanks for being there unconditionally!

Words of thanks ... many words of thanks ...

Lore

September 2015

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General introduction*

* This chapter is partly based on Vanderplasschen W, Lesseliers J, Van Damme L. (2014). Jongerenwelzijn: Plaatsing en ondersteuning in situaties van verontrusting. In Claes, C., Vandevelde, S., & Vanderplasschen, W. (eds.). *Orthopedagogiek: een situering van praktijk, onderzoek en beleid* (pp.37-83). Gent: Acco.

It is also partly based on from Van Damme L, Colins O, Vanderplasschen, W. (2014). Gendersverschillen in psychopathologie bij adolescenten in gemeenschapsinstellingen. In Spruyt, B., & Siongers, J. (eds.). *Gender(en). Over de constructie en deconstructie van gender bij Vlaamse jongeren* (pp.319-340). Leuven: Acco.

Below, we start with introducing the major themes of this dissertation: adolescents and detention, psychopathology and quality of life (QoL). Next, the problem definition and aims of the study are addressed, followed by a description of the methodology. We end the introduction with elucidating the orthopedagogical approach of this dissertation.

Adolescents and detention

For centuries and worldwide, detention has been used as a way to protect society from adults and minors who display deviant or antisocial behavior (for example, tramps, thief, mentally disordered people; Broekaert et al., 2005). In 1912, the Belgian Child Protection Act arose. As such, Belgium was one of the first countries in which juvenile delinquents were no longer judged following the adult penal law (Verhellen, 1994). In order to be responsive to the developmental needs of children and adolescents, a separate child court was developed and the idea of penal irresponsibility of minors emerged. In addition, the Child Protection Act of 1912 enabled the child court to intervene in case a minor displayed problematic behavior (e.g., begging) that was likely to induce juvenile delinquency (cf. the notion of predelinquency; Put, 2006). Moreover, the child court could not enforce penalties. Instead, the judge had a wide range of enforceable measures at his/her disposal, including a reprimand, a supervision order, and placement in a (closed) facility (Verhellen, 1994). Placement in a re-education institution (in Dutch: *heropvoedingsgesticht*) was situated at the most restrictive end of these measures. For example, in the 19th century, the Belgian government tried to respond to the increasing problem of juvenile roving and delinquency, by raising a re-education institution, which is currently known as the closed institution for forced care and treatment (CI; in Dutch: *gemeenschapsinstelling*) 'De Zande' in Ruiselede (De Brabandere et al., 1999).

Today, globally, about 10 out of 100.000 youth are in prison, while an additional amount of youngsters is deprived of liberty in a range of services outside the prison system, such as closed institutions or hospitals (Allen, 2015). This is also the case in Flanders (Belgium), where, every year, about 1.400 adolescents are placed in CIs or closed federal centers (Agentschap Jongerenwelzijn, 2012). Across the world, girls comprise only five to thirteen percent of all detained youth (Sheahan, 2014). Although the number of girls in detention is growing around the globe, they still represent a very small and therefore vulnerable minority within the criminal justice system (Puzzanchera, 2009). In Flanders, the same gender pattern seems to exist. Focusing on detained female adolescents, the current study was conducted in CI 'De Zande' in Beernem. Every year about 140 girls (i.e., 10% of all adolescents in CIs or

closed federal centers) are being placed in this CI, for an average duration of 3 months (Agentschap Jongerenwelzijn, 2012, 2014).

Closed institutions for forced care and treatment: youth detention centers?

Before highlighting the concrete organization of CIs in Flanders, it should be noted that the current study (2011-2015) was conducted within a changing context of youth care. The organization of Special Youth Services in Flanders has been the subject of a large-scale reform, driven by the concept of 'integral youth care', which has been launched for the first time in 2000, followed by the Decree of Integral Youth Care in 2013 and its implementation from March 2014 on (Vlaams Parlement, 2013). This reform aims at providing more flexible and tailored care by means of an intersectoral collaboration of youth care services (Vlaams Parlement, 2013). New key notions are 'the alarming situation' (in Dutch: *verontrustende situatie*) which may imply 'the societal urgency' (in Dutch: *maatschappelijke noodzaak*) for (closed) youth care. The renewed youth care is composed of directly accessible and non-directly accessible care, with the latter being only possible after passing the intersectoral gateway and in case the directly accessible services have failed or are inappropriate. The CIs can be situated within this non-directly accessible care. Here, the renewed note concerning the CIs' differentiation of the program forms another illustration of the changing context of the current study (Agentschap Jongerenwelzijn, 2011). For example, every CI is challenged to reorganize the current program into more delineated care trajectories for particular subgroups of its population. The proposed reform took off in 2014 and is likely to have important juridical and structural implications, subsequently influencing the CIs' educational, pedagogical and therapeutic program (Agentschap Jongerenwelzijn, 2011).

Since the data gathering of the current dissertation has mainly been conducted before the concrete implementation of the above-mentioned reforms (i.e., between February 2012 and June 2014), we now provide the reader with a description of the concrete organization of CIs in Flanders at that time. Meanwhile, it is discussed why CIs in Flanders can be considered comparable to youth detention centers (YDCs) abroad.*

In Flanders, Special Youth Services are composed of a non-judicial component, guided by the Committee of Special Youth Services, and a judicial component, guided by the youth court (Vanderplasschen, Roose, & Colins, 2006). The

* As the papers of this dissertation have been written for publication in international journals and, therefore, are addressed to an international audience, we preferred to use the words 'detained' and 'detention' throughout the whole work, except for parts of the general introduction and general discussion, in which we aim to provide more detail about the particular nature of CIs in Flanders.

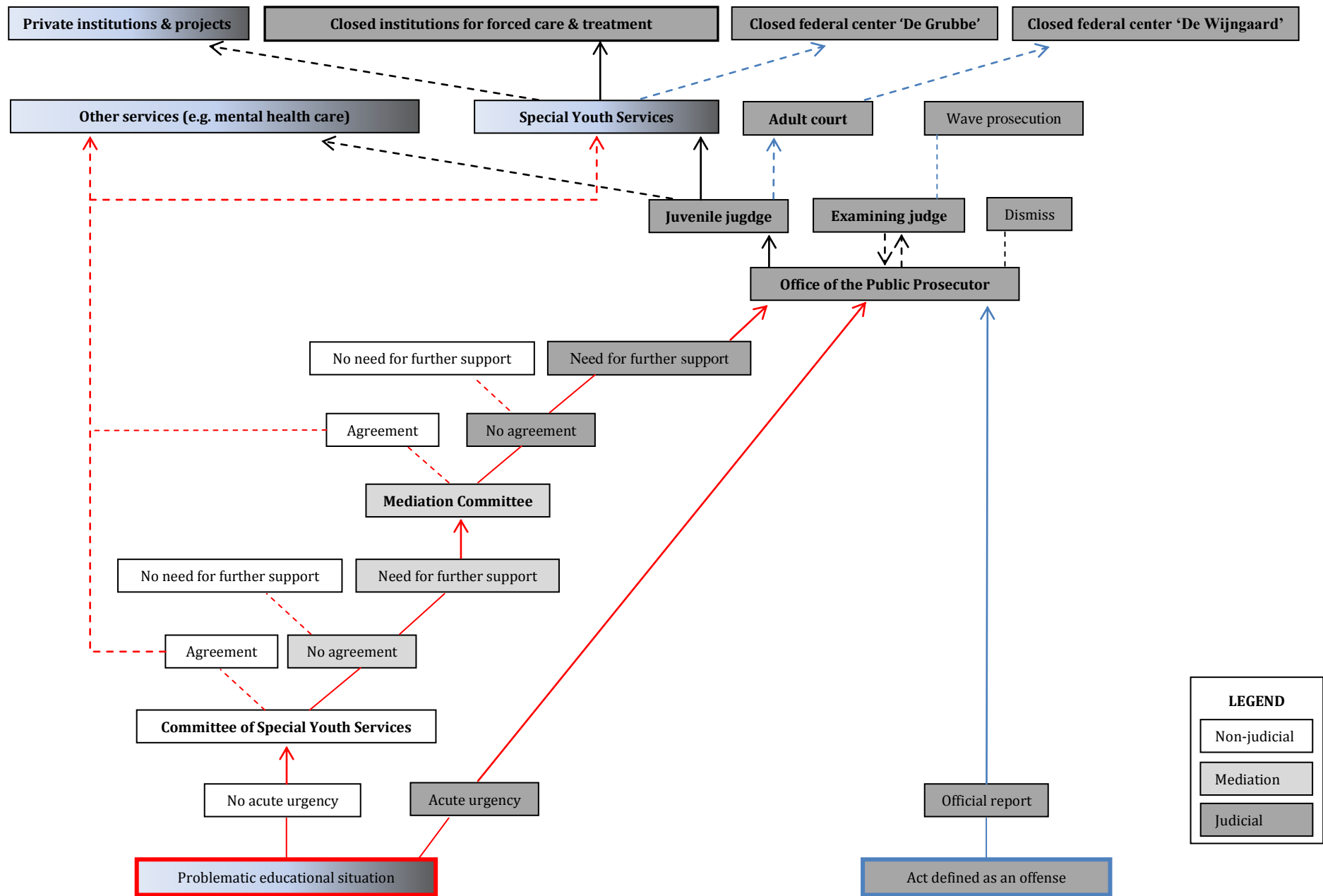
current dissertation can be situated within the latter, judicial component. The assignment of enforceable, pedagogical measures by the youth court is based upon the federal Youth Protection Act of 2006. The communities are responsible for the execution of the measures. In the Flemish Community, this is regulated by the Decree of Special Youth Services of 2008. Figure 1 illustrates the organization of Special Youth Services in Flanders. The full arrows indicate the sequence of steps leading to a placement in a CI.

Placement in a CI is only possible following referral by a juvenile judge because of an act defined as an offense [in Dutch: *als misdrijf omschreven feit (MOF)*; e.g., shoplifting, burglary, fighting, or threatening] or a problematic educational situation [in Dutch: *problematische opvoedingssituatie (POS)*; e.g., persistent truancy, running away, aggression, or prostitution]. In addition, it is only possible under specific conditions (e.g., a minimum age of 12 years, clear restrictions concerning the duration of the measure; Vanderplasschen et al., 2006). Placement in a CI is considered the harshest measure a juvenile judge can impose* and will only be applied in case all other measures have failed or are inappropriate. Therefore, the current sample of minors in a CI in Flanders can be considered comparable to minors in YDCs abroad. The population of a CI consists of both youngsters in a pre-trial condition (cf. provisional measure, in international publications often referred to as 'detention') and youngsters in a post-trial condition (cf. judgment; 'incarceration'). However, both groups appear to be more alike than different from one another, which again supports the general use of the term 'detained' (Colins, 2009).

In Flanders, there are 2 CIs, each with 2 campuses. 'De Kempen' in Mol is divided into 'De Markt' (72 boys; 10 girls, time-outs only) and 'De Hutten' (40 boys). 'De Zande' is located in Ruiselede (81 boys) and Beernem (46 girls) (Zorginspectie, 2012). The CIs are mandated to provide closed reception, orientation, observation and residential care for the minors under their custody (Vlaams Parlement, 2008). They have both a restrictive and a pedagogical function. The confining infrastructure (e.g., high fences, barred windows, closed doors, isolation rooms) and the rigorous regime (e.g., a clearly structured day schedule, strict rules) aim at protecting the youngster and society, and are needed to ensure a safe environment. Youngsters enter the CI handcuffed and they have to pass a stringent procedure of intake and control

* Only in boys, the juvenile judge can also impose placement in a closed federal center. 'De Grubbe' in Everberg is a closed institution for 40 boys of 14 years or older, placed based upon a serious act defined as an offense. Placement in De Grubbe is only possible as a provisional measure, for a maximum duration of two months and five days. 'De Wijngaard' in Tongeren is a closed institution for 45 boys, including (i) boys assigned to 'De Grubbe', when no beds are available there; (ii) boys of 16 years or older, being transferred to adult court; and (iii) boys between 18 and 24 years old, being placed in a prison regime for the first time (Jongerenwelzijn, 2011).

Figure 1 Routes to a closed institution for forced care and treatment in Flanders (Ondersteuningsstructuur Bijzondere Jeugdzorg, 2006)



(Zorginspectie, 2012). This restrictive character, again, indicates the comparable situation of minors in a CI in Flanders to minors in YDCs abroad.

The CIs' restrictive function is complemented by a pedagogical function, in order to offer detained minors a 'structure with a heart', not a 'hard structure'. The educational, pedagogical and therapeutic program of the CIs aims at facilitating less confining forms of care and treatment. The program intends to (re)socialize and (re)integrate the youngster and consists of two components: (i) an elementary program, offered to all adolescents despite individual client characteristics; and (ii) a client-specific program, purposefully offered to address a concrete problem or need (Agentschap Jongerenwelzijn, 2011). The elementary program involves three aspects: (i) the theory of Patterson, including five main, pedagogical skills: positive involvement, positive reinforcement, solving problems together, discipline, and keeping overview; (ii) experiential learning, stimulating the personal development by creating opportunities of action and reflection; and (iii) contextual working, striving for parents' participation and a strong collaboration with other involved care facilities and actors (Zorginspectie, 2012). For each girl in the institution, the multidisciplinary team develops a pedagogical action plan, which guides the client-specific program. The pedagogical action plan highlights the girls' particular characteristics, strengths and challenges, including suggestions concerning client-specific interventions (e.g., external day activities or group/individual therapeutic sessions, addressing specific themes such as social skills and aggression management; Zorginspectie, 2012).

Psychopathology

Psychopathology as a common phenomenon in adolescence

In developmental psychology, adolescence is described as the transitional period between childhood and adulthood (Berk, 2006). Adolescence is characterized by biological, cognitive and socioemotional changes, and is associated with increased levels of vulnerability and agitation (van Aken & Slot, 2004). Hall (1904) was the first to define adolescence as a period of 'storm and stress'. Indeed, during this phase of life, youngsters have an increased risk to display both internalizing and externalizing problems (van Aken & Slot, 2004). Attention for adolescents' mental health is warranted, given the common occurrence of psychiatric disorders (e.g., an average prevalence rate of 21.8% among adolescents, across prevalence studies published worldwide since 1997; Costello, Copeland, & Angold, 2011), and given the fact that many psychiatric disorders emerge in adolescence (Kessler

et al., 2007). As illustrated below, particular attention is needed for psychopathology among adolescents in detention, girls specifically.

Psychopathology among detained adolescents

In YDCs, the identification of youths who are likely to persist in criminal activities has always been and still remains an important endeavor (Colins & Vermeiren, 2013). A recent mental health movement in YDCs highlighted another important challenge for these institutions (Grisso, 2007). Because YDCs must respond to the needs of the youths in their custody (Grisso, 2004), the identification of detained adolescents who might need further psychiatric evaluation is now given increasing attention (Colins, Grisso, Mulder, & Vermeiren, 2014; Wasserman et al., 2003). Studies on the prevalence of psychiatric disorders in detained adolescents in the United States and Europe have shown that detained minors have substantial mental health needs (Colins et al., 2010; Fazel, Doll, & Långström, 2008), with 66-100% having at least one psychiatric disorder (Gretton & Clift, 2011; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002). In Flanders, about 80% of the boys in CIs had at least one psychiatric disorder (Colins, Vermeiren, Schuyten, & Broekaert, 2009). Unfortunately, detained female adolescents have been understudied (Vermeiren, 2003). The limited amount of available studies indicated that detained girls have significantly higher prevalence rates of psychiatric disorders than boys (Gretton & Clift, 2011; Karnik et al., 2009; Plattner et al., 2009; Teplin et al., 2002). Up to now, no data are available regarding the small group of girls in CI 'De Zande' in Beernem.

Measuring psychopathology

Researchers and clinicians have adopted multiple ways to screen for mental health problems and to diagnose psychiatric disorders, including self-report questionnaires, diagnostic interviews, observation schedules and neuroimaging techniques (Ferdinand, van der Ende, & Verhulst, 2004). Irrespective of the methodology, two main approaches can be distinguished in measuring psychopathology (Achenbach et al., 2008). Adopting a categorical approach, one uses a checklist of criteria (for example referring to symptoms, age of onset, frequency and duration) to define whether or not an individual has a particular psychiatric disorder. When using a dimensional approach, one goes beyond the just mentioned dichotomous outcome, by looking at a continuum of different sets of symptoms (for example ranging from normal to clinical, or adaptive to maladaptive). Both approaches have their advantages and disadvantages. Therefore, combining them has been deemed most

appropriate (Achenbach et al., 2008; Esmeijer, Veerman, & Van Leeuwen, 1999).

Quality of life

The emergence of the concept quality of life

During the 20th century, the concept QoL emerged as an important standard in economic, medical and social theory and practice. QoL has become a main indicator of health care needs, overall well-being and treatment outcomes (De Maeyer, Vanderplasschen, & Broekaert, 2009). Three developments account for the interest of social disciplines in QoL: (i) the increasing awareness that pure scientific, medical and technological improvement, irrespective of one's values, perceptions and environmental conditions, does not guarantee a better life; (ii) the rise of the normalization movement, emphasizing the importance of community-based support; and (iii) the rise of consumer empowerment, striving for person-centered planning and self-determination (Schalock et al., 2002). Nowadays, the concept is given substantial attention in research among a wide range of populations, such as refugees (Laban, Komproe, Gernaat, & de Jong, 2008), substance abusers (Colpaert, De Maeyer, Broekaert, & Vanderplasschen, 2013), people with intellectual disabilities (Schalock, Bonham, & Verdugo, 2008), and psychiatric disordered individuals (Bastiaansen, Koot, & Ferdinand, 2005). QoL in individuals in detention, especially in detained minors, seems to be a rather unreclaimed territory of research.

Quality of life among detained adolescents

Up to now, the overwhelming majority of studies among detained minors has focused on risk factors that are associated with mental health and adjustment problems (e.g., psychopathology, aggression and offending; Krabbendam et al., 2015; Krabbendam et al., 2014; Plattner et al., 2009; van der Molen, Krabbendam, Beekman, Doreleijers, & Jansen, 2013). These studies, of course, are relevant from a risk management perspective as they help clinicians to develop and provide interventions that are mainly oriented towards removing problems and reducing risk factors. Nevertheless, research that starts from a strengths-based empowering perspective (e.g., exploring detained adolescents' self-perceived QoL) is urgently warranted, as it may increase knowledge that could improve rehabilitation (Fisher, Morgan, Print, & Leeson, 2010; Wylie & Griffin, 2013). We are only aware of one empirical study that examined QoL among detained minors (Sawyer et al., 2010). This Australian study assessed

QoL among detained boys ($n = 132$) and girls ($n = 27$), indicating that these adolescents rated their QoL significantly worse than adolescents in the community (Sawyer et al., 2010). Unfortunately, the number of girls was small and no gender-specific QoL results were presented, which hampers the generalizability of the results to other populations of detained girls.

Measuring quality of life

A number of manners exist to measure QoL, ranging from quantitative self-report questionnaires to qualitative in-depth interviews or focus group discussions (De Maeyer et al., 2009). Regardless of the specific measure being used, two important methodological issues need to be addressed. First of all, many researchers have emphasized the importance of a concrete and multidimensional concept of QoL, including a broad range of domains and indicators, such as physical and psychological health, social relationships and environment (Cummins, Lau, & Stokes, 2004; De Maeyer, Vanderplasschen, Camfield, et al., 2011; Verdugo, Schalock, Keith, & Stancliffe, 2005). Second, different but complementary perspectives can be distinguished in the assessment of QoL and its associate domains (De Maeyer et al., 2009). A first perspective assumes that QoL can best be measured by objective indicators, such as monthly salary as an indicator of material well-being. This perspective is referred to as the “objective” perspective, and is particularly useful to evaluate the QoL of the general population. A second perspective focuses on psychological indicators, such as negative feelings (e.g. anxiety, depression) as an indicator of emotional well-being, and is referred to as the “subjective” perspective. This approach seems appropriate for mapping out individuals’ own views on their lives (De Maeyer et al., 2009).

Problem definition and aims of the study

Prior work among detained adolescents indicated that these minors bear substantial mental health needs (Colins et al., 2010; Fazel et al., 2008; Gretton & Clift, 2011; Teplin et al., 2002). Yet, research on psychopathology in detained minors still suffers from many constraints. The overwhelming majority of studies among detained minors focuses on males and exclusively relies on youth self-report as source of information. Furthermore, most studies in detained youth are cross-sectional and start from a risk management perspective, instead of a strengths-based empowering perspective. Below, these limitations are described.

Addressing psychopathology in the understudied group of detained girls

As detention rates among girls have traditionally been remarkably lower than among boys (Puzzanchera, 2009; Snyder & Sickmund, 2006), detained female adolescents have often been neglected in research on detained youth. Given the dramatic increase of detention rates among girls over the past years (Puzzanchera, 2009), further research on detained girls is required to gain gender-specific knowledge and tailor treatment programs to their needs. The few prevalence studies that have included both detained male and female adolescents generally indicated significantly higher prevalence rates of psychopathology among detained girls than boys (Gretton & Clift, 2011; Karnik et al., 2009; Plattner et al., 2009; Teplin et al., 2002). Further research is needed to determine whether these gender differences can be replicated in other samples of detained adolescents (here: youngsters from CIs in Flanders), including a relatively large number of girls and using a widely used diagnostic interview. Evidence suggests that, whilst addressing gender differences in psychopathology, self-esteem is an important construct to consider (de Jong, Sportel, de Hullu, & Nauta, 2012; Steinhausen & Metzke, 2001). Given the assumed importance of self-esteem for understanding mental health problems (Bolognini, Plancherel, Bettschart, & Halfon, 1996) and antisocial behavior (Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005), research that explores the relationship between self-esteem and psychopathology among detained adolescents is relevant. Unfortunately, few studies have scrutinized this relationship in detained youths (Matsuura, Hashimoto, & Toichi, 2009).

The use of multiple informants is considered quintessential in the clinical assessment of youth. Parents of detained adolescents, however, are often difficult to locate, and/or unwilling or unable to provide information. Regardless of these difficulties, the few studies that succeeded to include a substantial proportion of parents have demonstrated that they provide important diagnostic information (Colins, Vermeiren, Schuyten, Broekaert, & Soye, 2008; Colins, Vermeiren, et al., 2012). This converges with the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders 5th Edition)'s emphasis on the use of multiple informants, and may be particularly relevant with regard to the DSM-5's new 'with Limited Prosocial Emotions' (LPE) specifier for the diagnosis of conduct disorder (CD; American Psychiatric Association [APA], 2013). This new specifier is expected to designate a subgroup of severe antisocial and aggressive youths (Frick & Nigg, 2012; Kimonis et al., 2014). Detained adolescents constitute an important population of youths in whom to put the specifier to the test, especially detained girls who were not included in testing the reliability and validity of the LPE criteria (Colins & Andershed, 2015). Although the DSM-5 explicitly states that self-report of LPE must be extended with information from others, the handful of studies on this topic

among detained adolescents solely relied on youth self-report, suggesting that the specifier is of restricted usefulness in this particular sample (Colins & Andershed, 2015; Colins & Vermeiren, 2013). Clearly, empirical evidence in support of or against the clinical usefulness of the LPE specifier among detained girls is needed.

Adding quality of life to the study of detained girls

Up to now, the vast majority of studies among detained female adolescents started from a risk management perspective (e.g., focusing on psychopathology, aggression and offending; Krabbendam et al., 2015; Krabbendam et al., 2014; Plattner et al., 2009; van der Molen et al., 2013). However, for at least three reasons, research that starts from a strengths-based empowering perspective (for instance, addressing these girls' self-perceived QoL) is needed (Fisher et al., 2010; Wylie & Griffin, 2013).

First, psychiatric disorders, trauma exposure and a low SES frequently occur among detained girls (Lederman, Dakof, Larrea, & Li, 2004; van der Molen et al., 2013) and have been shown to affect one's self-perceived QoL negatively (Darnjanovic, Lakic, Stevanovic, & Jovanovic, 2011; Shek, 2005). This assumption can also be found in the strengths-based Good Lives Model of Offender Rehabilitation (GLM; Ward, 2002). According to the GLM, humans pursue the realization of a range of primary goods or basic needs, such as inner peace and relatedness, and achieving these needs contributes to their QoL. The GLM further considers psychopathology, trauma and a low SES as obstacles that hamper the achievement of a good QoL in a socially acceptable way (Purvis, Ward, & Willis, 2011). This strengths-based model has been applied to a broad range of offender populations (Purvis et al., 2011), yet only scarcely among detained minors (Barendregt, van der Laan, Bongers, & van Nieuwenhuizen, 2012). More research is needed to test whether the hypothesis of psychosocial and socioeconomic problems impeding one's QoL also pertains to detained girls.

Second, the study of detained girls' self-perceived QoL may help to understand why some girls are or become more eager to engage in treatment than others. If 'non-significant' adults (e.g., clinicians, judge) point at problems everywhere, but these girls do not perceive any burden, it is not surprising that they are not engaged to start treatment or to stay in treatment. Indeed, given the coercive nature of detention, poor treatment engagement is likely among detained girls (Englebrecht, Peterson, Scherer, & Naccarato, 2008; Harder, Knorth, & Kalverboer, 2012). In addition, detained girls' prominent and persistent mental health problems are likely to influence their treatment engagement (Leenarts, Hoeve, Van de Ven, Lodewijks, & Doreleijers, 2013). Empirical evidence on

treatment engagement in this population is still scarce, though, which is surprising as treatment engagement is considered an important condition for achieving positive treatment outcomes (Shirk & Karver, 2003; Smith, Duffee, Steinke, Huang, & Larkin, 2008). Clearly, research is needed to scrutinize detained girls' treatment engagement in relation to psychopathology and QoL.

Third, studying the QoL of detained girls may help to understand why detained girls are at risk for mental health problems and offending after discharge. Since the majority of research on detained adolescents is cross-sectional, their situation after release into the community remains largely unaddressed. The scarce longitudinal studies on detained girls indicated that their mental health and adjustment problems do not seem to fade away as they age (Krabbendam et al., 2014; Plattner et al., 2009; Teplin, Welty, Abram, Dulcan, & Washburn, 2012; van der Molen et al., 2013). Unfortunately, the majority of the prospective studies with detained girls mainly started from a risk management perspective, while a strengths-based empowering perspective may increase knowledge that could improve rehabilitation. Again, the strengths-based GLM appears to be a valuable theoretical framework in this respect. It assumes that individuals with a poor QoL are likely to display persistent mental health problems and to become involved in antisocial activities as an alternative strategy to achieve their primary goods (Purvis et al., 2011; Ward, Mann, & Gannon, 2007). However, this hypothesis still needs to be verified in the particular population of detained girls.

Aims of the study

In short, the overall aim of this dissertation was to enhance the current scientific knowledge on the understudied, yet particularly vulnerable group of detained female adolescents. In this way, we aim to provide insight on how interventions can be tailored to the particular problems, challenges, needs and strengths these girls display. The aims of the current study are twofold:

- To explore the prevalence and nature of psychopathology among detained girls, as well as associated characteristics, determinants and outcomes of interest.
- To explore detained girls' self-perceived QoL on multiple domains of life, as well as associated characteristics, determinants and outcomes of interest.

Methodology

Specific research questions and research design

The aims of this dissertation were split up into five specific research questions. Each research question addresses particular limitations or gaps in prior research (cf. Problem definition and aims of the study). To enhance the relevance of our work for policy and practice, the concrete operationalization and specific focus of the research questions was further inspired by current developments within the CIs and the broader field of (youth) justice/care settings [e.g., the increasing attention for mental health problems, the introduction of the DSM-5, the rising interest for strengths-based empowering perspectives within the CIs (cf. attention for youngsters' treatment engagement and QoL)]. This resulted into five specific research questions:

1. What are similarities and differences between detained boys and girls with regard to (the relationship between) psychiatric disorders and self-esteem? (Chapter 1)
2. What is the prevalence and clinical usefulness of the DSM-5's new LPE specifier for CD, relying on youth self reported and/or parent-reported information? (Chapter 2)
3. How do detained girls perceive their QoL prior to detention on multiple domains of life and to what extent is it influenced by psychiatric disorders, trauma exposure and socioeconomic status? (Chapter 3)
4. How do detained girls perceive their treatment engagement over time and to what extent is it influenced by psychopathology and QoL? (Chapter 4)
5. What is the (in)direct effect of detained girls' QoL prior to detention (via mental health problems) on offending after discharge? (Chapter 5)

The first study (Chapter 1) concerns a secondary analysis, based on a cross-sectional study among detained boys ($n = 245$) and girls ($n = 195$) from CIs in Flanders, conducted between 2005 and 2011 (cf. Colins, Vermeiren, Schuyten, et al., 2009; Colins, Bijttebier, Broekaert, & Andershed, 2014). The four remaining studies (Chapters 2-5) comprise the core of the present Ph.D. project. These studies consist of primary analyses, based on a prospective cohort study among detained girls ($n = 147$) and their parents ($n = 85$) from CI 'De Zande' in Beernem, conducted between 2012 and 2015. As the latter study is designed and accomplished in the context of the current dissertation, it will be described in more detail below.

Measurements and participants of the prospective cohort study

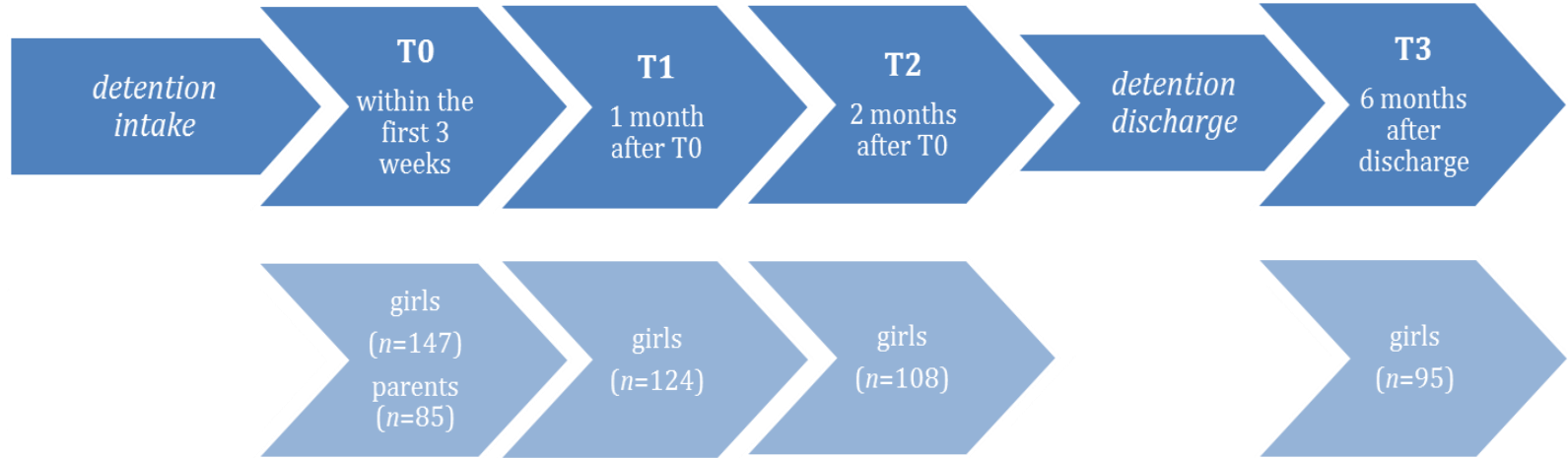
Figure 2 depicts the longitudinal research design of the current study. Participants were assessed within the first three weeks of detention (T0: girls and parents); one and two months after the baseline assessment (T1; T2); and six months after discharge (T3). At T0, girls were eligible to participate if the following criteria were met: (i) being adjudicated to be placed in a YDC for at least one month; (ii) having sufficient knowledge of Dutch; and (iii) having sufficient cognitive abilities. Based on these criteria, 46 girls were excluded: 11 girls were adjudicated to be placed in a YDC for less than one month, 28 girls did not have sufficient knowledge of Dutch, and 7 girls did not have sufficient cognitive abilities. In total, 169 girls were eligible to participate. Two girls could not be approached due to acute psychiatric crisis, and 20 girls and/or their parents refused participation, resulting in a baseline sample of 147 girls (participation rate = 87%). Study participants ($n = 147$) did not differ significantly from girls that did not participate in the study with respect to age, origin, and detention history. Participants were between 13.51 and 17.91 years old ($M = 16.20$; $SD = 1.10$), were predominantly of Belgian origin (65.3%), and 20.4% had been detained in the past. Additional sample characteristics are presented in Table 1. At T1, 9 girls and/or their parents refused follow-up, and 14 girls had already left the YDC, resulting in a follow-up sample of 124 girls (i.e., 84% of the baseline sample). At T2, the same 9 girls and/or their parents refused to participate, and 30 girls had already left the YDC, resulting in a follow-up sample of 108 girls (i.e., 73% of the baseline sample). By February 2015, 136 girls had been eligible to be included for the T3 assessment, as they had been discharged for 6 months. Of the 136 girls, 38 girls and/or their

Table 1 Characteristics of the sample ($n = 147$)

	<i>n</i> (%)
Mean age (<i>SD</i>); Min-Max	16.20 (1.10); 13.51-17.91
Origin (Belgian)	96 (65.3)
SES (moderate-to-high)	57 (38.8)
Lived with (one of) their biological parents prior to detention (yes)	104 (70.7)
Attended school during the past month prior to detention (yes)	86 (58.5)
Had been detained in the past (yes)	30 (20.4)
Primary reason for detention	
criminal offense	56 (38.1)
persistent attempts to escape parent's/caregiver's/ institution's surveillance	54 (36.7)
defiant behavior	22 (15.0)
other (e.g., being entangled in dangerous gangs)	15 (10.2)

Note: SES = socioeconomic status.

Figure 2 Longitudinal research design: Overview of measurements and participants



parents refused participation, and three could not be located, leaving 95 girls to be included (follow-up rate = 70%).

In addition, we aimed to interview one parent for each girl. A parent could participate if the following criteria were met: (i) having sufficient contact with his/her daughter during the past year, varying from daily until at least monthly; and (ii) having sufficient knowledge of Dutch. For the total sample of 147 girls, 115 girls had at least one parent meeting inclusion criteria. Thirty girls and/or their parents refused participation, resulting in a final sample of 85 pairs of girls and one of their parents (participation rate = 74%).

Measures

Below, we describe only those measures that have been used to assess the two core concepts of the current study (i.e., psychopathology and QoL). Each chapter contains a more detailed description of these measures, as well as information regarding additional measures (e.g., a self-report offending questionnaire) that have been used within the light of particular research questions.

Psychopathology. In the current study, categorical and dimensional approaches for measuring psychopathology have been used alternately or simultaneously, depending on the specific aim and focus of the chapter. Chapters 1-3 adopted a categorical approach, Chapter 4 a combination of both approaches, and Chapter 5 a dimensional approach. The past-year prevalence of DSM-IV (Diagnostic and Statistical Manual of Mental Disorders 4th Edition) psychiatric disorders was measured using the Dutch translation of the Diagnostic Interview Schedule for Children-IV (DISC-IV; Ferdinand & Van der Ende, 2002). The Dutch translation (Colins, Grisso, Vahl, et al., 2014) of the Massachusetts Youth Screening Instrument-Second Version (MAYSI-2; Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001) was used to assess detained girls' mental health problems, for the past few months.

Quality of life. Given the aim of the current study to explore detained girls' perspective on and satisfaction with different domains of life, we adopted a subjective measure of QoL. More specifically, we followed the World Health Organization's definition of QoL (i.e., "individuals' perceptions of their position in life, that is rooted in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns"; THE WHOQOL GROUP, 1998, p.551). The WHOQOL-BREF (i.e., an abbreviated version of the World Health Organization QoL Instrument 'WHOQOL-100'; THE WHOQOL GROUP, 1998) was used to assess the girls' self-perceived QoL on the domains of physical health, psychological health, social relationships and environment, for the last 2 weeks.

Orthopedagogical approach

This Ph.D. project has been conducted at the Department of Special Needs Education (Faculty of Psychology and Pedagogical Sciences, Ghent University). As mentioned above, CIs in Flanders have both a restrictive and a pedagogical function. The current study can be situated within the latter, pedagogical function, as it focuses on (ortho)pedagogically relevant issues, such as psychopathology, QoL, offending and treatment engagement. Below, we highlight the particular nature of the orthopedagogical research approach, and how it is reflected throughout the present study.

Education and research at the Department of Special Needs Education of Ghent University is characterized by its practice-oriented and integrative nature (Broekaert, 2009). In the field of orthopedagogics, clinicians and researchers should be directed towards action, ultimately, yet infinitely, seeking to enhance the life of children and adults in difficult (educational) situations, such as persons with (intellectual) disabilities, children with emotional and behavioral problems and adults with substance use problems. From an orthopedagogical point of view, given its roots in different scientific disciplines and practices (e.g., philosophy, medicine), this aim can only be accomplished by means of an integration of multiple perspectives, theories, methods and solutions (Broekaert, 2009).

Previously, different Ph.D. dissertations have been accomplished on children with emotional and behavioral problems, including the dissertation by Colins (2009), who studied psychiatric disorders and psychopathy in a sample of 250 detained male adolescents in Flanders. In the current study, we wanted to extend the scientific knowledge on the understudied, yet very vulnerable group of detained female adolescents. Since knowledge on detained girls is currently limited, no specific theoretical model could be tested. Instead, in line with the integrative nature of orthopedagogical science, we derived preliminary hypotheses from available research and practices, stemming from a broad variety of disciplines. The current study can be considered a melting pot, including elements from criminology, psychiatry, psychology, social welfare studies and orthopedagogics, each having their own specific contribution to the common goal of improving detained girls' life.

The assessment of QoL, which is a core concept in present-day orthopedagogical theory and in mental health and disability research (Claes, van Hove, Vandeveld, van Loon, & Schalock, 2012; Colpaert et al., 2013; De Maeyer, Vanderplassen, Camfield, et al., 2011), is relatively new in the population of detained minors. This focus on QoL fits within the scope of critical orthopedagogics (Van Gennep, 1980). Reflecting on society (e.g., the organization and delivery of services) and striving for social inclusion and

emancipation are key activities in this field. The current study tried to adhere to these orthopedagogical endeavors (i) by adopting a prospective cohort design, in order to gain knowledge about these girls while being detained, but also about their situation after release into the community; and (ii) by integrating traditional, risk management perspectives (cf. attention for psychopathology and treatment) with innovative, strengths-based empowering perspectives on detained girls (cf. attention for QoL and support). By studying these girls' QoL we aimed to reveal their own perspective on different domains of life, thereby acknowledging them as primary agents of personal change and as an indispensable resource for service improvement (Schubert, Mulvey, Loughran, & Losoya, 2012; Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001).

In line with the active nature of orthopedagogical science, the current study has a practical orientation. The study aimed to provide new insights and tools for policy makers and practitioners to reflect upon and improve the organization of YDCs, within the broader field of youth justice/care settings. More specifically, we aimed to help CIs' staff to tailor the educational, pedagogical and therapeutic program to the particular problems, challenges, needs and strengths of the minors under their custody. In order to accomplish this goal, I needed to go beyond the quantitative research design of the present Ph.D. project. Although tables, graphs and figures were important and helpful instruments to gain insight and communicate my ideas, they did not suffice. Hence, as a result of my personal training as an orthopedagogue, I was often tempted to undertake action: (i) to go and explore different initiatives within the field of youth justice/care settings; and (ii) to become immersed in the daily practice of the CIs, by participating as a group-worker during one week on the one hand (cf. practitioners' perspective), and residing in the institution for five days and four nights on the other hand (cf. girls' perspective). These experiences are not included as a separate chapter in this dissertation. However, they certainly permeate the critical reflections and recommendations that are being made.

Chapter 1

Gender differences in psychiatric disorders and clusters of self-esteem among detained adolescents*

* This chapter is based on Van Damme L., Colins O., & Vanderplasschen, W. (2014). Gender differences in psychiatric disorders and clusters of self-esteem among detained adolescents. *Psychiatry Research*. 220, 991-997. Doi: 10.1016/j.psychres.2014.10.012

Abstract

Detained minors display substantial mental health needs. This study focused on two features (psychopathology and self-esteem) that have received considerable attention in the literature and clinical work, but have rarely been studied simultaneously in detained youths. The aims of this study were to examine gender differences in psychiatric disorders and clusters of self-esteem, and to test the hypothesis that the cluster of adolescents with lower (versus higher) levels of self-esteem have higher rates of psychiatric disorders. The prevalence of psychiatric disorders was assessed in 440 Belgian, detained adolescents using the Diagnostic Interview Schedule for Children-IV. Self-esteem was assessed using the Self-perception Profile for Adolescents. Model-based cluster analyses were performed to identify youths with lower and/or higher levels of self-esteem across several domains. Girls have higher rates for most psychiatric disorders and lower levels of self-esteem than boys. A higher number of clusters was identified in boys (four) than girls (three). Generally, the cluster of adolescents with lower (versus higher) levels of self-esteem had a higher prevalence of psychiatric disorders. These results suggest that the detection of low levels of self-esteem in adolescents, especially girls, might help clinicians to identify a subgroup of detained adolescents with the highest prevalence of psychopathology.

Introduction

Detained minors constitute a heterogeneous group of youths, not only with respect to past and future criminal offenses (Colins, Vermeiren, Schuyten, et al., 2009; Colins et al., 2011; Colins et al., 2013; Plattner et al., 2012), but also with respect to current features that may jeopardize their future well-being. This study focused on two features (psychopathology and self-esteem) that have received substantial attention in the literature and clinical work, but have rarely been studied together in detained youths.

Psychiatric disorders

Studies involving detained adolescents have consistently shown a high prevalence of psychiatric disorders (Colins et al., 2010; Fazel et al., 2008). Unfortunately, detained female adolescents have been understudied (Vermeiren, 2003). Because of the apparent increase in detained girls in recent years (Puzzanchera, 2009; Snyder & Sickmund, 2006) more prevalence studies involving girls have been conducted (Hamerlynck, Doreleijers, Vermeiren, Jansen, & Cohen-Kettenis, 2008; van Doorn, Jansen, Vermeiren, Hamerlynck, & Doreleijers, 2012). Still, few of these studies have included male as well as female adolescents. Consequently, ascertaining gender differences in the prevalence of psychiatric disorders depends on comparisons of findings from pure male (Colins, Vermeiren, Schuyten, et al., 2009; Kroll et al., 2002; Vreugdenhil, Doreleijers, Vermeiren, Wouters, & Van den Brink, 2004) and pure female samples (Dixon, Howie, & Starling, 2004; Lederman et al., 2004). Methodological differences (e.g., instruments and time frame used to assess psychiatric disorders) between these studies have hampered a sound evaluation of gender differences across studies (Colins et al., 2010).

The few prevalence studies that have included both male and female adolescents generally showed that detained girls more often met diagnostic criteria for anxiety and affective disorders (Teplin et al., 2002), attention-deficit/hyperactivity disorder (ADHD; Karnik et al., 2009), substance use disorders (SUDs) other than marijuana and oppositional defiant disorder (ODD; Gretton & Clift, 2011). However, the studies involving detained male and female adolescents predominantly originated from the US and Canada. Therefore, it is uncertain to what extent these findings can be generalized to European countries, which have a different socio-demographic make-up and organization of the juvenile justice and (mental) health care system (Colins et al., 2013). There is substantial evidence that psychopathology varies in its expression both cross-nationally and cross-ethnically in community as well as detained adolescent populations (Karnik et al., 2010; Richter, Sagatun, Heyerdahl, Oppedal, & Roysamb, 2011; Veen, Stevens, Doreleijers, van der

Ende, & Vollebergh, 2010; Vermeiren, Jones, Ruchkin, Deboutte, & Schwab-Stone, 2004). Because of differences in the ethnic composition of detained youth in Europe (e.g., where North-Africans represent an important group) compared to the U.S. (e.g., where Afro-Americans form a highly prevalent group), differences in the prevalence of psychiatric disorder are likely to occur (Colins et al., 2013). Also, in some U.S. communities, adolescents are arrested and temporarily detained if no appropriate mental health services to manage their behavior are available (Grisso, 2004). In contrast to the U.S., mental health services are more available in European countries such as the Netherlands (Vreugdenhil et al., 2004). Consequently, youths in the U.S. may receive mental health services for the first time while in detention. Because of differences in the organization of the juvenile justice and (mental) health care system, detained youth in the U.S. may display higher rates of mental health problems than their counterparts in European countries.

Only one European study has explored gender differences in the prevalence of psychiatric disorders in detained adolescents (Plattner et al., 2009). Girls had higher prevalence rates of anxiety disorders and substance dependence than boys, while no gender differences existed for affective disorders, ADHD, ODD, and conduct disorder (CD) (Plattner et al., 2009). Although this study showed that gender differences are also present in detained youths in a European country (i.e., Austria; Plattner et al., 2009), the results must be interpreted in light of some limitations. First, only a relatively small number of detained girls ($n = 56$) were included, hampering the ability to draw firm conclusions. Second, the assessment was conducted with a diagnostic interview not commonly used in forensic samples (Colins et al., 2010). Further research is thus needed to determine whether their findings can be replicated when using widely used diagnostic interviews, such as the Diagnostic Interview Schedule for Children-IV (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000).

Self-esteem and psychiatric disorders

Self-esteem is an important construct that has received considerable attention in the study of mental health problems (Bolognini et al., 1996) and antisocial behavior (Donnellan et al., 2005). Detained girls constitute a challenging group of youths displaying severe antisocial behavior, as well as high levels of psychiatric disorders. Moreover, the legal involvement and detention itself can be perceived as a very stressful and pervasive situation that may negatively impact the youngsters' self-esteem and mental health (Adams, Gray-Ray, & Ray, 2003; Barendregt et al., 2012). Surprisingly, the relationship between self-esteem and psychiatric disorders in detained adolescents has rarely been addressed (Matsuura et al., 2009). Whereas positive self-esteem is considered a basic feature of psychological well-being, low self-esteem is thought to play a

critical role in the development of psychopathology (Mann, Hosman, Schaalma, & de Vries, 2004). Consequently, adolescents with psychiatric disorders are expected to have lower self-esteem than adolescents without psychiatric disorders. Yet, this speculation is tentative for two reasons. First, the evidence to support this argument mainly arises from studies focusing on internalizing disorders (Orth, Robins, Trzesniewski, Maes, & Schmitt, 2009). Indeed, studies on the relationship between self-esteem and externalizing disorders yielded mixed findings (Locke, 2009; Sandstrom & Jordan, 2008), while the few studies that have assessed both categories of disorders did not take into account their frequent co-occurrence (Marsh, Parada, & Ayotte, 2004). Consequently, these results are difficult to integrate given the empirical evidence that many detained youths have both internalizing and externalizing disorders (Colins, Vermeiren, Schuyten, et al., 2009). Second, the relationship between self-esteem and psychiatric disorders may depend on the operationalization of self-esteem. An influential approach in the literature on self-esteem differentiates between self-evaluations representing one's sense of competence across particular domains and self-evaluations representing the global characteristics of an individual (Harter, 1999). From this multidimensional perspective, domain-specific self-evaluations affect global self-worth, depending on the subjective significance of each domain. This is particularly so in adolescence, where various domains of self-evaluation become increasingly differentiated (Harter, 2003). Although most previous studies have focused on global self-worth (Donnellan et al., 2005; Wills, 1994), some studies have focused on one or more domain-specific self-evaluations and showed that these dimensions are related differently to psychiatric disorders (DuBois & Silverthorn, 2004; Marsh et al., 2004). To better understand the relationship between self-esteem and psychopathology, a multidimensional approach to self-esteem seems important.

Study aims

The first aim of this study was to examine gender differences in psychopathology. We hypothesized that the prevalence of psychiatric disorders is higher among girls, except for marijuana use disorder and CD. The second aim was to examine gender differences in self-esteem. We hypothesized that girls have lower levels of self-esteem, except for the domain of Behavioral Conduct (Birndorf, Ryan, Auinger, & Aten, 2005; Moksnes, Moljord, Espnes, & Byrne, 2010). The third aim was to study the relationship between psychopathology and self-esteem, using a conceptual model (the multidimensional model of Harter) and statistical approach (model-based cluster analyses [MBC]) that takes into account that individuals can display a specific pattern of low and/or high levels of global self-worth and self-

evaluation across several domains. By using this person-centered and holistic approach, we attempted to identify distinct clusters of self-esteem. We expected to find at least one group that is generally low and one that is generally high in self-esteem. We also hypothesized that adolescents with lower self-esteem have higher rates of psychiatric disorders than adolescents with higher levels of self-esteem.

Methods

Participants

Between 2005 and 2007 (i.e., boys) and 2008 and 2011 (i.e., girls), 304 boys and 240 girls from the single-sex youth detention centers (YDCs) in Flanders, Belgium were recruited in two consecutive studies. Placement in YDCs is only possible following referral by the juvenile judge because of an offense or a problematic educational situation, and is considered to be the harshest measure a juvenile judge can impose. Of the 544 recruited adolescents, 48 could not be assessed due to practical circumstances (e.g., daily activities) and 56 adolescents declined to participate, resulting in a participation rate of 80.9% ($n = 440$). A detailed description of both samples has been published previously (Colins, Vermeiren, Schuyten, et al., 2009; Colins et al., 2008; Colins, Bijtebier, et al., 2014).

Boys were included if the following criteria were met: (i) placed in the YDC for at least 1 month; (ii) sufficient knowledge of Dutch; and (iii) of Belgian or Moroccan origin. Girls were included if they met the first two criteria. Given the low number of detained girls in Flanders, we included girls from all origins. Yet, regarding the non-Belgian group, girls of Moroccan origin ($n = 16$) did not differ significantly from girls of another foreign origin ($n = 31$) in self-esteem and psychopathology.

The sample consisted of 44.3% girls and 55.7% boys, ranging in age from 12 to 17 years ($M = 15.88$; $SD = 1.06$). One-fourth of the participants was of non-Belgian origin and 41.6% had been detained in the past. Males had been detained more often in the past [50.6% vs. 30.3%, $\chi^2 = 18.52$ (1), $p < .001$], and were older [$M = 15.98$; $SD = 1.09$ vs. $M = 15.76$; $SD = 1.01$, $t = 2.22$ (438), $p = .027$].

Procedure

This study was approved by the Institutional Review Board of the Faculty of Psychology and Educational Sciences of Ghent University. Because screening of

emotional problems is a mandatory task in YDCs, the requirement for parental consent was waived. Participants were approached and assessed following a standardized protocol. Detainees meeting the inclusion criteria were approached individually and given oral and written information about the aims, content, and duration of the study. They were assured that their information would be treated confidentially and that refusal to participate would not affect their judicial status or stay in the YDC. The adolescents could consult an adult about participation and written informed consent was given before starting the assessment. Participants did not receive any financial compensation and were interviewed in a separate room in the YDC, offering enough privacy. The interview was conducted by the DISC-trained second author or DISC-trained final year university students, none of whom were on the YDC staff.

Measures

Psychiatric disorders. The past-year prevalence of psychiatric disorders was measured using the Dutch translation of the Diagnostic Interview Schedule for Children-IV (DISC-IV; Ferdinand & Van der Ende, 2002). The DISC-IV is a reliable and valid structured questionnaire in clinical and community samples, and is designed for interviewing children and adolescents 9-17 years of age (Crowley, Mikulich, Ehlers, Whitmore, & MacDonald, 2001; Shaffer et al., 2000). In the current study, ADHD, ODD, CD, alcohol use disorder, marijuana use disorder, other SUD, major depressive disorder (MDD)/dysthymic disorder, posttraumatic stress disorder (PTSD), and separation anxiety disorder (SAD) were assessed by means of the DISC-IV. General co-morbidity refers to the presence of at least two of these 10 disorders. In agreement with previous studies (Colins, Vermeiren, Schuyten, et al., 2009), we differentiated between three diagnostic categories. “Pure externalizing disorder” refers to having only a disruptive behavior- (DBD) and/or SUD without co-morbid internalizing disorders. “Pure internalizing disorder” refers to having a mood and/or anxiety disorder without co-morbid externalizing disorders. “Both ex- and internalizing disorder” refers to the presence of at least one externalizing and internalizing disorder.

Self-esteem. The Dutch version of the Self-perception Profile for Adolescents (SPPA; Harter, 1988), the ‘Competentie Belevingsschaal voor Adolescenten’ (CBSA; Treffers et al., 2002), was used to assess six domain-specific self-evaluations and global self-worth. The CBSA has been demonstrated to be a reliable and valid instrument, with a moderate-to-good fit of the domain-specific six-factor-structure (Treffers et al., 2002). The 35 CBSA items are organized into 7 subscales. Scholastic Competence (α boys/girls in the current study = .69/.69) and Athletic Competence (α =

.81/.80) reflect a person's perception of his/her academic and sporting achievements, respectively. Physical Appearance ($\alpha = .79/.79$) indicates the extent to which an adolescent is satisfied with his/her body and look. Social Acceptance ($\alpha = .55/.70$) describes an individual's perceived popularity, whereas Close Friendship ($\alpha = .72/.73$) reflects the perceived ability to maintain confidential relationships. Behavioral Conduct ($\alpha = .77/.82$) indicates the extent to which an adolescent thinks of himself/herself as being good and obedient. Global Self-worth ($\alpha = .72/.70$) refers to an individual's overall feeling about himself/herself (Treffers et al., 2002). All CBSA-items contain two complementary statements (i.e., a negative versus a positive statement). Each statement describes a group of youngsters (for example: "Some adolescents are good at sports" versus "Other adolescents think they are not good at sports"). The adolescent who considers him- or herself to belong completely or only a bit to the group with a low self-evaluation (i.e., negative statement) receives a score of 1 and 2 respectively. The adolescent who considers him- or herself to belong only a bit or completely to the group with a high self-evaluation (i.e., positive statement) receives a score of 3 or 4 respectively. All 7 scale scores are computed by adding up the 5 associated item scores and range from 5 (indicating a low) to 20 (indicating a high self-esteem) (Treffers et al., 2002). With regard to the figures, the mean scores for self-esteem were standardized in order to facilitate a clear presentation.

Socio-demographics. Standardized information regarding age, origin, and SES was gathered by means of a socio-demographic questionnaire. Adolescents were placed in the low (versus moderate-to-high) SES category when both parents were unemployed or worked as (un)skilled laborers.

Statistical analyses

First, we present the prevalence of psychiatric disorders and evaluation of self-esteem. Second, gender differences were examined using independent t-tests and chi-square tests. Third, MBC (Banfield & Raftery, 1993) was performed to determine whether or not meaningful self-esteem clusters could be identified. MBC was performed using `mclust` in the statistical package R, version 2.15.0 and Gaussian finite mixture model fitted by EM algorithm. MBC reduces some of the uncertainties inherent in common clustering methods by testing the relative fit of 10 models with varying assumptions about the data structure, based on both maximum likelihood and a goodness-of-fit index. In this way, MBC has an advantage over conventional clustering methods, as it tackles the two main issues of identifying the number of clusters and exploring the best clustering procedure simultaneously (Hicks, Markon, Patrick, Krueger, & Newman, 2004). Because all seven CBSA scales have the same number of items and scoring format, we used the raw scale scores in MBC. Fourth, the

prevalence of disorders are presented for each derived cluster. Differences between clusters were examined using chi-square tests with the Bonferroni correction. Except otherwise noted, SPSS 19.0 was used for all analyses with .05 as the standard for statistical significance.

Results

Psychiatric disorders

The prevalence of having at least one psychiatric disorder was 82.9% in boys and 94.9% in girls (Table 1). Girls had higher rates for any disorder, pure internalizing disorders and co-morbidity of externalizing and internalizing disorders, but lower rates for pure externalizing disorders than boys.

Table 1 Past year prevalence of psychiatric disorders: Distribution and gender differences

	Boys (<i>n</i> = 245)	Girls (<i>n</i> = 195)	Boys vs. Girls
	<i>n</i> (%)	<i>n</i> (%)	χ^2 (<i>df</i> = 1)
Any disorder	203 (82.9)	185 (94.9)	13.10**
Any disorder (CD not included)	197 (80.4)	177 (90.8)	9.04**
Any internalizing disorder	50 (20.4)	110 (56.4)	60.04**
Any mood disorder	35 (14.3)	83 (42.6)	42.94**
Major depressive disorder	32 (13.1)	80 (41.0)	44.11**
Dysthymic disorder	3 (1.2)	3 (1.5)	.07
Any anxiety disorder	22 (9.0)	72 (36.9)	50.61**
Posttraumatic stress disorder	5 (2.0)	40 (20.5)	39.85**
Separation anxiety disorder	19 (7.8)	49 (25.1)	25.30**
Any externalizing disorder	199 (81.2)	169 (86.7)	2.35
Any disruptive behavior disorder	162 (66.1)	141 (72.3)	1.94
ADHD	27 (11.0)	46 (23.6)	12.40**
ODD	69 (28.2)	73 (37.4)	4.27*
CD	146 (59.6)	121 (62.1)	.28
Any substance use disorder	180 (73.5)	140 (71.8)	.15
Any alcohol use disorder	133 (54.3)	96 (49.2)	1.11
Any marijuana use disorder	155 (63.3)	113 (57.9)	1.29
Any other substance use disorder	79 (32.2)	88 (45.1)	7.13**
Pure internalizing disorder	4 (1.6)	16 (8.2)	10.62**
Pure externalizing disorder	150 (61.2)	73 (37.4)	25.08**
General co-morbidity	179 (73.1)	155 (79.5)	2.78
Co-morbidity in- and externalizing	46 (18.8)	94 (48.2)	42.66**

Note: ADHD = attention-deficit/hyperactivity disorder, ODD = oppositional defiant disorder, CD = conduct disorder.

* $p < .05$; ** $p < .01$.

Self-esteem

Boys scored higher than girls on all CBSA scales, except for Social Acceptance and Close Friendship (Table 2). Due to the gender differences regarding domain-specific self-evaluations, MBC were performed separately for boys and girls. According to BIC values, the best-fitting model was a four-cluster solution for boys with diagonal, varying volume and shape (VVI; $BIC = -8192.916$). For the four-cluster solution, the average classification certainty that a boy was correctly assigned to a cluster was high (88.6%). Three quarters (74.7%) of the boys had a fairly high (> 85%) probability of correct assignment to a cluster.

For girls, MBC could not disaggregate more than one cluster when all CBSA scales were used. Excluding Physical Appearance, showing the largest gender effect size revealed a three-cluster solution for girls with diagonal, equal volume, varying shape (EVI; $BIC = -6144.96$). For this three-cluster solution, the average classification certainty was high (91.7%). Four fifths (79.9%) of the girls had a fairly high (> 85%) probability of correct assignment to a cluster.

Table 2 Self-esteem: Distribution and gender differences

	Boys (<i>n</i> = 226)		Girls (<i>n</i> = 194)		Boys vs. Girls
	<i>M</i> (<i>SD</i>)	Min-Max	<i>M</i> (<i>SD</i>)	Min-Max	<i>t</i> (<i>df</i>)
Social Acceptance	15.51 (2.70)	5-20	14.99 (3.22)	5-20	1.79 (378.02)
Close Friendship	16.93 (3.07)	7-20	16.33 (3.32)	6-20	1.93 (418.00)
Athletic Competence	14.02 (3.70)	5-20	11.71 (3.83)	5-20	6.27 (418.00)**
Physical Appearance	14.42 (3.57)	5-20	10.97 (3.78)	5-20	9.60 (418.00)**
Scholastic Competence	12.63 (3.29)	5-20	11.69 (3.43)	5-20	2.86 (418.00)**
Behavioral Conduct	11.06 (3.54)	5-20	9.65 (3.54)	5-20	4.07 (418.00)**
Global Self-worth	13.77 (3.50)	5-20	11.09(3.47)	5-20	7.86 (418.00)**

Note: For 4.55% of the cases (*n* = 20) CBSA scores were missing all along the line, since the CBSA was added to the study in a later phase. Therefore, the results concerning self-esteem cover the subsample of 420 adolescents only.

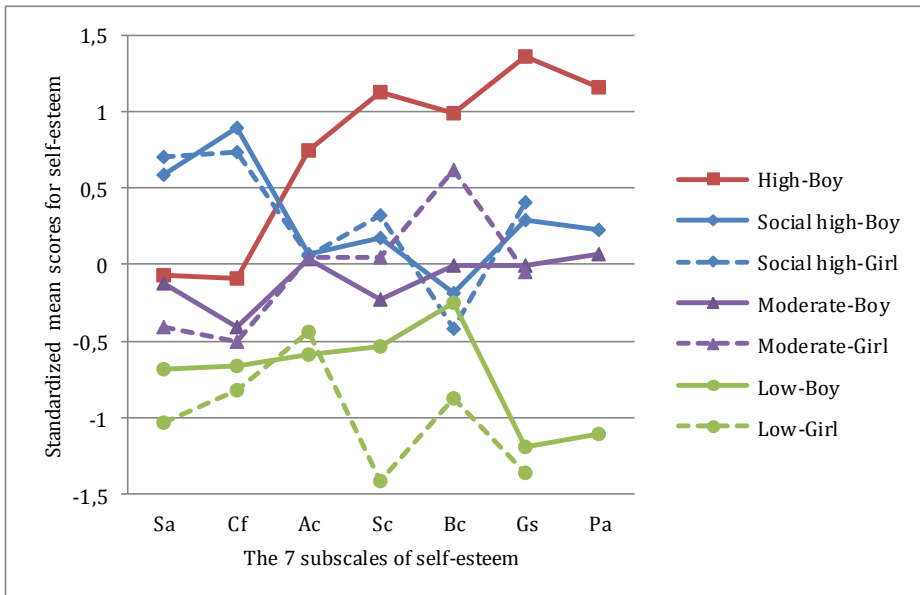
* $p < .05$; ** $p < .01$.

Figure 1 plots the standardized mean scores for all CBSA scales used in the cluster derivation for boys. One cluster (*n* = 48) clearly had the lowest scores on global self-worth and all domain-specific CBSA scales (low self-esteem cluster). Another cluster (*n* = 27) had the highest score on global self-worth and on almost all domain-specific CBSA scores (high self-esteem cluster). A

third cluster ($n = 77$) had scores that fell in between the low and high self-esteem cluster (moderate self-esteem cluster). A fourth cluster ($n = 74$) had the second highest score for global self-worth, the highest scores for Social Acceptance and Close Friendship, and scores for four of the five remaining domain-specific CBSA scales that were in between the moderate and high self-esteem clusters (social high self-esteem cluster). Males in the high self-esteem cluster were less often of Belgian origin [$\chi^2 = 27.57(3), p < .001$]. Concerning age and past detention, no cluster differences were apparent.

Figure 1 also plots the standardized mean scores for all CBSA scales used in the cluster derivation for girls. One cluster ($n = 22$) clearly had the lowest score for global self-worth and the lowest scores on all domain-specific CBSA scales (low self-esteem cluster). A second cluster of girls ($n = 88$) generally showed moderate scores for global self-worth and domain-specific CBSA scales (moderate self-esteem cluster). A third cluster ($n = 84$) clearly had the highest scores for global self-worth, the highest scores on five of the seven domain-specific CBSA scales (e.g., Social Acceptance and Close Friendship), and a score for one domain-specific CBSA scale (i.e., Behavioral Conduct) that was almost as low as the low self-esteem cluster (social high self-esteem cluster). No cluster differences were revealed with respect to age, past detention, and origin.

Figure 1 Model-based clustering: standardized mean scores for self-esteem; boys ($n = 226$) and girls ($n = 194$)



Note: X-axis: Sa = Social Acceptance, Cf = Close Friendship, Ac = Athletic Competence, Sc = Scholastic Competence, Bc = Behavioral Conduct, Gs = Global Self-worth, Pa = Physical Appearance. Note: Y-axis: To facilitate a clear presentation, the mean scores for self-esteem were standardized.

Psychiatric disorders and self-esteem

Compared to boys in the high self-esteem cluster, boys in the low self-esteem cluster had a higher prevalence of various disorders (e.g., ODD and CD) and disorder categories (e.g., any DBD, any internalizing disorder, and comorbidity). Table 3 also shows that boys in the low self-esteem cluster had higher rates of internalizing disorders than boys in the moderate and social high self-esteem clusters. Boys in the high self-esteem cluster reported lower rates of disorders than boys in the moderate and social high self-esteem clusters (Table 3).

Girls in the low self-esteem cluster had a higher prevalence of many disorders than girls in the moderate and social high clusters. Girls in the social high self-esteem cluster reported lower rates of internalizing, but higher rates of externalizing disorders than girls in the moderate self-esteem cluster (Table 4).

Discussion

The current study indicates high rates of psychiatric disorders in detained adolescents, especially in girls, which converges with previous findings (Colins et al., 2010; Fazel et al., 2008; Gretton & Clift, 2011; Karnik et al., 2009). Specifically, girls had higher rates for internalizing disorders than boys, and reported similar or higher rates for externalizing disorders. This finding is partially in contrast to the general pattern of gender differences reported in community samples in which girls are less likely than boys to display externalizing disorders (Baumeister & Harter, 2007; Moffitt, Caspi, Rutter, & Silva, 2001).

The finding that detained girls exceeded boys in the prevalence of several externalizing disorders can be explained in two ways. A first explanation relates to gender-specific approaches of the criminal justice system, treating girls more indulgently than boys (Andersson, 2007; Lenssen, Doreleijers, van Dijk, & Hartman, 2000). In this way, girls being detained represent the most antisocial group (Abram, Teplin, McClelland, & Dulcan, 2003). This phenomenon may be amplified by the limited number of places in juvenile detention centers for girls compared to boys, as is the case in Belgium. A second explanation relates to the gender paradox theory, stating that the gender with the lowest prevalence is more seriously affected (Loeber & Keenan, 1994). Whereas fewer girls normally suffer from disruptive behavior disorders, those girls that do so seem to display a more severe and co-morbid pattern of disorders. The higher rate of co-morbid internalizing and

Table 3 Past-year prevalence of psychiatric disorders: Distribution and differences according to self-esteem; boys ($n = 226$)

	Low (1) ($n = 48$) n (%)	Moderate (2) ($n = 77$) n (%)	High (3) ($n = 27$) n (%)	Social high (4) ($n = 74$) n (%)	χ^2 ($df = 3$)	Bonferroni*
Any disorder	43 (89.58)	69 (89.61)	15 (55.56)	59 (79.73)	15.93**	1,2 > 3
Any internalizing disorder	18 (37.50)	12 (15.58)	2 (7.41)	11 (14.86)	14.39**	1 > 2,3,4
Any mood disorder	12 (25.00)	9 (11.69)	1 (3.70)	9 (12.16)	8.03*	-
Major depressive disorder	9 (18.75)	9 (11.69)	1 (3.70)	9 (12.16)	3.86	-
Any anxiety disorder	9 (18.75)	4 (5.19)	1 (3.70)	5 (6.76)	8.36*	-
Separation anxiety disorder	8 (16.67)	3 (3.90)	1 (3.70)	4 (5.41)	8.43*	-
Any externalizing disorder	41 (85.42)	69 (89.61)	14 (51.85)	59 (79.73)	19.28**	1,2,4 > 3
Any disruptive behavior disorder	35 (72.92)	55 (71.43)	11 (40.74)	47 (63.51)	9.82*	1,2 > 3
ADHD	8 (16.67)	8 (10.39)	1 (3.70)	7 (9.46)	3.32	-
ODD	17 (35.42)	20 (25.97)	2 (7.41)	25 (33.78)	8.31*	1,4 > 3
CD	33 (68.75)	47 (61.04)	9 (33.33)	44 (59.46)	9.37*	1 > 3
Any substance use disorder	38 (79.17)	58 (75.32)	12 (44.44)	56 (75.68)	12.43**	1,2,4 > 3
Any alcohol use disorder	30 (62.50)	37 (48.05)	6 (22.22)	48 (64.86)	16.94**	1,4 > 3
Any marijuana use disorder	29 (60.42)	49 (63.64)	11 (40.74)	52 (70.27)	7.48	3 < 4
Any other substance use disorder	15 (31.25)	25 (32.47)	3 (11.11)	29 (39.19)	7.00	3 < 4
Pure externalizing disorder	24 (50.00)	57 (74.03)	13 (48.15)	46 (62.16)	9.44*	-
General co-morbidity	38 (79.17)	60 (77.92)	10 (37.04)	56 (75.68)	19.64**	1,2,4 > 3
Co-morbidity in- and externalizing	16 (33.33)	12 (15.58)	1 (3.70)	11 (14.86)	12.63**	1 > 3

Note: ADHD = attention-deficit/hyperactivity disorder, ODD = oppositional defiant disorder, CD = conduct disorder; Posttraumatic stress disorder, dysthymic disorder and pure internalizing disorder were excluded from these analyses, since the observed rates were too small (≤ 5). * $p < .05$; ** $p < .01$.

Table 4 Past-year prevalence of psychiatric disorders: Distribution and differences according to self-esteem; girls ($n = 194$)

	Low (1) ($n = 22$)	Moderate (2) ($n = 88$)	Social high (3) ($n = 84$)		
	n (%)	n (%)	n (%)	χ^2 ($df = 2$)	Bonferroni*
Any disorder	22 (100.00)	81 (92.05)	81 (96.43)	3.04	-
Any internalizing disorder	18 (81.82)	53 (60.23)	38 (45.24)	10.32**	1 > 3
Any mood disorder	15 (68.18)	40 (45.45)	27 (32.14)	9.95**	1 > 3
Major depressive disorder	14 (63.64)	39 (44.32)	26 (30.95)	8.58*	1 > 3
Any anxiety disorder	13 (59.09)	37 (42.05)	21 (25.00)	10.79**	1,2 > 3
Posttraumatic stress disorder	7 (31.82)	20 (22.73)	13 (15.48)	3.16	-
Separation anxiety disorder	8 (36.36)	29 (32.95)	11 (13.10)	11.07**	1,2 > 3
Any externalizing disorder	21 (95.45)	68 (77.27)	79 (94.05)	12.10**	2 < 3
Any disruptive behavior disorder	18 (81.82)	57 (64.77)	65 (77.38)	4.55	-
ADHD	8 (36.36)	19 (21.59)	19 (22.62)	2.22	-
ODD	13 (59.09)	20 (22.73)	40 (47.62)	16.22**	1,3 > 2
CD	16 (72.73)	47 (53.41)	57 (67.86)	5.05	-
Any substance use disorder	20 (90.91)	50 (56.82)	69 (82.14)	18.10**	1,3 > 2
Any alcohol use disorder	16 (72.73)	34 (38.64)	46 (54.76)	9.83**	1 > 2
Any marijuana use disorder	16 (72.73)	39 (44.32)	57 (67.86)	12.05**	2 < 3
Any other substance use disorder	16 (72.73)	32 (36.36)	39 (46.43)	9.56**	1 > 2
Pure internalizing disorder	1 (4.55)	13 (14.77)	2 (2.38)	9.20*	2 > 3
Pure externalizing disorder	4 (18.18)	27 (30.68)	42 (50.00)	11.05**	1,2 < 3
General co-morbidity	21 (95.45)	62 (70.45)	71 (84.52)	8.44*	-
Co-morbidity in- and externalizing	17 (77.27)	40 (45.45)	36 (42.86)	8.39*	1 > 2,3

Note: ADHD = attention-deficit/hyperactivity disorder, ODD = oppositional defiant disorder, CD = conduct disorder; Dysthymic disorder was excluded from these analyses, since the observed rates were too small (≤ 5). * $p < .05$; ** $p < .01$.

externalizing disorders in detained girls versus boys in the current sample supports this paradox.

In agreement with results from community studies, detained girls had lower levels of self-esteem than boys (Birndorf et al., 2005; Moksnes et al., 2010), also for Behavioral Conduct. The latter finding again suggests that the few girls displaying disruptive behavior are more severely affected (see gender paradox; Loeber & Keenan, 1994). An interesting cluster that emerged across gender is the social high self-esteem cluster. Adolescents in this cluster scored low on Behavioral Conduct, suggesting that they know that they behave in a deviant manner, apparently without refraining from doing these activities (van de Schoot & Wong, 2012). Their ongoing poor behavioral conduct may reflect several things: (i) an inability to consider the long-term negative consequences of their behavior (Modecki, 2009); (ii) an inability to feel guilt or shame, making them unwilling to refrain from antisocial activities; or (iii) a consequence of having antisocial friends, simultaneously fostering their self-esteem and further engagement in delinquent activities (Melde & Esbensen, 2013).

The present study shows that detained adolescents with lower levels of self-esteem have higher rates of psychiatric disorders than their counterparts with higher levels of self-esteem. Our study contributes to the very scant literature concerning the relationship between self-esteem and psychiatric disorders among detained adolescents, by demonstrating that the negative relationship between self-esteem and psychopathology remains when taking into account the frequent co-occurrence of internalizing and externalizing disorders. The present study also shows that this relationship depends upon gender and upon the cluster of self-esteem. Because of the cross-sectional design of our study, longitudinal studies on the topic are needed, for example to test whether low self-esteem among detained adolescents is a risk factor for poor mental health in (young) adulthood.

The results should be interpreted in the context of some limitations. First, cohort-effects cannot be excluded since boys and girls were recruited in two consecutive studies, respectively between 2005 and 2007, and 2008 and 2011. Second, we used slightly different criteria for including boys and girls into the study, as the boys were from Belgian or Moroccan origin whilst girls were from all origins. Yet, girls of Moroccan origin did not differ from girls of another foreign origin regarding self-esteem and psychopathology. Third, as mentioned in the results section, the domain of Physical Appearance needed to be excluded for girls to disaggregate more than one self-esteem cluster. This post-hoc decision might reduce the generalizability of our findings to other samples. Fourth, self-esteem scores were operationalized as continuous variables, ranging from 5 (indicating a low) to 20 (indicating a high self-esteem). Besides

the level of self-esteem, other features of self-esteem have been shown to be relevant and need to be addressed in further research [for example, stability of self-esteem (Kernis, Cornell, Sun, Berry, & Harlow, 1993), possible bias in self-esteem (DuBois and Silverthorn, 2004), and types of unhealthy self-esteem (e.g., a grandiose sense of self-esteem; Salmivalli, 2001)]. Fifth, some potentially interesting variables when studying high self-esteem in detained youths were not considered. For example, a small but substantial subgroup of detained adolescents shows the interpersonal, affective and behavioral features of the psychopathy construct (Andershed et al., 2008; Colins & Andershed, 2015). These adolescents feel superior to others and are characterized by a grandiose sense of self-esteem (Andershed, Kohler, Loudon, & Hinrichs, 2008; Vincent, Vitacco, Grisso, & Corrado, 2003). The overlap between high self-esteem and psychopathy, and the complex, gender-specific relation between psychopathic traits and mental health problems (Sevecke, Lehmkuhl, & Krischer, 2009) warrants further study. Finally, longitudinal research, rather than cross-sectional designs are needed to explore gender-specific pathways to psychiatric co-morbidities.

Despite the above-mentioned limitations this study has several clinical implications. The high prevalence rates of psychiatric disorder in detained minors support the urge for appropriate methods for detecting and tackling mental health problems. The increasing number of detained female adolescents, the high levels of psychiatric (co-)morbidity reported by these girls, and their poor functioning later in life (van der Molen et al., 2013) underscore the need for further research concerning this understudied, yet very vulnerable group of girls. In addition, detained boys and girls with the highest level of psychopathology have low levels of self-esteem. Addressing self-esteem may thus be helpful when working with detained minors with psychiatric disorders, especially because of its importance in the maturation and educational process of adolescents and its strong impact on future outcomes (e.g., mental health, criminal behavior; Trzesniewski et al., 2006).

Chapter 2

The limited prosocial emotions specifier for conduct disorder among detained girls: A multi-informant approach*

* This chapter is based on Van Damme L., Colins O., & Vanderplasschen, W. (accepted). The limited prosocial emotions specifier for conduct disorder among detained girls: A multi-informant approach. *Criminal Justice and Behavior*.

Abstract

This study examines the prevalence and clinical usefulness of the DSM-5 specifier “with Limited Prosocial Emotions” (LPE) in detained girls. Detained girls ($n = 85$; $M_{age} = 16.24$) and their parents were interviewed with a structured diagnostic interview to identify girls with CD, and both informants completed the Antisocial Process Screening Device to assess the LPE specifier. Psychiatric disorders other than CD, aggression and offending were assessed through standardized self-report tools. Different approaches were used to deal with diagnostic information from multiple informants. The prevalence of CD+LPE girls was lower when using self-report (12.9%) compared to parent-report (38.8%), suggesting that parents indeed are important to identify CD+LPE girls. However, including parental information did not result in a better differentiation between CD+LPE and CD-only girls. Specifically, the LPE specifier only enabled to identify a group of seriously antisocial girls with higher levels of proactive aggression, though solely when using self-reports.

Introduction

Callous-unemotional traits have become increasingly emphasized in theoretical models and empirical studies on the etiology of conduct problems (Frick, Ray, Thornton, & Kahn, 2014a). In the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders 5th Edition) callous-unemotional traits have been added as a specifier – ‘with Limited Prosocial Emotions’ – for the diagnosis of conduct disorder (CD; APA, 2013). To meet criteria for the ‘with Limited Prosocial Emotions’ (LPE) specifier at least two of the following characteristics must be present over at least 12 months and in multiple relationships and settings: (a) lack of remorse or guilt; (b) callous–lack of empathy, (c) shallow or deficient affect; and (d) unconcerned about performance (APA, 2013). Overall, it is expected that this LPE specifier designates a group of severe antisocial and aggressive youths, provides greater information about current and future impairment, and supports treatment planning for youths with CD (Frick & Nigg, 2012; Kimonis et al., 2014).

Few studies, however, tested the clinical usefulness of this LPE specifier as categorically defined by DSM-5. In community and clinic-referred samples, 5- to 17-year olds with CD who met criteria for the LPE specifier (CD+LPE) showed higher rates of aggression, cruelty, and symptoms of attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) than youths who only met criteria for CD (CD-only) (Kahn, Frick, Youngstrom, Findling, & Youngstrom, 2012). In community girls (ages 6–8), CD+LPE girls displayed more externalizing disorder symptoms, relational aggression, bullying, global impairment, and less anxiety than CD-only girls (Pardini, Stepp, Hipwell, Stouthamer-Loeber, & Loeber, 2012), whereas clinic-referred CD+LPE children (ages 6–11) had greater impairment at pre-treatment than CD-only children (Kolko & Pardini, 2010). Available evidence suggests that the LPE specifier in detained adolescents is of restricted usefulness (Colins & Andershed, 2015; Colins & Vermeiren, 2013), a finding that clearly runs counter to the aforementioned evidence stemming from community and clinic-referred samples. Specifically, detained CD+LPE boys and girls were not significantly different from CD-only boys and girls regarding ADHD, ODD, substance use disorder, major depression, and anxiety disorders. However, CD+LPE girls were more aggressive, rule-breaking, and delinquent, than CD-only girls, a finding that was not replicated among detained boys (Colins & Andershed, 2015; Colins & Vermeiren, 2013). Clearly, empirical evidence in support of or against the LPE specifier is thin (Lahey, 2014).

Parents of detained adolescents are difficult to locate, and/or unwilling or unable to provide information (Colins et al., 2008). As a consequence all

studies on the DSM-5 LPE specifier solely relied on youth self-report (Colins & Andershed, 2015; Colins & Vermeiren, 2013). This is unfortunate, not only because DSM-5 explicitly states that self-report of LPE must be extended with information from others, but also because the sole reliance on uncorroborated self-ratings hampers firm conclusions about the usefulness of the LPE specifier in detained adolescents (Colins & Andershed, 2015). Notwithstanding that parents of detained adolescents may provide relevant information (Colins, Vermeiren, et al., 2012), approaching these informants still is a time-consuming investment for which detention facilities and researchers often lack budget and personnel. Therefore, it is important to test if gathering parental information about detained youths is worth the effort, for example, because their information results in stronger and more differences between CD+LPE and CD-only girls. Yet, including multiple informants inevitably confronts clinicians and researchers with the question how to deal with these multiple sources (Colins et al., 2008; Fink, Tant, Tremba, & Kiehl, 2012). There are various ways to deal with multiple informants. The usefulness of parent and adolescent information can be assessed independently from each other (i.e., optimal informant approach) (Loeber, Green, Lahey, & Stouthamer-Loeber, 1989), but parent- and youth-report can also be combined in several ways. The first and most commonly used strategy is to consider a disorder present if the girl met criteria for this disorder according to at least one informant (i.e., 'OR' rule) (Ko, Wasserman, McReynolds, & Katz, 2004). In addition, one can consider a disorder present if reported by both informants (i.e., 'AND' rule), by the girl only (i.e., 'Unique Girl' rule), or by the parent only (i.e., 'Unique Parent' rule) (Colins, Vermeiren, et al., 2012).

The overall aim of this study was to examine the prevalence of detained girls that met the DSM-5 LPE specifier, and to test whether CD+LPE girls differed from CD-only girls on clinically important features. First, prevalence rates of CD and LPE were explored using information from multiple informants alone or in conjunction. We hypothesized that detained girls would more frequently identify CD than their parents, while the reverse would be true for LPE (Colins et al., 2008; Fink et al., 2012; Kahn et al., 2012; Ko et al., 2004). Support for this hypothesis would enable us to apply the 'OR' and 'AND' rules, with the former yielding higher prevalence rates of CD and LPE than the latter rule. Second, CD+LPE and CD-only girls were compared regarding psychiatric morbidity, aggression and offending, whilst using various informant approaches. Based on prior work among detained girls (Colins & Andershed, 2015), we expected that CD+LPE girls compared to CD-only girls would display higher levels of aggression and offending, but would be similar regarding psychiatric morbidity. Finally, it has recently been argued that being too DSM centric may limit our understanding of the role of the LPE specifier in designating a distinct subgroup of juveniles with serious conduct problems that may not meet

criteria for CD (Frick, Ray, Thornton, & Kahn, 2014b). Therefore, we also compared LPE and non-LPE girls on the abovementioned variables of interest, when using the specifier in a non-DSM CD centric manner (i.e., without requiring that girls also meet criteria for CD).

Methods

Participants

Participants included girls who were placed in an all-girl youth detention center (YDC) in Flanders, Belgium, and one of their parents. Placement in a YDC is only possible following referral by a juvenile judge because of a criminal offense (e.g., shoplifting, burglary, fighting, or threatening) or an urgent problematic educational situation (e.g., persistent truancy, running away, aggression, or prostitution), and is considered the harshest measure a juvenile judge can impose. Girls were eligible to participate if the following criteria were met: (i) adjudicated to be placed in a YDC for at least one month; (ii) sufficient knowledge of Dutch; and (iii) sufficient cognitive abilities. The latter criteria were based upon both staff's and interviewer's assessment of the girl's ability to participate in Dutch conversations and to read and comprehend the informed assent form. Between February 2012 and June 2014*, 169 girls were eligible to participate. Two girls could not be approached due to acute psychiatric crisis, 14 girls refused participation, and six parents refused their daughter's participation, resulting in a participation rate of 87% ($n = 147$).

We aimed to include one parent for each girl. A parent could participate if the following criteria were met: (i) sufficient contact with his/her daughter during the past year, varying from daily until at least monthly; and (ii) sufficient knowledge of Dutch. The latter criterion was based on the girl's, staff's and interviewer's assessment of the parent's ability to participate in Dutch conversations and to read and comprehend the informed consent form. For the total sample of 147 girls, 115 girls had at least one parent meeting inclusion criteria. Fourteen girls did not provide informed assent to contact their parents, and for 16 girls, the parents did not provide informed consent themselves, resulting in a final sample of 85 pairs of girls and one of their parents (participation rate=74%).

* This is another sample than the one used in a prior study (Colins & Andershed, 2015).

Procedure

This study was approved by the Institutional Review Board of the Faculty of Psychology and Educational Sciences at Ghent University (2011/59) and by the board of the YDC. Participants were approached and assessed following a standardized protocol. The girls were approached individually, receiving oral and written information about the aims, content, and duration of the study. They were assured that their information would be treated confidentially and that refusal to participate would not affect their judicial status or stay in the YDC. The girls had to give written informed assent before starting the assessment. At the moment the girls entered the YDC, their parents/caretakers received an informed consent letter including information about the aims and practical aspects of the study and could refuse the girl's participation. The assessment took place in a private area in the YDC, within the first three weeks of placement. The Diagnostic Interview Schedule for Children, Version IV (DISC-IV) and a set of self-report questionnaires were administered to the girls by the first author or final year university students, who were all trained in using the DISC-IV. None of the assessors were YDC staff. Afterwards, the girls received oral and written information about the aim of contacting their parents/caretakers. After receiving the girl's written informed assent to contact their parent/caretaker, an informed consent letter concerning their own participation was sent to these adults. The first author, then, tried to contact one parent/caretaker for each girl at least 10 times over a 1-month period at varying times during the day, in order to check their willingness to cooperate and to make a telephone appointment at a time that suited the parent/caretaker the best. In most cases, the telephone assessment was conducted by the first author within 3 weeks after the girl had been assessed, including only some modules from the DISC-IV and the LPE measure of interest (see Measures). Neither girls nor their parents received financial compensation.

Measures

Psychiatric disorders. The DISC-IV (Shaffer et al., 2000) is a highly structured diagnostic interview, designed for interviewing children and adolescents 9–17 years of age. The Dutch DISC-IV (Ferdinand & Van der Ende, 2002) was used to assess the past-year prevalence of CD, ADHD, ODD, any substance use disorder (SUD; i.e., alcohol, marijuana, and/or other drug use disorder), any mood disorder (i.e., major depressive or dysthymic disorder), and any anxiety disorder (i.e., posttraumatic stress disorder and/or separation anxiety disorder). For practical reasons (e.g., only one interviewer to approach and interview parents), only criteria for CD were assessed by both parents and the girls themselves. All the other aforementioned disorders were assessed by

means of self-report only. The DISC-IV is a reliable and valid questionnaire in clinical and community samples (Crowley et al., 2001; Shaffer et al., 2000). It is important to note that the DISC-IV assesses DSM-IV psychiatric disorders. However, as the main diagnostic criteria of CD remained unchanged in the DSM-5, the DISC-IV is equally valid.

Limited prosocial emotions (LPE). The LPE specifier was assessed using the Antisocial Process Screening Device (APSD; Frick & Hare, 2001). The Dutch self-report version of the APSD (APSD-SR; Bijttebier & Decoene, 2009) consists of 20 items that tap psychopathic-like traits and are answered on a three-point rating scale: *not at all true* (0), *sometimes true* (1), or *definitely true* (2). In line with all previous studies that used the APSD (Colins & Andershed, 2015; Kahn et al., 2012; McMahon, Witkiewitz, & Kotler, 2010; Pardini et al., 2012), the girls were identified as meeting the LPE specifier threshold if they had a (reversed) score of 2 (*definitely true*) on at least two of the four items from the APSD Callous-Unemotional factor that corresponded to the four DSM-5 LPE specifier criteria. Despite concerns regarding the factor structure and reliability of the APSD-SR in juvenile justice involved youths (Colins, Bijttebier, et al., 2014; Poythress et al., 2006), the APSD is the most widely used measure to study the clinical usefulness of the LPE specifier (Colins & Andershed, 2015). A strength of the APSD is that this tool also has a parent version, which enables to assess the specifier by multiple informants.

Aggression. Aggression was measured by means of the Reactive-Proactive Aggression Questionnaire (RPQ; Raine et al., 2006). The RPQ (Dutch version: Cima, Raine, Meesters, & Popma, 2013) is a self-report measure that includes 11 items that focus on reactive aggression (e.g., gotten angry when frustrated), and 12 items that focus on proactive aggression (e.g., had fights with others to show who was on top). All items must be answered on a three-point Likert scale: *never* (0), *sometimes* (1), or *often* (2). The internal consistency as indexed by Cronbach's alpha was .81 for both RPQ scales.

Self-reported delinquency. Delinquency was measured using the youth-report questionnaire developed by the "Research and Documentation Center" of the Ministry of Safety and Justice in the Netherlands (van der Laan & Blom, 2005). All items begin with the standardized question "Have you ever ...". The lifetime violent offending score reflects the total number of reported violent offenses (seven items; e.g., fighting and threats). Lifetime non-violent offending refers to fifteen items capturing property offenses (e.g., shoplifting and vandalism), two items capturing insults, and three items capturing dealing drugs. Cronbach's alpha for non-violent and violent offending was .87 and .75 respectively.

Socio-demographics. Standardized information regarding age, origin, SES, family situation, school attendance, and detention history was gathered by

means of a self-report questionnaire (see also: Colins, Vermeiren, Schuyten, et al., 2009). Girls were placed in the low (versus moderate-to-high) SES category, when both parents were unemployed or worked as (un)skilled laborers.

Statistical analyses

First, prevalence rates of CD and the LPE specifier were presented when using different rules to combine youth- and parent-reports. Parent-youth (dis)agreement on the diagnosis of CD and the LPE specifier was explored in multiple ways. Chi-square tests were used to investigate differences between parent- and youth-reported prevalence rates. Cohen's kappa (κ) statistics were used to examine the overall level of parent-youth agreement. $\kappa < .40$ is considered poor, $.39 < \kappa < .60$ moderate, and $\kappa > .59$ good (Landis & Koch, 1977). To gain a more detailed insight in the nature of agreement between both raters, we also presented indices of positive agreement (*PA*) and negative agreement (*NA*). These figures indicate the agreement between youth and parents on the presence (i.e., *PA*) or absence (i.e., *NA*) of CD and LPE, respectively. The McNemar test was used to test whether parents or youths significantly reported more unique diagnostic information. Second, the clinical utility of the LPE specifier for CD was scrutinized, again adopting different rules to combine youth- and parent-reports. Even though our sample of 85 youth-parent dyads is very large compared to prior work with detained youths (e.g., 35 out of 160 parents; Fink et al., 2012), we needed to be selective in the number of group comparisons. Given the focus of this paper we only focused on CD+LPE and CD-only girls comparisons. Differences between both groups were examined using Fisher's exact statistics for categorical variables, given the rather small sample size. For continuous variables and because assumptions of normality and homoscedasticity were often violated, non-parametric tests (i.e., Mann-Whitney U tests) were used. DAG_Stat was used to compute Cohen's Kappa and the indices of positive and negative agreement (Landis & Koch, 1977). SPSS 21.0 was used for all the other analyses. The performed tests were two-tailed, with $p < .05$ as the standard for statistical significance.

Results

Descriptives

Overall, girls whose parent participated were not significantly different from girls whose parent did not participate regarding socio-demographic variables,

CD, LPE, psychiatric morbidity, aggression and offending, with one exception: girls whose parent participated ($M = 12.07$; $SD = 4.19$) reported significantly higher rates of reactive aggression than girls whose parent did not participate [$M = 9.27$; $SD = 5.19$, $t = 2.95$ (112), $p < .004$]. The age of the participants ($n = 85$) ranged from 13.52 to 17.92 years ($M = 16.24$; $SD = 1.16$). The majority of the sample was from Belgian origin ($n = 65$; 76.5%), five (5.9%) girls were from Moroccan origin, five (5.9%) girls from Turkish origin and 10 (11.8%) girls from other origins (e.g., Spanish). The SES was moderate-to-high for 35 (41.2%) girls, and 23 (27.1%) girls did not live with their biological parents prior to detention. In addition, 47 (55.3%) girls had been attending school during the past month before placement, and 15 (17.6%) had been detained in the past. Prevalence rates for any SUD ($n = 58$; 68.2%) were the highest, followed by any mood disorder ($n = 34$; 40.0%), ODD ($n = 30$; 35.3%), any anxiety disorder (28; 32.9%), and ADHD ($n = 22$; 25.9%). The mean score for reactive and proactive aggression was 12.07 ($SD = 4.19$) and 4.70 ($SD = 4.07$), respectively. For non-violent and violent offending the mean score was 4.40 ($SD = 4.26$) and 1.25 ($SD = 1.49$), respectively. Most participating parents/caretakers were biological parents ($n = 72$; 84.7%), female ($n = 59$; 69.4%) and of Belgian origin ($n = 73$; 85.9%).

Prevalence and parent-youth agreement: Total sample

CD. There was no significant difference ($\chi^2 = .21$ (1), $p = .645$) in the prevalence of youth-reported CD ($n = 40$; 47.1%) and parent-reported CD ($n = 43$; 50.6%). Applying the 'OR'- and 'AND' rules resulted in a prevalence of 74.1% ($n = 63$) and 9.4% ($n = 8$), respectively. The low kappa value ($\kappa = -.30$) corresponded with the low prevalence of CD whilst applying 'AND' rule, and is indicative of overall poor parent-youth agreement. The results revealed a low level of positive agreement ($PA = .23$), compared to a higher level of negative agreement ($NA = .44$). The McNemar test, finally, indicated that girls ($n = 21$; 24.7%) did not significantly more frequently reported unique CD than their parents [$n = 34$; 40.0%; McNemar test = 2.62 (1), $p = .106$] (Table 1).

LPE specifier. The prevalence of the LPE specifier was significantly lower when based upon youth-report ($n = 15$; 17.6%) than when based upon parent-report [$n = 48$; 56.5%; $\chi^2 = 27.46$ (1), $p < .001$]. When applying the 'OR'- and 'AND' rules, the prevalence was 62.4% ($n = 53$) and 7.1% ($n = 6$), respectively. The low 'AND' rule prevalence was corroborated with a poor kappa value ($\kappa = -.03$), indicating that, overall, girls and parents rarely agreed on the presence of LPE. Parents and girls agreed more that the girls were without ($NA = .58$) than with ($PA = .20$) the LPE specifier. Finally, significantly more parents ($n = 41$; 48.2%) than girls ($n = 6$; 7.1%) uniquely identified the LPE specifier [McNemar test = 24.60 (1), $p < .001$]. Table 1 also shows the

Table 1 Number and percentage of girls that met criteria for CD and the LPE specifier (*n* = 85)

	Prevalence rates Optimal informant approach		χ^2 (1)	κ (95% <i>CI</i>)	<i>PA</i> (95% <i>CI</i>)	<i>NA</i> (95% <i>CI</i>)	Prevalence rates Using informant reports in conjunction				McNemar (1)
	Girl <i>n</i> (%)	Parent <i>n</i> (%)					OR <i>n</i> (%)	AND <i>n</i> (%)	Unique Girl <i>n</i> (%)	Unique Parent <i>n</i> (%)	
Crit. (a) Lack of remorse	12 (14.1)	30 (35.3)	10.25**	-.01 (-.19; .16)	.19 (.03; .35)	.73 (.65; .82)	38 (44.7)	4 (4.7)	8 (9.4)	26 (30.6)	8.50**
Crit. (b) Lack of empathy	2 (2.4)	28 (32.9)	27.36**	-.05 (-.11; .02)	.00 (.00; .00)	.79 (.71; .86)	30 (35.3)	0 (.0)	2 (2.4)	28 (32.9)	20.83**
Crit. (c) Shallow affect	38 (44.7)	55 (64.7)	6.86**	-.12 (-.31; .08)	.47 (.35; .60)	.36 (.23; .50)	71 (83.5)	22 (25.9)	16 (18.8)	33 (38.8)	5.22*
Crit. (d) Unconcerned performance	18 (21.2)	43 (50.6)	15.95**	-.05 (-.22; .12)	.26 (.12; .41)	.59 (.48; .70)	53 (62.4)	8 (9.4)	10 (11.8)	35 (41.2)	12.80**
Met 1 LPE criterion	35 (41.2)	22 (25.9)	4.46*	.46 (.23; .68)	.58 (.39; .77)	.88 (.82; .94)	27 (31.8)	11 (12.9)	7 (8.2)	9 (10.6)	.06
Met 2 LPE criteria	11 (12.9)	21 (24.7)	3.85	.34 (.10; .58)	.43 (.20; .66)	.89 (.83; .94)	22 (25.9)	6 (7.1)	2 (2.4)	14 (16.5)	7.56**
Met 3 LPE criteria	3 (3.5)	16 (18.8)	10.01**	-.06 (-.13; -.00)	.00 (.00; .00)	.87 (.82; .93)	19 (22.4)	0 (.0)	3 (3.5)	16 (8.8)	7.58**
Met 4 LPE criteria	1 (1.2)	11 (12.9)	8.97**	-.02 (-.06; .02)	.00 (.00; .00)	.92 (.88; .97)	12 (14.1)	0 (.0)	1 (1.2)	11 (12.9)	6.75**
Met the LPE specifier	15 (17.6)	48 (56.5)	27.46**	-.03 (-.17; .11)	.20 (.07; .34)	.58 (.47; .69)	53 (62.4)	6 (7.1)	6 (7.1)	41 (48.2)	24.60**
CD	40 (47.1)	43 (50.6)	.21	-.30 (-.49; -.11)	.23 (.10; .35)	.44 (.32; .57)	63 (74.1)	8 (9.4)	21 (24.7)	34 (40.0)	2.62
CD-only	29 (34.1)	10 (11.8)	12.01**	.18 (-.06; .42)	.30 (.07; .52)	.87 (.81; .93)	23 (27.1)	4 (4.7)	14 (16.5)	5 (5.9)	3.37
CD+LPE	11 (12.9)	33 (38.8)	14.84**	-.02 (-.18; .15)	.18 (.03; .34)	.71 (.62; .80)	40 (47.1)	4 (4.7)	7 (8.2)	29 (34.1)	12.25**

Note: CD = conduct disorder; LPE = with limited prosocial emotions; κ = Cohen's kappa; *CI* = confidence interval; *PA* = positive agreement; *NA* = negative agreement. * $p < .05$; ** $p < .01$.

prevalence of girls that met a specific LPE specifier criterion and a particular number of LPE specifier criteria.

Prevalence and parent-youth agreement: Girls with CD

CD+LPE. The prevalence of youth-reported CD+LPE ($n = 11$; 12.9%) was significantly lower than parent-reported CD+LPE [$n = 33$; 38.8%; $\chi^2 = 14.84$ (1), $p < .001$]. The 'OR'- and 'AND' rules demonstrated a prevalence of 47.1% ($n = 40$) and 4.7% ($n = 4$), respectively. The low kappa value ($\kappa = -.02$) accorded with the low 'AND' rule prevalence, indicating overall poor parent-youth agreement. The level of positive agreement was low ($PA = .18$), whereas the level of negative agreement was much higher ($NA = .71$). Last, significantly more parents ($n = 29$; 34.1%) than girls ($n = 7$; 8.2%) uniquely reported CD+LPE [McNemar test = 12.25 (1), $p < .001$] (Table 1).

CD-only. The prevalence of youth-reported CD-only ($n = 29$; 34.1%) was significantly higher than parent-reported CD-only [$n = 10$; 11.8%; $\chi^2 = 12.01$ (1), $p = .001$]. According to the 'OR'- and 'AND' rules, the prevalence of CD-only was 27.1% ($n = 23$) and 4.7% ($n = 4$), respectively. The low 'AND' rule prevalence was supported by an overall poor level of parent-youth agreement ($\kappa = .18$). The positive and negative agreement were .30 and .87, respectively. Parents ($n = 5$; 5.9%) and girls ($n = 14$; 16.5%) did not significantly differ in uniquely reported CD-only [McNemar test = 3.37 (1), $p = .064$] (Table 1).

Between-group comparisons: CD+LPE versus CD-only

Using girls as optimal informant (Table 2), higher levels of proactive aggression were found in CD+LPE girls [M (SD) = 9.00 (2.75)] than in CD-only girls [M (SD) = 6.00 (3.71), $U = 211.00$, $p = .018$]. This finding was not replicated when using parents as optimal informant. Using the 'OR' rule (Table 2), no significant differences were revealed between CD+LPE and CD-only girls. Due to the small numbers of CD+LPE girls identified by the 'AND'-, the 'Unique Girl'- and 'Unique Parent' rules (see Table 1), between-group comparisons that were based on these approaches were not performed.

Non-DSM CD centric between-group comparisons: LPE versus non-LPE

Using girls as optimal informants, LPE (vs. non-LPE) girls had significantly higher levels of proactive aggression [M (SD) = 8.50 (2.50) vs. M (SD) = 3.91 (3.89), $U = 803.50$, $p < .001$], non-violent offenses [M (SD) = 6.93 (4.56) vs. M (SD) = 3.86 (4.02), $U = 735.50$, $p = .010$] and violent offenses [M (SD) = 2.33 (1.50) vs. M (SD) = 1.01 (1.39), $U = 784.50$, $p = .002$]. Using parents as optimal informants did not reveal significant group differences (Table 3). Using the

Table 2 Between-group differences (CD-only versus CD+LPE) using the optimal informant approach and the 'OR' rule ($n = 85$)

	Girl			Parent			OR		
	CD-only (1) ($n = 29$)	CD+LPE (2) ($n = 11$)	(1) vs. (2)	CD-only (1) ($n = 10$)	CD+LPE (2) ($n = 33$)	(1) vs. (2)	CD-only (1) ($n = 23$)	CD+LPE (2) ($n = 40$)	(1) vs. (2)
	n (%)	n (%)	p	n (%)	n (%)	p	n (%)	n (%)	p
ADHD	7 (24.1)	5 (45.5)	.254	2 (20.0)	10 (30.3)	.698	7 (30.4)	12 (30.0)	1.000
ODD	12 (41.4)	7 (63.6)	.293	5 (50.0)	13 (39.4)	.717	10 (43.5)	16 (40.0)	.797
Any substance use disorder	26 (89.7)	11 (100.0)	.548	6 (60.0)	22 (66.7)	.719	18 (78.3)	29 (72.5)	.766
Any mood disorder	17 (58.6)	5 (45.5)	.498	4 (40.0)	14 (42.4)	1.000	12 (52.2)	17 (42.5)	.600
Any anxiety disorder	12 (41.4)	2 (18.2)	.266	5 (50.0)	8 (24.2)	.140	10 (43.5)	9 (22.5)	.085
	M (SD)	M (SD)	p	M (SD)	M (SD)	p	M (SD)	M (SD)	p
Reactive aggression	13.57 (3.74)	13.91 (3.53)	1.000	11.11 (3.06)	12.64 (4.37)	.333	12.77 (3.62)	12.63 (4.12)	.836
Proactive aggression	6.00 (3.71)	9.00 (2.75)	.018*	4.38 (3.20)	4.91 (3.96)	.859	5.23 (3.94)	5.38 (3.92)	.862
Non-violent offending	6.21 (4.53)	8.00 (4.27)	.315	4.00 (3.89)	4.39 (3.89)	.745	5.05 (4.62)	5.28 (4.41)	.768
Violent offending	1.66 (1.61)	2.55 (1.51)	.124	.80 (1.48)	1.33 (1.59)	.327	1.09 (1.41)	1.60 (1.66)	.241

Note: CD = conduct disorder; LPE = with limited prosocial emotions; ADHD = attention-deficit/hyperactivity disorder; ODD = oppositional defiant disorder. There were no significant group differences regarding girls' age and origin. * $p < .05$; ** $p < .01$.

Table 3 Non-DSM CD centric between-group differences (Non-LPE versus LPE) using the optimal informant approach and the 'OR' rule ($n = 85$)

	Girl			Parent			OR		
	Non-LPE (1) ($n = 70$) n (%)	LPE (2) ($n = 15$) n (%)	(1) vs. (2) p	Non-LPE (1) ($n = 37$) n (%)	LPE (2) ($n = 48$) n (%)	(1) vs. (2) p	Non-LPE (1) ($n = 32$) n (%)	LPE (2) ($n = 53$) n (%)	(1) vs. (2) p
ADHD	17 (24.3)	5 (33.3)	.521	10 (27.0)	12.0 (25.0)	1.000	9 (28.1)	13 (24.5)	.800
ODD	22 (31.4)	8 (53.3)	.139	14 (37.8)	16 (33.3)	.819	12 (37.5)	18 (34.0)	.816
Any substance use disorder	45 (64.3)	13 (86.7)	.131	25 (67.5)	33 (68.8)	1.000	20 (62.5)	38 (71.7)	.625
Any mood disorder	29 (41.4)	5 (33.3)	.772	16 (43.2)	18 (37.5)	.658	14 (43.8)	20 (37.7)	.651
Any anxiety disorder	25 (35.7)	3 (20.0)	.365	14 (37.8)	14 (29.2)	.362	12 (37.5)	16 (30.2)	.477
	M (SD)	M (SD)	p	M (SD)	M (SD)	p	M (SD)	M (SD)	p
Reactive aggression	11.84 (4.29)	13.13 (3.58)	.446	11.44 (4.07)	12.54 (4.25)	.325	12.77 (3.62)	12.63 (4.11)	.448
Proactive aggression	3.91 (3.89)	8.50 (2.50)	< .001**	4.80 (4.37)	4.62 (3.88)	1.000	5.23 (3.94)	5.38 (3.92)	.441
Non-violent offending	3.86 (4.02)	6.93 (4.56)	.010*	4.33 (4.67)	4.46 (3.97)	.458	5.05 (4.62)	5.28 (4.41)	.029*
Violent offending	1.01 (1.39)	2.33 (1.50)	.002**	1.14 (1.51)	1.33 (1.48)	.419	1.09 (1.41)	1.60 (1.66)	.031*

Note: CD = conduct disorder; LPE = with limited prosocial emotions; ADHD = attention-deficit/hyperactivity disorder; ODD = oppositional defiant disorder. There were no significant group differences regarding girls' age and origin. * $p < .05$; ** $p < .01$.

'OR' rule, LPE (vs. non-LPE) girls had higher levels of non-violent offenses [$M (SD) = 5.28 (4.41)$ vs. $M (SD) = 5.05 (4.62)$, $U = 1055.00$, $p = .029$] and violent offenses [$M (SD) = 1.60 (1.66)$ vs. $M (SD) = 1.09 (1.41)$, $U = 1072.50$, $p = .031$] (Table 3). Unfortunately, the numbers of LPE girls identified by the 'AND'-, Unique Girl-, and Unique Parent-rules was too low to perform between-group comparisons.

Discussion

The overall aim of this study was to examine the prevalence of detained girls that met the DSM-5 LPE specifier, and to test whether CD+LPE girls differed from CD-only girls on clinically important features. In line with prior prevalence studies among detained girls (Teplin et al., 2002; Van Damme, Colins, & Vanderplasschen, 2014), a substantial proportion of girls met criteria for CD (47.1%). In addition, 27.5% of CD girls met the LPE specifier threshold, a finding that also converges well with prior APSD-SR work in detained girls (26%; Colins & Andershed, 2015) and clinic-referred youths (21%; Kahn et al., 2012). Using parents as informants, almost 77% of the CD girls were also identified as being with LPE. This is remarkably higher than the 10-11% and 31% APSD parent version based prevalence among community and clinic-referred youths with CD, respectively (Kahn et al., 2012; McMahan et al., 2010). On the one hand, these findings suggest that parents of detained youths indeed are important to identify CD+LPE girls. On the other hand, unique parent information is not necessarily synonymous with accurate information. Indeed, the reliability of CD and LPE related information provided by parents of detained girls might be limited for various reasons, such as having too limited contact to accurately estimate the frequency of certain behaviors or traits, overestimating symptoms due to parental stress caused by their child's behavior or due to features from parents themselves (e.g., depression) (Colins et al., 2008; De Los Reyes & Kazdin, 2005).

In line with all prior work in detained youths that used the APSD or alternative tools to assess the DSM-5 defined LPE specifier (Colins & Andershed, 2015; Colins & Vermeiren, 2013), CD+LPE and CD-only girls did not differ in the prevalence of ADHD, ODD, SUD, affective and anxiety disorders, regardless of the informant being used. Possibly, the often reported co-morbidity between CD and other psychiatric disorders in detained girls (Teplin et al., 2002; Van Damme et al., 2014) leaves little room for the LPE specifier to identify CD girls with different levels of mental health problems (Colins & Andershed, 2015). Also, CD+LPE girls and CD-only girls were not different in mean levels of violent and non-violent offenses, a finding that runs counter to the view that the LPE specifier will identify a severe antisocial subgroup of girls (Frick &

Dickens, 2006). Our sample may exhibit a ceiling effect in terms of behavioral problems, thereby restricting the likelihood to detect differences between CD+LPE and CD-only girls. Importantly, CD+LPE girls did show the highest levels of proactive aggression whilst being similar to CD-only girls in their levels of reactive aggression. This finding converges with prior work in detained girls showing that callous-unemotional traits were related to proactive aggression, but not to reactive aggression (Marsee & Frick, 2007). Taken together, our study contributes to the literature by showing that detained CD+LPE girls are the most severe antisocial girls if one focuses on a specific, and relatively rare but severe form of aggression.

Recently, it has been argued that being too DSM centric may limit our understanding of the potential role of the DSM-5 specifier in designating a subgroup of youths with serious conduct problems that may not meet criteria for CD (Frick et al., 2014b). Our study showed that using the LPE specifier in a non-DSM CD centric manner (i.e., without requiring that girls also meet criteria for CD) did not identify differences in psychiatric morbidity between LPE and non-LPE girls. Interestingly, LPE girls reported more violent and non-violent offenses and higher levels of proactive aggression than non-LPE girls, suggesting that using the LPE specifier in a non-DSM CD centric manner increases the ability to identify a more severe subset of antisocial girls in detention. Future studies are warranted to see if these non-DSM CD centric findings can be replicated in other samples of detained youths and by means of alternative tools to assess the LPE criteria. In this respect, a recent study showed that the likelihood of such alternative tools to assess the LPE specifier may depend on the number of items used to assess the LPE specifier as well as to the coding method (i.e., what item score is needed to endorse a LPE specifier criterion) (Kimonis et al., 2014).

Finally, our results must be considered against the DSM-5's emphasis to extend self-report with report from parents (APA, 2013). The current study results point to the importance of obtaining measures of predictor and outcome variables from different informants, as a way to control for potential method bias (Teplin et al., 2002; Van Damme et al., 2014). Support for the clinical value of the LPE specifier in identifying a subgroup of seriously antisocial girls, whether in a DSM centric manner or not, was only revealed when using girls as optimal informant or when applying the 'OR' rule, but not when parent-reports were considered as an optimal source of information. Because measures of aggression and offending were solely based on youth self-report, shared method variance is likely to explain our findings in support of the LPE specifier [i.e., the higher levels of proactive aggression in CD+LPE girls (Table 2) and the higher levels of proactive aggression and offenses in LPE girls (Table 3)].

Detention facilities often have limited resources to expend on locating and interviewing parents (Ko et al., 2004), indicating that it is relevant to know whether or not the energy and time to recruit parents is worth the effort. Altogether, our findings suggest that gathering parental information might be useful to gain unique information on the prevalence of CD+LPE, but that gathering parental information on CD and LPE is not worth the effort if identifying a subgroup of seriously antisocial girls is the ultimate purpose. Interestingly, the DSM-5 also states that reports from informants other than parents, such as teachers and peers, should be considered in the assessment of LPE. But this may even be more challenging, given the often disrupted school career and high dropout of detained adolescents (Kroll et al., 2002) and given the unlikelihood that peers will provide information that (allegedly) may be used against the detained girl or boy. In that case, alternative sources, such as clinical ratings or observational information of detention personnel, are urgently needed. Yet, training detention staff to observe and report about their observations in a standardized manner, and empirically testing the usefulness of this source of information will cost considerable time, and (financial) efforts.

This study has several strengths, including the use of an understudied but highly relevant population to test the usefulness of the DSM-5 specifier, and the use of multiple informants and well-validated questionnaires. As always, the results should be interpreted in the context of some limitations. First, notwithstanding that the DSM-5 states that LPE criteria must be present over at least 12 months, the APSD does not refer to any timeframe in particular. Consequently, parents may have recalled and utilized more historic factors in rating CD or LPE, compared to their daughters. To adequately test the LPE specifier as operationalized within the DSM-5, future studies are warranted that also assess the specified timeframe. Second, this study only used one measure to assess LPE criteria. Therefore, it is possible that the DSM-5 LPE specifier construct has utility, but that the measurement of it (i.e., via the APSD) is inadequate. Prior work in detained adolescents on CD+LPE (Colins & Andershed, 2015) or LPE (Kimonis et al., 2014), indeed suggests that using alternative measures (with more items to assess the LPE criteria) may increase support in favour of the LPE specifier. Third, although our sample is unique and difficult to recruit, we cannot exclude the possibility that the relative small number of girls in some of the groups has restricted the power to reveal significant between-group differences. Power issues also hampered to test the usefulness of the 'AND'-, the 'Unique Youth'- and 'Unique Parent' rules, and of combining the LPE specifier with the age-of-onset subtyping (e.g., APA, 2013; Colins & Vermeiren, 2013; Frick & Dickens, 2006). Fourth, and in line with prior work on CD among detained youths (Colins et al., 2008; Ko et al., 2004) parental information was gathered by telephone, while a face-to-face interview might be more appropriate. Fifth, due to the cross-sectional study design, it

remains to be seen how stable the LPE specifier assignment is and if this specifier has prognostic usefulness. Therefore, longitudinal studies among detained girls are urgently warranted, especially because it has been shown that only 14.5% of girls initially classified as CD+LPE in childhood (age 6–8) were identified as such six years later (Pardini et al., 2012) and that CD+LPE (vs. CD-only) children are not at increased risk for future antisocial behavior (Kolko & Pardini, 2010; Pardini et al., 2012) and recidivism (Colins & Vermeiren, 2013). Finally, because of our focus on the *DSM-5* LPE specifier, we did not consider other categorical approaches (e.g., Rowe et al., 2010) or dimensional approaches (e.g., Pardini et al., 2012) to incorporate callous-unemotional traits into the diagnosis of CD. Thus, studies on these topics are needed.

In conclusion, this study showed that the prevalence of the *DSM-5* LPE specifier was the highest when using parent-reports, a finding that seems to underscore the relevance of using parent-ratings of limited prosocial emotions. However, including parental information did not result in a better differentiation between CD+LPE and CD-only girls, or between LPE versus non-LPE girls. This suggests that the lack of support for the clinical usefulness of the *DSM-5* specifier in prior studies among detained adolescents cannot solely be explained by their sole reliance on self-report. Altogether, our findings suggest that self-report remains an important and cost-effective source of information that must be used in future studies on the *DSM-5* specifier in detained adolescents.

Chapter 3

Girls' quality of life prior to detention in relation to psychiatric disorders, trauma exposure and socioeconomic status*

* This chapter is based on Van Damme L., Colins, O., 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*. 24(6), 1419-1429. Doi: 10.1007/s11136-014-0878-2

Abstract

Purpose: Practice and research on detained girls has mainly been problem-oriented, overlooking these minors' own perspective on and satisfaction with life. The aim of this study was to examine how girls evaluate multiple domains of quality of life (QoL), and how each domain is affected by psychiatric (co-)morbidity, trauma, and socioeconomic status (SES). **Methods:** An abbreviated version of the World Health Organization (WHO) QoL Instrument was used to assess the girls' ($n = 121$; $M_{age} = 16.28$) QoL prior to detention. This self-report questionnaire consists of two benchmark items referring to their overall QoL and health, and 24 remaining items measuring their QoL regarding four domains (physical health, psychological health, social relationships, and environment). The Diagnostic Interview Schedule for Children-IV was used to assess the past-year prevalence of psychiatric disorders and life-time trauma exposure. **Results:** Detained girls perceived their QoL almost as good as the 12-20-years-olds from the WHO's international field trial on all but one domain (i.e., psychological health). They were most satisfied with their social relationships and least satisfied with their psychological health. Psychiatric disorders, trauma and low SES were distinctively and negatively related to various domains of QoL. The girls' psychological health was most adversely affected by psychosocial and socioeconomic problems, while these variables had an almost negligible impact on their satisfaction with their social relationships. **Conclusions:** The particularity of each domain of QoL supports a multidimensional conceptualisation of QoL. Regarding treatment, psychological health appears as a domain of major concern, while social relationships might serve as a source of resilience.

Introduction

Girls in detention

Up to now, forensic youth care has focused predominantly on adolescents' problems and deficits, such as criminal behavior and psychiatric disorders (Aalsma, Lapsley, & Flannery, 2006; Colins et al., 2010; Plattner et al., 2009). Studies among this population have consistently shown that a substantial proportion of detained girls have been involved in severe antisocial activities (Lederman et al., 2004; Lenssen et al., 2000), have at least one psychiatric disorder (Plattner et al., 2009; Teplin et al., 2002), and have an increased risk of committing future offenses (van der Molen et al., 2013) and developing a personality disorder in young adulthood (Krabbendam et al., 2015). Hence, the overwhelming majority of studies among detained females started from a problem-oriented approach, focusing on features that, from the perspective of researchers and clinicians, are harmful to the girls and/or their surroundings. However, research is warranted that also examines these girls' own perspective on and satisfaction with different domains of life (Fisher et al., 2010; Wylie & Griffin, 2013).

The relevance of studying quality of life among detained girls

Echoing the World Health Organization's definition, quality of life (QoL) can be described as "individuals' perceptions of their position in life, that is rooted in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns" (THE WHOQOL GROUP, 1998). In line with previous publications, we perceive QoL as a multidimensional and dynamic concept that includes various domains, such as physical health, psychological health and environment (Cummins et al., 2004; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, & Broekaert, 2011; Verdugo et al., 2005). During the last decade, QoL has become an important indicator of health care needs, overall well-being and treatment outcomes (De Maeyer, Vanderplasschen, & Broekaert, 2009). Whereas this concept has gained importance in research among various adolescent populations (Becker, Curry, & Yang, 2011; Golubovic & Skrbic, 2013; Shek, 2005; Wallander, Schmitt, & Koot, 2001; Weitkamp, Daniels, Romer, & Wiegand-Grefe, 2013), it has largely been ignored in research among adolescents in detention. Yet, there are at least three reasons why research on the self-perceived QoL of detained minors, girls in particular, is needed.

First, psychiatric symptoms/disorders (e.g., anxiety, depression, substance abuse) appear to be the main predictors of poor QoL in adolescents (Becker, Curry, & Yang, 2009; Damnjanovic et al., 2011; Sawatzky, Ratner, Johnson, Kopec, & Zumbo, 2010) and adults (Colpaert et al., 2013; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, Sabbe, et al., 2011; Lewin et al., 2011; Nuevo et al., 2010). In addition, trauma exposure (e.g., child abuse and neglect) and socioeconomic problems (e.g., low socioeconomic status; SES) have been shown to affect individuals' QoL negatively (Al-Fayez, Ohaeri, & Gado, 2012; Becker et al., 2009; Colpaert et al., 2013; Damnjanovic et al., 2011; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, Sabbe, et al., 2011; Kim et al., 2013; Shek, 2005; Simon et al., 2009; von Rueden et al., 2006). Since a large proportion of detained girls has psychiatric disorders, a history of traumatic experiences and a low SES (Lederman et al., 2004; van der Molen et al., 2013), it can be hypothesized that the majority of these girls will perceive their QoL as poor. Yet, according to Cummins' theory of subjective wellbeing (Cummins, 2000), this will not always be the case. In short, this theory states that a decrease in one's self-perceived QoL is only to be expected when multiple adverse conditions or problems are at play, but not in the context of a single problem or challenge (Cummins et al., 2004; Tomy, Weinberg, & Cummins, 2014). Clearly, research among detained girls is warranted to examine to what extent different domains of QoL are affected by psychiatric disorders, trauma exposure and SES.

Second, studying the QoL of detained girls may help clinicians to understand why these girls were involved in criminality and may be at risk for future criminality. According to the strengths-based Good Lives Model of Offender Rehabilitation (Ward, 2002), humans are striving for the realization of a range of primary goods, such as inner peace and relatedness. The GLM further considers psychiatric disorders, trauma and a low SES as obstacles that hamper the achievement of a good QoL in a socially acceptable way. Being confronted with a poor QoL, some individuals will become involved in antisocial activities as an alternative strategy to achieve their primary goods (e.g., stealing instead of working to obtain material well-being) (Barendregt et al., 2012; Purvis et al., 2011; Ward & Stewart, 2003). The GLM has been applied to a broad range of offender populations (Purvis et al., 2011), yet only scarcely among detained minors. It is relevant to test whether the GLM's assumption of psychiatric disorders, trauma exposure and a low SES impeding one's QoL also pertains to detained girls.

Third, the study of self-perceived QoL of detained girls is informative for clinicians in youth detention centers and other youth justice/care settings. Given the restrictive and coercive nature of a placement in a youth detention center, resistance and poor treatment engagement are very likely to occur among detained adolescents (Englebrecht et al., 2008; Harder et al., 2012).

Recent qualitative studies on detained minors have, therefore, recommended a strengths-based empowering approach, over a more traditional, problem-oriented one (Thakker, Ward, & Tidmarsh, 2006; Wylie & Griffin, 2013). For example, these studies suggest to start off by exploring the youngsters' own perception of QoL, instead of immediately focusing on specific problems and expected behavioral changes. Such an approach is less threatening and has been shown to increase youngsters' treatment motivation and responsiveness (Fisher et al., 2010). Accordingly, gaining insight in detained girls' QoL is clinically relevant, as it sheds light on the question whether the presence of particular problems actually invokes feelings of burden and suffering among these girls.

Empirical studies on quality of life of detained adolescents

Despite the theoretical and clinical relevance of studying QoL in detained adolescents, we are only aware of one study that examined QoL in this population (Sawyer et al., 2010). This study assessed QoL among detained boys ($n = 132$) and girls ($n = 27$), indicating that these adolescents rated their QoL significantly worse than adolescents in the community (including adolescents from out-patient health care facilities). More specifically, detained minors scored significantly lower on the QoL domains physical and mental health (Sawyer et al., 2010). However, the number of girls was small and no gender-specific QoL results were presented, which hampers the generalizability of the results to other populations of detained girls. Also, the study included only health-related domains of QoL, while recent studies have emphasized the importance of including other domains as well (e.g., social relationships, environment) (Cummins et al., 2004; De Maeyer, Vanderplasschen, Camfield, et al., 2011; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, & Broekaert, 2011; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, Sabbe, et al., 2011).

This study

The present study aims to inform researchers and clinicians about girls' own perspective on and satisfaction with their life at the moment they enter the youth detention center. The first objective is to examine how they evaluate multiple domains of QoL (i.e., physical health, psychological health, social relationships, and environment) the last 2 weeks prior to detention. Second, given the high prevalence of psychiatric disorders, trauma exposure and a low SES among detained girls (Lederman et al., 2004; van der Molen et al., 2013) and given prior empirical and theoretical support for the negative impact of these problems on adolescents' QoL (Al-Fayez et al., 2012; Becker et al., 2009;

Cummins, 2000; Damnjanovic et al., 2011; Shek, 2005; Ward, 2002), this study also aims to test the hypothesis that detained girls' perceived QoL is negatively affected by past-year psychiatric (co-)morbidity, life-time trauma, and low SES. It should be noted that the present study is part of a larger, prospective cohort study focusing on detained girls' QoL, psychopathology and social adaptation prior to, during and after detention.

Methods

Participants

The participants were 121 girls who were placed in an all-girl youth detention center (YDC) in Flanders, Belgium. Girls are referred to this YDC by a juvenile judge when charged with a criminal offense or because of an urgent problematic educational situation (e.g., truancy, running away, aggression, or prostitution). Placement in this YDC represents the most severe measure allowable by a juvenile judge and will only be applied in case all other measures have failed or are inappropriate. Only girls demonstrating the most severe criminal and behavioral problems are referred to this YDC.

In line with previous research (Colins, Bijttebier, et al., 2014), girls were eligible to participate if the following criteria were met: (i) being adjudicated to be placed in a YDC for at least 1 month; (ii) having sufficient knowledge of Dutch; and (iii) having sufficient cognitive abilities to read and/or understand the questions. The first criterion was set to provide sufficient time to approach and assess the girls. Between February 2012 and December 2013, 141 girls were eligible to participate. Two girls could not be approached due to acute psychiatric crises, 13 girls refused to participate, and five parents refused their daughter's participation, resulting in a final study sample of 121 girls (participation rate = 86%).

Procedure

This study was approved by the directors of the YDC and by the Institutional Review Board of the Faculty of Psychology and Educational Sciences at Ghent University (2011/59). Participants were approached and assessed following a standardized protocol. The girls were addressed individually and received oral and written information about the aims, content, and duration of the study. The girls were assured that the data would be treated confidentially and that refusal to participate would not affect their judicial status or stay in the YDC. Written informed consent was given before starting the assessment. At the

moment the girls entered the YDC, their parents also received a letter including information about the aims and practical aspects of the study and could refuse participation. Participants did not receive any financial compensation. Participants were interviewed in a private area in the YDC between three days and three weeks after the start of detention. The interview was conducted by the first author or final-year university students, who were all trained in using the Diagnostic and Statistical Manuals of Mental Disorders-IV (DISC-IV). None of the interviewers were YDC staff.

Measures

Quality of life (QoL). QoL was assessed using the WHOQOL-BREF, an abbreviated version of the WHOQOL-100 (The World Health Organization QoL Instrument; THE WHOQOL GROUP, 1998). The WHOQOL-BREF includes 26 items and has been demonstrated to be a reliable and valid self-report instrument in adults (Trompenaars, Masthoff, Van Heck, Hodiament, & De Vries, 2005) and adolescents (Agnihotri, Awasthi, Singh, Chandra, & Thakur, 2010; Chen et al., 2006). In this study, we were interested in the situation of the girls at the moment they entered the YDC. Therefore, the reference period of the WHOQOL-BREF was changed from the “last 2 weeks” to “the 2 weeks before detention.” By doing so, we tried to avoid as much as possible that the girls’ self-perceived QoL was biased by the context of detention itself (e.g., low self-perceived quality of social relationships because they are not allowed to have any contact with their friends; Barendregt et al., 2012). In agreement with previous studies (Colpaert et al., 2013), two benchmark items were used as an indication of one’s overall perception of QoL and health: (i) “How would you rate your QoL?”; and (ii) “How satisfied are you with your health?” (range: 1 [‘very poor’] to 5 [‘very good’]). Hereafter, these benchmark items are referred to as ‘overall (perception of) QoL’ and ‘overall (perception of) health.’ The 24 remaining WHOQOL-BREF items are organized into four domains. The domain of ‘physical health’ refers to one’s physical well-being (e.g., ‘To what extent do you feel that physical pain prevents you from doing what you need to do?’; ‘How satisfied are you with your ability to perform your daily living activities?’), the domain of ‘psychological health’ to one’s mental well-being (e.g., ‘How satisfied are you with yourself?’; ‘How often do you have negative feelings such as blue mood, despair, anxiety, depression?’), the domain of ‘social relationships’ to one’s satisfaction with social networks (e.g., ‘How satisfied are you with your personal relationships?’; ‘How satisfied are you with the support you get from your friends?’), and the domain of ‘environment’ to one’s satisfaction with his/her neighborhood (e.g., ‘How satisfied are you with the conditions of your living place?’; ‘To what extent do you have the opportunity for leisure activities?’) (THE WHOQOL GROUP, 1998). Domain scores range from 0 to 100, with higher scores indicating a better QoL. The

internal consistency of these four scales was good (Cronbach's alpha's ranging from .73 to .86). The correlation between the different QoL scores (i.e., both benchmark items and domains of life) ranged from .37 to .72, indicating the existence of distinct, yet interrelated, QoL ratings. To enhance the readability of this paper, we will refer from here on to 'QoL' instead of 'QoL before detention'.

Psychiatric disorders. The past-year prevalence of psychiatric disorders was assessed using the Dutch translation of the Diagnostic Interview Schedule for Children-IV (Ferdinand & Van der Ende, 2002). The DISC-IV is a highly structured diagnostic interview, designed to assess if children and adolescents meet criteria for DSM-IV disorders (Shaffer et al., 2000). In the present study, the DISC-IV was used to assess the past-year prevalence of major depressive disorder (MDD), dysthymic disorder, post-traumatic stress disorder (PTSD), separation anxiety disorder (SAD), attention-deficit/hyperactivity disorder (ADHD), conduct disorder (CD), oppositional defiant disorder (ODD), alcohol use disorder, marijuana use disorder, and substance disorders other than alcohol and marijuana. In agreement with previous research (Colins, Vermeiren, Schuyten, et al., 2009), four dichotomous variables were created to indicate the past-year presence (vs. absence) of mood disorders (MDD or dysthymic disorder), anxiety disorders (PTSD and/or SAD), disruptive behavior disorders (DBD) (ADHD, CD and/or ODD), and substance use disorders (SUD). General co-morbidity refers to the past-year presence of at least two of the 10 assessed disorders. Co-morbidity of internalizing and externalizing disorders refers to the past-year presence of at least one internalizing disorder (i.e., mood and/or anxiety disorder) and one externalizing disorder (i.e., DBD and/or SUD).

Trauma exposure. In agreement with prior research in detained adolescents (Colins, Vermeiren, Vreugdenhil, et al., 2009), the PTSD module of the DISC-IV was used to assess the life-time prevalence of eight potentially traumatic events: (i) ever experienced a natural disaster and thought you would die or be injured seriously; (ii) ever been in a situation wherein you thought that someone you know well would be killed or wounded badly; (iii) ever been attacked or beaten up by someone; (iv) ever been upset because someone forced you to do sexual things you really didn't want to do; (v) ever been threatened with a weapon; (vi) ever had a serious accident; (vii) ever saw or heard someone get killed, dying, or seriously injured; and (viii) ever been upset by seeing a dead body or images of the dead body of someone you knew well. In line with prior research (Colins, Vermeiren, Vreugdenhil, et al., 2009; Dong, Anda, Dube, Giles, & Felitti, 2003; Dube et al., 2001), a continuous variable was created by summing the eight above-mentioned items (score, 0–8), in order to get an indication of the total number of traumatic events experienced by the girls.

Socio-demographics. Standardized information regarding socio-demographic variables was gathered by means of a self-report questionnaire which was used in previous research among detained adolescents (Colins, Vermeiren, Vreugdenhil, et al., 2009). Age refers to the girl's age at the time the interview and questionnaires were administered. Origin was operationalized by dichotomizing the girls' ethnic descent (i.e., Belgian versus non-Belgian). The dichotomous variable 'intact family' refers to living (versus not living) with both parents prior to detention. School attendance refers to attending (versus not attending) school during the month before detention. The dichotomous variable 'past detention' indicates whether or not the girl had been detained in the past. SES was made operational by dichotomizing parental/primary caregiver's occupation. Adolescents were placed in the low SES category when both parents/primary caregivers were unemployed or holding a low-level job (unskilled and skilled labor). They were placed in the moderate-to-high category when at least one parent/primary caregiver held a moderate-to-high-level job, working as an employee, manager, self-employed, or practitioner of a liberal profession (e.g., lawyer or doctor).

Statistical analyses

First, we presented descriptive statistics regarding the girls' QoL, psychiatric disorders, trauma exposure, SES and other socio-demographic characteristics. Detained girls' QoL scores were compared with the World Health Organization (WHO)'s international field trial (Skevington, Lotfy, & O'Connell, 2004), being the only cross-national study that used the WHOQOL-BREF among different age groups, including 12-20-years-olds. The sample consists of individuals from the general population, as well as from out- and in-patient health care facilities (Skevington et al., 2004). Second, biserial correlation coefficients (r_b) were used to explore the relation between continuous variables and dichotomised variables. Pearson's correlation coefficients (r) were used to determine the relationship between two continuous variables. Third, to test to what extent the girls' QoL was influenced by psychiatric disorders, trauma exposure and SES, a series of six ordinary least squares linear regression analyses were performed with one of the six QoL scores as dependent variable. This approach converges with the conceptualisation of QoL as a multi-dimensional construct. In each of these six analyses, psychiatric disorders (i.e., mood disorders, anxiety disorders, DBD, SUD, general co-morbidity, co-morbidity of in- and externalizing disorders), trauma exposure and SES were included stepwise as independent variables, using both forward selection ($p < .05$) and backward elimination ($p > .01$). The adjusted R^2 was used to indicate the variation in QoL scores that was accounted for by the selected model. Multi-collinearity was examined and all model assumptions were satisfied.

SPSS 20.0 was used for all analyses, with a $p < .05$ as the standard for statistical significance.

Results

Descriptives

Study participants ($n = 121$) did not differ significantly from girls that did not participate in the study with respect to age, origin, and detention history. An overview of the main sample characteristics is presented in Table 1. Participants were between 13.81 and 17.89 years old ($M = 16.28$; $SD = 1.04$) and were predominantly of Belgian origin (64.5%). Thirty-eight percent of the girls was placed in the moderate-to-high SES category. On average, participating girls experienced 2.86 potentially traumatic events, with 85.1% who reported at least one life-threatening events. Regarding psychiatric morbidity, the prevalence of having at least one psychiatric disorder was 86.8%. Prevalence rates for SUD and DBD were the highest, followed by mood disorders and anxiety disorders. Also 66.1% of the girls had at least two psychiatric disorders (general co-morbidity), and 43.0% met co-morbid internalizing and externalizing disorders.

The mean score for overall QoL and overall health was 3.21 and 3.76, respectively. Taking a closer look to their self-perceived QoL on the four different domains of the WHOQOL-BREF, the girls were most satisfied with their social relationships, followed by satisfaction with their environment, physical health, and psychological health. Considering both mean scores and SD reported in the WHO's field trial for the age group of 12-20-years-olds, detained girls' mean scores for physical health ($M = 63.44$; $SD = 15.91$), social relationships ($M = 76.17$; $SD = 19.88$) and environment ($M = 63.93$; $SD = 18.25$) were (very) close to the scores reported in the trial (i.e., $M = 72.50$; $SD = 18.12$, $M = 68.13$; $SD = 19.38$, and $M = 65.00$; $SD = 15.00$, respectively; Skevington et al., 2004). However, detained girls' mean score for psychological health was substantially lower than the mean score in the WHO's field trial (i.e., $M = 53.51$; $SD = 21.72$ versus $M = 67.50$; $SD = 17.5$; Skevington et al., 2004).

QoL in relation to psychiatric disorders, trauma exposure and SES

Table 2 presents bivariate correlations between QoL scores and psychiatric disorders, trauma exposure and SES. With a few exceptions, psychiatric disorders and trauma exposure were negatively related to overall QoL, overall health, and all four domain-specific QoL scores. The exceptions were that DBD

Table 1 Characteristics of the study sample ($n = 121$)

	<i>n</i> (%)
Mean age (<i>SD</i>); Min-Max	16.28 (1.04); 13.81-17.89
Origin (Belgian)	78 (64.5)
Intact family (yes)	17 (14.0)
School attendance (yes)	68 (56.2)
Past detention (yes)	28 (23.1)
Primary reason for detention	
criminal offense	40 (33.1)
defiant behavior	21 (17.4)
persistent attempts to escape parent's/caregiver's/ institution's surveillance	49 (40.5)
other (e.g., being entangled in dangerous gangs)	11 (9.1)
	<i>n</i> (%)
SES (moderate-to-high)	46 (38.0)
Mean number of potentially traumatic events (<i>SD</i>); Min-Max	2.86 (1.96); 0-7
Mood disorders	50 (41.3)
Anxiety disorders	43 (35.5)
Disruptive behavior disorders	73 (60.3)
Substance use disorders	76 (62.8)
General co-morbidity	80 (66.1)
Co-morbidity of in- and externalizing disorders	52 (43.0)
	<i>M</i> (<i>SD</i>); Min-Max
Overall perception of QoL	3.21 (1.03); 1-5
Overall perception of health	3.76 (0.98); 1-5
Physical health	63.44 (15.91); 18-100
Psychological health	53.51 (21.72); 4-100
Social relationships	76.17 (19.88); 17-100
Environment	63.93 (18.25); 6-100

Note: SES = socioeconomic status.

Note: Total item nonresponse: Intact family ($n = 1$; .83%); SES ($n = 13$; 10.74%);

Substance use disorders ($n = 1$; .83%).

and general co-morbidity were not significantly correlated with social relationships, and that SUD was not significantly correlated with psychological health and social relationships. SES was positively related to psychological health and environment.

Table 3 shows the six regression models predicting the overall QoL and health, and the domain-specific QoL scores. Psychiatric disorders, trauma exposure and SES were included stepwise, with the remaining significant determinants being presented in the table. Co-morbidity of in- and externalizing disorders

Table 2 QoL in relation to psychiatric disorders, trauma exposure and SES: Biserial (r_b) and Pearson's (r) correlation coefficients

	Mood disorders	Anxiety disorders	Disruptive behavior disorders	Substance use disorders	General co-morbidity	Co-morbidity of in- and externalizing disorders	Trauma exposure	SES
	r_b	r_b	r_b	r_b	r_b	r_b	r	r_b
Overall Perception of QoL	-.47**	-.37**	-.28**	-.22*	-.35**	-.51**	-.31**	.05
Overall Perception of Health	-.48**	-.38**	-.32**	-.23*	-.30**	-.42**	-.33**	.13
Physical Health	-.39**	-.37**	-.52**	-.26*	-.41**	-.47**	-.28**	.08
Psychological Health	-.49**	-.38**	-.48**	-.16	-.38**	-.49**	-.30**	.34**
Social Relationships	-.32**	-.28*	-.17	.00	-.15	-.25*	-.19*	.19
Environment	-.37**	-.29**	-.45**	-.30**	-.44**	-.41**	-.25**	.31**

Note: SES = socioeconomic status.

Note: Total item nonresponse: Substance use disorders ($n = 1$; .83%); SES ($n = 13$; 10.74%).

Note: Cases with missing observations were excluded pairwise.

* $p < .05$; ** $p < .01$.

Table 3 Linear regression models predicting the Overall Perception of QoL and Health, and the domain-specific QoL scores

		<i>B</i>	<i>SE</i>	Beta	<i>t</i>	<i>p</i>	<i>R</i> ² (<i>adjusted</i>)	<i>F</i> (<i>df</i>)
Overall Perception of QoL	(constant)						.19 (.17)	12.19 (2)
	Co-morbidity of in- and externalizing disorders	-.35	.10	-.33	-3.52	.001		
	Trauma exposure	-.10	.05	-.19	-2.03	.045		
Overall Perception of Health	(constant)						.20 (.19)	13.23 (2)
	Trauma exposure	-.14	.05	-.28	-3.00	.003		
	Mood disorders	-.27	.09	-.28	-2.97	.004		
Physical Health	(constant)						.23 (.22)	15.65 (2)
	Disruptive behavior disorders	-5.03	1.53	-.31	-3.29	.001		
	Co-morbidity of in- and externalizing disorders	-4.18	1.51	-.26	-2.76	.007		
Psychological Health	(constant)						.34 (.32)	17.94 (3)
	Disruptive behavior disorders	-7.86	1.82	-.36	-4.32	.000		
	SES	6.90	1.74	.32	3.96	.000		
	Mood disorders	-6.72	1.80	-.31	-3.74	.000		
Social Relationships	(constant)						.05 (.04)	5.73 (1)
	Mood disorders	-4.50	1.88	-.23	-2.39	.018		
Environment	(constant)						.27 (.25)	12.64 (3)
	Disruptive behavior disorders	-6.64	1.60	-.36	-4.16	.000		
	SES	5.25	1.53	.29	3.44	.001		
	Mood disorders	-3.83	1.58	-.21	-2.43	.017		

Note: SES = socioeconomic status;

Note: Total item nonresponse: Substance use disorders ($n = 1$; .83%); SES ($n = 13$; 10.74%).

Note: Cases with missing observations were excluded listwise.

and trauma exposure had a negative effect on detained girls' overall QoL (*adjusted R*² = .17). Trauma exposure and mood disorders were found to affect their overall health negatively (*adjusted R*² = .19). DBD and co-morbidity of in- and externalizing disorders influenced their physical health negatively (*adjusted R*² = .22). Also, DBD, low SES, and mood disorders affected the girls' psychological health (*adjusted R*² = .32) and environment (*adjusted R*² = .25) negatively, while only mood disorders showed a negative effect on their social relationships (*adjusted R*² = .04).

Discussion

This study examined girls' self-perceived QoL on multiple domains prior to detention, and tested to what extent each of these domains was affected by psychiatric (co-)morbidity, trauma exposure, and SES. Psychiatric disorders, trauma exposure, and a low SES were highly prevalent among detained girls, which converges with findings of prior studies (Lederman et al., 2004; van der Molen et al., 2013). Notwithstanding these multiple problems, the self-perceived QoL of these detained girls suggests that they are quite satisfied with their life on most domains. This study also showed that psychiatric disorders, trauma exposure and low SES distinctively and negatively impacted the domains of QoL. The most important findings of this study will be reflected upon below.

The prevalence of traumatic experiences (85.1%) and psychiatric disorders (86.8%) in this population of detained adolescents is considerably higher than that in adolescent community samples (i.e., 30-42% [Al-Fayez et al., 2012; Stensland, Dyb, Thoresen, Wentzel-Larsen, & Zwart, 2013] and 6.0-44% [Costello et al., 2011], respectively). Interestingly, detained girls perceived their QoL almost as good as the 12-20-years-olds from the WHO's international field trial on all but one domain (i.e., psychological health) (Skevington et al., 2004). This contrasts the findings of a prior study, which showed that detained adolescents had a significantly lower QoL than their counterparts from the general population (including those who attend out-patient health care facilities) (Sawyer et al., 2010). Yet, it should be noted that the WHO's field trial did not present scores for female 12-20-years-olds only, did not recruit participants living in Belgium, and did not present age-specific scores for community versus clinic-referred in- and out-patient respondents (Skevington et al., 2004). Therefore, the comparison of our study findings with the WHO's field trial should be interpreted with caution. Second, it is possible that differences in time-frame to assess QoL are at play. Whereas we used a 'prior to detention' time-frame to assess QoL, Sawyer and colleagues (2010) did not. As mentioned in the Methods section, it is likely that the context of detention

(e.g., overwhelming intake, being far away from parents and friends; Barendregt et al., 2012) may explain why participants in the Sawyer study (2010) reported much lower QoL scores than general population adolescents. Third, gender differences have been demonstrated regarding many various psychological constructs (Van Damme, Colins, Pauwels, & Vanderplasschen, in press). Studies that disregarded potential gender differences in the QoL of detained adolescents, such as the Sawyer study (2010), may yield different outcomes than girls-only studies, such as the current one.

The girls' satisfaction with their QoL on most domains prior to detention may reflect resilience, which suggests that these girls may have developed specific capabilities to cope with adverse experiences and multiple problems (Todis et al., 2001). Alternatively, it may be that detained girls use other standards when evaluating their life conditions (e.g., being delighted to feel part of a tight peer group, even though this group might be an antisocial one; Lederman et al., 2004). If so, detained girls are truly satisfied with their lives and do not perceive any burden at all, which sharply contrasts with the problems perceived by outsiders such as clinicians and their parents. This discrepancy may explain why detained adolescents are not really engaged in treatment and interventions (Englebrecht et al., 2008; Harder et al., 2012). If 'non-significant' others point at problems everywhere, but these girls don't see these problems or do not consider them as important, it is not surprising that these girls are not motivated to start treatment or to stay in treatment. Consequently, sufficient time and effort should be invested in creating positive and encouraging treatment environments. In this respect, the application of strengths-based empowering approaches is recommended (Fisher et al., 2010; Thakker et al., 2006; Wylie & Griffin, 2013). For example, the Greater Manchester Adolescent Programme (G-MAP), that applies the strengths-based GLM to adolescent offenders (Thakker et al., 2006; Wylie & Griffin, 2013), has been demonstrated to increase these minors' treatment motivation and responsiveness (Fisher et al., 2010). This programme starts off by inviting the youngsters to share their personal interests and goals (i.e., what is important in their life and what do they want to achieve). Next, the youngsters are encouraged to identify personal skills and abilities, thereby challenging their often negative and narrow conception of the self as 'an offender' and creating alternatives for change (Fisher et al., 2010; Thakker et al., 2006).

Psychiatric disorders, trauma and low SES were distinctively and negatively related to the girls' QoL on multiple domains. This is in line with previous empirical studies that identified these problems as important predictors of a poor QoL in both adolescents and adults (Al-Fayez et al., 2012; Becker et al., 2009; Colpaert et al., 2013; Damjanovic et al., 2011; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, Sabbe, et al., 2011; Kim et al., 2013; Lewin et al., 2011; Nuevo et al., 2010; Sawatzky et al., 2010; Shek,

2005; Simon et al., 2009; von Rueden et al., 2006). These negative relations also converge with the theory of subjective wellbeing (Cummins, 2000) and the GLM (Ward, 2002) which state that QoL is likely to decrease in the presence of multiple psychosocial and socioeconomic stressors. Yet, our findings showed that psychopathology, trauma and SES could only explain a relatively small part of detained girls' QoL, ranging from 4 to 32% of the explained variance. This indicates that the extent to which detained girls are satisfied with their own life is only marginally influenced by problems that clinicians often deem to be important targets for treatment. Various correlates other than psychiatric disorders, trauma exposure and SES may play an important role in detained girls' QoL. We suggest future work to address other plausible risk factors for a poor QoL, such as personality disorders and physical illnesses (Chen et al., 2006). Equally important though, future research should pay particular attention to plausible protective and resilience factors of a good QoL, such as a sense of school belongingness (Chipuer, Bramston, & Pretty, 2003) and supportive family and social relationships (De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, Sabbe, et al., 2011; Schiff, Nebe, & Gilman, 2006).

In support of a multidimensional approach of QoL, this study also revealed some clear differences between distinct domains of QoL. Detained girls were more satisfied with specific domains, and each domain was affected by specific psychosocial and socioeconomic problems. The most prominent difference emerged between detained girls' satisfaction with their psychological health and their social relationships. Psychological health appeared as a domain of major concern and was the only domain for which detained girls scored substantially lower than their counterparts from the WHO's field trial (Skevington et al., 2004). Also, detained girls' psychological health was most adversely affected by psychiatric disorders, trauma exposure and SES. In contrast to the other domains, there is a clear overlap between detained girls' dissatisfaction with their psychological health and outsiders' (e.g., clinicians, researchers) perception of the mental health needs in this population (van der Molen et al., 2013; Vermeiren, Jaspers, & Moffitt, 2006). This may suggest that detained girls may be at least motivated for treatment that aims to address their mental health needs, starting from a shared problem definition (Colins, Vermeiren, et al., 2012), in particular because such an agreed-upon definition is associated with treatment engagement and symptom reduction (Jensen-Doss & Weisz, 2008). Our results suggest DBD and mood disorders as prominent problems that deserve priority during treatment. The impact of both DBD and mood disorders on the girls' psychological health challenges clinicians not only to address the salient externalizing behavior, but also the underlying internalizing problems, that are often hidden or indistinct at first sight.

Social relationships emerged as a potential source of resilience. Detained girls were most satisfied with this domain, which coincides with the idea that antisocial minors often feel popular among peers and surrounded by close friends (Vermeiren, Bogaerts, Ruchkin, Deboutte, & Schwab-Stone, 2004). Furthermore, the explained variance for social relationships was remarkably lower (4%) than for other domains (17% to 32%). It can be speculated that social well-being is a potential buffer against negative experiences or conditions, such as traumatic events or a low SES. A sense of popularity and belonging is likely to foster these girls' sense of self-worth and instigate personal resilience. This is especially the case in adolescence, when peers become increasingly important and influential (Berk, 2006). However, detained girls often affiliate with peers who are engaged in criminal activities (Lederman et al., 2004; van de Schoot & Wong, 2012). Therefore, treatment should support youngsters to build, strengthen and extend constructive, instead of destructive, social contacts. This can be realized by offering peer-helping programmes, such as EQUIP, in which antisocial youngsters help each other and learn from one another how to decrease self-serving cognitive distortions, reach a higher stage of moral reasoning, and strengthen their social skills (Brugman & Bink, 2011).

To conclude this study, we summarize what we have learned and what still needs to be learned. The rationale for exploring QoL in detained girls was threefold (see Introduction). A first rationale was that the QoL of detained girls is likely to be strongly predicted by psychiatric disorders, trauma exposure, and SES. The findings showed that these girls' QoL is only modestly predicted by these variables. Future studies, thus, need to search for other, more influential determinants of the QoL of detained girls. A second rationale was that studying QoL may help clinicians to understand girls' involvement in criminality. The GLM argues that a poor QoL will trigger some individuals to involve in antisocial activities as an alternative strategy to achieve their primary goods. Studies are needed to test if poor QoL in detained girls indeed helps to predict future criminality, an issue that we will address in the near future. A third rationale was that understanding of QoL can provide an alternative framework for clinical interventions. This study addressed this issue to some extent by showing that detained girls and clinicians may have different views on these girls' QoL. Future research is needed to test how QoL in detained girls relates to treatment engagement.

As always, the results of this study should be interpreted in the context of some limitations. First, the cross-sectional design of the current study does not allow causal inference regarding the relation between QoL and psychiatric disorders, trauma exposure and SES. Longitudinal studies are needed to address potential bi-directional associations between these variables and to test the relation between low QoL and criminality (Ward, 2002). Second, all

data were gathered by means of self-report. While this can be considered a limitation of the present study, self-report has been deemed appropriate for tracing adolescents' personal perceptions. Also, other informants, such as parents, are rarely available when working with detained youth and self-report has been shown to be a valid source of information (Colins et al., 2008). Third, the narrow operationalization of SES as parental/primary caregiver's occupation, in combination with the missing data for this variable, may limit our understanding of the impact of SES on girls' QoL. We recommend to adopt a more nuanced operationalization of SES in future research, including indicators such as parental education, familial wealth and social and cultural capital (von Rueden et al., 2006). Fourth, future research should use semi-structured in-depth interviews to assess QoL in detained girls' QoL rather than self-report questionnaires with a highly structured answering format and a priori defined life domains. Finally, the small sample size forced us to only include a strict selection of predictors (based upon prior theoretical and empirical support; Al-Fayez et al., 2012; Becker et al., 2009; Cummins, 2000; Damnjanovic et al., 2011; Shek, 2005; Ward, 2002). For example, we could not include interaction effects between independent variables. As a consequence, we were not able to explore the role of mental health as a potential mediator of the relation between trauma and QoL. Up to now, only a limited number of studies has addressed interaction effects of psychiatric disorders, trauma and SES on QoL. These studies yielded mixed results (Burns & Machin, 2013; De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, & Broekaert, 2011; Eklund & Backstrom, 2005), which underscore the need for further research.

Chapter 4

Detained girls' treatment engagement over time: The role of psychopathology and quality of life*

* This chapter is based on Van Damme L, Hoeve, M., Vanderplasschen, W., Vermeiren, R., Grisso, T., & Colins, O. (accepted). Detained girls' treatment engagement over time: The role of psychopathology and quality of life. *Children and Youth Services Review*. doi: 10.1016/j.childyouth.2015.10.010

Abstract

Although treatment engagement is considered important to achieve positive outcomes, it is still not well known why some girls in detention are more engaged in treatment than others. This is the first study to examine to what extent psychopathology and self-perceived quality of life (QoL) are related to treatment engagement. Participants were 108 detained girls ($M_{age} = 16.21$) who completed standardized questionnaires about mental health problems and QoL, and were interviewed with a structured diagnostic interview to assess DSM-IV psychiatric disorders. One and two months after this baseline assessment, the girls reported how much they engaged in treatment. The results showed low levels of treatment engagement and no significant changes in treatment engagement over time. Overall, detained girls with internalizing disorders reported higher treatment engagement scores, while the reverse was true for girls with externalizing disorders. Regarding QoL, the girls with greater satisfaction about their physical and psychological health and about their environment reported higher treatment engagement, while the opposite was true for the domain of social relationships. Our findings emphasize the need for strengths-based and motivational approaches and techniques in residential treatment programs for girls, in order to enable change.

Introduction

Detained girls constitute a very troubled and vulnerable, yet understudied, group of adolescents who often display high levels of antisocial behavior (Lederman, Dakof, Larrea, & Li, 2004; Lenssen, Doreleijers, van Dijk, & Hartman, 2000) and persistent, co-morbid psychiatric disorders (Teplin, Welty, Abram, Dulcan, & Washburn, 2012; Van Damme, Colins, & Vanderplasschen, 2014; van der Molen, Krabbendam, Beekman, Doreleijers, & Jansen, 2013). Clinicians and researchers emphasize the need to organize effective treatment services for these girls (Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Wasserman, McReynolds, Ko, Katz, & Carpenter, 2005). However, detained girls may not be willing to engage in treatment due to the coercive nature of juvenile justice settings (van der Helm, Beunk, Stams, & van der Laan, 2014), because their psychiatric state may hinder treatment engagement (van Binsbergen, Knorth, Klomp, & Meulman, 2001), or because they seem relatively satisfied with their quality of life (QoL; Van Damme, Colins, De Maeyer, Vermeiren, & Vanderplasschen, 2015). Clearly, engaging detained girls in treatment poses great challenges. Empirical evidence on treatment engagement in this population is still scarce though, which is surprising as treatment engagement is considered an important condition for achieving positive treatment outcomes (Shirk & Karver, 2003; Smith, Duffee, Steinke, Huang, & Larkin, 2008). The present study was designed to fill this void by scrutinizing treatment engagement in relation to psychopathology and self-perceived QoL among the understudied group of detained girls.

Treatment engagement is closely related to concepts like motivation, working alliance, collaboration and compliance (Cunningham, Duffee, Huang, Steinke, & Naccarato, 2009). Historically, treatment engagement has typically been defined in a narrow way by focusing on behavioral indicators, such as treatment attendance and retention. More recently, treatment engagement is increasingly defined as a multidimensional construct that not only includes observable behavior, but also attitudes, cognitions, and relational aspects. Based on work in juvenile residential treatment settings, three dimensions of treatment engagement have been disentangled: readiness/motivation to change (attitude), bond with staff (relationship), and collaboration on goals and tasks (behavior), with the former being considered to be at the 'heart' of treatment engagement (Cunningham et al., 2009; Englebrecht, Peterson, Scherer, & Naccarato, 2008). Prior work on treatment engagement also emphasized the potential relevance of including therapeutic engagement (cognition) in the definition of treatment engagement (Hawke, Hennen, & Gallione, 2005), as a particular index of someone's engagement in therapeutic

activities, such as adopting problem-solving strategies or evaluating one's progress.

Also, treatment engagement is increasingly defined as a dynamic construct. This implies that an individual's treatment engagement can change, and that clinicians do not only need to instigate but also to monitor treatment engagement (Harder, Knorth, & Kalverboer, 2012; van Binsbergen et al., 2001). The few studies on the topic in detained adolescents indicated that poor treatment engagement is very common (Harder et al., 2012), especially among detained girls (Englebrecht et al., 2008). Although levels of treatment engagement may increase or decrease (Harder et al., 2012; van Binsbergen et al., 2001), it is largely unknown why some girls are or become more engaged in treatment than others. As shown below, there is some evidence that psychopathology and self-perceived QoL may help to explain differences in treatment engagement.

Prior work among in- and outpatient adolescent populations indicated that psychopathology can be negatively (Roedelof, Bongers, & van Nieuwenhuizen, 2013; van Binsbergen et al., 2001) and positively (Breda & Riemer, 2012; Leenarts, Hoeve, Van de Ven, Lodewijks, & Doreleijers, 2013) related to treatment engagement. More specifically, the direction of this relationship depends on the type of psychopathology and dimension of treatment engagement (Breda & Heflinger, 2004; Hawke et al., 2005). Adolescents, for instance, are more willing to address their internalizing problems (e.g., depression; Leenarts et al., 2013) than their externalizing problems (e.g., substance abuse; Roedelof et al., 2013). Research has also shown that adolescents with trauma-related symptoms (e.g., distrust, anxiety) may be reluctant to bond with staff (Greenwald, 2000), whereas adolescents with anger and oppositional behavior may be reluctant to collaborate on goals and tasks (DiGiuseppe, Linscott, & Jilton, 1996).

A prior study among detained girls compared the girls' QoL scores with the QoL scores of the 12-20-years-olds from the World Health Organization (WHO)'s international field trial, consisting of boys and girls from the general population, as well as from in- and outpatient health care facilities (Van Damme et al., 2015). Detained girls perceive their QoL almost as good as the 12-20-years-olds from the WHO trial on the domains of physical health, social relationships and environment (Van Damme et al., 2015). As such, it can be argued that if detained girls do not perceive any burden themselves, they may lack problem recognition, and cannot be expected to engage in treatment only because 'non-significant' adults (e.g., clinicians, judges) think that they need treatment. Yet, this assumption contrasts the scant empirical research in adult clinical samples, indicating that QoL is positively related with hope, which - in

turn - is important to increase levels of treatment engagement (Gudjonsson, Savona, Green, & Terry, 2011; Klag, Creed, & O'Callaghan, 2010).

Before highlighting the aims of the current study, it is important to describe how 'treatment' was defined and why we decided to define it as such. Because treatment in a youth detention center (YDC) consists of both an elementary program (offered to all girls) and a client-specific program (purposefully offered to address a concrete problem or need), the particular content of treatment was so diverse that we could not systemize all information. In line with prior work among detained minors (Colins, Hermans, & Vermeiren, 2012), we, therefore, perceived the stay in the YDC in itself as 'treatment'. Put differently, 'treatment' in this study refers to any particular combination of group-based services and services tailored to the needs of individual girls (e.g., in terms of psychiatric comorbidity, and low IQ; Abram, Teplin, McClelland, & Dulcan, 2003; Kroll et al., 2002). Because well-circumscribed treatment programs are rarely available in youth detention facilities all over the world (Colins et al., 2010; Desai et al., 2006), our broad definition increases the ecological validity of studying treatment engagement among detained adolescents and facilitates comparison with prior work (Simpson, Frick, Kahn, & Evans, 2013).

The overall aim of the present study was to examine how 'baseline levels of psychopathology and QoL at the start of detention (T0)' and 'time from T1 until T2' influenced 'treatment engagement at T1 and T2' (i.e., one and two months after the baseline assessment of psychopathology and QoL), after controlling for socio-demographic and detention-related covariates. We included multiple dimensions of treatment engagement (i.e., readiness to change, bond with the staff, collaboration on goals and tasks, and therapeutic engagement), different types of psychopathology (i.e., internalizing as well as externalizing problems/disorders), and multiple domains of QoL (i.e., physical health, psychological health, social relationships, environment). The selection of socio-demographic and detention-related covariates was based on prior indications that age (Fraynt et al., 2014), origin (Leenarts et al., 2013), socioeconomic status (SES; de Haan, Boon, de Jong, Hoeve, & Vermeiren, 2013), family situation (Barnett et al., 2002), school attendance (Lee et al., 2012), detention history (Broome, Joe, & Simpson, 2001) and time in detention (Harder et al., 2012; van Binsbergen et al., 2001) are likely to influence youngsters' treatment engagement.

Methods

Setting

The study was conducted in an all-girl YDC, being the only one in Flanders, Belgium. Girls are referred to a YDC by a juvenile judge when charged with a criminal offense or because of a problematic educational situation (e.g., truancy, running away, aggression, or prostitution). Placement in a YDC represents the most severe measure the youth court can impose. Only girls demonstrating the most severe criminal and behavioral problems are assigned to a YDC. The institution has both a restrictive and a rehabilitative function. The infrastructure (e.g., high fences, barred windows, closed doors, isolation rooms), the rigorous regime (e.g., a clearly structured day schedule, strict rules, limited and scheduled contact with family members), and the constant supervision and monitoring by the staff, are meant to ensure a safe environment and to protect the youngsters and society. The educational, pedagogical, and therapeutic program aim to promote youngsters' resocialization and reintegration (Agentschap Jongerenwelzijn, 2011).

Participants

Participants were 108 girls who were placed in the above described YDC. Girls were eligible to participate if they met the following criteria: (i) being adjudicated to be placed in the YDC for at least 1 month; (ii) having sufficient knowledge of Dutch; and (iii) having sufficient cognitive abilities to read and/or understand the questions. The first criterion was set to provide sufficient time to approach and assess the girls. Between February 2012 and June 2014, 215 girls entered the YDC. In total, 46 girls were excluded based on the above criteria: 11 girls were adjudicated to be placed in a YDC for less than one month, 28 girls did not have sufficient knowledge of Dutch, and 7 girls did not have sufficient cognitive abilities. The remaining 169 girls were eligible to participate. Two girls could not be approached due to acute psychiatric crisis, and 20 girls and/or their parents refused participation, resulting in a baseline (T0) sample of 147 girls (participation rate = 87%). Of this sample, 9 girls and/or their parents refused to participate at T1 and T2, and 30 girls left the YDC before T2, resulting in a final sample of 108 girls (i.e., 73% of the baseline sample).

Overall, these 108 girls were not significantly different from the girls who were not included in the present study ($n = 39$) regarding socio-demographic and detention-related features and baseline levels of psychopathology and QoL, with three exceptions: girls in the final sample reported significantly higher rates of depressed/anxious feelings [$M = 4.22$; $SD = 2.62$ versus $M = 3.28$; $SD =$

2.29, $t = -1.98$ (145), $p = .049$], a significantly higher prevalence rate of CD [56% versus 33%, $X^2 = 5.66$ (1), $p = .017$], and had been detained less often in the past [14% versus 39%, $X^2 = 10.65$ (1), $p = .001$]. The age of the participants ($n = 108$) ranged from 14 to 17 years ($M = 16.21$; $SD = 1.01$) and 32% was of non-Belgian origin. The SES was moderate-to-high for 42% of the participants, and 27% did not live with (one of) their biological parents prior to detention. More than half of the girls (58%) had been attending school during the past month before placement, and 14% had been detained in the past. The average duration of detention was 5.20 months ($SD = 2.44$; range: 2.17-12.81). The average time between detention entry and assessment at T1/T2 was 1.24 months ($SD = .17$; range: .92-1.77) and 2.30 months ($SD = .28$; range: 1.64-3.38), respectively.

Procedure

Participants were approached and assessed following a standardized protocol. The girls were addressed individually, receiving oral and written information about the aims, content, and duration of the study. The girls were assured that their information would be treated confidentially and that refusal to participate would not affect their judicial status or stay in the YDC. Written informed consent was given before starting the assessment. The girls' parents also received a letter including information about the aims and practical aspects of the study and could refuse participation. Psychopathology and QoL were assessed on average 5 days ($SD = 3.30$; range: 1-20) after the start of detention. About one and two months later, treatment engagement was measured. Participants were assessed in a private area in the YDC. The assessment was conducted by the first author or final-year university students, none of whom were on the staff of the YDC. Participants did not receive any financial compensation. This study was approved by the Institutional Review Board of the Faculty of Psychology and Educational Sciences at Ghent University (2011/59) and by the Board of the YDC. The present study is part of a larger, prospective cohort study focusing on detained girls' psychopathology, QoL and social adaptation before, during, and after detention.

Measures

Treatment engagement. At T1 and T2, treatment engagement was assessed by means of a self-report questionnaire. Based on the work of Englebrect and colleagues (2008), Colins, Hermans and colleagues (2012) adapted a 17-item self-report questionnaire to measure treatment engagement among detained adolescents. While translating the English items into Dutch they replaced the word "staff" by a Dutch word referring to the professionals who are working most closely together with these adolescents. This Dutch

word (“groepsleiders”) is difficult to translate into English, but may be most appropriately translated as group care workers (i.e., pedagogical staff who monitor, supervise and act with these youths in various activities) (Colins, Hermans, et al., 2012).

In line with Englebrecht and colleagues (2008), the items were organized into three dimensions: readiness to change (e.g., ‘I guess I have faults, but there's nothing I really need to change’, ‘Maybe this place will be able to help me’; 5 items; α in the current study: $T1=.75/T2=.80$), bond with the staff (e.g., ‘I trust the staff here’, ‘Staff here is genuinely concerned about my welfare’; 7 items; $\alpha T1=.92/T2=.94$), and collaboration on goals and tasks (e.g., ‘Staff and I are working towards goals we agree on’, ‘I am finally doing some work on my problems’; 6 items; $\alpha T1=.73/T2=.80$). To facilitate readability and to be consistent across items, Colins, Hermans and colleagues (2012) rephrased several items into the active voice, and one item was added to the dimension “collaboration on goals and tasks”.

As therapeutic engagement is also considered a component of treatment engagement, Colins, Hermans and colleagues (2012) translated the four corresponding questions used by Hawke and colleagues (2005) and added these items to the aforementioned items as a fourth dimension “therapeutic engagement” (e.g., ‘I have learned to analyze and plan ways to solve my problems’, ‘I feel good about my progress working on my problems’; 4 items; $\alpha T1/T2=.85/.84$). Importantly, whereas Hawke and colleagues (2005) explicitly referred to counseling, Colins, Hermans and colleagues (2012) replaced ‘counseling’ by ‘your stay here’.

Participants needed to score all 22 items on a 6-point rating scale, ranging from “do not agree at all” (0) until “definitely agree” (6). Subscale scores range from 0 (indicating low) to 6 (indicating high treatment engagement), representing the mean of the item scores of interest. There is some evidence that this tool enables a reliable and valid assessment of treatment engagement in adolescent forensic and clinical samples (Colins, Hermans, et al. 2012; Englebrecht et al. 2008; Hawke et al. 2005). Overall, the suggested four factor model provided a reasonable fit to the data in the present study. At T1 and T2, the model had a comparative fit index (CFI) value above .90 (i.e., .914 and .909, respectively) and a standardized root mean square residual (SRMR) value below .08 (i.e., .070 and .065, respectively), which indicates an acceptable fit (Hu & Bentler, 1999). The model at T1 had a mean square error of approximation (RMSEA) value below .08 (i.e., .079, 90%CI [.063; .093]), indicating a fair fit, while the model at T2 had a RMSEA value above .08 (i.e., .087, 90%CI [.072; .101]), falling between a fair (<.08) and a (>.10) poor fit (Hu & Bentler, 1999).

Psychopathology. At the start of detention (T0), psychopathology was assessed in two ways. The Dutch translation (Colins et al., 2014) of the Massachusetts Youth Screening Instrument-Second Version (MAYSI-2; Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001) was used to assess the girls' *mental health problems*. This self-report questionnaire was developed for use in juvenile justice settings and includes 52 yes/no items indicating the presence or absence of symptoms related to mental health problems in the past few months (Grisso et al., 2001). The MAYSI-2 has been shown to be a reliable and valid screening instrument (Grisso et al., 2001). The 52 items are organized into six subscales by adding up the items of interest. In the current study, we included the scales Alcohol/Drug Use (ADU; e.g., 'Have you used alcohol or drugs to make you feel better?'; 8 items; range: 0-8; $\alpha = .85$ in the current study), Angry-Irritable (AI; e.g., 'When you have been mad, have you stayed mad for a long time?'; 9 items; range: 0-9; $\alpha = .80$), Depressed-Anxious (DA; e.g., 'Have nervous or worried feelings kept you from doing things you want to do?'; 9 items; range: 0-9; $\alpha = .78$), Suicide Ideation (SI; e.g., 'Have you felt like hurting yourself?'; 5 items; range: 0-5; $\alpha = .90$), and Traumatic Experiences (TE; e.g., 'Have you ever seen someone severely injured or killed (in person, not in movies or on TV)?'; 5 items; range: 0-5; $\alpha = .64$). The Somatic Complaints subscale was not included, because Cronbach's alpha was too low in the current study (.54).

The Dutch translation of the Diagnostic Interview Schedule for Children-IV (DISC-IV; Ferdinand & Van der Ende, 2002) was used to assess the girls' past-year prevalence of *psychiatric disorders*. The DISC-IV is a highly structured diagnostic interview, designed to assess if children and adolescents meet criteria for the DSM-IV disorders (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). It is a reliable and valid structured questionnaire in both clinical and community samples (Shaffer et al., 2000). In the present study, the DISC-IV was used to assess the past-year prevalence of major depressive disorder (MDD), post-traumatic stress disorder (PTSD), separation anxiety disorder (SAD), attention-deficit/hyperactivity disorder (ADHD), conduct disorder (CD), oppositional defiant disorder (ODD), alcohol use disorder, marijuana use disorder, and substance disorders other than alcohol and marijuana. In agreement with previous studies (Colins, Vermeiren, Schuyten, & Broekaert, 2009), we differentiated between three broadband diagnostic categories. "Pure externalizing disorders" refers to having a disruptive behavior- and/or a substance use disorder without co-morbid internalizing disorders. "Pure internalizing disorders" refers to having a mood and/or anxiety disorder without co-morbid externalizing disorders. "Both ex- and internalizing disorders" refers to the presence of at least one externalizing and one internalizing disorder.

Quality of life. QoL was assessed at the start of detention (T0) using the WHOQOL-BREF, an abbreviated version of the WHOQOL-100 (The World Health Organization QoL Instrument; THE WHOQOL GROUP, 1998). The WHOQOL-BREF is a reliable and valid self-report instrument in adults (Trompenaars, Masthoff, Van Heck, Hodiament, & De Vries, 2005) and adolescents (Agnihotri, Awasthi, Singh, Chandra, & Thakur, 2010; Chen et al., 2006). Given our interest in QoL prior to detention, we changed the reference period of the WHOQOL-BREF from the “last 2 weeks” to “the 2 weeks before detention.” (see also: Van Damme et al., 2015). Participants needed to score all items on a five-point rating scale, ranging from “very poor” (1) to “very good” (5). The WHOQOL-BREF includes four subscales to assess QoL in the domains of physical health (e.g., ‘How satisfied are you with your ability to perform your daily living activities?’; 7 items; $\alpha = .75$ in the current study), psychological health (e.g., ‘How satisfied are you with yourself?’; 6 items; $\alpha = .88$), social relationships (e.g., ‘How satisfied are you with the support you get from your friends?’; 3 items; $\alpha = .73$), and environment (e.g., ‘How satisfied are you with the conditions of your living place?’; 8 items; $\alpha = .80$). Subscale scores range from 0 to 100, with higher scores indicating a better QoL.

Socio-demographics. At the start of detention (T0), standardized information regarding age, origin, SES, family situation, school attendance, and detention history was gathered by means of a socio-demographic questionnaire which was used in previous studies among detained adolescents (e.g., Colins et al., 2009). Age refers to the girl’s age at T0. Origin was operationalized by dichotomizing the girls’ ethnic descent (i.e., Belgian versus non-Belgian). SES was made operational by dichotomizing parents’ occupation. Adolescents were placed in the low SES category when both parents were unemployed or holding a low-level job (unskilled and skilled labor). They were placed in the moderate-to-high category when at least one parent held a moderate-to-high-level job, working as an employee, manager, self-employed, or practitioner of a liberal profession (e.g., lawyer or doctor). The variable ‘family situation’ refers to living (versus not living) with one’s biological mother and/or father prior to detention. School attendance refers to attending (versus not attending) school during the month before detention. The variable ‘past detention’ indicates whether or not the girl had been detained in the past. For each girl, the duration of detention and the time between detention entry and assessment at T1/T2 was calculated.

Statistical analyses

First, we analysed descriptive statistics regarding detained girls’ psychopathology and QoL at baseline (T0), and their treatment engagement at T1 and T2. Second, Pearson’s correlation coefficients were used to determine

the relationship between treatment engagement at T1/T2 and continuous baseline variables (e.g., QoL), while independent t-tests were used to determine the relationship between treatment engagement at T1/T2 and dichotomous baseline variables (e.g., psychiatric disorders). Third, to test to what extent treatment engagement at T1/T2 is influenced by psychopathology, QoL and time, after controlling for socio-demographic and detention-related variables, a series of four general linear model (GLM) repeated measures analyses were performed with each of the four dimensions of treatment engagement as dependent variables. We included the main effects of the baseline predictors, the main effect of time from T1 until T2, and the interaction effects between time on the one hand and the predictors of interest on the other hand. To maximize the statistical power, we deliberately selected the independent variables for the GLM repeated measures analyses. Only those MAYSI-2 mental health subscales, DISC-IV broadband diagnostic categories, QoL domains, and socio-demographic and detention-related variables were included that were significantly ($p < .05$) related to the T1/T2 treatment engagement dimension of interest in the bivariate analyses. Partial eta-squared values (η_p^2) were calculated as a measure of effect size (i.e., the proportion of total variability that can be attributed to the independent variable of interest, after the effects of other independent variables have been partialled out). Values of .0099, .0588 and .1379 referred to small, medium and large effects, respectively (Richardson, 2011). *Mplus* was used to conduct the confirmatory factor analyses for the treatment engagement questionnaire. SPSS 22.0 was used for all other analyses, with a $p < .05$ as the standard for statistical significance.

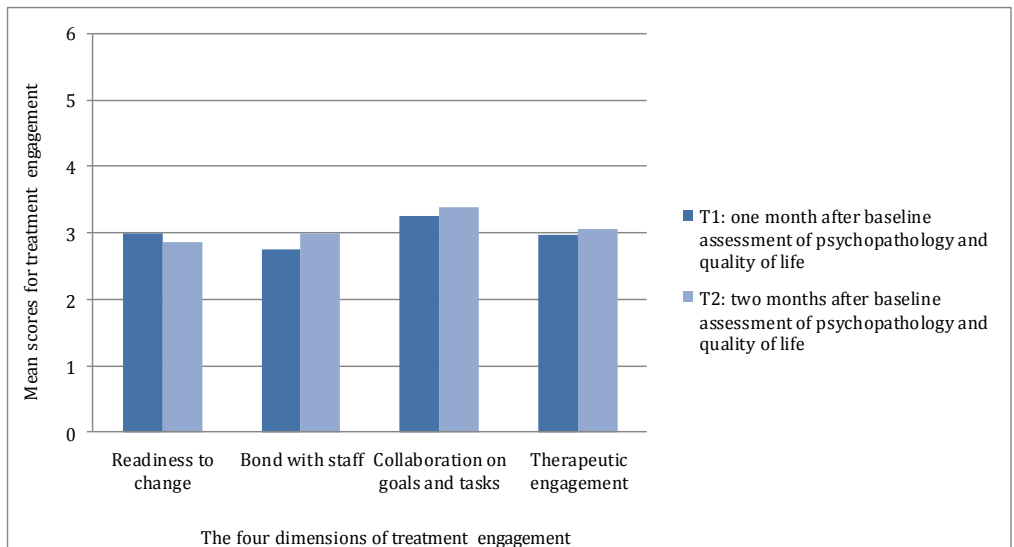
Results

Descriptive statistics

Table 1 presents descriptive data regarding detained girls' psychopathology and QoL at baseline. Descriptive data regarding the girls' treatment engagement scores (theoretical range: 0-6) are provided in Figure 1. At T1, detained girls had the highest treatment engagement score for collaboration on goals and tasks ($M = 3.25$; $SD = 1.27$), followed by readiness to change ($M = 2.99$; $SD = 1.49$), therapeutic engagement ($M = 2.97$; $SD = 1.67$), and bond with staff ($M = 2.74$; $SD = 1.54$). At T2, they reported the highest score for collaboration on goals and tasks ($M = 3.38$; $SD = 1.38$), followed by therapeutic engagement ($M = 3.05$; $SD = 1.60$), bond with staff ($M = 2.99$; $SD = 1.58$), and readiness to change ($M = 2.85$; $SD = 1.49$).

Table 1 Descriptive data regarding psychopathology and quality of life (QoL) at baseline ($n = 108$)

	<i>M (SD); Min-max</i>
Alcohol/Drug Use (0-8)	3.38 (2.69); 0-8
Angry-Irritable (0-9)	5.36 (2.68); 0-9
Depressed-Anxious (0-9)	4.22 (2.62); 0-9
Suicide Ideation (0-5)	2.74 (2.08); 0-5
Traumatic Experiences (0-5)	3.03 (1.54); 0-5
	<i>n (%)</i>
Major depressive disorder	43 (39.8)
Posttraumatic stress disorder	20 (18.5)
Separation anxiety disorder	32 (29.6)
Attention-deficit/hyperactivity disorder	24 (22.2)
Oppositional defiant disorder	36 (33.3)
Conduct disorder	60 (55.6)
Any alcohol use disorder	38 (35.2)
Any marijuana use disorder	58 (53.7)
Any other substance use disorder	32 (29.6)
Pure internalizing disorders	9 (8.3)
Pure externalizing disorders	36 (33.3)
Co-morbidity in- and externalizing	49 (45.4)
	<i>M (SD); Min-max</i>
QoL Physical health (0-100)	63.65 (16.31); 25-100
QoL Psychological health (0-100)	53.81 (22.29); 4.17-100
QoL Social relationships (0-100)	75.55 (20.26); 16.67-100
QoL Environment (0-100)	63.73 (17.21); 6.25-100

Figure 1 Mean scores for treatment engagement at T1/T2 ($n = 108$)

Bivariate relationships between psychopathology/QoL and treatment engagement

Table 2 and 3 present how socio-demographic and detention-related variables, psychopathology, and QoL are associated with different dimensions of treatment engagement. A longer time between detention entry and T1 was associated with lower scores for readiness to change at T1 ($r = -.23$). Non-Belgian girls reported lower scores for multiple dimensions of treatment engagement, compared to their Belgian counterparts [e.g., collaboration on goals and tasks (T2): $M = 2.90$ versus $M = 3.60$; $t = 2.53$ (106), $p = .013$]. Also, girls who had been attending school during the past month before placement had higher scores on all but one dimension (i.e., readiness to change) of treatment engagement, compared to girls who had not [e.g., therapeutic engagement (T1): $M = 3.34$ versus $M = 2.46$; $t = -2.77$ (105), $p = .007$].

With regard to psychopathology, none of the MAYSI-2 scale scores was related to treatment engagement. The presence of a psychiatric disorder did show significant relationships with treatment engagement, with the direction of the relationship depending on the type of disorder under consideration. Girls with internalizing disorders (more specifically separation anxiety disorder or pure internalizing disorders) reported higher scores for multiple dimensions of treatment engagement than girls without these disorders [e.g., bond with staff (T1): $M = 3.89$ versus $M = 2.63$; $t = -2.38$ (103), $p = .019$]. On the contrary, girls with externalizing disorders (more specifically ADHD, CD, any alcohol use disorder or pure externalizing disorders) reported lower scores for multiple dimensions of treatment engagement, compared to girls without these disorders [e.g., readiness to change (T1): $M = 2.46$ versus $M = 3.26$; $t = 2.69$ (103), $p = .008$].

Regarding QoL, girls with higher scores for different dimensions of treatment engagement reported higher scores for the domains of physical health (r ranging between .20 and .23), psychological health ($r = .22$) and environment (r ranging between .21 and .32), while girls with higher scores for readiness to change reported lower scores for the domain of social relationships (r ranging between -.22 and -.24).

GLM repeated measures analyses with socio-demographic covariates

Table 4 presents how treatment engagement at T1/T2 is influenced by psychopathology, QoL and time, after controlling for socio-demographic and detention-related covariates. With regard to the main effect of time, none of the girls' treatment engagement scores showed a significant change over a period of one month. Regarding the main effects of the included predictors, readiness to change was influenced negatively by time between detention

Table 2 Treatment engagement at T1/T2 in relation to continuous baseline predictors: age, mental health problems and quality of life (QoL); Pearson's (*r*) correlation coefficients (*n* = 108)

	Readiness to change		Bond with staff		Collaboration on goals and tasks		Therapeutic engagement	
	T1	T2	T1	T2	T1	T2	T1	T2
Age	-.17	-.13	.03	-.05	<.00	-.08	.10	-.04
Time between detention entry and T1/T2	-.23*	<.00	-.03	.12	-.03	.16	-.17	.07
Alcohol/Drug Use	.03	.01	-.16	-.02	-.14	<.00	-.05	-.06
Angry-Irritable	.11	.08	-.13	-.14	-.07	-.07	-.11	-.11
Depressed-Anxious	.16	.08	>.00	-.05	.02	-.05	.07	.01
Suicide Ideation	.14	<.00	-.05	-.04	-.04	-.04	-.01	-.05
Traumatic experiences	.09	.11	-.04	.05	-.05	-.01	.07	.01
QoL Physical health	-.10	-.09	.20*	.17	.23*	.18	.18	.07
QoL Psychological health	-.13	-.05	.12	.15	.19	.11	.22*	.18
QoL Social relationships	-.22*	-.24*	-.01	.02	.05	.02	.04	-.04
QoL Environment	.03	-.02	.24*	.30**	.32**	.28**	.25*	.21*

* $p < .05$; ** $p < .01$.

Note: T1 = one month after baseline assessment of psychopathology and QoL; T2 = two months after baseline assessment of psychopathology and QoL.

Table 3 Treatment engagement at T1/T2 in relation to categorical baseline predictors: socio-demographic and detention-related variables and psychiatric disorders: Independent t-tests ($n = 108$)

		Readiness to change		Bond with staff		Collaboration on goals and tasks		Therapeutic engagement	
		<i>M (SD)</i>		<i>M (SD)</i>		<i>M (SD)</i>		<i>M (SD)</i>	
		T1	T2	T1	T2	T1	T2	T1	T2
Origin	Non-Belgian ($n = 35$)	2.68 (1.49)	2.46 (1.38)	2.42 (1.70)	2.51 (1.75) *	3.11 (1.36)	2.90 (1.52) *	2.86 (1.76)	2.74 (1.66)
	Belgian ($n = 73$)	3.14 (1.48)	3.04 (1.51)	2.89 (1.44)	3.22 (1.46)	3.31(1.23)	3.60 (1.26)	3.02 (1.64)	3.20 (1.56)
Socioeconomic status	Moderate-to-high ($n = 45$)	3.00 (1.50)	2.93 (1.62)	2.72 (1.65)	2.96 (1.75)	3.32 (1.33)	3.50 (1.42)	3.10 (1.72)	3.24 (1.71)
	Low ($n = 54$)	3.12 (1.45)	2.93 (1.39)	2.85 (1.47)	3.08 (1.44)	3.24 (1.18)	3.42 (1.31)	2.93 (1.65)	2.97 (1.57)
Lives with biological parent(s)	Yes ($n = 79$)	3.03 (1.55)	2.80 (1.49)	2.87 (1.57)	3.04 (1.58)	3.34 (1.26)	3.43 (1.35)	2.96 (1.70)	3.05 (1.62)
	No ($n = 29$)	2.89 (1.33)	3.00 (1.50)	2.38 (1.40)	2.85 (1.62)	3.00 (1.30)	3.22 (1.49)	2.99 (1.61)	3.05 (1.56)
School attendance	Yes ($n = 63$)	3.15 (1.47)	3.00 (1.58)	2.99 (1.43) *	3.30 (1.52) *	3.54 (1.15) **	3.65 (1.37) *	3.34 (1.64) **	3.26 (1.66)
	No ($n = 45$)	2.77 (1.51)	2.65 (1.34)	2.38 (1.63)	2.56 (1.59)	2.84 (1.33)	3.00 (1.32)	2.46 (1.60)	2.77 (1.48)
Past detention	Yes ($n = 93$)	2.91 (1.43)	2.76 (1.36)	2.84 (1.65)	2.67 (1.81)	3.19 (1.35)	2.84 (1.42)	3.37 (1.91)	2.78 (1.44)
	No ($n = 15$)	3.00 (1.51)	2.87 (1.51)	2.72 (1.53)	3.04 (1.55)	3.26 (1.27)	3.46 (1.36)	2.90 (1.63)	3.10 (1.62)
Major depressive disorder	Yes ($n = 43$)	3.23 (1.53)	3.02 (1.69)	2.69 (1.65)	2.96 (1.72)	3.20 (1.28)	3.38 (1.39)	2.92 (1.87)	3.02 (1.74)
	No ($n = 65$)	2.83 (1.46)	2.74 (1.34)	2.77 (1.47)	3.01 (1.50)	3.26 (1.23)	3.38 (1.39)	3.00 (1.54)	3.08 (1.51)
Posttraumatic stress disorder	Yes ($n = 20$)	3.25 (1.25)	2.88 (1.45)	2.83 (1.57)	3.28 (1.58)	3.21 (1.28)	3.34 (1.24)	2.98 (1.96)	3.16 (1.52)
	No ($n = 88$)	2.93 (1.54)	2.85 (1.50)	2.72 (1.54)	2.93 (1.59)	3.24 (1.25)	3.39 (1.42)	2.97 (1.61)	3.03 (1.62)
Separation anxiety disorder	Yes ($n = 32$)	3.27 (1.39)	2.94 (1.48)	3.11 (1.53)	3.49 (1.54) *	3.53 (1.21)	3.60 (1.23)	3.45 (1.78)	3.52 (1.69)
	No ($n = 76$)	2.87 (1.52)	2.82 (1.50)	2.58 (1.52)	2.78 (1.57)	3.11 (1.25)	3.28 (1.44)	2.76 (1.59)	2.86 (1.53)
Attention-deficit/hyperactivity disorder	Yes ($n = 24$)	2.52 (1.52)	2.74 (1.65)	2.11 (1.69) *	2.13 (1.7) **	2.91 (1.41)	2.90(1.49)	2.22 (1.87) *	2.43 (1.65) *
	No ($n = 84$)	3.12 (1.46)	2.88 (1.45)	2.92 (1.45)	3.24 (1.47)	3.35 (1.22)	3.51 (1.33)	3.19 (1.55)	3.23 (1.54)
Oppositional defiant disorder	Yes ($n = 36$)	3.13 (1.52)	3.00 (1.80)	2.74 (1.76)	2.96 (1.68)	3.16 (1.26)	3.35 (1.35)	2.74 (1.93)	3.02 (1.67)
	No ($n = 72$)	2.92 (1.48)	2.78 (1.31)	2.74 (1.42)	3.01 (1.55)	3.29 (1.28)	3.39 (1.41)	3.09 (1.53)	3.07 (1.57)
Conduct disorder	Yes ($n = 60$)	3.04 (1.37)	2.84 (1.57)	2.43 (1.43) *	2.78 (1.62)	3.08 (1.21)	3.30 (1.32)	2.80 (1.76)	2.89 (1.64)
	No ($n = 48$)	2.93 (1.64)	2.88 (1.39)	3.13 (1.59)	3.26 (1.52)	3.45 (1.33)	3.48 (1.46)	3.19 (1.54)	3.27 (1.53)
Any alcohol use disorder	Yes ($n = 38$)	2.79 (1.40)	2.69 (1.48)	2.26 (1.52) *	2.81 (1.57)	2.94 (1.32)	3.04 (1.32)	2.53 (1.69)	2.63 (1.44) *
	No ($n = 69$)	3.07 (1.53)	2.93 (1.50)	2.99 (1.50)	3.07 (1.60)	3.41 (1.23)	3.54 (1.40)	3.20 (1.64)	3.27 (1.65)
Any marijuana use disorder	Yes ($n = 58$)	2.90 (1.45)	2.77 (1.49)	2.65 (1.47)	3.01 (1.53)	3.19 (1.19)	3.40 (1.29)	3.01 (1.67)	3.09 (1.57)
	No ($n = 49$)	3.09 (1.57)	2.93 (1.50)	2.85 (1.63)	2.98 (1.67)	3.33 (1.38)	3.34 (1.51)	2.93 (1.70)	3.02 (1.66)
Any other substance use disorder	Yes ($n = 32$)	2.73 (1.30)	2.89 (1.65)	2.37 (1.61)	2.66 (1.59)	2.96 (1.13)	3.17 (1.22)	2.66 (1.54)	2.74 (1.38)
	No ($n = 75$)	3.12 (1.56)	2.87 (1.40)	2.90 (1.50)	3.14 (1.58)	3.37 (1.32)	3.48 (1.45)	3.11 (1.72)	3.21 (1.67)

Pure internalizing disorders	Yes (<i>n</i> = 9)	3.87 (1.50)	3.53 (1.45)	3.89 (1.11) *	4.06 (1.27) *	4.07 (1.20) *	4.00 (1.20)	4.14 (1.34) *	4.36 (1.17) *
	No (<i>n</i> = 96)	2.90 (1.47)	2.80 (1.47)	2.63 (1.55)	2.89 (1.60)	3.17 (1.28)	3.31 (1.40)	2.87 (1.68)	2.94 (1.60)
Pure externalizing disorders	Yes (<i>n</i> = 36)	2.46 (1.37) **	2.48 (1.11) *	2.25 (1.25) *	2.74 (1.43)	2.85 (1.32) *	3.08 (1.51)	2.40 (1.43)**	2.74 (1.42)
	No (<i>n</i> = 69)	3.26 (1.49)	3.06 (1.61)	2.99 (1.65)	3.12 (1.68)	3.46 (1.23)	3.52 (1.31)	3.28 (1.74)	3.22 (1.69)
Co-morbidity in- and externalizing	Yes (<i>n</i> = 49)	3.22 (1.44)	3.05 (1.67)	2.67 (1.60)	2.96 (1.645)	3.29 (1.26)	3.46 (1.33)	3.04 (1.82)	3.05 (1.70)
	No (<i>n</i> = 56)	2.78 (1.52)	2.70 (1.27)	2.79 (1.53)	3.01 (1.57)	3.21 (1.32)	3.28 (1.45)	2.93 (1.58)	3.08 (1.55)

* $p < .05$; ** $p < .01$. Note: T1 = one month after T0 assessment of psychopathology and QoL; T2 = two months after T0 assessment of psychopathology and QoL.

Table 4 General linear model (GLM) repeated measures models predicting the four dimensions of treatment engagement at T1/T2 (*n* = 108)

		<i>B</i> (95% <i>CI</i>)		<i>t</i>		<i>p</i>		η_p^2		<i>F</i> (1)	<i>p</i>	η_p^2
		T1	T2	T1	T2	T1	T2	T1	T2			
Readiness to change	Time between detention entry and T1	-1.99 (-3.57; -.40)	-2.06 (-3.65; -.48)	-2.48	-2.58	.015*	.011*	.06	.06	8.08	.005**	.08
	Pure externalizing disorders (No)	.74 (.17; 1.31)	.50 (-.07; 1.07)	2.56	1.74	.012*	.084	.06	.03	5.84	.017*	.06
	Quality of life Social relationships	-.01 (-.03; <.00)	-.02 (-.03; <.00)	-2.11	-2.29	.038*	.024*	.04	.05	6.11	.015*	.06
Bond with staff	Origin (Belgian)	.56 (-.04; 1.17)	.78 (.16; 1.40)	1.85	2.51	.068	.014*	.03	.06	6.04	.016*	.06
	School attendance (No)	-.54 (-1.13; .05)	-.63 (-1.23; -.03)	-1.82	-2.09	.072	.039*	.03	.04	4.85	.030*	.05
	Pure internalizing disorders (No)	-.98 (-2.02; .07)	-1.12 (-2.19; -.06)	-1.85	-2.10	.067	.038*	.03	.04	4.95	.028*	.05
	Pure externalizing disorder (No)	.68 (.07; 1.29)	.27 (-.35; .90)	2.20	.87	.030*	.385	.05	.01	2.98	.088	.03
Collaboration on goals and tasks	Quality of life Physical health	.01 (-.02; .03)	-.01 (-.03; .02)	.59	-.55	.557	.583	>.00	>.00	>.00	.987	>.00
	Quality of life Environment	.01 (-.01; .04)	.03 (>.00; .05)	.96	2.08	.338	.040*	.01	.04	2.95	.089	.03
	Origin (Belgian)	.27 (-.22; .76)	.72 (.19; 1.26)	1.10	2.67	.273	.009**	.01	.07	4.50	.036*	.04
	School attendance (No)	-.58 (-1.05; -.10)	-.59 (-1.11; -.07)	-2.40	-2.23	.018*	.028*	.06	.05	6.52	.012*	.06
	Pure internalizing disorders (No)	-.63 (-1.47; .22)	-.56 (-1.49; .37)	-1.48	-1.20	.143	.233	.02	.01	2.16	.145	.02
	Pure externalizing disorders (No)	.57 (.08; 1.07)	.42 (-.13; .96)	2.30	1.52	.024*	.132	.05	.02	4.35	.040*	.04
	Quality of life Physical health	>.00 (-.02; .02)	>.00 (-.02; .02)	.26	.03	.794	.973	>.00	>.00	.03	.875	>.00
Therapeutic engagement	Quality of life Environment	.02 (<.00; .04)	.02 (<.00; .04)	1.82	1.59	.071	.115	.03	.03	3.52	.064	.04
	School attendance (No)	-.79 (-1.14; -.16)	-.42 (-1.04; .21)	-2.48	-1.31	.015*	.194	.06	.02	4.48	.037*	.04
	Pure internalizing disorders (No)	-.89 (-1.99; .21)	-1.22 (-2.32; -.12)	-1.61	-2.20	.110	.031*	.03	.05	4.53	.036*	.04
	Pure externalizing disorders (No)	.87 (.20; 1.53)	.39 (-.28; 1.05)	2.58	1.61	.011*	.249	.06	.01	4.38	.039*	.04
	Quality of life Psychological health	.02 (-.01; .04)	.01 (-.01; .03)	1.52	.89	.131	.376	.02	.01	1.82	.180	.02
	Quality of life Environment	>.00 (-.02; .03)	.01 (-.02; .03)	.25	.52	.803	.607	>.00	>.00	.18	.670	>.00

* $p < .05$; ** $p < .01$.

Note: None of the main effects of time and none of the interaction effects between time and the included predictors appeared to be significant.

Note: T1 = one month after baseline assessment of psychopathology and QoL; T2 = two months after baseline assessment of psychopathology and QoL; *CI* = confidence interval.

entry and T1 ($F(1) = 8.08; p = .005$), pure externalizing disorders ($F(1) = 5.84; p = .017$), and the girls' satisfaction with their social relationships ($F(1) = 6.11; p = .015$). Bond with staff was influenced positively by Belgian origin ($F(1) = 6.04; p = .016$), school attendance ($F(1) = 4.85; p = .030$), and pure internalizing disorders ($F(1) = 4.95; p = .028$). Collaboration on goals and tasks was affected positively by Belgian origin ($F(1) = 4.50; p = .036$) and school attendance ($F(1) = 6.52; p = .012$), but negatively by pure externalizing disorders ($F(1) = 4.35; p = .040$). Detained girls' therapeutic engagement was affected positively by school attendance ($F(1) = 4.48; p = .037$) and pure internalizing disorders ($F(1) = 4.53; p = .036$), but negatively by pure externalizing disorders ($F(1) = 4.38; p = .039$). As indicated by the η_p^2 values, the effect sizes of the above findings are small to medium, ranging from .04 to .08. Regarding interaction effects between time on the one hand and the included predictors on the other hand, no significant results could be revealed.

Discussion

The present study aimed to examine how detained girls' treatment engagement during detention was influenced by psychopathology, QoL and time, after controlling for socio-demographic and detention-related covariates. Detained girls' mean scores for readiness to change, bond with staff, collaboration on goals and tasks, and therapeutic engagement were consistently and remarkably lower than the mean scores for these four scales reported in prior European as well as American studies among detained boys and girls (Colins, Hermans, et al., 2012; Englebrecht et al., 2008). These findings converge with prior evidence that detained girls are not very willing to engage in treatment (Englebrecht et al., 2008; Harder et al., 2012). This lack of treatment engagement can be explained by the coercive nature of detention, but also by the context in which many of these girls grow up. Prior work showed that detained girls often live in detrimental conditions before placement, including psychological problems in the family, being victim of maltreatment, or involvement in prostitution (Lenssen et al., 2000; McCabe, Lansing, Garland, & Hough, 2002; Odgers, 2002). As a consequence, several girls are detained for child protective reasons, and not merely because they have committed (severe) antisocial acts (Lenssen et al., 2000). Consequently, these girls may be particularly likely to externalize reasons for antisocial behavior, to lack problem recognition, to consider placement as unfair, and to see no reasons why they should be treated in the first place (Englebrecht et al., 2008; Harder et al., 2012; Page & Scalora, 2004).

Repeated measures analyses showed that there was no significant change in levels of treatment engagement over time. The lack of change in detained girls'

treatment engagement during detention may be accounted for by the institutional climate. The highly structured and repressive nature of detention forms a major challenge, as it restricts the youngsters' autonomy and is likely to create resistance and to hamper the development of treatment engagement (Schubert, Mulvey, Loughran, & Losoya, 2012; van der Helm et al., 2014). However, the lack of change in treatment engagement in the current sample may also be explained by the limited time frame in which treatment engagement was measured (i.e., around the first and the second month of detention). This explanation is supported by prior evidence regarding the dynamic nature of treatment engagement among detained minors (Harder et al., 2012; van Binsbergen et al., 2001). Future research is needed to explore whether adopting a broader timeframe (e.g., from admission to departure [Harder et al., 2012] or at the start of detention and four to five months later [van Binsbergen et al., 2001]) indeed elucidates more changes in detained girls' treatment engagement over time.

This study provides support for the assumption that psychopathology helps to account for differences in detained girls' level of treatment engagement, with effect sizes being small to medium. In line with prior work (Hawke et al., 2005; Leenarts et al., 2013; Roedelof et al., 2013), the relationship between treatment engagement and psychopathology depended on the type of psychopathology, with girls being more engaged to address their internalizing than their externalizing problems. This finding fits within the developmental period of adolescence, when youngsters become more self-centered, as illustrated by the emergence of personal fables of omnipotence, invulnerability, and personal uniqueness (Aalsma, Lapsley, & Flannery, 2006; Berk, 2006; Seagrave & Grisso, 2002). As such, adolescents are mainly focused on their own unique feelings and burdens (cf. their high awareness of internalizing problems), while they may be less worried about potential harm they are causing to others (cf. their limited awareness of externalizing problems). Our findings suggest that detained girls may be at least motivated to address their internalizing problems. Consequently, we recommend treatment to start off by exploring the youngsters' own burdens and priorities for change, instead of immediately focusing on changes that are expected by 'non-significant' others (e.g., clinicians). Adopting such an empowering approach among detained minors has been shown to be less threatening and more motivating (Fisher, Morgan, Print, & Leeson, 2010). It may also increase the likelihood that girls and staff agree upon the kind of problems that must be prioritized during their stay in a detention facility. Reaching such an agreement is highly relevant because having a shared problem definition is linked to higher treatment engagement and symptom reduction (Jensen-Doss & Weisz, 2008).

Interestingly, the aforementioned relationship between treatment engagement and psychopathology was revealed when using a categorical approach of psychopathology (DSM classifications), but not when using a dimensional approach (MAYSI-2). The DISC-IV is a diagnostic instrument, assessing the past-year prevalence of psychiatric disorders (Shaffer et al., 2000). The administration of the DISC-IV takes about 70-120 minutes and consists of stem questions, investigating the overall presence of symptoms, followed by contingent questions, asking more details about the frequency, duration and intensity of the symptoms (Shaffer et al., 2000). The MAYSI-2, however, requires no more than ten minutes to administer and includes only 52 yes/no items describing the presence or absence of mental health symptoms during the past few months (Grisso et al., 2001). The developers suggest that MAYSI-2 scores may not be a valid or stable indication of an adolescent's thoughts and feelings beyond three to four weeks after administration (Grisso & Nelson, 2014) and that the MAYSI-2 yields more false positives than may be appropriate to guide mental health intervention planning (Grisso & Barnum, 2006). Therefore, this brief screening instrument is deemed less suitable than more extensive diagnostic instruments, such as the DISC-IV, to reveal prospective associations with girls' treatment engagement one and two months after baseline measurement of mental health.

The current study provides support for the prior assumption that detained girls' QoL explains differences in levels of treatment engagement (Van Damme et al., 2015), with small to medium effect sizes. Girls who were more satisfied with their physical and psychological health and their environment reported higher levels of treatment engagement. This converges with the idea that a high QoL instigates hope, empowerment, and willingness to pursue change (Gudjonsson et al., 2011; Klag et al., 2010). Of note, the social domain of QoL displayed a negative relationship with detained girls' treatment engagement and was the only QoL predictor that remained significant after controlling for other risk factors and socio-demographic and detention-related variables. In line with our prior work (Van Damme et al., 2015), the current results point to the particular importance of social relationships within the developmental phase of adolescence (Berk, 2006). As detained girls often affiliate with peers who are involved in criminal activities (Lederman et al., 2004), it is not surprising that girls who feel popular among peers and surrounded by close, significant friends do not feel the need to engage in treatment or change their antisocial behavior, only because 'non-significant' others think they need to. Peer-helping programs, such as EQUIP, may help to monitor destructive social contacts (Brugman & Bink, 2011), and, in turn, may prevent that antisocial peer interactions impede one's treatment engagement.

Finally, the present study shows that certain socio-demographic and detention-related characteristics also help to differentiate between girls who

are and girls who are not engaged in treatment, with effect sizes being small to medium. First, a longer time between detention entry and T1 was related to lower readiness to change. Increased frustration and resistance due to the highly structured and repressive nature of detention may account for this finding (Schubert, Mulvey, Loughran, & Losoya, 2012; van der Helm et al., 2014). Further research is warranted to explore this assumption, especially since readiness to change is considered to be at the core of treatment engagement (Cunningham et al., 2009; Englebrecht, Peterson, Scherer, & Naccarato, 2008). Second, girls from a non-Belgian ethnic background reported lower treatment engagement scores than their Belgian counterparts, a finding that coincides with findings of prior studies (Leenarts et al., 2013; van Binsbergen et al., 2001). More research is needed to explore which cultural-, language- or other barriers are likely to impact adolescents' treatment engagement negatively, or, more generally, which barriers are likely to hamper access to treatment, experienced quality of treatment and treatment outcomes (Garcia, Aisenberg, & Harachi, 2012; Garcia & Duckett, 2009; Penka, Heimann, Heinz, & Schouler-Ocak, 2008). Third, converging with prior work (Lee et al., 2012), girls who attended school during the past month before detention reported higher treatment engagement scores, compared to girls who did not. This finding corresponds with previous recommendations to strengthen adolescents' social integration, in order to increase their motivation to alter destructive behaviors (Wei, Heckman, Gay, & Weeks, 2011). Also, it urges the need for close and coordinated collaboration between the different stakeholders involved in youth affairs, including not only juvenile justice and mental health services, but also social and educational services (Anthony et al., 2010; van der Molen et al., 2013). More specifically, early and immediate engagement in school following discharge from the juvenile justice facility is needed to fight the highly prevalent school failure or drop-out among detained minors after release into the community and to prevent recidivism (Abram, Choe, Washburn, Romero, & Teplin, 2009; Anthony et al., 2010; Bullis, Yovanoff, & Havel, 2004).

The findings must be interpreted in the context of some limitations. First, the results of the current study only pertain to the group of detained girls meeting the inclusion criteria. Consequently, we missed at least two important subgroups of detained girls (i.e., girls with limited cognitive capacities and limited knowledge of Dutch), which can be considered particularly vulnerable and challenging to treat (Frola, 2009; Garcia et al., 2012). In addition, 27% of the intended follow-up sample dropped out. Girls included in this study had significantly higher rates of depressed/anxious feelings and CD, and had been detained less often in the past, compared to the girls who dropped out. This suggests that we reached the most vulnerable and disturbed group of detained girls who were relatively new to or unfamiliar with the YDCs. This may have

contributed to the remarkably low treatment engagement scores. Future studies are warranted to see if these findings can be replicated in other, larger samples of detained girls.

Second, our sole reliance on self-report can be considered another study limitation. Although third-party information may have some prognostic usefulness (Colins, Vermeiren, et al., 2012), parents and teachers are difficult to locate and often unwilling or unable to provide (reliable) information (Colins, Vermeiren, Schuyten, Broekaert, & Soyez, 2008; Fink, Tant, Tremba, & Kiehl, 2012). Therefore, self-report is often a main source of information for detention staff, which implies that our reliance on self-report can also be regarded as a strength. Nevertheless, we did not ask group care workers to rate detained girls' treatment engagement in the present study. We acknowledge that this is a limitation that must be addressed in future research, especially because it may help to reveal discrepancies between adolescents' and staff's perception of treatment engagement (Harder et al., 2012; van Binsbergen et al., 2001).

Third, the small sample size forced us to only include a limited selection of predictors. As a consequence, we included interaction effects between time from T1 until T2 on the one hand and the included predictors on the other hand, but no interaction effects between psychopathology and QoL, for example. Based on the conceptual model of Drieschner and colleagues (2004), the relationship between treatment engagement and psychopathology is likely to be mediated or even moderated by one's QoL. Future research is needed to test this hypothesis in a larger sample of detained girls.

Fourth, the small sample size also forced us to run four separate repeated measures analyses, in order to predict the four dimensions of treatment engagement at T1/T2. Future work should test whether our findings can be replicated in a larger sample of detained girls, testing only one model that simultaneously includes all four dimensions of treatment engagement. Such a statistical strategy would enable to gain a better insight in the multidimensional nature of treatment engagement, highlighting the particularity and the relative importance of each dimension of treatment engagement.

Finally, given our focus on the role of psychopathology and QoL in relation to detained girls' treatment engagement, we did not consider other plausible determinants of treatment engagement. The small to medium effect sizes indicate that the extent to which detained girls are engaged in treatment is only marginally influenced by their psychopathology and QoL. Various other correlates may play an important role in determining detained girls' treatment engagement. We suggest future work to address, for example, the role of callous-unemotional traits (Simpson et al., 2013), social integration (Wei et al.,

2011), treatment satisfaction (Harder et al., 2012; Pihet, Passini, & Holzer, 2013), living group climate and coping (van der Helm et al., 2014) in determining detained girls' treatment engagement. Also, based on prior work (Englebrecht et al., 2008), we recommend future studies to include both male and female adolescents, in order to gain insight in the gender-specific manifestation and correlates of treatment engagement among detained minors.

Despite the afore-mentioned limitations this study has important clinical implications. Detained girls' low levels of treatment engagement support the need for motivational approaches and techniques, in order to enable change. In line with prior work (Fisher et al., 2010; Wylie & Griffin, 2013), we suggest YDCs to adopt a strengths-based empowering approach, instead of a merely directive and problem-focused approach. For example, instead of *imposing* particular treatment goals, YDC staff should actively *involve* youngsters in defining treatment goals that are personally meaningful to them (Ward & Gannon, 2006). Such efforts will help to create a more positive and motivating climate for change (Thakker, Ward, & Tidmarsh, 2006; van der Helm et al., 2014). In addition, concrete motivational techniques should be part of the YDC's client-specific program. Motivational interviewing (Hettema, Steele, & Miller, 2005; Walitzer, Dermen, & Connors, 1999), for example, could be offered in case externalizing problems or deviant peer interactions tend to impede detained girls' treatment engagement.

To conclude, the present study contributes to the current scientific knowledge about the understudied group of girls in detention, by its focus on treatment engagement in relation to psychopathology and QoL. Detained girls reported low levels of treatment engagement and showed no change in treatment engagement over time. Our results indicate that detained girls may be at least motivated to address their internalizing problems, and that satisfaction with QoL domains of physical and psychological health and environment may serve as a source of empowerment and may facilitate treatment engagement. After all, our findings emphasize the necessity of strengths-based and motivational approaches and techniques among detained girls, in order to enable change.

Chapter 5

Quality of life in relation to future mental health problems and offending: Testing the Good Lives Model among detained girls*

* This chapter is based on Van Damme L., Hoeve, M., Vermeiren, R., Vanderplasschen, W., & Colins, O. (under review after revision). Quality of life in relation to future mental health problems and offending: Testing the Good Lives Model among detained girls. *Law and Human Behavior*.

Abstract

Detained girls bear high levels of criminal behavior and mental health problems that are likely to persist into young adulthood. Research with these girls began primarily from a risk management perspective, while a strength-based empowering perspective may increase knowledge that could improve rehabilitation. This study examined detained girls' quality of life (QoL) in relation to future mental health problems and offending, thereby testing the strength-based Good Lives Model of Offender Rehabilitation (GLM). At baseline, 95 girls ($M_{age} = 16.25$) completed the World Health Organization QoL Instrument to assess their QoL prior to detention in the domains of physical health, psychological health, social relationships, and environment. Six months after discharge, mental health problems and offending were assessed by self-report measures. Structural equation models were conducted to test GLM's proposed (in)direct pathways from QoL (via mental health problems) towards offending. Although we could not find support for GLM's direct negative pathway from QoL to offending, our findings did provide support for GLM's indirect negative pathway via mental health problems to future offending. In addition, we found a direct positive pathway from detained girls' satisfaction with their social relationships to offending after discharge. The current findings support the potential relevance of addressing detained girls' QoL, pursuing the development of new skills, and supporting them to build constructive social contacts. Our findings, however, also show that clinicians should not only focus on strengths but that detecting and modifying mental health problems in this vulnerable group is warranted as well.

Introduction

Many detained female adolescents are involved in severe criminal behavior, such as robbery and physical violence (Lederman, Dakof, Larrea, & Li, 2004; Lenssen, Doreleijers, van Dijk, & Hartman, 2000). In addition, these girls bear high levels of mental health problems, with up to 95% having at least one psychiatric disorder (Hamerlynck, Doreleijers, Vermeiren, Jansen, & Cohen-Kettenis, 2008; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Van Damme, Colins, & Vanderplasschen, 2014). The scant prospective research among detained girls has unambiguously shown that their mental health problems and criminal behavior persists into young adulthood (Teplin, Welty, Abram, Dulcan, & Washburn, 2012; van der Molen, Krabbendam, Beekman, Doreleijers, & Jansen, 2013), and that many of these girls develop one or more personality disorders (Krabbendam et al., 2015). Of note, despite unfavorable circumstances, a small group of girls appear to function surprisingly well later in life (Krabbendam et al., 2015; van der Molen et al., 2013).

It is not well understood why some girls recover from mental health problems or desist from future criminal involvement whereas others do not. This could arise in part because the majority of prospective studies with detained girls has focussed on risk factors associated with the persistence of mental health and adjustment problems. These studies, of course, are relevant from a risk management perspective as they help clinicians to develop and provide interventions that are mainly oriented towards solving problems and reducing risk factors. Nevertheless, research that adds the enhancement of one's quality of life (QoL) to the management of risk is urgently warranted. Studies that apply this strength-based perspective may inform clinicians, for example, how to support offenders in building skills and developing more fulfilling and socially acceptable lifestyles, which is thought to be linked to the reduction of risk (Fisher, Morgan, Print, & Leeson, 2010; Wainwright & Nee, 2014; Wylie & Griffin, 2013). The present study was designed to fill this void by addressing detained girls' QoL in relation to future mental health problems and offending, thereby testing the strength-based Good Lives Model of offender rehabilitation (GLM; Ward, 2002).

The GLM offers a rehabilitation framework for adult offenders. It forms a theoretical framework to explain relapse and reoffending, introducing QoL as a central concept. According to the GLM, humans want to realize a range of primary goods or basic needs (e.g., inner peace and relatedness), and achieving these needs contributes to their QoL. The GLM consists of two main assumptions: that mental health problems are obstacles that hamper the achievement of a good QoL (*first GLM assumption*); and that individuals who are confronted with a poor QoL, may become involved in antisocial activities,

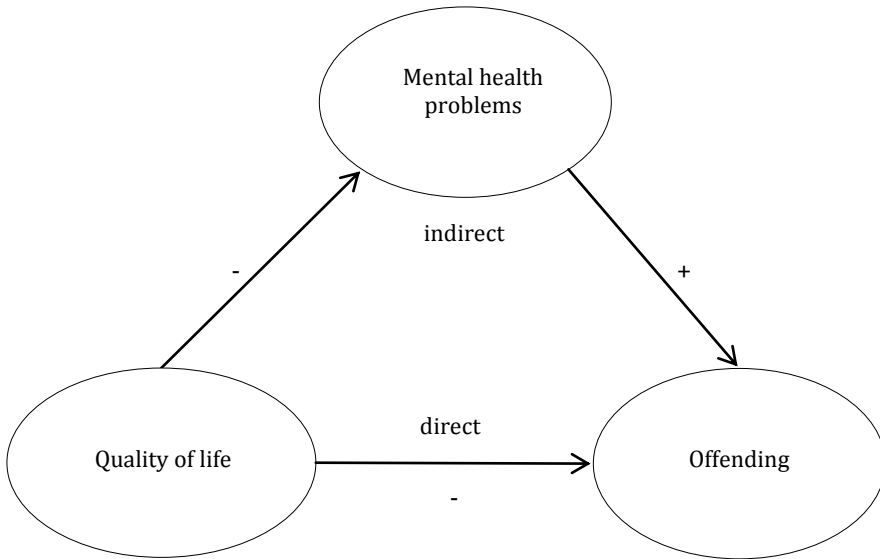
through either a direct or indirect pathway (*second GLM assumption*; Ward, 2002). The direct pathway implies that someone actively commits antisocial behaviors as an alternative strategy to reach a satisfying QoL (e.g., stealing instead of working to obtain material well-being). The indirect pathway implies that an individual's poor QoL generates a gradual accumulation of negative experiences and deteriorating circumstances, which trigger a chain of mental health problems, such as depressed feelings, often followed by alcohol/drug use. Ultimately, he or she loses control of the situation and becomes involved in criminal activities (Purvis, Ward, & Willis, 2011; Ward, Mann, & Gannon, 2007).

The GLM has been applied to a broad range of offender populations (Purvis et al., 2011), yet only rarely to detained adolescents. We are aware of only one empirical study that tested the GLM in detained adolescents. Van Damme and colleagues (2015) scrutinized detained girls' QoL prior to detention and tested whether mental health problems impeded their QoL (*first GLM assumption*). The self-perceived QoL of these detained girls suggested that, overall, they were quite satisfied with their life. This study revealed some clear differences between distinct domains of QoL, supporting a multidimensional conceptualization of QoL (Cummins, Lau, & Stokes, 2004; Verdugo, Schalock, Keith, & Stancliffe, 2005). Detained girls were more satisfied with particular domains (e.g., their social relationships), compared to other domains of QoL (e.g., their psychological health). Also, each domain of QoL was affected by specific mental health problems. In support of the GLM's first assumption, psychiatric disorders were negatively related to detained girls' QoL (Van Damme et al., 2015). The cross-sectional nature of this latter study (Van Damme et al., 2015) did not allow to determine whether a low QoL increased the odds of future mental health problems and offending (*second GLM assumption*). The few empirical studies in adult offenders testing this second GLM assumption indicated that a low QoL does put them at risk for recidivism (Bouman, Schene, & de Ruiter, 2009; Willis & Grace, 2008; Willis & Ward, 2011), and supported the existence of the abovementioned direct and indirect pathways towards offending (Purvis, 2010).

The present study extended those preliminary findings to test GLM's second assumption in a sample of detained girls, focusing on QoL prior to detention in relation to mental health problems and offending six months after discharge (Figure 1). We included multiple domains of QoL (i.e., physical health, psychological health, social relationships, environment), different types of mental health problems (i.e., anger-irritability, alcohol/drug use, depression-anxiety), and different types of offenses (i.e., non-violent and violent). The first objective was to explore associations between the variables of interest, expecting girls with the lowest QoL scores to have the highest rates of mental health problems and offending after discharge. The second objective was to

test the direct pathway towards offending, assuming that QoL negatively influenced the girls' offending after discharge. The third objective was to test the indirect pathway towards offending, assuming that QoL negatively influenced their offending behavior via mental health problems. Based on a multidimensional conceptualization of QoL, we expected that the relationships and pathways would differ according to the domain of QoL.

Figure 1 Hypothesized model: The GLM's (in)direct routes from quality of life (over mental health problems) to offending (Purvis, 2010)



Methods

Participants

The participants were 95 girls who had been placed in an all-girl youth detention center (YDC) in Flanders, Belgium. Girls are referred to this YDC by a juvenile judge when charged with a criminal offense or because of an urgent problematic educational situation (e.g., truancy, running away, aggression, or prostitution). Only girls demonstrating the most severe criminal and behavioral problems are placed in this YDC. At baseline (i.e., at the start of detention), girls were eligible to participate if the following criteria were met: (i) being adjudicated to be placed in the YDC for at least one month; (ii) having sufficient knowledge of Dutch; and (iii) having sufficient cognitive abilities to read and/or understand the questions. Between February 2012 and June 2014, 147 girls participated in the baseline measurement. Six months after discharge,

these girls were approached to participate in the follow-up measurement. By February 2015, 136 girls were eligible to be included for follow-up assessment, as they had been discharged for 6 months. Of the 136 girls, 38 girls and/or their parents refused participation, and three could not be located, leaving 95 girls to be included in the present study (follow-up rate = 70%). These 95 girls were not significantly different from the girls who were not included in the present study ($n = 41$) regarding socio-demographic features and QoL scores at baseline, with one exception: girls included in this study ($n = 95$) had a significantly lower mean score for the QoL domain psychological health ($M = 52.05$; $SD = 20.96$) compared to the 41 girls who dropped out ($M = 60.98$; $SD = 19.52$; $t = 2.33[134]$, $p = .022$). Descriptive data ($n = 95$) regarding age, ethnic origin, past detention, time in detention, and re-incarceration during the follow-up period are presented in Table 1.

Procedure

Participants were approached and assessed following a standardized protocol. Each girl received oral and written information about the aims, content, and duration of the study. The girls were assured that their information would be treated confidentially and that refusal to participate would not affect their judicial status or stay in the YDC. Written informed consent was given before starting the assessment. The girls' parents received a letter with information about the aims and practical aspects of the study and could refuse participation. The girls were assessed within the first three weeks of placement (baseline), and six months after discharge (follow-up; range: 5.39-8.64 months; $M = 6.17$; $SD = .46$). At baseline, participants were assessed in a private area in the YDC. The assessment was conducted by the first author or final-year university students. Participants did not receive financial compensation at that stage of the study. At follow-up, the assessment took place outside the YDC at a time and place that were most convenient for each girl. To increase the response rate, the girls were contacted about three months after discharge, to check how they were doing and to remind them of the upcoming follow-up measurement. They received a gift voucher for participation at follow-up, as this assessment required an extra effort. This study was approved by the Institutional Review Board of the Faculty of Psychology and Educational Sciences at Ghent University (2011/59) and by the Board of the YDC.

Baseline measures

Socio-demographics. At baseline, standardized information regarding age, ethnic origin, and detention history was gathered by means of a socio-demographic questionnaire which was used in previous studies among

detained adolescents (e.g., Colins, Vermeiren, Schuyten, & Broekaert, 2009). Age refers to the girls' age at baseline. Origin was operationalized by dichotomizing the girls' ethnic descent (i.e., Belgian versus non-Belgian). The dichotomous variable "past detention" indicates whether or not the girl had been detained in the past. In addition, for each girl, the duration of the current detention period was calculated, expressed in months.

Quality of life. QoL was assessed at baseline, using the Dutch version of the WHOQOL-BREF, an abbreviated version of the WHOQOL-100 (The World Health Organization Quality of Life Instrument; THE WHOQOL GROUP, 1998). The WHOQOL-BREF has been demonstrated to be a reliable and valid self-report instrument in adults (Trompenaars, Masthoff, Van Heck, Hodiamont, & De Vries, 2005) and adolescents (Agnihotri, Awasthi, Singh, Chandra, & Thakur, 2010; Chen et al., 2006). As we were interested in the situation of the girls at the moment they entered the YDC, the reference period of the WHOQOL-BREF was changed from the "last 2 weeks" to "the 2 weeks before detention." (see also: Van Damme et al., 2015). This was done to reduce the degree to which girls' QoL self-reports might be biased by conditions they experienced in detention (e.g., low self-perceived quality of social relationships because they are not allowed to have contact with their friends; Barendregt, van der Laan, Bongers, & van Nieuwenhuizen, 2012). Participants answered all items on a 5-point rating scale, ranging from "very poor" (1) to "very good" (5). The WHOQOL-BREF includes four subscales to assess QoL in the domains of physical health (7 items; $\alpha = .71$ in the current study), psychological health (6 items; $\alpha = .86$), social relationships (3 items; $\alpha = .76$), and environment (8 items; $\alpha = .84$). Subscale scores ranged from 0 to 100, with higher scores indicating a better QoL.

Follow-up measures

Reincarceration. This dichotomous variable indicates whether or not the girl had been re-incarcerated during the follow-up period.

Mental health problems. The Dutch translation of the Massachusetts Youth Screening Instrument-Second Version (MAYSI-2; Grisso, Barnum, Fletcher, Cauffman, & Peuschold, 2001) was used to assess the mental health problems of the girls at follow-up. This self-report questionnaire includes 52 yes/no items indicating the presence or absence of symptoms related to mental health problems in the past few months (Grisso et al., 2001). The 52 items are organized into six subscales by adding up the items of interest. To maximize the statistical power, we deliberately selected the most relevant MAYSI-2 subscales. As the GLM considers substance abuse, feelings of frustration, loneliness and distress to be play an important role in the indirect pathway from QoL towards offending (Purvis et al., 2011; Ward et al., 2007),

we decided to include the 8-item scale Alcohol/Drug Use (range: 0-8; $\alpha = .84$), the 9-item scale Angry-Irritable (range: 0-9; $\alpha = .85$), and the 9-item scale Depressed-Anxious (range: 0-9; $\alpha = .81$). Each subscale has a “caution” cutoff (identifying youths who may be in need of clinical attention) and a “warning” cutoff (identifying scores displayed by the top 10% of youths in the original U.S. sample, reflecting youth who are even more in need of clinical attention) (Vincent, Grisso, Terry, & Banks, 2008).

Offending. Offending was measured at follow-up, using a self-report questionnaire (van der Laan & Blom, 2005).² All items begin with the standardized question “Have you ever ...”. As we were particularly interested in the girls’ offending behavior in the course of the six months after discharge, the reference period of the questionnaire was changed from “ever” to “the six months after discharge”. In line with prior research involving detained girls (Colins & Andershed, 2015), two continuous variety scores were created, indicating the total number of different non-violent or violent items the girl reported. Non-violent offending reflects the total number of 20 different non-violent items, of which 15 items represent property offenses (e.g., shoplifting and vandalism), two items represent insults, and three items pertain to drug-dealing (range: 0-20; $\alpha = .88$). The violent offending score reflects the total number of seven different violent items the girl reported (e.g., fighting and threats; range: 0-7; $\alpha = .75$).

Statistical analyses

First, we calculated correlations to explore the relationship between QoL prior to detention and mental health problems and offending after discharge. Second, we conducted Structural Equation Modeling (SEM) to examine the effect of QoL on offending (cf., GLM’s direct pathway), and whether this effect is mediated by mental health problems (cf. GLM’s indirect pathway towards offending). Mental health problems and offending were entered as censored variables, using a Tobit model (Tobin, 1958), as a large part of the observations were situated at the minimum or maximum value of these variables; many girls had low scores for Alcohol/Drug Use, Depressed-Anxious, non-violent and violent offending, while the opposite was true for Angry-

² Previously detained youngsters might be reluctant to report their offending behavior after discharge. Therefore, the guarantee of confidentiality was repeated once more just before the girls started to complete this offending questionnaire. The researcher explicitly stated that none of their answers would be reported to their parents, caregivers, policemen, or others. The guarantee of confidentiality was visualised by means of an envelope, which contained all questionnaires and was closed at the end of the assessment. The assessment was conducted individually, in a separate room. In addition, youngsters filled out the questionnaires by themselves, without the researcher looking over their shoulder. The above conditions are considered to promote accurate reporting (van der Laan & Blom, 2005).

Irritable. Weighted Least Squares Mean and Variance adjusted (WLSMV) estimation was used to estimate the models with censored variables. To evaluate the goodness of model fit, we relied on the chi-square (χ^2) test of model fit, the root mean squared error of approximation (RMSEA; Steiger & Lind, 1980), and the comparative fit index (CFI; Bentler, 1990). We used a non-significant χ^2 test of model fit, RMSEA values of $< .05$ and CFI values of $> .90$ as good fit indices (Hu & Bentler, 1999). The significance of the indirect effects was examined by means of 95% bias-corrected bootstrap confidence intervals (CIs; Fritz & MacKinnon, 2007; Geiser, 2013; Hayes & Scharkow, 2013). CIs that do not include zero indicate significant indirect effects. Because we used concurrent measures for the mediator (mental health problems) and outcome variable (offending) and because it cannot be excluded that offending has an impact on mental health problems, we also conducted additional models to check for reversed indirect effects.

We included socio-demographic characteristics in the model to gain insight into the relationships between QoL, mental health problems, and offending, after controlling for socio-demographic covariates. The selection of socio-demographic covariates was based on prior theoretical and empirical indications that ethnic origin (Ng, Lim, Jin, & Shinfuku, 2005; Utsey, Chae, Brown, & Kelly, 2002) and detention history (Barendregt et al., 2012; van Nieuwenhuizen, Schene, & Koeter, 2002) are likely to influence QoL, while age (Najman et al., 2009; Pepler, Jiang, Craig, & Connolly, 2010), duration of detention (Cottle, Lee, & Heilbrun, 2001; Florsheim, Behling, South, Fowles, & DeWitt, 2004), and re-incarceration (Cottle et al., 2001; Kingree, Phan, & Thompson, 2003) are likely to influence offending. SPSS 22 was used to examine differences between girls who were included ($n = 95$) and those who were not included ($n = 41$) in the present study, and to conduct descriptive analyses. The software package *Mplus* (Muthén & Muthén, 1998-2007) was used to calculate correlations between variables of interest and to test the fit of the proposed models to the data.

Results

Descriptive information

Descriptive data regarding detained girls' QoL, mental health problems and offending, are presented in Table 1. The girls were most satisfied with their social relationships ($M = 74.91$; $SD = 21.04$) and least satisfied with their psychological health ($M = 52.05$; $SD = 20.96$). Six months after discharge, the mean score for Angry-Irritable was 4.73 ($SD = 2.93$; Caution zone (Cau) =

Table 1 Correlations between Socio-demographic Characteristics, Quality of Life (QoL), Mental Health Problems, and Offending

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	<i>M</i>	<i>SD</i>
1 Age	-														16.25	1.07
2 Belgian Origin ^a	.06														60	63.20
3 Past Detention ^a	.31	.18													23	24.20
4 Duration Current Detention	-.23	-.25	-.36												4.46	2.92
5 QoL Physical Health	.13	-.07	-.14	.02											62.89	15.96
6 QoL Psychological Health	.04	.07	-.12	-.06	.67*										52.05	20.96
7 QoL Social Relationships	.08	-.04	-.02	.09	.55*	.67*									74.91	21.04
8 QoL Environment	-.02	-.02	-.18	.03	.70*	.71*	.60*								62.94	18.40
9 Reincarceration ^a	-.39*	-.07	-.01	.10	-.13	-.10	-.09	-.03							42	44.20
10 Alcohol/Drug Use	-.10	.08	.14	-.06	-.17	-.14	-.08	-.19	.20						2.51	2.48
11 Angry-Irritable	-.26	-.01	-.01	.17	-.36*	-.40*	-.27	-.29*	.15	.49*					4.73	2.93
12 Depressed-Anxious	-.09	-.02	.05	.07	-.38*	-.41*	-.23	-.32*	.12	.38*	.74*				3.40	2.65
13 Non-violent Offending	-.39*	-.01	.04	.10	-.20	-.05	.12	-.08	.27	.70*	.53*	.39*			2.42	3.59
14 Violent Offending	-.38*	.03	.09	.16	-.29	-.30	-.06	-.25	.29	.60*	.62*	.38*	.68*	-	.87	1.29

^a *N* and % instead of *M* and *SD*. **p* < .001.

31.6%; Warning zone (War) = 23.2%), for Depressed-Anxious 3.40 ($SD = 2.65$; Cau = 29.5%; War = 27.4%) and for Alcohol/Drug Use 2.51 ($SD = 2.48$; Cau = 23.3%; War = 9.5%). Six months after discharge, the mean variety score for non-violent and violent offending was 2.42 ($SD = 3.59$) and .87 ($SD = 1.29$), respectively. The persistence of offending behavior after discharge is also reflected by the total frequency scores for both non-violent offending (range: 0-605; $M = 40.94$, $SD = 112.42$) and violent offending (range: 0-170; $M = 9.11$; $SD = 30.08$).

QoL in relation to mental health problems and offending after discharge

Table 1 also presents correlations between QoL and variables of interest. All QoL domains except one (i.e., social relationships) were significantly negatively correlated with the MAYSI-2 Angry-Irritable and Depressed-Anxious scores after discharge ($p < .001$). Yet, QoL was not significantly related to Alcohol/Drug Use and offending behavior after discharge ($p > .001$).

Pathways towards offending

First, we fitted a mediation model with paths from QoL to mental health problems and offending, and from mental health problems to offending, while controlling for socio-demographic characteristics. This model (Model 1) is considered a parsimonious model, as latent variables were created based on the girls' scores on the different domains and types of QoL, mental health problems and offending, with the variances of the latent variables being fixed at one. The model was specified by allowing the factor loadings and paths to be freely estimated. The model provided a satisfactory fit to the data, $\chi^2(64, n = 95) = 71.7, p = .237, RMSEA = .036, 90\% CI [.000, .073], CFI = .959$. The results supported the hypothesized mediation effect from QoL to offending via mental health problems (Figure 2). The path from QoL to offending was not significant ($\beta = .14, p = .139$), whereas we found a significant direct negative effect of QoL on mental health problems ($\beta = -.46, p = .002$), and direct positive effect of mental health problems on offending ($\beta = .70, p < .001$). In addition, the indirect negative effect of QoL via mental health problems on offending was significant ($\beta = -.32, p = .001$). The significance of this indirect effect was confirmed by the 95% bias-corrected bootstrap CI, while the reversed indirect effect appeared to be non-significant (Table 2). Model 1 explained 21% and 77% of the variance in the latent variables mental health problems and offending, respectively.

Next, based on our multidimensional approach of QoL, we tested the (in)direct effects of the different domains of QoL on offending. We fitted four mediation models (Models 1a-d), using the subscales of the WHOQOL-BREF as observed

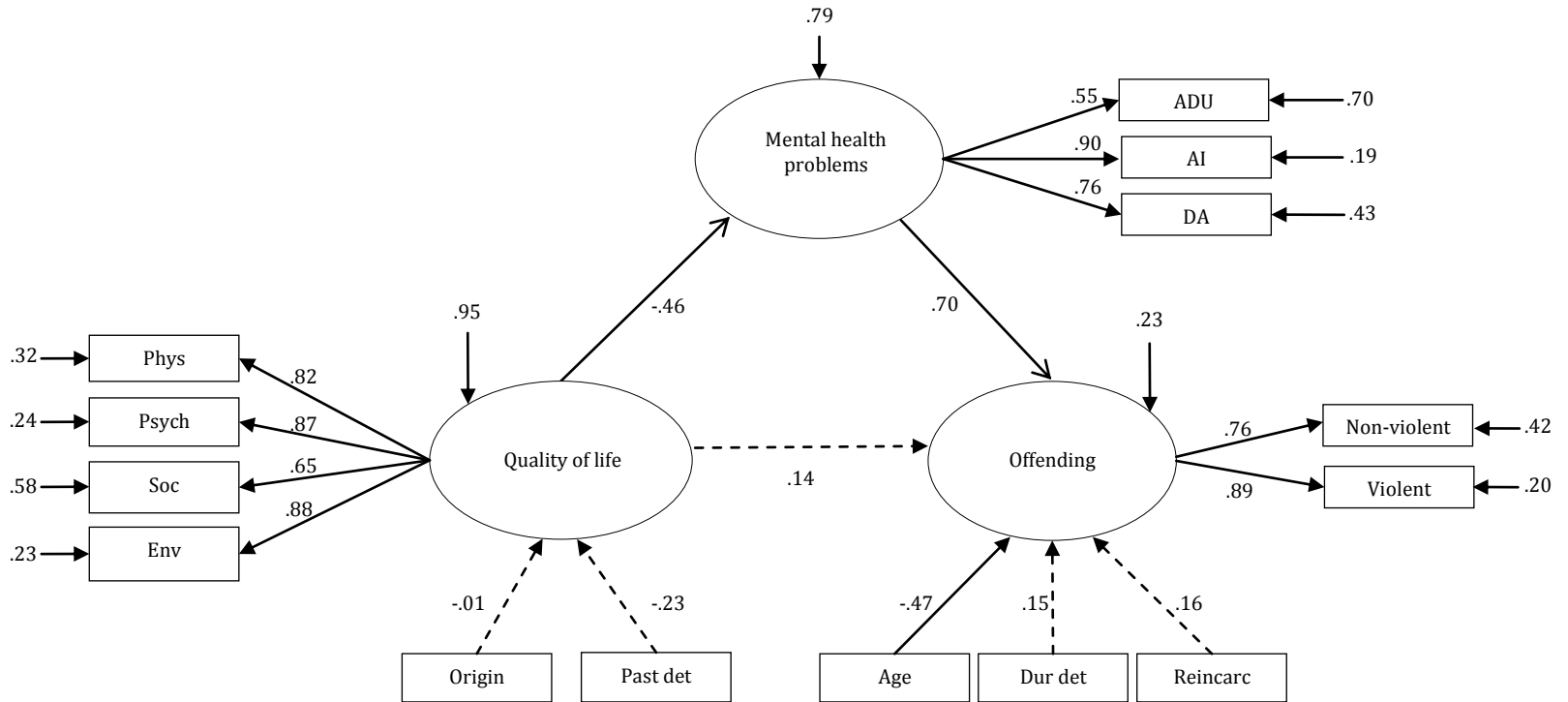
variables instead of the latent variable QoL. All models provided a satisfactory fit to the data: physical health (Model 1a), $\chi^2(32, n = 95) = 37.7, p = .225$, RMSEA = .043, 90% CI [.000, .091], CFI = .949; psychological health (Model 1b), $\chi^2(32, n = 95) = 41.6, p = .118$, RMSEA = .056, 90% CI [.000, .100], CFI = .914; social relationships (Model 1c), $\chi^2(32, n = 95) = 39.8, p = .161$, RMSEA = .051, 90% CI [.000, .096], CFI = .924; environment (Model 1d), $\chi^2(32, n = 95) = 36.1, p = .283$, RMSEA = .037, 90% CI [.000, .087], CFI = .962. In line with Model 1, the models for physical health (Model 1a), psychological health (Model 1b) and environment (Model 1d) indicated a significant indirect negative effect of QoL on offending via mental health problems, but no direct effect of QoL on offending. Again, the significance of these indirect effects was confirmed by the 95% bias-corrected bootstrap CIs. Here, a significant reversed indirect effect was found for the domain of physical health only (Table 2). The model for social relationships (Model 1c) yielded somewhat different results, supporting an indirect but also a direct effect of QoL on offending (Figure 3). We found a significant direct positive effect of QoL on offending ($\beta = .23, p = .004$), a negative effect of QoL on mental health problems ($\beta = -.27, p = .008$), a positive effect of mental health problems on offending ($\beta = .75, p < .001$), and an indirect negative effect of QoL via mental health problems on offending ($\beta = -.20, p = .008$). The significance of this indirect effect was confirmed by the 95% bias-corrected bootstrap CI. The reversed indirect effect was not significant (Table 2). In this model, 7% of the variance in the latent variable mental health problems and 89% of the variance in the latent variable offending were explained by the variables in the model.

Table 2 Indirect effects with 95% bias-corrected bootstrap confidence interval (CI)

Model	Variables	Indirect effect Mental health as mediator <i>b</i> (95% CI)	Reversed indirect effect Offending as mediator <i>b</i> (95% CI)
Model 1	QoL	-.10 (-.18, -.06)	-.02 (-.05, .01)
Model 1a	QoL Physical health	-.08 (-.17, -.03)	-.02 (-.05, <-.00)
Model 1b	QoL Psychological health	-.07 (-.13, -.02)	-.02 (-.05, .01)
Model 1c	QoL Social relationships	-.04 (-.16, <-.00)	>.00 (-.02, .02)
Model 1d	QoL Environment	-.07 (-.14, -.02)	-.02 (-.06, >.00)

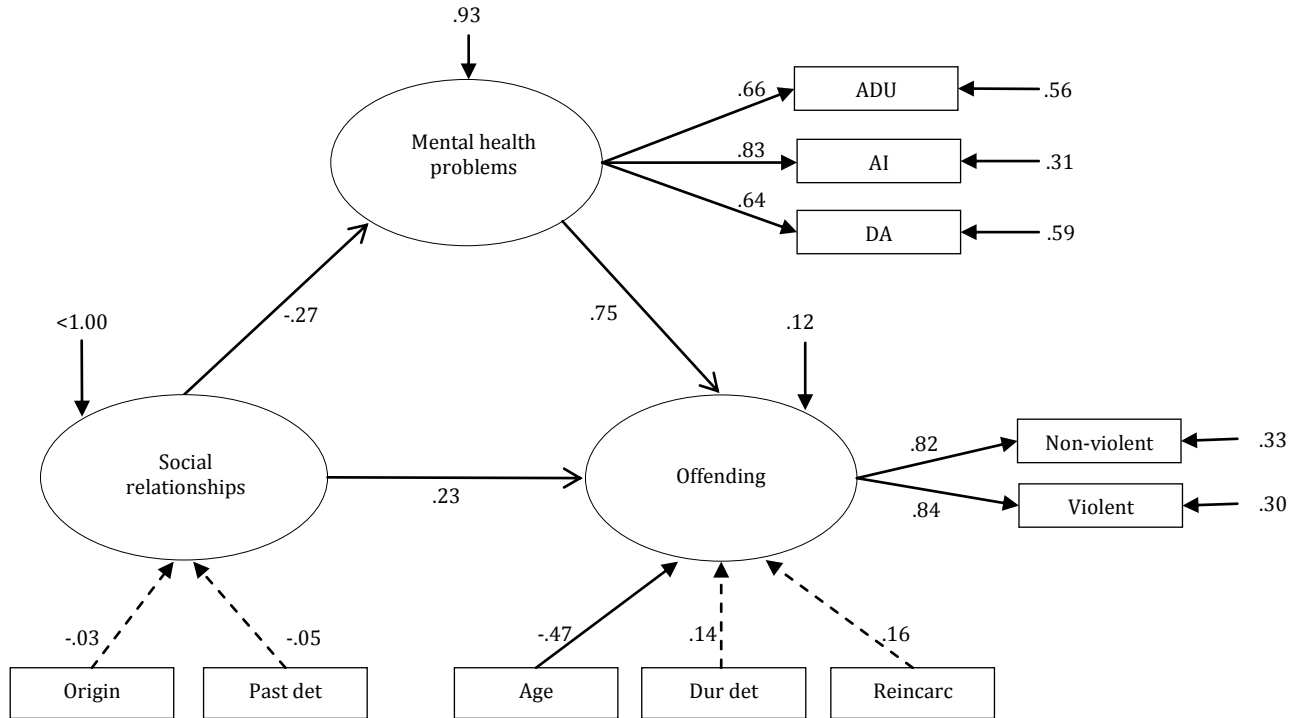
Note: QoL = Quality of Life.

Figure 1 Model 1: Structural equation model of mediation effects of offending (standardized parameter estimates)



Note: Past Det = Past detention, Dur Det = Duration current detention, Reincarc = Reincarceration, Phys = Physical health, Psych = Psychological health, Soc = Social relationships, Env = Environment, ADU = Alcohol/Drug Use, AI = Angry-Irritable, DA = Depressed-Anxious; Dashed lines indicate non-significant path estimates ($p > .05$); Solid lines indicate significant path estimates ($p < .05$).

Figure 2 Model 1c: Structural equation model of mediation effects of offending (standardized parameter estimates)



Note: Past det = Past detention, Dur det = Duration current detention, Reincarc = Reincarceration, ADU = Alcohol/Drug Use, AI = Angry-Irritable, DA = Depressed-Anxious; Dashed lines indicate non-significant path estimates ($p > .05$); Solid lines indicate significant path estimates ($p < .05$).

Discussion

This study examined detained girls' QoL prior to detention in relation to mental health problems and offending six months after discharge, in a sample of 95 girls from a YDC in Flanders, the Dutch speaking part of Belgium. Overall, girls with the lowest QoL scores had the highest rates of mental health problems after discharge, but were not at increased risk for future offending. Although we could not find support for a direct negative pathway from QoL to offending, our findings did provide support for the indirect pathway via mental health problems to offending. This indicates that a low QoL increases the risk of mental health problems, which in turn increases the risk on offending. In addition, our findings revealed a direct positive pathway from detained girls' satisfaction with their social relationships to offending after discharge. This suggests that the more girls are satisfied with their social relationships the more likely they are to re-offend.

The results of the current study clearly support the presence of an indirect route to offending, as previously found among adult offenders (Purvis, 2010). A low QoL placed detained girls at risk for mental health problems, which placed them at risk for offending subsequently. Detained girls' QoL and mental health problems, together with the selected socio-demographic variables, could explain the vast majority of the variance in offending after discharge (i.e., 77%). Moreover, the indirect pathway from detained girls' QoL to offending was found for the overall latent QoL variable, as well as for each domain of QoL separately. Only exceptionally (i.e., for the QoL domain of physical health) a reversed indirect effect was revealed, which suggests that mental health problems are more likely to result in offending than vice versa, when considering the indirect GLM route. The prominent appearance of an indirect route from QoL via mental health problems to offending among detained girls yields some interesting insights pertaining to the rehabilitation of this particularly vulnerable group. Recent studies in samples of juvenile offenders have recommended a strength-based empowering approach, over a more traditional, problem-oriented one (Thakker, Ward, & Tidmarsh, 2006; Wainwright & Nee, 2014; Wylie & Griffin, 2013). For example, starting off by exploring the youngsters' own perception of QoL, instead of immediately focusing on specific problems, has been shown to be a less threatening and more motivating approach (Fisher et al., 2010). The current findings acknowledge the potential relevance of addressing one's QoL. However, they strongly point to a pivotal role of mental health problems in the pathways towards offending, a finding that argues against an exclusive focus on strengths and empowerment. Put differently, and regardless of the importance of a strength-based approach, our findings suggest the need for appropriate

methods for detecting and modifying mental health problems in this vulnerable group (Teplin et al., 2002; Van Damme et al., 2014; Wasserman, McReynolds, Ko, Katz, & Carpenter, 2005).

The results of the current study did not support a direct negative effect of detained girls' QoL on offending. This contrasts with the scant empirical research among adult offenders suggesting that a low QoL is a risk factor for recidivism (Bouman et al., 2009; Willis & Grace, 2008; Willis & Ward, 2011). The lack of a direct negative effect in our sample might be due to the fact that the GLM is developed as a rehabilitation framework for adult, not adolescent, offenders (Ward, 2002). While offending among adults might be primarily guided by their own unmet needs and a poor QoL, offending among adolescents might also be susceptible to external influences, such as affiliation with deviant peers (Lederman et al., 2004). Another explanation is that the basic needs of adolescents are generally served by their surroundings, and that these needs therefore may not be the most prominent force guiding one's behavior. Yet, when entering adulthood and becoming more and more financially and socially responsible to fulfill their own basic needs, some adolescents may eventually become actively involved in criminality to reach a satisfying QoL. A strength-based empowering approach might pursue the development of new skills and abilities, thereby providing adolescents with desirable and socially acceptable means to obtain a good QoL before they reach adulthood (Wylie & Griffin, 2013). However, the highly structured and almost artificial nature of detention forms a major challenge, as it restricts the youngsters' autonomy and hampers the possibility to develop and practice new skills (Anthony et al., 2010; Barendregt et al., 2012).

The present study found a direct positive effect of detained girls' satisfaction with their social relationships on offending after discharge. Although this finding does not dovetail with prior work in adult offenders (Bouman et al., 2009; Willis & Grace, 2008; Willis & Ward, 2011), it indicates that the more girls are satisfied with their social relationships the more likely they are to re-offend. The exclusive direct impact of the social domain of QoL (compared to the other domains) on girls' offending supports a multidimensional conceptualization of QoL, and converges with the GLM assertion that individuals attach different priorities to the different domains of QoL (Ward & Gannon, 2006). The particular importance of the social domain fits within the developmental period of adolescence, when peers become increasingly important and influential (Berk, 2006). The finding that detained girls' satisfaction, not dissatisfaction, with their social relationships increases the risk of offending after discharge coincides with the idea that antisocial minors often feel popular among peers and surrounded by close friends (Vermeiren, Bogaerts, Ruchkin, Deboutte, & Schwab-Stone, 2004). More specifically,

detained girls often affiliate with deviant peers (Lederman et al., 2004), which fosters further engagement in criminal activities (Melde & Esbensen, 2013).

The above findings regarding the social domain of QoL yield implications for both research and practice. In line with prior work (Wainwright & Nee, 2014; Whitehead, Ward, & Collie, 2007; Willis, Prescott, & Yates, 2013), we suggest that future research regarding the GLM should pay particular attention to negative peer group affiliation and gang membership as inappropriate ways of satisfying detained minors' primary goods of relatedness and community/group involvement. In this respect, a qualitative (instead of quantitative) research approach seems useful: for example, asking youngsters about the priority they assigned to different primary goods at the time of offending, and how they operationalized different primary goods at that time (Barnett & Wood, 2008; Chu, Koh, Zeng, & Teoh, 2015). We suggest treatment to support youngsters in building, strengthening, and extending constructive, instead of destructive, social contacts, by offering peer-helping programs, such as EQUIP. In the EQUIP program detained juveniles help each other to decrease self-serving cognitive distortions, and to strengthen their moral and social skills (Brugman & Bink, 2011).

This study has several strengths, including the longitudinal design and the use of an understudied but highly relevant population to test the GLM. Nevertheless, the results should be interpreted in the context of some limitations. First, the girls included in this study had a significantly lower mean score for the QoL domain of psychological health than the girls who dropped out. This may have contributed to the clear presence of the GLM's indirect route from QoL over mental health problems to offending and the lack of the GLM's direct negative route from QoL to offending in the current sample. To further evaluate the indicated pivotal role of mental health problems in pathways to offending future studies are warranted to examine if these findings can be replicated in other samples of detained girls.

Second, all data were gathered by means of self-report methods. Self-report has been shown to provide valid information about both mental health problems (Colins, Vermeiren, Schuyten, Broekaert, & Soye, 2008) and offending (Enzmann & Podana, 2010), and has been deemed necessary for tracing adolescents' QoL. However, measurement bias cannot be excluded. Among detained youngsters, over- or underreporting is likely to occur. For example, it may occur due to reluctance to disclose information that (allegedly) may be used against them, due to difficulties to accurately recall (the frequency of) certain feelings, thoughts or behaviors, or due to features of the youngsters themselves (e.g., a depressed mood). With regard to the measurement of mental health problems, other informants, such as parents, are rarely available when working with detained youth. Therefore, alternative sources, such as

clinical ratings or observational information of detention personnel, are urgently needed. Regarding offending, we suggest further research to complement self-report with official records of recidivism. Many scholars, nevertheless, argue that self-report in principle could provide a more complete picture of criminal behavior than official records (Blumstein, Cohen, Roth, & Visher, 2001). Thus, it can be argued that our reliance on self-report is a strength as well.

Third, due to time constraints, the current study had a follow-up assessment at six months after discharge. By that time, only some of the girls had reached adulthood. Longitudinal studies with a longer follow-up period are needed to explore to what extent the GLM, which was originally developed as a rehabilitation framework for adult offenders, pertains to adult females who were detained during adolescence.

Fourth, we did not have precise information on the length of time of the girls' re-incarceration during the follow-up period. Future longitudinal studies should take into account that re-incarceration influences the time in the community and the opportunity of recidivism.

Fifth, the small sample size forced us to construct latent variables, so as to include only a strict selection of variables, and to specify only a strict selection of pathways. As a consequence, we tested only the direct and indirect pathways referring to the GLM's second main assumption (Figure 1) and did not test a wide range of alternative causal pathways (i.e., we, for example, did not take into account the influence of baseline mental health problems on detained girls' QoL). Although it may be difficult, future longitudinal research in a larger sample of detained girls is needed to test an integral model, considering all variables at all time points, to better understand the temporal order and possible bidirectional pathways between QoL, mental health problems and offending.

Finally, the small sample size also forced us to fit four separate mediation models to test the (in)direct effects of the different domains of QoL on offending. Future research is needed to test whether our findings can be replicated in a larger sample of detained girls, testing only one model, which includes the different domains of QoL simultaneously. This may have important theoretical implications, yielding more insight in the multidimensional nature of QoL and the specificity and importance of each domain of QoL in explaining detained girls' mental health problems and offending after discharge.

General discussion*

* This chapter is partly based on Van Damme L, Colins O, Vanderplasschen, W. (2014). Gendersverschillen in psychopathologie bij adolescenten in gemeenschapsinstellingen. In Spruyt, B., & Siongers, J. (eds.). *Gender(en). Over de constructie en deconstructie van gender bij Vlaamse jongeren* (pp.319-340). Leuven: Acco.

To conclude this dissertation, it is summarized what can be learned and what still needs to be learned. The general discussion starts with an overview of the main findings. Next, some important strengths and limitations of the current study are addressed, followed by recommendations for future research. Finally, the main implications for policy and practice are listed.

Main findings

Characteristics of detained female adolescents

Between February 2012 and June 2014, 147 detained female adolescents participated in the baseline assessment of the current study. Participants were between 13.51 and 17.91 years old ($M = 16.20$; $SD = 1.10$). About 35% of the girls was of non-Belgian origin, compared with only 19% of the 12- to 17-year-olds in the general Flemish population (Noppe & Lodewijckx, 2012). The socioeconomic status (SES) was low for about 60% of the girls, compared with only 27% of female secondary school students (Vereecken, Maes, & De Bacquer, 2004). About 14% lived with both parents prior to detention, compared with 31% of detained boys (Colins, Vermeiren, Schuyten, et al., 2009) and 77% of the Flemish secondary school aged children (Vettenburg, Deklerck, & Siongers, 2010). In addition, about 55% of the girls had been attending school during the past month before placement, and about 20% had been detained in the past (Chapters 2-4). Similar sample characteristics could be found for a prior sample of 195 detained female adolescents, gathered between 2008 and 2011 in the same closed institution for forced care and treatment (CI) in Flanders (Chapter 1). Based on these findings, in line with prior work (McCabe et al., 2002; van der Molen et al., 2013), detained girls can be considered a particularly vulnerable group of youngsters. They are likely to grow up under unfavourable circumstances and to experience problems in various domains of life, which put them at risk for social disadvantage and exclusion.

In the current sample, primary reasons for detention were persistent attempts to escape parent's/caregiver's/institution's surveillance (41%), criminal offenses (e.g., shoplifting, burglary, fighting, or threatening; 33%), defiant/relentless/uncontrollable behavior (17%), or other problems (e.g., involvement in dangerous gangs; 9%) (Chapter 3). This converges with prior work, indicating that girls (compared to boys) are more often detained for child protective reasons, and not merely because they have committed (severe) antisocial acts (Lenssen et al., 2000). The duration of the girls' current detention ranged from .36 to 13.14 months ($M = 4.59$; $SD = 2.92$). During the six months period after discharge, 44% experienced another placement in the

CI (Chapter 5), converging with the relatively high reincarceration rates in prior work among detained adolescents (Bullis, Yovanoff, & Havel, 2004). These findings demonstrate that the problems of the girls in this sample are often complex and persistent in nature, which urges the need for long-term, continuing care (Teplin et al., 2012; van der Molen et al., 2013).

Substantial levels of psychopathology among detained girls

In line with prior work (Fazel et al., 2008; Karnik et al., 2009), the current study reveals substantial levels of psychopathology among detained girls. This seems to be a robust finding, as it appears throughout all chapters, regardless of the measure of psychopathology [i.e., categorical (Chapters 1-4) versus dimensional (Chapters 4-5)], the informant (i.e., youth self-report and/or parent-report; Chapter 2), or the moment of assessment [i.e., within the first three weeks of detention (Chapters 1-4) versus six months after discharge (Chapter 5)]. In addition, this finding dovetails with the girls' low satisfaction with their psychological health, being the only QoL domain for which detained girls scored substantially lower than their counterparts from the World Health Organization (WHO)'s field trial (Chapter 3).

The results indicate substantial rates of psychiatric disorders in detained adolescents (i.e., 82.9% in detained boys and 94.9% in detained girls, compared to an average prevalence rate of 21.8% among adolescents, across prevalence studies published worldwide since 1997; Costello et al., 2011). Detained girls reported higher rates for internalizing disorders than detained boys, and similar or higher rates for externalizing disorders. This finding is partially in contrast to the general pattern of gender differences reported in community samples in which girls are less likely than boys to display externalizing disorders (Baumeister & Harter, 2007; Moffitt et al., 2001). The higher rate of co-morbid internalizing and externalizing disorders and the lower levels of self-esteem in detained girls versus boys, further corroborates that detained girls can be considered a particularly complex, troubled and vulnerable group. Also, the results indicate that detained adolescents, especially girls, with low self-esteem have the highest rates of psychiatric disorders (Chapter 1).

This study further highlights substantial rates of conduct disorder (CD), regardless of the informant being used (i.e., 47.1% based on self-report and 50.6% based on parent-report). The prevalence of CD girls with limited prosocial emotions (LPE) was lower when using self-report (12.9%) compared to parent-report (38.8%), suggesting that parents are important to identify CD+LPE girls. However, including parental information did not result in a better differentiation between CD+LPE and CD-only girls. The LPE specifier only enabled to identify a group of seriously antisocial girls with higher levels

of proactive aggression, though solely when using self-reports. These findings support the idea that the LPE specifier in detained adolescents is of restricted usefulness (Colins & Andershed, 2015; Colins & Vermeiren, 2013). Of note, research on both the LPE specifier and the issue of informant agreement is still very scarce among detained minors, and the current results should be interpreted in the context of some limitations. Therefore, our findings need to be replicated before drawing firm conclusions or formulating far-reaching clinical implications (Chapter 2).

The multidimensional nature of detained girls' quality of life

The current study revealed some clear differences between distinct domains of QoL, supporting a multidimensional approach of QoL (De Maeyer, Vanderplasschen, Lammertyn, van Nieuwenhuizen, Sabbe, et al., 2011) and converging with the GLM's idea that individuals attach different priorities to the different domains of QoL (Ward & Gannon, 2006). Detained girls perceived their QoL almost as good as the 12-20-years-olds from the WHO's international field trial on most domains (Skevington et al., 2004). The girls were most satisfied with their social relationships, followed by satisfaction with their environment, physical health, and psychological health (Chapter 3).

The results of the different chapters point to the particular importance and uniqueness of the social domain of QoL in this sample of detained girls. This is typical for the developmental period of adolescence, when peers become increasingly important and influential (Berk, 2006). In contrast to the other domains of QoL, the girls' satisfaction with their social relationships was the only domain that was barely influenced by psychiatric disorders, trauma exposure and a low SES (Chapter 3). It was speculated that social relationships might serve as a potential buffer against negative experiences or conditions. However, we alerted for the often deviant peer cultures in which these girls are involved (Lederman et al., 2004). This alert was confirmed by the results of the next chapters, indicating that detained girls' satisfaction with their social relationships was the only domain that showed a negative (instead of a positive) relationship with detained girls' treatment engagement (Chapter 4), and a positive (instead of no) direct effect on detained girls' offending after discharge (Chapter 5). To conclude, we recommended youth detention centers (YDCs) to implement peer-helping programs, such as EQUIP, in order to monitor destructive social contacts (Brugman & Bink, 2011) (Chapters 3-5).

Detained girls' low treatment engagement

The high prevalence of psychopathology (Chapters 1-3) and the relatively high QoL scores on most domains in our sample (Chapter 3), yielded the

assumption that detained girls may not be eager to engage in treatment. Indeed, the results of Chapter 4 reveal low levels of treatment engagement and no significant change in levels of treatment engagement over time, which converges with prior work among detained minors (Englebrect et al., 2008; Harder et al., 2012). Our findings provide support for the assumption that the relationship between treatment engagement and psychopathology depends on the type of psychopathology, with girls being more engaged to address internalizing than externalizing problems (Hawke et al., 2005; Leenarts et al., 2013; Roedelof et al., 2013). Our findings also support prior assumptions that detained girls' QoL helps to explain differences in treatment engagement. More specifically, girls with greater satisfaction about their physical and psychological health and about their environment reported higher treatment engagement, while the opposite was true for the domain of social relationships.

The Good Lives Model among detained girls

The GLM consists of two main assumptions, being (i) that psychosocial and socioeconomic problems are obstacles that hamper the achievement of a good QoL; and (ii) that individuals who are confronted with a poor QoL may become involved in antisocial activities, either through a direct or an indirect pathway (Ward, 2002). The results of the current study supported GLM's first assumption that psychosocial and socioeconomic problems impede one's QoL. The girls' psychological health was most adversely affected by psychosocial and socioeconomic problems, while these variables had an almost negligible impact on their satisfaction with their social relationships. Overall, psychiatric disorders, trauma and SES could only explain a relatively small part of detained girls' QoL, urging the need to explore various other correlates that may be at play (Chapter 3). Regarding the GLM's second assumption, the current findings clearly support the presence of an indirect route to offending, as previously found among adult offenders (Purvis, 2010). This indicates that a low QoL increases detained girls' risk of mental health problems, which in turn increases the risk of offending. In contrast with prior research among adult offenders (Bouman et al., 2009; Willis & Grace, 2008; Willis & Ward, 2011), our findings did not support a direct negative effect of detained girls' QoL on offending. However, they did reveal a direct positive pathway from detained girls' satisfaction with their social relationships towards offending after discharge. This indicates that the more girls are satisfied with their social relationships the more likely they are to re-offend (Chapter 5).

Strengths, limitations and future research recommendations

In each chapter of this dissertation, specific strengths and limitations of the current study were highlighted, as well as recommendations for future research. Below, we will elaborate on some overall strengths and limitations, that should be addressed in future research.

Detained girls with limited knowledge of Dutch or limited intellectual abilities

The current study included a relatively large sample of detained girls ($n = 147$). Obviously, the results of the current study only pertain to the group of detained girls meeting the inclusion criteria. For example, the girls needed to have sufficient knowledge of Dutch and sufficient cognitive abilities, in order to understand the instructions/questions from the diagnostic interview and the self-report questionnaires and in order to follow/answer them properly. Consequently, we missed at least two important subgroups of detained girls, which are likely to pose some additional challenges for researchers as well as clinicians. First, language barriers have been shown to impact adolescents' access to treatment, the experienced quality of treatment and treatment outcomes negatively (Garcia et al., 2012; Garcia & Duckett, 2009; Penka et al., 2008). Second, detained adolescents with intellectual disabilities are likely to have high levels of unmet needs (Frola, 2009). Also, they appear to display a lower treatment engagement and poorer outcomes after release into the community, compared to those without disabilities (Bullis et al., 2004). Therefore, detained girls who do not speak Dutch (e.g., girls with a refugee or gipsy background) or have limited intellectual abilities can be considered particularly vulnerable and challenging to treat.

Further research is needed to address this gap and gain more knowledge on these understudied subgroups. With regard to detained girls who do not speak Dutch, it is recommended to use validated translations of instruments and to involve interpreters or non-native researchers. Particular attention is needed for the cultural specificity of the assessment tools/methods being used, as religious, socioeconomic and other cultural aspects are likely to affect, for example, the psychometric properties of an instrument (Bryant & Njenga, 2006). Regarding detained girls with intellectual disabilities, future research should use alternative assessment tools/methods in order to map these minors' thoughts, feelings and behaviors. When conducting questionnaires or interviews, the wording and sentence structure should be tailored to the cognitive abilities of the girls (e.g., short phrases, no insinuation). Less verbal, visual approaches, such as photo elicitation or photo voice, might also be useful in this respect (Boxall & Ralph, 2009). In addition, given the girls' limited knowledge of Dutch or limited cognitive abilities, the use of other

informants (e.g., parents, detention staff) might be particularly relevant. The potential benefits and challenges of multi-informant assessment among detained minors will be discussed below.

Multi-informant assessment

Besides the inclusion of a relatively large sample of detained girls ($n = 147$), we also succeeded to include 85 youth-parent dyads, which is very large compared to prior work with detained youths (e.g., 35 out of 160 parents; Fink et al., 2012). Altogether, our findings suggest that gathering parental information is not a necessity in differentiating between detained CD+LPE and CD-only girls and identifying a subgroup of seriously antisocial girls. Yet, the few prior studies on parent-youth agreement in detained minors demonstrated that parents may provide important diagnostic information (Colins, Vermeiren, et al., 2012), particularly for the assessment of mental disorders that require an age of onset criterion (e.g. ADHD and childhood-onset CD; Colins et al., 2008).

As approaching parents still is a time-consuming investment for which detention facilities often lack budget and personnel, more research is needed to scrutinize to what extent and for what purpose gathering parental information about detained youths is worth the effort. In addition, in case self-report appears not appropriate or accurate enough for the assessment of particular DSM symptoms/disorders/specifiers, informants other than parents should also be explored. Approaching teachers and peers may even be more challenging, given the often disrupted school career and high dropout of detained adolescents (Kroll et al., 2002) and given the unlikelihood that peers will provide information that (allegedly) may be used against the detained girl or boy. Therefore, the value of clinical ratings or systematic observational information of detention personnel deserves particular attention in future research (Colins et al., 2008).

Longitudinal research design

The longitudinal design can be considered a strength of the current study, as it enabled us to gain insight in detained girls' psychopathology and QoL at the start of, during and six months after detention. Unfortunately, a longer follow-up period was not feasible due to time constraints. The limited amount of studies that did succeed to reassess a group of detained girls several years after discharge, indicated that, despite unfavorable circumstances, a small group of girls seem to function surprisingly well later in life (Krabbendam et al., 2015; van der Molen et al., 2013). However, the vast majority of detained girls are likely to develop a personality disorder and to display persistent

mental health and adjustment problems (e.g., aggression) in young adulthood (Krabbendam et al., 2015; Krabbendam et al., 2014; van der Molen et al., 2013).

The continuing burden to the girls, their surrounding and society, as well as the risk of intergenerational transmission urge further research to invest time and effort in prospective study designs over longer periods of time. Throughout the different chapters of this dissertation, some concrete topics for future longitudinal research emerged. Longitudinal studies with a longer follow-up period are needed, for example, (i) to explore gender-specific pathways to psychiatric co-morbidities; (ii) to test whether low self-esteem among detained adolescents is a risk factor for poor mental health in (young) adulthood; (iii) to scrutinize the long-term stability and prognostic usefulness of the LPE specifier assignment; and (iv) to explore to what extent the GLM's assumptions pertain to formerly detained female adults.

Strengths-based empowering research approach

The assessment of detained girls' QoL is another important strength of this dissertation, as it counters the problem-oriented approach, which has been commonly adopted among detained youth. Studying these girls' QoL enabled to reveal their own perspective on and satisfaction with different domains of life, yielding new and clinically relevant insights. In line with prior work including detained minors' perceptions, we recommend future research to acknowledge them as primary agents of personal change and as a valuable resource for service improvement (Schubert et al., 2012; Todis et al., 2001). Consequently, we encourage researchers and clinicians to perceive these youngsters 'as part of the solution, not just as part of the problem' (Lyon, Dennison, & Wilson, 2000; p.vii).

In order to gain a clearer and more in-depth understanding of detained adolescents' QoL, future research should use qualitative rather than quantitative approaches. For example, in-depth interviews or focus group discussions are preferable above quantitative self-report questionnaires. While the latter method is likely to start from professionals' definition of a good QoL, reflected in the highly structured answering format and a priori defined life domains, the former methods enable researchers to grasp the uniqueness of the concept of QoL for each individual (De Maeyer et al., 2009; Todis et al., 2001).

Broadening the focus of research

The current study addressed a broad range of (ortho)pedagogically relevant variables, such as detained girls' psychopathology, QoL, offending and

treatment engagement. However, it is confined by its pure focus on youth characteristics, implying the risk of problem individualization and decontextualization. Besides youth characteristics, other important variables and mechanisms are at play and need to be addressed in further research, including parent characteristics (Preski & Shelton, 2001), family and peer relationships (Ybrandt, 2010), neighborhood effects (Mellgren, Pauwels, & Torstensson Levander, 2010), societal vulnerability (Pauwels, Vettenburg, Gavray, & Brondeel, 2011), and social inequality in youth care policy and practice (Coussée & Bradt, 2012; Coussée, Roets, & De Bie, 2009).

From an orthopedagogical point of view, we recommend future research to adopt a more explicit practice- and action-oriented approach, by shifting the focus from the exploration of detained girls' characteristics (which is necessary, though not sufficient to guarantee appropriate care/treatment) to the exploration of the measure of detention itself. Up to now, only few studies have addressed the "black box" of care and treatment within YDCs (Van der Helm, Wissink, De Jongh, & Stams, 2013). Further research is needed to scrutinize (i) the content and characteristics of detention (e.g., closed and repressive versus open and supportive living group climates; Eltinka, van der Helm, Wissink, & Stams, 2015; van der Helm et al., 2014); (ii) detained minors' experiences of detention (Ashkar & Kenny, 2008; Schubert et al., 2012); and (iii) the impact of detention, including counterproductive effects (e.g., being cut off from supportive services or contacts outside detention; Dmitrieva, Monahan, Cauffman, & Steinberg, 2012; Frola, 2009), as well as opportunities (e.g., installing a period of reflection; Aalsma, Brown, Holloway, & Ott, 2014; Anthony et al., 2010).

Implications for policy and practice

In each chapter, implications for policy and practice were discussed. However, as the papers of this dissertation have been written for publication in international journals and, therefore, are addressed to an international audience, we did not go into detail about implications for the Flemish context. So, below, the most important issues will be elaborated on, also adding more concrete recommendations regarding the particular organization of closed institutions for forced care and treatment (CIs) in Flanders.

Standard mental health screening: a first step towards appropriate care/treatment

There is no doubt that the substantial mental health problems among minors in CIs form a major challenge for providing appropriate care and treatment. As

CIs are not able to refuse the placement of a specific minor, they are confronted with a specific group of adolescents, who have often been repeatedly refused by other institutions given the severity of their problems (Zorginspectie, 2012). Currently, the CIs are equipped with multidisciplinary teams of group care workers, social workers, psychologists, (para)medical and educational staff. Psychologists are in charge of weekly individual conversations with the girls, consultations with the parents, and support of group care workers. Only when indicated, they conduct psychological assessments or diagnostic activities. If needed, the CIs can consult an outreach team from a collaborating psychiatric hospital for providing intervention for the staff, individual conversations with the girls and medical support (Zorginspectie, 2012). Unfortunately, these resources seem to be insufficient to adequately respond to the increasingly complex problems of the youngsters under their supervision. This was one of the reasons for the multiple strikes from the staff, requesting more support and appropriate care and treatment for some particular youngsters (De Clercq, 2013; Vanhecke, 2013).

Based on the Decree of Integral Youth Care (Vlaams Parlement, 2013) and the process of differentiation within the CIs (Agentschap Jongerenwelzijn, 2011), these institutions will strive to install good and systematic diagnostic practices, more delineated care trajectories for particular subgroups within the CIs, and smooth intersectoral collaboration (Agentschap Jongerenwelzijn, 2011). To this end, a center for intake and orientation (in Dutch: *centrum voor intake en oriëntatie/voorportaal*) will be established, along which every youth who is referred to a CI by a judge will have to pass. During the youngster's stay in this center, a comprehensive risk and needs assessment will be conducted, in order to decide on the most appropriate care/treatment trajectory inside or outside the walls of the CI (Agentschap Jongerenwelzijn, 2011). A standard mental health screening upon arrival at the CIs' center for intake and orientation [e.g., by means of the Massachusetts Youth Screening Instrument-Second Version; MAYSI-2; Grisso et al., 2001] is recommended. It helps to detect (i) adolescents who display acute mental health problems (e.g., suicide risk), urging direct prevention measures and care, and (ii) adolescents who are in need for diagnostic assessment (Stewart & Trupin, 2003). In this way, screening can be considered a first and crucial step in the search for appropriate care/treatment for these minors.

Towards a gender responsive approach

As detention rates among girls have traditionally been remarkably lower than among boys (Puzzanchera, 2009; Snyder & Sickmund, 2006), care and treatment programs for these youngsters are mostly male-oriented (Andersson, 2007). The significantly higher levels of psychiatric (co-)

morbidity and lower levels of self-esteem in detained girls (versus boys), indicate that gender responsive care and treatment programs might be needed. For example, girls might benefit more from an approach focusing on underlying emotional and relational problems (e.g., regarding attachment and trauma; McCabe et al., 2002; Odgers, 2002), than from an approach focusing on behavioral problems. Recent work on the effects of gender responsive programming on detained boys and girls, has indicated that girls who follow gendered pathways into the YDC [i.e., living in detrimental conditions before placement and being detained for child protective reasons, and not merely because of (severe) antisocial acts] indeed benefit from gender responsive, relational approaches. However, girls without such a background are better off with traditional, behavioral approaches (Day, Zahn, & Tichavsky, 2015). Hence, we alert that gender is only one criteria for differentiation, and that care and treatment programs also need to be responsive to individual differences other than gender (e.g., psychiatric co-morbidity, and low IQ; Abram et al., 2003; Kroll et al., 2002). In line with our recommendations, the note concerning the differentiation of CIs' programs has identified gender as an important criteria for differentiation, besides the criteria 'needs' and 'juridical status'. Yet, up to now, the concrete elaboration and implementation of this idea is still unclear (Agentschap Jongerenwelzijn, 2011).

Potential benefits and pitfalls of a strengths-based empowering approach

Studying detained girls' QoL yielded some additional clinical implications. In line with prior work among detained minors (Thakker et al., 2006; Wylie & Griffin, 2013), the findings of the current study acknowledge the potential relevance of a strengths-based empowering approach, such as the GLM, in addition to a more traditional, risk management approach. For example, the current study indicated that, at the start of detention, discrepant perspectives are likely to occur, with girls being overall satisfied with their QoL and judges, clinicians and/or parents perceiving a range of problems. In addition, resistance and poor treatment engagement are likely among detained girls. A strengths-based approach might respond to these challenges, as it has been shown to be less threatening and more motivating (Fisher et al., 2010). In this way, it might be helpful to improve the rehabilitation of detained girls. Recently, the GLM has been introduced within the CIs as a theoretical framework for the development of targeted and tailored care and treatment programs, as it complements the problem-oriented Risk-Need-Responsivity Model (RNR; Andrews & Bonta, 2010). Based on our study findings, some concrete, preliminary suggestions can be made regarding the implementation of this strengths-based rehabilitation model within the CIs. For example, one should start off by exploring the youngsters' own perception of QoL, instead of focusing only on specific problems and expected behavioral changes (Wylie &

Griffin, 2013). In addition, interventions should focus on building skills and increasing protective factors (cf. approach goals), instead of simply focusing on removing problems and reducing risk factors (cf. avoidance goals) (Purvis et al., 2011). Also, instead of *imposing* particular treatment goals, youth detention staff should actively *involve* youngsters in defining treatment goals that are personally meaningful to them (Ward & Gannon, 2006). Such efforts will help to create a more positive and motivating context for change (Thakker et al., 2006).

However, based on our study findings, we also have to address an important critical consideration regarding the implementation of a strengths-based rehabilitation model within the CIs. The current findings strongly point to substantial rates of psychiatric (co-)morbidity in our sample, a high prevalence of CD and callous-unemotional traits, persisting mental health problems and offending behavior after discharge, and a pivotal role of mental health problems in the pathways towards offending. We, therefore, argue against a one-sided focus on strengths and empowerment. Put differently, and regardless of the importance of a strengths-based approach, our findings emphasize the need for appropriate methods for detecting and tackling mental health and adjustment problems in this vulnerable group (Teplin et al., 2002; Van Damme et al., 2014; Wasserman et al., 2005). This brings us to our final recommendation that, in line with the GLM, care and treatment programs for detained girls should pursue two goals that are inextricably linked, being the enhancement of the girls' QoL and the reduction of their risk of antisocial or dangerous behavior (e.g., offending; Purvis et al., 2011). In this way, we urge them not to overlook the basic truth that these girls "want the possibility of better lives not simply the promise of less harmful ones" (Ward et al., 2007, p. 106).

Detained girls' (re)socialization and (re)integration: a challenge for society as a whole

The educational, pedagogical and therapeutic program of the CI aims to install a period of rest, create problem awareness and insight, learn the girls how to handle rules and boundaries, improve the daughter-parent relationship and prepare them for the future (Vanderplasschen et al., 2006; Zorginspectie, 2012). These objectives are all directed towards the ultimate goal of (re)socialization and (re)integration, thereby facilitating less confining forms of care and treatment. This highlights the principle of subsidiarity, which means that the least restrictive measure should be applied and, likewise, that the placement of a minor in a CI should be as short as possible (Vanderplasschen et al., 2006). Based on the current study, we detected some

important challenges regarding the (re)socialization and (re)integration of detained youngsters.

Detained minors are likely to experience societal vulnerability, for example as a consequence of their mental health problems or their parents' low employment status. Societal vulnerability, mostly resulting from an accumulation of negative experiences with societal institutions (e.g., school, youth care), is considered an important risk factor for offending (Hirschi, 1969; Pauwels et al., 2011; Vettenburg & Walgrave, 2002). Therefore, care and treatment programs in detained minors should involve the restoration or stimulation of positive social bands between adolescents and these societal institutions, in order to promote a successful return to society. The current educational, pedagogical and therapeutic program of the CIs already incorporates some elements that seem helpful in this respect. During placement, a gradual decrease of restrictions goes together with an increase of responsibilities. In 'De Zande' in Beernem, all girls begin their stay in the CI in the reception unit, focusing on the exploration of the problem. Afterwards, they move onto an education unit, focusing on addressing the problem. Subsequently, some of the girls move onto the half-open unit, located in a 'normal' residence outside the fence of the institution. In this unit, the girls can attend school outside the institution or engage in outdoor, alternative day activities (Zorginspectie, 2012). This enables them to (re)gain control, (re)build positive contacts and (re)live positive experiences, step by step.

Unfortunately, the latter, half-open unit has only a very limited capacity of 6 girls, compared to the closed capacity of 40 girls. In addition, upon discharge from the CI, aftercare is not guaranteed for all of the girls. Instead, it is provided only exceptionally and very limited in time (Zorginspectie, 2012). This conflicts with the importance of providing seamless and continuing care, as emphasized by the Decree of Integral Youth Care (Vlaams Parlement, 2013). Of note, the CIs and the broader field of youth justice/care settings are not the only actors who are responsible for detained girls' (re)integration and (re)socialization. Instead, it is a challenge for society as a whole: societal institutions other than youth justice/care (e.g., schools, (mental) health services, the job market) also need to actively engage in preventing and contesting processes of social disadvantage and exclusion (Coussée & Bradt, 2012; Coussée et al., 2009).

References

- Aalsma, M. C., Brown, J. R., Holloway, E. D., & Ott, M. A. (2014). Connection to mental health care upon community reentry for detained youth: a qualitative study. *BMC Public Health*. doi: 10.1186/1471-2458-14-117
- Aalsma, M. C., Lapsley, D. K., & Flannery, D. J. (2006). Personal fables, narcissism, and adolescent adjustment. *Psychology in the Schools*, 43(4), 481-491. doi: 10.1002/pits.20162
- Abram, K. M., Teplin, L. A., McClelland, G. M., & Dulcan, M. K. (2003). Comorbid psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry*, 60(11), 1097-1108.
- Achenbach, T. M., Becker, A., Dopfner, M., Heiervang, E., Roessner, V., Steinhausen, H. C., & Rothenberger, A. (2008). Multicultural assessment of child and adolescent psychopathology with ASEBA and SDQ instruments: research findings, applications, and future directions. *Journal of Child Psychology and Psychiatry*, 49(3), 251-275. doi: 10.1111/j.1469-7610.2007.01867.x
- Adams, M. S. R., C. T., Gray-Ray, P., & Ray, M. C. (2003). Labeling and delinquency. *Adolescence*, 38(149), 171-186.
- Agentschap Jongerenwelzijn (2011). *Differentiatie van het aanbod in de gemeenschapsinstellingen*. Brussel: Vlaamse Overheid.
- Agentschap Jongerenwelzijn (2012). *Jaarverslag 2012*. Brussel: Stefaan Van Mulders.
- Agentschap Jongerenwelzijn (2014). *Tabel: evolutie van het aantal begeleide jongeren naar begeleidingsjaar en uitbatingsplaats van een gemeenschapsinstelling (absolute aantallen en percentages)*. Brussel: Vlaamse Overheid.
- Agnihotri, K., Awasthi, S., Singh, U., Chandra, H., & Thakur, S. (2010). A study of concordance between adolescent self-report and parent-proxy report of health-related quality of life in school-going adolescents. *Journal of Psychosomatic Research*, 69(6), 525-532.
- Al-Fayez, G. A., Ohaeri, J. U., & Gado, O. M. (2012). Prevalence of physical, psychological, and sexual abuse among a nationwide sample of Arab high school students: association with family characteristics, anxiety, depression, self-esteem, and quality of life. *Social Psychiatry and Psychiatric Epidemiology*, 47(1), 53-66.
- Allen, R. (2015). *Global prison trends 2015*. London: Penal Reform International.
- Andershed, H., Kohler, D., Loudon, J. E., & Hinrichs, G. (2008). Does the three-factor model of psychopathy identify a problematic subgroup of young offenders? *International Journal of Law and Psychiatry*, 31(3), 189-198.
- Andersson, B. (2007). *Diversity in residential care and treatment for young people in Sweden*. Sweden: Göteborg University, Department of Psychology.

- Andrews, D. A., & Bonta, J. (2010). *The psychology of criminal conduct. 5th edition*. New Jersey: Matthew Bender.
- Anthony, E. K., Samples, M. D., de Kervor, D. N., Ituarte, S., Lee, C., & Austin, M. J. (2010). Coming back home: The reintegration of formerly incarcerated youth with service implications. *Children and Youth Services Review, 32*(10), 1271-1277. doi: 10.1016/j.chilyouth.2010.04.018
- American Psychiatric Association (APA) (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*. Washington DC: American Psychiatric Publishing.
- Ashkar, P. J., & Kenny, D. T. (2008). Views from the inside - Young offenders' subjective experiences of incarceration. *International Journal of Offender Therapy and Comparative Criminology, 52*(5), 584-597. doi: 10.1177/0306624x08314181
- Banfield, J. D., & Raftery, A. E. (1993). Model-based Gaussian and non-Gaussian clustering. *Biometrics, 49*(3), 803-821. doi: 10.2307/2532201
- Barendregt, C. S., van der Laan, A. M., Bongers, I. L., & van Nieuwenhuizen, C. (2012). Explaining reoffending and psychiatric relapse in youth forensic psychiatry from a Good Lives Model perspective. In M. Groenhuijsen & T. I. Oei (Eds.), *Progression in Forensic Psychiatry: About boundaries* (pp. 415-434). Deventer: Kluwer BV.
- Barnett, N. P., Lebeau-Craven, R., O'Leary, T. A., Colby, S. M., Woolard, R., Rohsenow, D. J., . . . Monti, P. M. (2002). Predictors of motivation to change after medical treatment for drinking-related events in adolescents. *Psychology of Addictive Behaviors, 16*(2), 106-112. doi: 10.1037//0893-164x.16.2.106
- Barnett, G., & Wood, J. L. (2008). Agency, Relatedness, Inner Peace, and Problem Solving in Sexual Offending How Sexual Offenders Prioritize and Operationalize Their Good Lives Conceptions. *Sexual Abuse-a Journal of Research and Treatment, 20*(4), 444-465. doi: 10.1177/1079063208325202
- Bastiaansen, D., Koot, H. M., & Ferdinand, R. F. (2005). Determinants of quality of life in children with psychiatric disorders. *Quality of Life Research, 14*(6), 1599-1612. doi: 10.1007/s11136-004-7711-2
- Baumeister, H., & Harter, M. (2007). Prevalence of mental disorders based on general population surveys. *Social Psychiatry and Psychiatric Epidemiology, 42*(7), 537-546.
- Becker, S. J., Curry, J. F., & Yang, C. M. (2009). Longitudinal Association Between Frequency of Substance Use and Quality of Life Among Adolescents Receiving a Brief Outpatient Intervention. *Psychology of Addictive Behaviors, 23*(3), 482-490.
- Becker, S. J., Curry, J. F., & Yang, C. M. (2011). Factors that influence trajectories of change in frequency of substance use and quality of life among

- adolescents receiving a brief intervention. *Journal of Substance Abuse Treatment*, 41(3), 294-304.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246. doi: 10.1037/0033-2909.107.2.238
- Berk, L. E. (2006). *Development through the lifespan* (4 ed.). Illinois: Pearson.
- Bijttebier, P., & Decoene, S. (2009). Assessment of psychopathic traits in children and adolescents further validation of the Antisocial Process Screening Device and the Childhood Psychopathy Scale. *European Journal of Psychological Assessment*, 25(3), 157-163. doi: 10.1027/1015-5759.25.3.157
- Birndorf, S., Ryan, S., Auinger, P., & Aten, M. (2005). High self-esteem among adolescents: longitudinal trends, sex differences, and protective factors. *Journal of Adolescent Health*, 37(3), 194-201. doi: 10.1016/j.jadohealth.2004.08.012
- Blumstein, A., Cohen, J., Roth, J. A., & Visher, C. A. (2001). Introduction: Studying criminal careers. In A. Piquero & P. Mazerolle (Eds.), *Life-course criminology: Contemporary and classic readings* (pp. 45-66). Belmont, CA: Wadsworth.
- Bolognini, M., Plancherel, B., Bettschart, W., & Halfon, O. (1996). Self-esteem and mental health in early adolescence: Development and gender differences. *Journal of Adolescence*, 19(3), 233-245. doi: 10.1006/jado.1996.0022
- 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. doi: 10.1080/14999011003635647
- Boxall, K., & Ralph, S. (2009). Research ethics and the use of visual images in research with people with intellectual disability. *Journal of Intellectual & Developmental Disability*, 34(1), 45-54. doi: 10.1080/13668250802688306
- Breda, C., & Heflinger, C. A. (2004). Predicting incentives to change among adolescents with substance abuse disorder. *The American Journal of Drug and Alcohol Abuse*, 30(2), 251-267. doi: 10.1081/ada-120037377
- Breda, C. S., & Riemer, M. (2012). Motivation for youth's treatment scale (MYTS): a new tool for measuring motivation among youths and their caregivers. *Administration and Policy in Mental Health*, 39(1-2), 118-132. doi: 10.1007/s10488-012-0408-x
- Broekaert, E. (2009). *Naar een integratieve handelingsorthopedagogiek*. Antwerpen/Apeldoorn: Garant.
- Broekaert, E., Cappelle, B., Maes, M., Farricelli, M., De Mulder, D., Verstraeten, C., . . . Thienpont, W. (2005). Personen met gedragsstoornissen. In E.

- Broekaert & G. Van Hove (Eds.), *Handboek Bijzondere Orthopedagogiek* (pp. 245-299). Antwerpen-Apeldoorn: Garant.
- Broome, K. M., Joe, G. W., & Simpson, D. D. (2001). Engagement Models for Adolescents in DATOS-A. *Journal of Adolescent Research, 16*(6), 608-623. doi: 10.1177/0743558401166005
- Brugman, D., & Bink, M. D. (2011). Effects of the EQUIP peer intervention program on self-serving cognitive distortions and recidivism among delinquent male adolescents. *Psychology Crime & Law, 17*(4), 345-358. doi: 10.1080/10683160903257934
- Bryant, R. A., & Njenga, F. G. (2006). Cultural sensitivity: Making trauma assessment and treatment plans culturally relevant. *Journal of Clinical Psychiatry, 67*, 74-79.
- Bullis, M., Yovanoff, P., & Havel, E. (2004). The importance of getting started right: Further examination of the facility-to-community transition of formerly incarcerated youth. *Journal of Special Education, 38*(2), 80-94. doi: 10.1177/00224669040380020201
- Burns, R. A., & Machin, M. A. (2013). Psychological wellbeing and the diathesis-stress hypothesis model: The role of psychological functioning and quality of relations in promoting subjective well-being in a life events study. *Personality and Individual Differences, 54*(3), 321-326. doi: 10.1016/j.paid.2012.09.017
- Chen, H. N., Cohen, P., Kasen, S., Johnson, J. G., Berenson, K., & Gordon, K. (2006). Impact of adolescent mental disorders and physical illnesses on quality of life 17 years later. *Archives of Pediatrics and Adolescent Medicine, 160*(1), 93-99.
- Chipuer, H. M., Bramston, P., & Pretty, G. (2003). Determinants of subjective quality of life among rural adolescents: A developmental perspective. *Social Indicators Research, 61*(1), 79-95.
- Chu, C. M., Koh, L. L., Zeng, G., & Teoh, J. (2015). Youth Who Sexual Offended: Primary Human Goods and Offense Pathways. *Sexual Abuse-a Journal of Research and Treatment, 27*(2), 151-172. doi: 10.1177/1079063213499188
- Cima, M., Raine, A., Meesters, C., & Popma, A. (2013). Validation of the Dutch Reactive Proactive Questionnaire (RPQ): Differential correlates of reactive and proactive aggression from childhood to adulthood. *Aggressive Behavior, 39*(2), 99-113. doi: 10.1002/Ab.21458
- Claes, C., van Hove, G., Vandeveld, S., van Loon, J., & Schalock, R. (2012). The influence of supports strategies, environmental factors, and client characteristics on quality of life-related personal outcomes. *Research in Developmental Disabilities, 33*(1), 96-103. doi: 10.1016/j.ridd.2011.08.024
- Colins, O. (2009). *Psychiatric disorders and psychopathy in detained male adolescents.* (Ongepubliceerde doctoraatsverhandeling,

- Orthopedagogische Reeks Gent, nr.31). Gent: Universiteit Gent, Vakgroep Orthopedagogiek.
- Colins, O., Grisso, T., Mulder, E., & Vermeiren, R. (2014). The relation of standardized mental health screening and categorical assessment in detained male adolescents. *European Child & Adolescent Psychiatry*. doi: 10.1007/s00787-014-0584-1
- Colins, O., Hermans, M., & Vermeiren, R. (2012). *Neuropsychologische factoren in relatie tot succes van behandeling van jongeren met een maatregel Plaatsing in een inrichting voor jeugdigen (PIJ) en jongeren met een machtiging Gesloten Jeugdzorg (GJZ)*. Den Haag: WODC, Ministerie van Veiligheid en Justitie.
- Colins, O., Vermeiren, R., Schuyten, G., & Broekaert, E. (2009). Psychiatric disorders in property, violent, and versatile offending detained male adolescents. *American Journal of Orthopsychiatry*, 79(1), 31-38. doi: 10.1037/A0015337
- Colins, O., Vermeiren, R., Schuyten, G., Broekaert, E., & Soye, V. (2008). Informant agreement in the assessment of disruptive behavior disorders in detained minors in Belgium: A diagnosis-level and symptom-level examination. *Journal of Clinical Psychiatry*, 69(1), 141-148.
- Colins, O., Vermeiren, R., Vahl, P., Markus, M., Broekaert, E., & Doreleijers, T. (2011). Psychiatric disorder in detained male adolescents as risk factor for serious recidivism. *Canadian Journal of Psychiatry. Revue Canadienne de Psychiatrie*, 56(1), 44-50.
- Colins, O., Vermeiren, R., Vahl, P., Markus, M., Broekaert, E., & Doreleijers, T. (2012). Parent-reported attention-deficit hyperactivity disorder and subtypes of conduct disorder as risk factor of recidivism in detained male adolescents. *European Psychiatry*, 27(5), 329-334. doi: 10.1016/j.eurpsy.2011.01.001
- Colins, O., 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. doi: 10.1016/j.drugalcdep.2008.08.013
- Colins, O., 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. Revue Canadienne de Psychiatrie*, 55(4), 255-263.
- Colins, O. F., & Andershed, H. (2015). The DSM-5 With Limited Prosocial Emotions Specifier for Conduct Disorder among detained girls. *Law and Human Behavior*. 39(2), 198-207. doi: 10.1037/lhb0000108
- Colins, O. F., Bijttebier, P., Broekaert, E., & Andershed, H. (2014). Psychopathic-like traits among detained female adolescents: Reliability and validity

- of the Antisocial Process Screening Device and the Youth Psychopathic Traits Inventory. *Assessment*, 21(2), 195-209.
- Colins, O. F., Boonmann, C., Veenstra, J., van Domburgh, L., Buffing, F., Doreleijers, T. A. H., & Vermeiren, R. R. J. M. (2013). Mental health problems and recidivism among detained male adolescents from various ethnic origins. *European Child & Adolescent Psychiatry*, 22(8), 481-490.
- Colins, O. F., Grisso, T., Vahl, P., Guy, L., Mulder, E., Hornby, N., . . . Vermeiren, R. (2014). Standardized screening for mental health needs of detained youths from various ethnic origins: The Dutch Massachusetts Youth Screening Instrument-Second Version (MAYSI-2). *Journal of Psychopathology and Behavioral Assessment*. doi: 10.1007/s10862-014-9476-4
- Colins, O. F., & Vermeiren, R. R. J. (2013). The Usefulness of DSM-IV and DSM-5 Conduct Disorder subtyping in detained adolescents. *Journal of Nervous and Mental Disease*, 201(9), 736-743. doi: 10.1097/Nmd.0b013e3182a20e94
- Colpaert, K., De Maeyer, J., Broekaert, E., & Vanderplasschen, W. (2013). Impact of addiction severity and psychiatric comorbidity on the quality of life of alcohol-, drug- and dual-dependent persons in residential treatment. *European Addiction Research*, 19(4), 173-183.
- Costello, E. J., Copeland, W., & Angold, A. (2011). Trends in psychopathology across the adolescent years: What changes when children become adolescents, and when adolescents become adults? *Journal of Child Psychology and Psychiatry*, 52(10), 1015-1025. doi: 10.1111/j.1469-7610.2011.02446.x
- Cottle, C. C., Lee, R. J., & Heilbrun, K. (2001). The prediction of criminal recidivism in juveniles - A meta-analysis. *Criminal Justice and Behavior*, 28(3), 367-394. doi: 10.1177/0093854801028003005
- Coussée, F., & Bradt, L. (2012). *Jeugdwerk en sociale uitsluiting. Handvatten voor een emanciperend jeugdbeleid*. Leuven: Acco.
- Coussée, F., Roets, G., & De Bie, M. (2009). Empowering the powerful: Challenging hidden processes of marginalization in youth work policy and practice in Belgium. *Critical Social Policy*, 29(3), 421-442. doi: 10.1177/0261018309105178
- Crowley, T. J., Mikulich, S. K., Ehlers, K. M., Whitmore, E. A., & MacDonald, M. J. (2001). Validity of structured clinical evaluations in adolescents with conduct and substance problems. *Journal of the American Academy of Child and Adolescent Psychiatry*, 40(3), 265-273.
- Cummins, R. A. (2000). Objective and subjective quality of life: An interactive model. *Social Indicators Research*, 52(1), 55-72. doi: 10.1023/A:1007027822521

- Cummins, R. A., Lau, A. L. D., & Stokes, M. (2004). HRQOL and subjective well-being: noncomplementary forms of outcome measurement. *Expert Review of Pharmacoeconomics & Outcomes Research*, 4(4), 413-420.
- Cunningham, W. S., Duffee, D. E., Huang, Y. F., Steinke, C. M., & Naccarato, T. (2009). On the meaning and measurement of engagement in youth residential treatment centers. *Research on Social Work Practice*, 19(1), 63-76. doi: 10.1177/1049731508314505
- Damnjanovic, M., Lakic, A., Stevanovic, D., & Jovanovic, A. (2011). Effects of mental health on quality of life in children and adolescents living in residential and foster care: a cross-sectional study. *Epidemiology and Psychiatric Sciences*, 20(3), 257-262.
- Day, J. C., Zahn, M. A., & Tichavsky, L. P. (2015). What works for whom? The effects of gender responsive programming on girls and boys in secure detention. *Journal of Research in Crime and Delinquency*, 52(1), 93-129. doi: 10.1177/0022427814538033
- De Brabandere, R., Delange, M., Gryspeerdt, I., Nys, V., Stock, R., Vanlandschoot, R., & Vandepitte, P. (1999). *Wreack geen quaedt, maer dwing tot goed. Het Sint-Pietersveld, kruispunt van historische en maatschappelijke ontwikkelingen in Vlaanderen. 150 jaar Gemeenschapsinstelling Bijzondere jeugdbijstand in Ruiselede 1849-1999*. Tielt: De Roede.
- De Clercq, R. (2013). Personeel De Zande eist betere opvang voor 14-jarige. *Het Nieuwsblad*.
- de Haan, A. M., Boon, A. E., de Jong, J. T. V. M., Hoeve, M., & Vermeiren, R. R. J. M. (2013). A meta-analytic review on treatment dropout in child and adolescent outpatient mental health care. *Clinical Psychology Review*, 33(5), 698-711. doi: 10.1016/j.cpr.2013.04.005
- de Jong, P. J., Sportel, B. E., de Hullu, E., & Nauta, M. H. (2012). Co-occurrence of social anxiety and depression symptoms in adolescence: differential links with implicit and explicit self-esteem? *Psychological Medicine*, 42(3), 475-484. doi: 10.1017/S0033291711001358
- De Los Reyes, A., & Kazdin, A. E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin*, 131(4), 483-509. doi: 10.1037/0033-2909.131.4.483
- De Maeyer, J., Vanderplasschen, W., & Broekaert, E. (2009). Exploratory Study on Drug Users' Perspectives on Quality of Life: More than Health-Related Quality of Life? *Social Indicators Research*, 90(1), 107-126. doi: 10.1007/s11205-008-9315-7
- De Maeyer, J., Vanderplasschen, W., Camfield, L., Vanheule, S., Sabbe, B., & Broekaert, E. (2011). A good quality of life under the influence of methadone: A qualitative study among opiate-dependent individuals.

- International Journal of Nursing Studies*, 48(10), 1244-1257. doi: 10.1016/j.ijnurstu.2011.03.009
- De Maeyer, J., Vanderplasschen, W., Lammertyn, J., van Nieuwenhuizen, C., & Broekaert, E. (2011). Exploratory study on domain-specific determinants of opiate-dependent individuals' quality of life. *European Addiction Research*, 17(4), 198-210. doi: 10.1159/000324353
- 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. doi: 10.1007/s11136-010-9732-3
- Desai, R. A., Goulet, J. L., Robbins, J., Chapman, J. F., Migdole, S. J., & Hoge, M. A. (2006). Mental health care in juvenile detention facilities: A review. *Journal of the American Academy of Psychiatry and the Law*, 34(2), 204-214.
- DiGiuseppe, R., Linscott, J., & Jilton, R. (1996). Developing the therapeutic alliance in child-adolescent psychotherapy. *Applied & Preventive Psychology*, 5(2), 85-100. doi: 10.1016/S0962-1849(96)80002-3
- Dixon, A., Howie, P., & Starling, J. (2004). Psychopathology in female juvenile offenders. *Journal of Child Psychology and Psychiatry*, 45(6), 1150-1158.
- Dmitrieva, J., Monahan, K. C., Cauffman, E., & Steinberg, L. (2012). Arrested development: The effects of incarceration on the development of psychosocial maturity. *Development and Psychopathology*, 24(3), 1073-1090. doi: 10.1017/S0954579412000545
- Dong, M., Anda, R. F., Dube, S. R., Giles, W. H., & Felitti, V. J. (2003). The relationship of exposure to childhood sexual abuse to other forms of abuse, neglect, and household dysfunction during childhood. *Child Abuse & Neglect*, 27(6), 625-639. doi: 10.1016/S0145-2134(03)00105-4
- Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., Moffitt, T. E., & Caspi, A. (2005). Low self-esteem is related to aggression, antisocial behavior, and delinquency. *Psychological Science*, 16(4), 328-335. doi: 10.1111/j.0956-7976.2005.01535.x
- Drieschner, K. H., Lammers, S. M. M., & van der Staak, C. P. F. (2004). Treatment motivation: An attempt for clarification of an ambiguous concept. *Clinical Psychology Review*, 23(8), 1115-1137. doi: 10.1016/j.cpr.2003.09.003
- Dube, S. R., Anda, R. F., Felitti, V. J., Chapman, D. P., Williamson, D. F., & Giles, W. H. (2001). Childhood abuse, household dysfunction, and the risk of attempted suicide throughout the life span. Findings from the adverse

- childhood experiences study. *The Journal of the American Medical Association*, 286(24), 3089-3096.
- DuBois, D. L., & Silverthorn, N. (2004). Bias in self-perceptions and internalizing and externalizing problems in adjustment during early adolescence: A prospective investigation. *Journal of Clinical Child and Adolescent Psychology*, 33(2), 373-381. doi: 10.1207/s15374424jccp3302_19
- Eklund, M., & Backstrom, M. (2005). A model of subjective quality of life for outpatients with schizophrenia and other psychoses. *Quality of Life Research*, 14(4), 1157-1168. doi: 10.1007/s11136-004-2960-7
- Eltinka, E. M. A., van der Helm, P., Wissink, I. B., & Stams, G. J. M. (2015). The relation between living group climate and reactions to social problem situations in detained adolescents: "I stabbed him because he looked mean at me". *International Journal of Forensic Mental Health*, 14(2), 101-109. doi: 10.1080/14999013.2015.1033110
- Englebrecht, C., Peterson, D., Scherer, A., & Naccarato, T. (2008). "It's not my fault": Acceptance of responsibility as a component of engagement in juvenile residential treatment. *Children and Youth Services Review*, 30(4), 466-484. doi: 10.1016/j.childyouth.2007.11.005
- Enzmann, D., & Podana, Z. (2010). Official crime statistics and survey data: Comparing trends of youth violence between 2000 and 2006 in cities of the Czech Republic, Germany, Poland, Russia, and Slovenia. *European Journal on Criminal Policy and Research*, 16(3), 191-205. doi: 10.1007/s10610-010-9121-z
- Esmeijer, F. J., Veerman, J. W., & Van Leeuwen, H. M. P. (1999). Gestructureerde interviews voor dsmclassificatie van psychische stoornissen bij kinderen en jeugdigen: Een overzicht. *Tijdschrift voor psychiatrie*, 41(4), 209-218.
- Fazel, S., Doll, H., & Långström, N. (2008). Mental disorders among adolescents in juvenile detention and correctional facilities. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(9), 1010-1019. doi: 10.1097/CHI.0b013e31817eef3
- Ferdinand, R., & Van der Ende, J. (2002). *Diagnostic Interview Schedule for Children. Authorized Dutch translation of the NIMH DISC-IV (Shaffer D, Fisher P, Lucas C and the NIMH editorial board)*. Rotterdam: Erasmus University, Department of Child and Adolescent Psychiatry, Sophia Children's Hospital.
- Ferdinand, R. F., van der Ende, J., & Verhulst, F. C. (2004). Parent-adolescent disagreement regarding psychopathology in adolescents from the general population as a risk factor for adverse outcome. *Journal of Abnormal Psychology*, 113(2), 198-206. doi: 10.1037/0021-843x.113.2.198

- Fink, B. C., Tant, A. S., Tremba, K., & Kiehl, K. A. (2012). Assessment of psychopathic traits in an incarcerated adolescent sample: A methodological comparison. *Journal of Abnormal Child Psychology*, *40*(6), 971-986. doi: 10.1007/s10802-012-9614-y
- Fisher, D., Morgan, J., Print, B., & Leeson, S. (2010). Working with juveniles with sexually abusive behaviour in the UK: The G-Map approach. In R. E. Longo, D. S. Prescott, J. Bergman, & K. Creeden (Eds.), *Current perspectives and applications in neurobiology: Working with young persons who are victims and perpetrators of sexual abuse* (pp. 185-198). Holyoke, MA: NEARI Press.
- Florsheim, P., Behling, S., South, M., Fowles, T. R., & J., D. (2004). Does the youth corrections system work? Tracking the effectiveness of intervention efforts with delinquent boys in state custody. *Psychological Services*, *1*(2), 126-139.
- Fraynt, R., Ross, L., Baker, B. L., Rystad, I., Lee, J., & Briggs, E. C. (2014). Predictors of treatment engagement in ethnically diverse, urban children receiving treatment for trauma exposure. *Journal of Traumatic Stress*, *27*(1), 66-73. doi: 10.1002/jts.21889
- Frick, P. J., & Dickens, C. (2006). Current perspectives on conduct disorder. *Current Psychiatry Reports*, *8*, 59-72.
- Frick, P. J., & Hare, R. D. (2001). *Antisocial Process Screening Device technical manual*. Toronto, Canada: Multi-Health Systems.
- Frick, P. J., & Nigg, J. T. (2012). Current issues in the diagnosis of Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, and Conduct Disorder. *Annual Review of Clinical Psychology*, *Vol 8*, *8*, 77-107. doi: 10.1146/annurev-clinpsy-032511-143150
- Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014a). Can callous-unemotional traits enhance the understanding, diagnosis, and treatment of serious conduct problems in children and adolescents? A comprehensive review. *Psychological Bulletin*, *140*(1), 1-57. doi: 10.1037/A0033076
- Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E. (2014b). The road forward for research on callous-unemotional traits: Reply to Lahey (2014). *Psychological Bulletin*, *140*(1), 64-68. doi: 10.1037/A0033710
- Fritz, M. S., & MacKinnon, D. P. (2007). Required sample size to detect the mediated effect. *Psychological Science*, *18*(3), 233-239. doi: 10.1111/j.1467-9280.2007.01882.x
- Frola, M. (2009). Low-risk youths referred to Pima County Juvenile Court Center detention intake: Needs, detention, and recidivism. *Juvenile and Family Court Journal*, *60*(3), 45-65.
- Garcia, A., Aisenberg, E., & Harachi, T. (2012). Pathways to service inequalities among Latinos in the child welfare system. *Children and Youth Services Review*, *34*(5), 1060-1071. doi: 10.1016/j.childyouth.2012.02.011

- Garcia, C. M., & Duckett, L. J. (2009). No te entiendo y tú no me entiendes: Language barriers among immigrant Latino adolescents seeking health care. *Journal of Cultural Diversity, 16*(3), 120-126.
- Geiser, C. (2013). Data Analysis with Mplus (pp. 71-73). New York: The Guilford Press.
- Golubovic, S., & Skrbic, R. (2013). Agreement in quality of life assessment between adolescents with intellectual disability and their parents. *Research in Developmental Disabilities, 34*(6), 1863-1869.
- Greenwald, R. (2000). A trauma-focused individual therapy approach for adolescents with conduct disorder. *International Journal of Offender Therapy and Comparative Criminology, 44*(2), 146-163. doi: 10.1177/0306624x00442002
- Gretton, H. M., & Clift, R. J. W. (2011). The mental health needs of incarcerated youth in British Columbia, Canada. *International Journal of Law and Psychiatry, 34*(2), 109-115.
- Grisso, T. (2004). *Double Jeopardy: Adolescent offenders with mental disorders*. Chicago, IL: The University of Chicago Press.
- Grisso, T. (2007). Progress and perils in the juvenile justice and mental health movement. *Journal of the American Academy of Psychiatry and the Law, 35*(2), 158-167.
- Grisso, T., & Barnum, R. (2006). *Massachusetts Youth Screening Instrument – Version 2: User’s Manual and Technical Report*. Sarasota, Florida: Professional Resource Press.
- Grisso, T., Barnum, R., Fletcher, K. E., Cauffman, E., & Peuschold, D. (2001). Massachusetts Youth Screening Instrument for mental health needs of juvenile justice youths. *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(5), 541-548.
- Grisso, T., & Nelson, R. (2014). *The (in)stability of mental health screening data*. Paper presented at the EFCAP 2014 Congress. Youth, risk and mental health: Multiple roads to recovery, Manchester.
- Gudjonsson, G. H., Savona, C. S. V., Green, T., & Terry, R. (2011). The recovery approach to the care of mentally disordered patients. Does it predict treatment engagement and positive social behaviour beyond quality of life? *Personality and Individual Differences, 51*(8), 899-903.
- Hall, G. S. (1904). *Adolescence: Its psychology and its relation to physiology, anthropology, sociology, sex, crime, religion, and education*. New York: D. Appleton and Company.
- Hamerlynck, S. M. J. J., Doreleijers, T. A. H., Vermeiren, R., Jansen, L. M. C., & Cohen-Kettenis, P. T. (2008). Aggression and psychopathology in detained adolescent females. *Psychiatry Research, 159*(1-2), 77-85.
- Harder, A. T., Knorth, E. J., & Kalverboer, M. E. (2012). Securing the downside up: Client and care factors associated with outcomes of secure

- residential youth care. *Child & Youth Care Forum*, 41(3), 259-276. doi: 10.1007/s10566-011-9159-1
- Harter, S. (1988). *Manual for the self-perception profile for adolescents*. Denver, CO: University of Denver.
- Harter, S. (1999). *The construction of the self. A developmental perspective*. New York: Guilford.
- Harter, S. (2003). The development of self-representations during childhood and adolescence. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 610-642). New York: Guilford.
- Hawke, J. M., Hennen, J., & Gallione, P. (2005). Correlates of therapeutic involvement among adolescents in residential drug treatment. *American Journal of Drug and Alcohol Abuse*, 31(1), 163-177. doi: 10.1081/Ada-200047913
- Hayes, A. F., & Scharkow, M. (2013). The Relative Trustworthiness of Inferential Tests of the Indirect Effect in Statistical Mediation Analysis: Does Method Really Matter? *Psychological Science*, 24(10), 1918-1927. doi: 10.1177/0956797613480187
- Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. *Annual Review of Clinical Psychology*, 1, 91-111. doi: 10.1146/annurev.clinpsy.1.102803.143833
- Hicks, B. M., Markon, K. E., Patrick, C. J., Krueger, R. F., & Newman, J. P. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment*, 16(3), 276-288.
- Hirschi, T. (1969). *Causes of delinquency*. Berkeley: University of California Press.
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling-a Multidisciplinary Journal*, 6(1), 1-55. doi: 10.1080/10705519909540118
- Jensen-Doss, A., & Weisz, J. R. (2008). Diagnostic agreement predicts treatment process and outcomes in youth mental health clinics. *Journal of Consulting and Clinical Psychology*, 76(5), 711-722. doi: 10.1037/0022-006x.76.5.711
- Kahn, R. E., Frick, P. J., Youngstrom, E., Findling, R. L., & Youngstrom, J. K. (2012). The effects of including a callous-unemotional specifier for the diagnosis of conduct disorder. *Journal of Child Psychology and Psychiatry*, 53(3), 271-282. doi: 10.1111/j.1469-7610.2011.02463.x
- Karnik, N. S., Soller, M., Redlich, A., Silverman, M., Kraemer, H. C., Haapanen, R., & Steiner, H. (2009). Prevalence of and gender differences in psychiatric disorders among juvenile delinquents incarcerated for nine months. *Psychiatric Services*, 60(6), 838-841.
- Karnik, N. S., Soller, M. V., Redlich, A., Silverman, M. A., Kraemer, H. C., Haapanen, R., & Steiner, H. (2010). Prevalence differences of

- psychiatric disorders among youth after nine months or more of incarceration by race/ethnicity and age. *Journal of Health Care for the Poor and Underserved*, 21(1), 237-250.
- Kernis, M. H., Cornell, D. P., Sun, C. R., Berry, A., & Harlow, T. (1993). There's more to self-esteem than whether it is high or low: The importance of stability of self-esteem. *Journal of Personality and Social Psychology*, 65(6), 1190-1204.
- Kessler, R. C., Angermeyer, M., Anthony, J. C., de Graaf, R., Demyttenaere, K., Gasquet, I., . . . Conso, W. W. M. H. S. (2007). Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization's World Mental Health Survey Initiative. *World Psychiatry*, 6(3), 168-176.
- Kim, S. W., Kang, H. J., Kim, S. Y., Kim, J. M., Yoon, J. S., Jung, S. W., . . . Jun, T. Y. (2013). Impact of childhood adversity on the course and suicidality of depressive disorders: The Crescend study. *Depression and Anxiety*, 30(10), 965-974. doi: 10.1002/Da.22088
- Kimonis, E. R., Fanti, K., Goldweber, A., Marsee, M. A., Frick, P. J., & Cauffman, E. (2014). Callous-unemotional traits in incarcerated adolescents. *Psychological Assessment*, 26(1), 227-237. doi: 10.1037/A0034585
- Kingree, J. B., Phan, D., & Thompson, M. (2003). Child maltreatment and recidivism among adolescent detainees. *Criminal Justice and Behavior*, 30(6), 623-643. doi: 10.1177/0093854803256460
- Klag, S. M. L., Creed, P., & O'Callaghan, F. (2010). Early motivation, well-being, and treatment engagement of chronic substance users undergoing treatment in a therapeutic community setting. *Substance Use and Misuse*, 45(7-8), 1112-1130. doi: 10.3109/10826080903499562
- Ko, S. J., Wasserman, G. A., McReynolds, L., & Katz, L. M. (2004). Contribution of parent report to voice DISC-IV diagnosis among incarcerated youths. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43(7), 868-877. doi: 10.1097/01.chi.0000128788.03192.fa
- Kolko, D. J., & Pardini, D. A. (2010). ODD dimensions, ADHD, and callous-unemotional traits as predictors of treatment response in children with disruptive behavior disorders. *Journal of Abnormal Psychology*, 119(4), 713-725. doi: 10.1037/A0020910
- Krabbendam, A. A., Colins, O. F., Doreleijers, T. A. H., van der Molen, E., Beekman, A. T. F., & Vermeiren, R. R. J. M. (2015). Personality disorders in previously detained adolescent females: A prospective study. *American Journal of Orthopsychiatry*, 85(1), 63-71. doi: 10.1037/Ort0000032
- Krabbendam, A. A., Jansen, L. M. C., van de Ven, P. M., Van der Molen, E., Doreleijers, T. A. H., & Vermeiren, R. R. J. M. (2014). Persistence of aggression into adulthood in detained adolescent females.

- Comprehensive Psychiatry*, 55(7), 1572-1579. doi: 10.1016/j.comppsy.2014.05.002
- 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.
- Laban, C. J., Komproe, I. H., Gernaat, H. B. P. E., & de Jong, J. T. V. M. (2008). The impact of a long asylum procedure on quality of life, disability and physical health in Iraqi asylum seekers in the Netherlands. *Social Psychiatry and Psychiatric Epidemiology*, 43(7), 507-515. doi: 10.1007/s00127-008-0333-1
- Lahey, B. B. (2014). What we need to know about callous-unemotional traits: Comment on Frick, Ray, Thornton, and Kahn (2014). *Psychological Bulletin*, 140(1), 58-63. doi: 10.1037/A0033387
- Landis, J. R., & Koch, G. G. (1977). Measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159-174. doi: 10.2307/2529310
- Lederman, C. S., Dakof, G. A., Larrea, M. A., & Li, H. (2004). Characteristics of adolescent females in juvenile detention. *International Journal of Law and Psychiatry*, 27(4), 321-337. doi: 10.1016/j.ijlp.2004.03.009
- Lee, M. T., Garnick, D. W., O'Brien, P. L., Panas, L., Ritter, G. A., Acevedo, A., . . . Godley, M. D. (2012). Adolescent treatment initiation and engagement in an evidence-based practice initiative. *Journal of Substance Abuse Treatment*, 42(4), 346-355. doi: 10.1016/j.jsat.2011.09.005
- Leenarts, L. E. W., Hoeve, M., Van de Ven, P. M., Lodewijks, H. P. B., & Doreleijers, T. A. H. (2013). Childhood maltreatment and motivation for treatment in girls in compulsory residential care. *Children and Youth Services Review*, 35, 1041-1047.
- Lenssen, S. A. M., Doreleijers, T. A. H., van Dijk, M. E., & Hartman, C. A. (2000). Girls in detention: what are their characteristics? A project to explore and document the character of this target group and the significant ways in which it differs from one consisting of boys. *Journal of Adolescence*, 23(3), 287-303.
- Lewin, A. B., Storch, E. A., Conelea, C. A., Woods, D. W., Zinner, S. H., Budman, C. L., . . . Murphy, T. K. (2011). The roles of anxiety and depression in connecting tic severity and functional impairment. *Journal of Anxiety Disorders*, 25(2), 164-168. doi: 10.1016/j.janxdis.2010.08.016
- Locke, K. D. (2009). Aggression, narcissism, self-esteem, and the attribution of desirable and humanizing traits to self versus others. *Journal of Research in Personality*, 43(1), 99-102. doi: 10.1016/j.jrp.2008.10.003
- Loeber, R., Green, S. M., Lahey, B. B., & Stouthamer-Loeber, M. (1989). Optimal informants on childhood disruptive behaviors. *Development and Psychopathology*, 1, 317-337.

- Loeber, R., & Keenan, K. (1994). Interaction between conduct disorder and its comorbid: Effects of age and gender. *Clinical Psychology Review, 14*(6), 497-523. doi: 10.1016/0272-7358(94)90015-9
- Lyon, J., Dennison, C., & Wilson, A. (2000). 'Tell them so they listen': Messages from young people in custody. London: The Research, Development and Statistics Directorate.
- Mann, M., Hosman, C. M. H., Schaalma, H. P., & de Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health Education Research, 19*(4), 357-372.
- Marsee, M. A., & Frick, P. J. (2007). Exploring the cognitive and emotional correlates to proactive and reactive aggression in a sample of detained girls. *Journal of Abnormal Child Psychology, 35*(6), 969-981. doi: 10.1007/s10802-007-9147-y
- Marsh, H. W., Parada, R. H., & Ayotte, V. (2004). A multidimensional perspective of relations between self-concept (Self Description Questionnaire II) and adolescent mental health (Youth Self-Report). *Psychological Assessment, 16*(1), 27-41. doi: 10.1037/1040-3590.16.1.27
- Matsuura, N., Hashimoto, T., & Toichi, M. (2009). The relationship between self-esteem and AD/HD characteristics in the serious juvenile delinquents in Japan. *Research in Developmental Disabilities, 30*(5), 884-890. doi: 10.1016/j.ridd.2008.12.007
- McCabe, K. M., Lansing, A. E., Garland, A., & Hough, R. (2002). Gender differences in psychopathology, functional impairment, and familial risk factors among adjudicated delinquents. *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7). doi: 10.1097/00004583-200207000-00020
- McMahon, R. J., Witkiewitz, K., & Kotler, J. S. (2010). Predictive validity of callous-unemotional traits measured in early adolescence with respect to multiple antisocial outcomes. *Journal of Abnormal Psychology, 119*(4), 752-763. doi: 10.1037/a0020796
- Melde, C., & Esbensen, F. A. (2013). Gangs and violence: Disentangling the impact of gang membership on the level and nature of offending. *Journal of Quantitative Criminology, 29*(2), 143-166.
- Mellgren, C., Pauwels, L., & Torstensson Levander, M. (2010). Neighbourhood disorder and worry about criminal victimization in the neighbourhood. *International Review of Victimology, 17*, 291-310.
- Modecki, K. L. (2009). "It's a Rush": Psychosocial content of antisocial decision making. *Law and Human Behavior, 33*(3), 183-193.
- Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behaviour: Conduct disorder, delinquency, and violence in the Dunedin longitudinal study*. Cambridge: Cambridge University Press.

- Moksnes, U. K., Moljord, I. E. O., Espnes, G. A., & Byrne, D. G. (2010). The association between stress and emotional states in adolescents: The role of gender and self-esteem. *Personality and Individual Differences, 49*(5), 430-435. doi: 10.1016/j.paid.2010.04.012
- Muthén, L. K., & Muthén, B. O. (1998-2007). *Mplus users guide (Fifth ed.)*. Los Angeles, CA: Muthén & Muthén.
- Najman, J. M., Hayatbakhsh, M. R., Mcgee, T. R., Bor, W., O'Callaghan, M. J., & Williams, G. M. (2009). The Impact of puberty on aggression/delinquency: Adolescence to young adulthood. *Australian and New Zealand Journal of Criminology, 42*(3), 369-386.
- Ng, T. P., Lim, L. C. C., Jin, A. Z., & Shinfuku, N. (2005). Ethnic differences in quality of life in adolescents among Chinese, Malay and Indians in Singapore. *Quality of Life Research, 14*(7), 1755-1768. doi: 10.1007/s11136-005-1741-2
- Noppe, J., & Lodewijckx, E. (2012). *De gekleurde samenleving. Personen van vreemde herkomst in Vlaanderen*. Brussel: Studiedienst van de Vlaamse Regering.
- Nuevo, R., Leighton, C., Dunn, G., Dowrick, C., Lehtinen, V., Dalgard, O. S., . . . Ayuso-Mateos, J. L. (2010). Impact of severity and type of depression on quality of life in cases identified in the community. *Psychological Medicine, 40*(12), 2069-2077. doi: 10.1017/S0033291710000164
- Odgers, C. L. M., M. M. (2002). Aggressive and antisocial girls: Research update and challenges. *International Journal of Forensic Mental Health, 1*(2), 103-119.
- Orth, U., Robins, R. W., Trzesniewski, K. H., Maes, J., & Schmitt, M. (2009). Low self-esteem as a risk factor for depressive symptoms from young adulthood to old age. *Journal of Abnormal Psychology, 118*(3), 472-478.
- Ondersteuningsstructuur Bijzondere Jeugdzorg (OSBJ) (2006). *Schema werking Bijzondere Jeugdzorg*. Retrieved 03-06-2015, from http://steunpuntjeugdhulp.be/custom_output.php?action=printobject_pdf&class=siteonderdeel&id=243
- Page, G. L., & Scalora, M. J. (2004). The utility of locus of control for assessing juvenile amenability to treatment. *Aggression and Violent Behavior, 9*(5), 523-534. doi: 10.1016/S1359-1789(03)00047-8
- Pardini, D., Stepp, S., Hipwell, A., Stouthamer-Loeber, M., & Loeber, R. (2012). The clinical utility of the proposed DSM-5 callous-unemotional subtype of Conduct Disorder in young girls. *Journal of the American Academy of Child and Adolescent Psychiatry, 51*(1), 62-73. doi: 10.1016/j.jaac.2011.10.005
- Pauwels, L. J. R., Vettenburg, N., Gavray, C., & Brondeel, R. (2011). Societal vulnerability and troublesome youth group involvement: The mediating role of violent values and low self-control. *International*

- Criminal Justice Review*, 21(3), 283-296. doi: 10.1177/1057567711419899
- Penka, S., Heimann, H., Heinz, A., & Schouler-Ocak, M. (2008). Explanatory models of addictive behaviour among native German, Russian-German, and Turkish youth. *European Psychiatry*, 23, S36-S42.
- Pepler, D. J., Jiang, D., Craig, W. M., & Connolly, J. (2010). Developmental trajectories of girls' and boys' delinquency and associated problems. *Journal of Abnormal Child Psychology*, 38(7), 1033-1044. doi: 10.1007/s10802-010-9389-y
- Pihet, S., Passini, C. M., & Holzer, L. (2013). Treatment motivation in adolescents with psychosis or at high risk: Determinants and impact on improvements in symptoms and cognitive functioning, preliminary results. *Psychotherapy Research*, 23(4), 464-473. doi: 10.1080/10503307.2013.794398
- Plattner, B., Giger, J., Bachmann, F., Bruhwiler, K., Steiner, H., Steinhausen, H. C., . . . Aebi, M. (2012). Psychopathology and offense types in detained male juveniles. *Psychiatry Research*, 198(2), 285-290.
- Plattner, B., Steiner, H., The, S. S., Kraemer, H. C., Bauer, S. M., Kindler, J., . . . Feucht, M. (2009). Sex-specific predictors of criminal recidivism in a representative sample of incarcerated youth. *Comprehensive Psychiatry*, 50(5), 400-407. doi: 10.1016/j.comppsy.2008.09.014
- Poythress, N. G., Douglas, K. S., Falkenbach, D., Cruise, K., Lee, Z., Murrie, D. C., & Vitacco, M. (2006). Internal consistency reliability of the self-report antisocial process screening device. *Assessment*, 13(1), 107-113. doi: 10.1177/1073191105284279
- Preski, S., & Shelton, D. (2001). The role of contextual, child and parent factors in predicting criminal outcomes in adolescence. *Issues in Mental Health Nursing*, 22(2), 197-205.
- Purvis, M. (2010). *Seeking a Good Life: Human Goods and Sexual Offending*. Germany: Lambert Academic Press.
- Purvis, M., Ward, T., & Willis, G. (2011). The Good Lives Model in practice: Offence pathways and case management. *European Journal of Probation*, 3(2), 4-28.
- Put, J. (2006). *Handboek Jeugdbeschermingsrecht*. Brugge: Die Keure.
- Puzzanchera, C. (2009). *Juvenile arrests 2007*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Raine, A., Dodge, K., Loeber, R., Gatzke-Kopp, L., Lynam, D., Reynolds, C., . . . Liu, J. (2006). The Reactive-Proactive Aggression Questionnaire: Differential correlates of reactive and proactive aggression in adolescent boys. *Aggressive Behavior*, 32(2), 159-171. doi: 10.1002/ab.20115

- Richardson, J. T. E. (2011). Eta squared and partial eta squared as measures of effect size in educational research. *Educational Research Review, 6*(2), 135-147. doi: 10.1016/j.edurev.2010.12.001
- Richter, J., Sagatun, A., Heyerdahl, S., Oppedal, B., & Roysamb, E. (2011). The Strengths and Difficulties Questionnaire (SDQ) - Self-Report. An analysis of its structure in a multiethnic urban adolescent sample. *Journal of Child Psychology and Psychiatry, 52*(9), 1002-1011.
- Roedelof, A. J. M., Bongers, I. L., & van Nieuwenhuizen, C. (2013). Treatment engagement in adolescents with severe psychiatric problems: a latent class analysis. *European Child & Adolescent Psychiatry, 22*(8), 491-500. doi: 10.1007/s00787-013-0385-y
- Salmivalli, C. (2001). Feeling good about oneself, being bad to others? Remarks on self-esteem, hostility, and aggressive behavior. *Aggression and Violent Behavior, 6*(4), 375-393.
- Sandstrom, M. J., & Jordan, R. (2008). Defensive self-esteem and aggression in childhood. *Journal of Research in Personality, 42*(2), 506-514.
- Sawatzky, R., Ratner, P. A., Johnson, J. L., Kopec, J. A., & Zumbo, B. D. (2010). Self-reported physical and mental health status and quality of life in adolescents: a latent variable mediation model. *Health and Quality of Life Outcomes, 8*(17), 1-11. doi: 10.1186/1477-7525-8-17
- Sawyer, M. G., Guidolin, M., Schulz, K. L., McGinnes, B., Zubrick, S. R., & Baghurst, P. A. (2010). Mental health and wellbeing of adolescents on remand in Australia. *Australian & New Zealand Journal of Psychiatry, 44*(6), 551-559.
- Schalock, R. L., Bonham, G. S., & Verdugo, M. A. (2008). The conceptualization and measurement of quality of life: Implications for program planning and evaluation in the field of intellectual disabilities. *Evaluation and Program Planning, 31*(2), 181-190. doi: 10.1016/j.evalprogplan.2008.02.001
- Schalock, R. L., Brown, I., Brown, R., Cummins, R. A., Felce, D., Matikka, L., . . . Parmenter, T. (2002). Conceptualization, measurement, and application of quality of life for persons with intellectual disabilities: Report of an international panel of experts. *Mental Retardation, 40*(6), 457-470. doi: 10.1352/0047-6765(2002)040<0457:Cmaaoq>2.0.Co;2
- Schiff, M., Nebe, S., & Gilman, R. (2006). Life satisfaction among Israeli youth in residential treatment care. *British Journal of Social Work, 36*(8), 1325-1343.
- Schubert, C. A., Mulvey, E. P., Loughran, T. A., & Losoya, S. H. (2012). Perceptions of institutional experience and community outcomes for serious adolescent offenders. *Criminal Justice and Behavior, 39*(1), 71-93. doi: 10.1177/0093854811426710

- Seagrave, D., & Grisso, T. (2002). Adolescent development and the measurement of juvenile psychopathy. *Law and Human Behavior, 26*(2), 219-239. doi: 10.1023/A:1014696110850
- Sevecke, K., Lehmkuhl, G., & Krischer, M. K. (2009). Examining relations between psychopathology and psychopathy dimensions among adolescent female and male offenders. *European Child & Adolescent Psychiatry, 18*(2), 85-95.
- Shaffer, D., Fisher, P., Lucas, C. P., Dulcan, M. K., & Schwab-Stone, M. E. (2000). NIMH Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(1), 28-38.
- Sheahan, F. (2014). Neglected needs. Girls in the criminal justice system. London: Penal Reform International.
- Shek, D. T. L. (2005). Economic stress, emotional quality of life, and problem behavior in Chinese adolescents with and without economic disadvantage. *Social Indicators Research, 71*(1-3), 363-383.
- Shirk, S. R., & Karver, M. (2003). Prediction of treatment outcome from relationship variables in child and adolescent therapy: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 71*(3), 452-464. doi: 10.1037/0022-006x.71.3.452
- Simon, N. M., Herlands, N. N., Marks, E. H., Mancini, C., Letamendi, A., Li, Z. H., . . . Stein, M. B. (2009). Childhood maltreatment linked to greater symptom severity and poorer quality of life and function in social anxiety disorder. *Depression and Anxiety, 26*(11), 1027-1032. doi: 10.1002/Da.20604
- Simpson, T. P., Frick, P. J., Kahn, R. E., & Evans, L. J. (2013). Therapeutic alliance in justice-involved adolescents undergoing mental health treatment: The role of callous-unemotional traits. *International Journal of Forensic Mental Health, 12*(2), 83-92. doi: 10.1080/14999013.2013.787559
- Skevington, S. M., Lotfy, M., & O'Connell, K. A. (2004). The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial - A report from the WHOQOL group. *Quality of Life Research, 13*(2), 299-310.
- Smith, B. D., Duffee, D. E., Steinke, C. M., Huang, M., & Larkin, H. (2008). Outcomes in residential treatment for youth: The role of early engagement. *Children and Youth Services Review, 30*(12), 1425-1436. doi: 10.1016/j.childyouth.2008.04.010
- Snyder, H. N., & Sickmund, M. (2006). Juvenile Offenders and Victims: 2006 National Report. Washington DC: US: Department of Justice, OJP, OJJDP.

- Steiger, J. H., & Lind, J. C. (1980). *Statistically based tests for the number of common factors*. Iowa City, IA.
- Steinhausen, H. C., & Metzke, C. W. (2001). Risk, compensatory, vulnerability, and protective factors influencing mental health in adolescence. *Journal of Youth and Adolescence*, *30*(3). doi: 10.1023/a:1010471210790
- Stensland, S. O., Dyb, G., Thoresen, S., Wentzel-Larsen, T., & Zwart, J. A. (2013). Potentially traumatic interpersonal events, psychological distress and recurrent headache in a population-based cohort of adolescents: the HUNT study. *Bmj Open*, *3*(7). doi: 10.1136/bmjopen-2013-002997
- Stewart, D. G., & Trupin, E. W. (2003). Clinical utility and policy implications of a statewide mental health screening process for juvenile offenders. *Psychiatric Services*, *54*(3), 377-382. doi: 10.1176/appi.ps.54.3.377
- THE WHOQOL GROUP (1998). Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychological Medicine*, *28*(3), 551-558.
- Teplin, L. A., Abram, K. M., McClelland, G. M., Dulcan, M. K., & Mericle, A. A. (2002). Psychiatric disorders in youth in juvenile detention. *Archives of General Psychiatry*, *59*(12), 1133-1143. doi: 10.1001/archpsyc.59.12.1133
- Teplin, L. A., Welty, L. J., Abram, K. M., Dulcan, M. K., & Washburn, J. J. (2012). Prevalence and Persistence of Psychiatric Disorders in Youth After Detention. *Archives of General Psychiatry*, *69*(10), 1031-1043.
- Thakker, J., Ward, T., & Tidmarsh, P. (2006). A reevaluation of relapse prevention with adolescents who sexually offend : a Good-Lives Model. In H. E. Barbaree & W. L. Marshall (Eds.), *The Juvenile Sex Offender* (pp. 313-335). New York: Guilford.
- Tobin, J. (1958). Estimation of relationships for limited dependent-variables. *Econometrica*, *26*(1), 24-36. doi: 10.2307/1907382
- Todis, B., Bullis, M., Waintrup, M., Schultz, R., & D'Ambrosio, R. (2001). Overcoming the odds: Qualitative examination of resilience among formerly incarcerated adolescents. *Exceptional Children*, *68*(1), 119-139.
- Tomyn, A. J., Weinberg, M. K., & Cummins, R. A. (2014). Intervention efficacy among 'at risk' adolescents: A test of subjective wellbeing homeostasis theory. *Social Indicators Research*. doi: 10.1007/s11205-014-0619-5
- Treffers, D. A., Goedhart, A. W., Veerman, J. W., Van den Bergh, B. R. H., Ackaert, L., & DeRycke, L. (2002). *De competentiebelevingsschaal voor adolescenten (CBSA)*. Handleiding. Lisse: Swets.
- Trompenaars, F. J., Masthoff, E. D., Van Heck, G. L., Hodiament, P. P., & De Vries, J. (2005). Content validity, construct validity, and reliability of the WHOQOL-Bref in a population of Dutch adult psychiatric outpatients. *Quality of Life Research*, *14*, 151-160.

- Trzesniewski, K. H., Donnellan, M. B., Moffitt, T. E., Robins, R. W., Poulton, R., & Caspi, A. (2006). Low self-esteem during adolescence predicts poor health, criminal behavior, and limited economic prospects during adulthood. *Developmental Psychology, 42*(2), 381-390. doi: 10.1037/0012-1649.42.2.381
- Utsey, S. O., Chae, M. H., Brown, C. F., & Kelly, D. (2002). Effect of ethnic group membership on ethnic identity, race-related stress, and quality of life. *Cultural Diversity and Ethnic Minority Psychology, 8*(4), 366-377. doi: 10.1037//1099-9809.8.4.366
- van Aken, M., & Slot, W. (2004). Inleiding. In J. De Wit, W. Slot, & M. van Aken (Eds.), *Psychologie van de adolescentie: Basisboek* (23 ed., pp. 1-22). Baarn: HB Uitgevers.
- van Binsbergen, M. H., Knorth, E. J., Klomp, M., & Meulman, J. J. (2001). Motivatie voor behandeling bij jongeren met ernstige gedragsproblemen in de intramurale justitiële jeugdzorg. *Kind en adolescent, 22*, 193-203. doi: 10.1007/BF03060824
- Van Damme, L., Colins, O., De Maeyer, J., Vermeiren, R., & Vanderplasschen, W. (2015). Quality of life of detained female adolescents in Belgium. *Quality of Life Research, 24*(6), 1419-1429. doi: 10.1007/s11136-014-0878-2
- Van Damme, L., Colins, O., Pauwels, L., & Vanderplasschen, W. (in press). Relationships between global and domain-specific self-evaluations and types of offending in community boys and girls. *Journal of Community Psychology*.
- Van Damme, L., Colins, O., & Vanderplasschen, W. (2014). Gender differences in psychiatric disorders and clusters of self-esteem among detained adolescents. *Psychiatry Research, 220*(3), 991-997. doi: 10.1016/j.psychres.2014.10.012
- van de Schoot, R., & Wong, T. M. L. (2012). Do delinquent young adults have a high or a low level of self-concept? *Self and Identity, 11*, 148-169.
- Van der Helm, G. H. P., Wissink, I. B., De Jongh, T., & Stams, G. J. J. M. (2013). Measuring treatment motivation in secure juvenile facilities. *International Journal of Offender Therapy and Comparative Criminology, 57*(8), 996-1008. doi: 10.1177/0306624x12443798
- van der Helm, P., Beunk, L., Stams, G. J., & van der Laan, P. (2014). The relationship between detention length, living group climate, coping, and treatment motivation among juvenile delinquents in a youth correctional facility. *Prison Journal, 94*(2), 260-275. doi: 10.1177/0032885514524884
- van der Laan, A. M., & Blom, M. (2005). *Jeugdcriminaliteit: risico's en bescherming: Bevindingen uit de WODC monitor zelfgerapporteerde jeugdcriminaliteit 2005*. Den Haag: Boom Juridische Uitgevers.

- van der Molen, E. V., R. R. J. M., Krabbendam, A. A., Beekman, A. T. F., Doreleijers, T. A. H., & Jansen, L. M. C. (2013). Detained adolescent females' multiple mental health and adjustment problem outcomes in young adulthood. *The Journal of Child Psychology and Psychiatry*, *54*(9), 950-957.
- van Doorn, S., Jansen, L. M. C., Vermeiren, R. R. J. M., Hamerlynck, S. M. J. J., & Doreleijers, T. A. H. (2012). Psychopathology of adolescent detained versus psychiatric inpatient females. *Psychiatry Research*, *195*(3), 129-133. doi: 10.1016/j.psychres.2011.07.010
- Van Gennep, A. T. G. (1980). *Naar een kritische orthopedagogiek: in het bijzonder van de zwakzinnige mens*. Boom: Meppel.
- van Nieuwenhuizen, C., Schene, A. H., & Koeter, M. W. J. (2002). Quality of life in forensic psychiatry: an unreclaimed territory? *International Review of Psychiatry*, *14*(3), 198-202.
- Vanderplasschen, W., Roose, R., & Colins, O. (2006). Hoofdstuk 2. Hulpverlening aan kinderen en jongeren in het kader van de bijzondere jeugdbijstand. In W. Vanderplasschen, S. Vandeveldde, C. Claes, E. Broekaert, & G. Van Hove (Eds.), *Orthopedagogische werkvelden in beweging: organisatie en tendensen* (pp. 65-129). Antwerpen-Apeldoorn: Garant.
- Vanhecke, N. (2013). 'Psychisch gestoorde jongeren maken ons werk onmogelijk': Jeugdinstellingen staken wegens onaangepaste hulp *De Standaard*.
- Veen, V., Stevens, G., Doreleijers, T., van der Ende, J., & Vollebergh, W. (2010). Ethnic differences in mental health among incarcerated youths: do Moroccan immigrant boys show less psychopathology than native Dutch boys? *European Child & Adolescent Psychiatry*, *19*(5), 431-440.
- Verdugo, M. A., Schalock, R. L., Keith, K. D., & Stancliffe, R. J. (2005). Quality of life and its measurement: important principles and guidelines. *Journal of Intellectual Disability Research*, *49*, 707-717. doi: 10.1111/j.1365-2788.2005.00739.x
- Vereecken, C. A., Maes, L., & De Bacquer, D. (2004). The influence of parental occupation and the pupils' educational level on lifestyle behaviors among adolescents in Belgium. *Journal of Adolescent Health*, *34*(4), 330-338. doi: 10.1016/j.jadohealth.2003.07.011
- Verhellen, E. (1994). *Jeugdbeschermingsrecht*. Gent: Mys & Breesch.
- Vermeiren, R. (2003). Psychopathology and delinquency in adolescents: A descriptive and developmental perspective. *Clinical Psychology Review*, *23*(2), 277-318. doi: 10.1016/s0272-7358(02)00227-1
- Vermeiren, R., Bogaerts, J., Ruchkin, V., Deboutte, D., & Schwab-Stone, M. (2004). Subtypes of self-esteem and self-concept in adolescent violent and property offenders. *Journal of Child Psychology and Psychiatry*, *45*(2), 405-411.

- 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.
- Vermeiren, R., Jones, S. M., Ruchkin, V., Deboutte, D., & Schwab-Stone, M. (2004). Juvenile arrest: A cross-cultural comparison. *Journal of Child Psychology and Psychiatry*, 45(3), 567-576.
- Vettenburg, N., Deklerck, J., & Siongers, J. (2010). Jong zijn in Vlaanderen. De belangrijkste bevindingen uit de JOP-monitor 2. In N. Vettenburg, J. Deklerck, & J. Siongers (Eds.), *Jongeren in cijfers en letters. Bevindingen uit JOP-monitor 2* (pp. 311-324). Leuven: Acco.
- Vettenburg, N., & Walgrave, L. (2002). Een integratie van theorieën over persisterende delinquentie: maatschappelijke kwetsbaarheid. In P. Goris & L. Walgrave (Eds.), *Van kattenkwaad en erger: Actuele thema's uit de jeugdcriminologie* (pp. 44-59). Leuven: Garant.
- Vincent, G. M., Grisso, T., Terry, A., & Banks, S. (2008). Sex and race differences in mental health symptoms in juvenile justice: the MAYSI-2 national meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47(3), 282-290. doi: 10.1097/CHI.0b013e318160d516
- Vincent, G. M., Vitacco, M. J., Grisso, T., & Corrado, R. R. (2003). Subtypes of adolescent offenders: Affective traits and antisocial behavior patterns. *Behavioral Sciences and the Law*, 21(6), 695-712.
- Vlaams Parlement (2008). *Decreet van 7 maart 2008 inzake bijzondere jeugdbijstand*. Brussel: Vlaamse Overheid.
- Vlaams Parlement (2013). *Ontwerp van decreet betreffende de integrale jeugdhulp: Tekst aangenomen door de plenaire vergadering*. Brussel: Vlaamse Overheid.
- von Rueden, U., Gosch, A., Rajmil, L., Bisegger, C., & Ravens-Sieberer, U. (2006). Socioeconomic determinants of health related quality of life in childhood and adolescence: results from a European study. *Journal of Epidemiology and Community Health*, 60(2), 130-135. doi: 10.1136/jech.2005.039792
- Vreugdenhil, C., Doreleijers, T., Vermeiren, R., Wouters, L., & Van den Brink, W. (2004). Psychiatric disorders in a representative sample of incarcerated boys in the Netherlands. *Journal of American Academy of Child Adolescent Psychiatry*, 43(1), 97-104.
- Wainwright, L., & Nee, C. (2014). The Good Lives Model - new directions for preventative practice with children? *Psychology Crime & Law*, 20(2), 166-182. doi: 10.1080/1068316x.2013.770851
- Walitzer, K. S., Dermen, K. H., & Connors, G. J. (1999). Strategies for preparing clients for treatment - A review. *Behavior Modification*, 23(1), 129-151. doi: 10.1177/0145445599231006

- Wallander, J. L., Schmitt, M., & Koot, H. M. (2001). Quality of life measurement in children and adolescents: Issues, instruments, and applications. *Journal of Clinical Psychology, 57*(4), 571-585. doi: 10.1002/Jclp.1029
- Ward, T. (2002). Good lives and the rehabilitation of offenders - Promises and problems. *Aggression and Violent Behavior, 7*(5), 513-528. doi: 10.1016/S1359-1789(01)00076-3
- Ward, T., & Gannon, T. A. (2006). Rehabilitation, etiology, and self-regulation: The comprehensive good lives model of treatment for sexual offenders. *Aggression and Violent Behavior, 11*(1), 77-94. doi: 10.1016/j.avb.2005.06.001
- 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. doi: 10.1016/j.avb.2006.03.004
- Ward, T., & Stewart, C. (2003). The relationship between human needs and criminogenic needs. *Psychology Crime & Law, 9*(3), 219-224. doi: 10.1080/106316031000112557
- Wasserman, G. A., Jensen, P. S., Ko, S. J., Cocozza, J., Trupin, E., Angold, A., . . . Grisso, T. (2003). Mental health assessments in juvenile justice: Report on the consensus conference. *Journal of the American Academy of Child and Adolescent Psychiatry, 42*(7), 752-761. doi: 10.1097/01.Chi.0000046873.56865.4b
- Wasserman, G. A., McReynolds, L. S., Ko, S. J., Katz, L. M., & Carpenter, J. R. (2005). Gender differences in psychiatric disorders at juvenile probation intake. *American Journal of Public Health, 95*(1), 131-137. doi: 10.2105/Ajph.2003.024737
- Wei, C. C., Heckman, B. D., Gay, J., & Weeks, J. (2011). Correlates of motivation to change in adolescents completing residential substance use treatment. *Journal of Substance Abuse Treatment, 40*(3), 272-280. doi: 10.1016/j.jsat.2010.11.014
- Weitkamp, K., Daniels, J. K., Romer, G., & Wiegand-Grefe, S. (2013). Health-related quality of life of children and adolescents with mental disorders. *Health and Quality of Life Outcomes, 11*(129), 1-7.
- Whitehead, P. R., Ward, T., & Collie, R. M. (2007). Time for a change - Applying the good lives model of rehabilitation to a high-risk violent offender. *International Journal of Offender Therapy and Comparative Criminology, 51*(5), 578-598. doi: 10.1177/0306624x06296236
- Willis, G. M., & Grace, R. C. (2008). The quality of community reintegration planning for child molesters effects on sexual recidivism. *Sexual Abuse - a Journal of Research and Treatment, 20*(2), 218-240. doi: 10.1177/1079063208318005
- Willis, G. M., Prescott, D. S., & Yates, P. M. (2013). The Good Lives Model (GLM) in Theory and Practice. *Sexual Abuse in Australia and New Zealand, 5*(1), 3-9.

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- Willis, G. M., & Ward, T. (2011). Striving for a good life: The good lives model applied to released child molesters. *Journal of Sexual Aggression, 17*(3), 290-303. doi: 10.1080/13552600.2010.505349
- Wills, T. A. (1994). Self-esteem and perceived control in adolescent substance use: Comparative tests in concurrent and prospective analyses. *Psychology of Addictive Behaviors, 8*(4), 223-234. doi: 10.1037//0893-164x.8.4.223
- Wylie, L. A., & Griffin, H. L. (2013). G-map's application of the Good Lives Model to adolescent males who sexually harm: A case study. *Journal of Sexual Aggression, 19*(3), 345-356.
- Ybrandt, H. (2010). Risky alcohol use, peer and family relationships and legal involvement in adolescents with antisocial problems. *Journal of Drug Education, 40*(3), 245-264. doi: 10.2190/De.40.3.C
- Zorginspectie. (2012). *Rapport: Gemeenschapsinstellingen en De Grubbe: Inspecties april-mei 2012*. Brussel: Vlaamse Overheid.

Appendix 1

Nederlandstalige samenvatting

Achtergrond en doelstellingen van het onderzoek

Zowel Europese als Amerikaanse studies tonen aan dat adolescenten in detentie kampen met aanzienlijke psychische problemen. Ondanks de groeiende interesse rond dit thema is onderzoek omtrent psychopathologie bij adolescenten in detentie nog beperkt: het merendeel van het onderzoek (i) focust op jongens; (ii) vertrouwt uitsluitend op zelfrapportage door jongeren; (iii) vertrekt vanuit een risicomangement perspectief, in plaats van een op sterktes gebaseerd, empowerend perspectief; en (iv) is cross-sectioneel. Inspelend op deze beperkingen, werd getracht de kennis inzake meisjes in detentie te verruimen, dit aan de hand van een prospectieve studie naar psychopathologie en kwaliteit van leven (quality of life; QoL) bij meisjes in gemeenschapsinstelling De Zande in Beernem ($n = 147$) en hun ouders ($n = 85$). Psychopathologie, QoL en een reeks andere (socio-demografische) variabelen werden in kaart gebracht aan de hand van een diagnostisch interview en gestandaardiseerde zelfrapportagevragenlijsten. Deze werden afgenomen bij aanvang van plaatsing van het meisje in de instelling (T0: meisjes en ouders), tijdens het verblijf (i.e., één en twee maanden na T0: T1 en T2), en zes maanden na vertrek uit de instelling (T3).

Het proefschrift vangt aan met een algemene inleiding. Hierin wordt, onder andere, ingegaan op de zonet vermelde lacunes in onderzoek en de manier waarop de voorliggende studie hieraan tracht tegemoet te komen. In wat volgt, wordt dit kort toegelicht. Ten eerste focust de meerderheid van de beschikbare studies bij adolescenten in detentie op jongens. Meisjes in dergelijke voorzieningen vormen dan ook een onderbelichte groep. Het beperkt aantal prevalentiestudies dat zowel mannelijke als vrouwelijke adolescenten onderzocht, rapporteert over het algemeen hogere prevalenties van psychopathologie bij meisjes, in vergelijking met jongens. De huidige studie gaat na in welke mate deze resultaten kunnen gerepliceerd worden in een eerder verzamelde steekproef van jongens ($n = 245$) en meisjes ($n = 195$) in gemeenschapsinstellingen in Vlaanderen, en in welke mate de prevalentie van psychiatrische stoornissen verschilt naargelang het zelfbeeld van de jongeren (Hoofdstuk 1).

Ten tweede vertrouwt de meerderheid van de beschikbare studies bij adolescenten in detentie uitsluitend op zelfrapportage door jongeren, niettegenstaande het belang van meerdere informanten bij de diagnostiek van psychopathologie bij kinderen en jongeren. Dit belang wordt ook benadrukt in de DSM-5, meer bepaald met betrekking tot de diagnostiek van de nieuwe DSM-5 LPE subtypering (limited prosocial emotions; beperkte prosociale emoties) van CD (conduct disorder; antisociale gedragsstoornis). Het beperkt

aantal studies hieromtrent bij jongeren in detentie is uitsluitend gebaseerd op zelfrapportage en suggereert dat de bruikbaarheid van de nieuwe subtypering beperkt is. Daarom wordt in voorliggend proefschrift de prevalentie en klinische bruikbaarheid van de LPE subtypering bij meisjes in een gemeenschapsinstelling onderzocht, dit op basis van zowel ouder- als zelfrapportage (Hoofdstuk 2).

Zoals ook geïllustreerd wordt door de eerste hoofdstukken van dit proefschrift, focust het merendeel van de beschikbare studies met betrekking tot meisjes in detentie op risicofactoren voor psychische problemen of gedragsproblemen, dit vanuit een risicomangement perspectief. Er is nood aan onderzoek dat vertrekt vanuit een op sterktes gebaseerd, empowerend perspectief, bijvoorbeeld met aandacht voor het perspectief van deze meisjes zelf op hun leven en in welke mate zij tevreden zijn met verschillende levensdomeinen. Het huidige proefschrift speelt hierop in en onderzoekt de QoL van meisjes in een gemeenschapsinstelling. Concreet testen we de assumptie van het Good Lives Model of Offender Rehabilitation (GLM) dat psychiatrische stoornissen, blootstelling aan trauma en een lage socio-economische status (SES) obstakels vormen voor het verwerven van een goede QoL (Hoofdstuk 3).

Het bestuderen van QoL bij meisjes in detentie kan ons ook leren waarom sommige meisjes meer behandelbetrokkenheid vertonen dan anderen. Gezien het dwingende karakter van een justitiële jeugdinstelling is een lage behandelbetrokkenheid bij meisjes in detentie zeer waarschijnlijk. Bovendien is het plausibel dat de aanzienlijke psychische problemen waar deze meisjes mee kampen ook een invloed hebben op hun behandelbetrokkenheid. Empirisch bewijs met betrekking tot behandelbetrokkenheid in de specifieke populatie van meisjes in detentie is tot op heden echter schaars. Het huidige proefschrift komt hieraan tegemoet door na te gaan in welke mate QoL en psychopathologie van invloed zijn op de behandelbetrokkenheid van meisjes tijdens hun verblijf in de gemeenschapsinstelling (Hoofdstuk 4).

Tot slot kan het bestuderen van QoL bij meisjes in detentie ons leren waarom deze meisjes blijvend risico lopen op psychische problemen en delinquent gedrag, ook na hun ontslag uit de instelling. Het eerdergenoemde GLM veronderstelt dat individuen met een lage QoL risico lopen op aanhoudende psychische problemen en delinquent gedrag. De schaarse longitudinale studies bij meisjes in detentie tonen inderdaad aan dat diens psychische problemen en delinquente gedragingen niet (volledig) verdwijnen in de volwassenheid. Echter, de GLM assumptie daaromtrent werd nog niet geverifieerd voor de specifieke populatie van meisjes in detentie. In het huidige proefschrift wordt hierop ingespeeld en wordt getest in welke mate de QoL van meisjes in een gemeenschapsinstelling voorspellend is voor psychische problemen en delinquent gedrag zes maanden na ontslag (Hoofdstuk 5).

Voornaamste bevindingen

Hoofdstuk 1 wijst op aanzienlijke prevalenties van psychiatrische stoornissen bij adolescenten in gemeenschapsinstellingen (i.e., 82.9% bij jongens en 94.9% bij meisjes). Dit stemt overeen met voorgaand onderzoek. Meisjes in een gemeenschapsinstelling rapporteren hogere prevalenties voor internaliserende stoornissen dan jongens, en gelijkaardige of hogere prevalenties voor externaliserende stoornissen. Deze bevinding is gedeeltelijk in contrast met het algemene patroon van genderverschillen in de samenleving, waar meisjes minder externaliserende stoornissen vertonen dan jongens. De hogere prevalentie van co-morbide internaliserende en externaliserende en het lagere zelfbeeld bij meisjes (versus jongens) in gemeenschapsinstellingen benadrukt des te meer de bijzondere complexiteit en kwetsbaarheid van deze groep binnen de jeugdhulpverlening. Tot slot wordt in dit hoofdstuk vastgesteld dat jongeren met een laag zelfbeeld, over het algemeen, hogere prevalenties van psychopathologie vertonen.

Hoofdstuk 2 toont aan dat de prevalentie van CD+LPE meisjes in een gemeenschapsinstelling lager is op basis van zelfrapportage (12.9%), in vergelijking met ouderrapportage (38.8%). Dit suggereert dat ouders van belang zijn voor het identificeren van CD+LPE meisjes. Het betrekken van ouderlijke informatie resulteert echter niet in een betere differentiatie tussen CD+LPE en CD-zonder-LPE meisjes. Ongeacht de informant, verschillen CD+LPE en CD-zonder-LPE meisjes niet op vlak van de prevalentie van psychiatrische stoornissen of het plegen van gewelddadige of niet-gewelddadige delicten. De LPE subtypering maakt het enkel mogelijk een groep te detecteren van antisociale meisjes met een hogere mate van proactieve agressie, hoewel uitsluitend wanneer gebruik wordt gemaakt van zelfrapportage. Deze bevindingen onderschrijven eerdere indicaties dat de LPE subtypering bij jongeren in detentie een beperkte bruikbaarheid kent.

Zoals aangetoond in Hoofdstuk 3 is de QoL van meisjes in een gemeenschapsinstelling bijna zo goed als de QoL van de 12-20 jarigen uit het internationale onderzoek van de Wereldgezondheidsorganisatie voor de meeste domeinen. In lijn met een multidimensionale benadering van QoL, tonen de resultaten uit voorliggend proefschrift duidelijke verschillen aan tussen de domeinen van QoL. Meisjes in een gemeenschapsinstelling zijn het meest tevreden met hun sociale relaties en het minst tevreden met hun psychologische gezondheid. Daarenboven bevestigen de resultaten van deze studie de assumptie van het GLM dat psychosociale en socio-economische problemen iemands QoL belemmeren. De psychologische gezondheid van de meisjes ondervindt de meest nadelige invloed van psychosociale en socio-economische problemen, terwijl deze variabelen een bijna verwaarloosbare impact hebben op hun tevredenheid met sociale relaties.

In overeenstemming met voorgaand onderzoek, wijzen de resultaten van Hoofdstuk 4 op een lage behandelbetrokkenheid bij meisjes in een gemeenschapsinstelling en geen significante verandering in behandelbetrokkenheid over de tijd. De resultaten bevestigen de assumptie dat de relatie tussen behandelbetrokkenheid en psychopathologie verschilt naargelang het type van psychopathologie. Meisjes zijn meer gemotiveerd om aan de slag te gaan met internaliserende dan externaliserende problemen. De huidige studie onderschrijft ook de assumptie dat verschillen in behandelbetrokkenheid kunnen geïdentificeerd worden aan de hand van de QoL van de meisjes. Meer bepaald rapporteren meisjes met een grotere tevredenheid over hun fysieke en psychologische gezondheid en over hun omgeving een hogere behandelbetrokkenheid, terwijl het omgekeerde geldt voor het domein van de sociale relaties.

In Hoofdstuk 5 werd de GLM assumptie getest dat individuen die geconfronteerd worden met een lage QoL mogelijk betrokken raken bij antisociale activiteiten, hetzij via een directe of een indirecte route. De voorliggende studie biedt duidelijk evidentie voor de indirecte route van QoL over psychische problemen naar delinquentie, zoals deze ook bij volwassen delictplegers teruggevonden werd. Dit betekent dat een lage QoL bij meisjes in een gemeenschapsinstelling zorgt voor een hoger risico op psychische problemen, wat op zijn beurt het risico op delinquentie verhoogt. In tegenstelling tot voorgaand onderzoek bij volwassen delictplegers, wordt geen evidentie gevonden voor een direct negatief effect van QoL op delinquentie. Wel wordt een directe positieve route gevonden van de tevredenheid van meisjes met hun sociale relaties naar delinquentie. Dit wijst erop dat een hogere mate van tevredenheid met sociale relaties bij deze meisjes samengaat met een hoger risico op delinquentie na ontslag.

Aanbevelingen voor verder onderzoek en implicaties voor beleid en praktijk

Het proefschrift wordt afgesloten met een algemene discussie. Hierin worden, onder andere, enkele aanbevelingen voor toekomstig onderzoek geformuleerd. Zo bijvoorbeeld, lijkt het van groot belang verder in te zetten op het exploreren van het perspectief van jongeren in detentie zelf. Kwalitatieve methodes van onderzoek (bv., diepte-interviews) kunnen helpen om een grondiger zicht te krijgen op de percepties, ervaringen, en verlangens van deze jongeren, dit als mogelijke hefboom voor verbetering van de jeugdhulpverlening. Vanuit een orthopedagogisch perspectief is het bovendien aangewezen dat toekomstig onderzoek de focus verschuift van het bestuderen van karakteristieken van meisjes in detentie (wat noodzakelijk is, maar niet voldoende voor het

garanderen van aangepaste zorg/behandeling) naar het bestuderen van detentie zelf. Dergelijk onderzoek kan, bijvoorbeeld, helpen om een beter zicht te krijgen op de invulling en karakteristieken van detentie, ervaringen van jongeren met detentie, en (on)gewenste effecten van detentie.

Tot slot wordt in de algemene discussie ingegaan op de implicaties van de bevindingen uit het doctoraatsonderzoek voor beleid en praktijk. Eén van de voornaamste conclusies die naar voren wordt geschoven, is de mogelijke meerwaarde van een op sterktes gebaseerde, empowerende benadering (bv., het GLM) in het werken met jongeren in detentie, dit in tegenstelling tot een meer traditionele, directieve en probleem-georiënteerde benadering. Het is aangewezen de jongere actief betrekken in de verschillende fasen van het hulpverleningsproces (bv., probleemdefiniëring, doelbepaling), aangezien dit zorgt voor een minder bedreigende en meer motiverende context voor verandering. De opvallend hoge prevalenties van psychiatrische stoornissen, teruggevonden in de huidige steekproef, waarschuwen echter voor een exclusieve focus op sterktes en empowerment. Ongeacht het belang van een op sterktes gebaseerde benadering, benadrukken de bevindingen van voorliggend proefschrift de nood aan standaardscreening bij intake in een justitiële setting, alsook de nood aan effectieve psychische en, waar nodig, psychiatrische ondersteuning, behandeling en nazorg voor deze kwetsbare populatie.

Appendix 2

Data storage fact sheets

The current dissertation contains both secondary analyses (Chapter 1) and primary analyses (Chapters 2-5). Chapter 1 is based on a cross-sectional study among detained boys ($n = 245$) and girls ($n = 195$) from closed institutions for forced care and treatment (CIs) in Flanders, conducted between 2005 and 2011 (see: Colins, Vermeiren, Schuyten, et al., 2009; Colins, Bijttebier, et al., 2014). Chapters 2-5 comprise the core of the present Ph.D. project and are based on a prospective cohort study among detained girls ($n = 147$) and their parents ($n = 85$) from CI 'De Zande' in Beernem, conducted between 2012 and 2015. Below, separate data storage fact sheets are presented for Chapter 1 on the one hand and Chapters 2-5 on the other hand.

Data storage fact sheet – Chapter 1 – Secondary analyses

Title: Data Storage Fact Sheet <Psychopathology and quality of life in detained female adolescents - Chapter 1 – Secondary analyses>

Author: Lore Van Damme

Date: 05/06/2015

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1c. Research group

-
- name: Department of Special Needs Education
 - address: Henri Dunantlaan 2, 9000 Gent
 - e-mail: /
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2. Study description

=====

The context of the data collection:

The dataset is gathered within the context of Olivier Colins' Ph.D. project and postdoctoral research projects. A subset of the dataset is used by Lore Van Damme, for studying gender differences in psychiatric disorders and self-esteem among detained adolescents (cf. Ph.D. Chapter 1).

The data collection methods:

This cross-sectional study was approved by the Institutional Review Board of the Faculty of Psychology and Educational Sciences at Ghent University and by the Boards of the youth detention centers (YDCs).

Between 2005 and 2007 (i.e., boys) and 2008 and 2011 (i.e., girls), 304 boys and 240 girls from the single-sex YDCs in Flanders, Belgium were recruited in two consecutive studies. Boys were recruited as part of the Ph.D. project of Olivier Colins, whereas girls were recruited afterwards, as part of the postdoctoral research projects of Olivier Colins.

Because screening of emotional problems is a mandatory task in YDCs, the requirement for parental consent was waived. Participants were approached and assessed following a standardized protocol. Detainees meeting the inclusion criteria were approached individually and given oral and written information about the aims, content, and duration of the study.

Written informed consent was given before starting the assessment. Participants did not receive any financial compensation and were interviewed in a separate room in the YDC, offering enough privacy. The assessment was conducted by Olivier Colins or by trained final year university students, none of whom were on the YDC staff.

For studying gender differences in psychiatric disorders and self-esteem among detained adolescents, Lore Van Damme and colleagues used the data on socio-demographics (measured by means of a socio-demographic questionnaire), psychiatric disorders (measured by means of the DISC-IV), and self-esteem (measured by means of the CBSA).

These data have been analysed using SPSS and R.

Linked dissertation and publications:

- Van Damme, L. (2015). Chapter 1. In L. Van Damme, Psychopathology and quality of life in detained female adolescents (Ongepubliceerde doctoraatsverhandeling, Orthopedagogische Reeks Gent, nr.49). Gent: Universiteit Gent, Vakgroep Orthopedagogiek.
- Van Damme L., Colins O., & Vanderplasschen, W. (2014). Gender differences in psychiatric disorders and clusters of self-esteem among detained adolescents. *Psychiatry Research*. 220(3), 991-997. Doi: 10.1016/j.psychres.2014.10.012
- Van Damme L, Colins O, Vanderplasschen, W. (2014). Gendersverschillen in psychopathologie bij adolescenten in gemeenschapsinstellingen. In Spruyt, B., & Siongers, J. (eds.). *Gender(en). Over de constructie en deconstructie van gender bij Vlaamse jongeren* (pp.319-340). Leuven: Acco.

3. Files

=====

3a. Raw data

* Have the raw data been stored by the researcher? YES: data on boys by Olivier Colins, data on girls by Lore Van Damme

* On which platform are the raw data stored?

researcher PC

research group file server

other (specify):

data on boys: paper questionnaires stored by Olivier Colins, in his private archive

data on girls: paper questionnaires stored by Lore Van Damme, in her researcher's room at the Department

* Who has direct access to the raw data (i.e., without intervention of another person)?

main researcher

responsible ZAP

all members of the research group

all members of UGent

other (specify): ...

3b. Other files

* Have files been stored that contain clear information about the nature of the raw data (e.g., number of files, type, format, content, organization) and the way in which they have been collected (e.g., hardware, software + version)?

YES. Excel files containing basic information for each case (e.g. date of assessment).

* Have files been stored that include processed data (including files used for analyses)?

YES. An SPSS file containing the subset of the raw data.

* Have files been stored that contain clear information about how the raw data were transformed into the processed data that were submitted to analyses?

YES. SPSS files: syntaxes are being saved.

* Have files been stored that contain clear information about how the (processed or raw) data were analyzed?

YES. SPSS files: syntaxes are being saved.

* Have files been stored that contain the output of the analyses?

YES. SPSS files: outputs are being saved.

* Has a blank copy of the Informed Consent Form been stored? YES

* Has a file been stored that specifies legal and ethical provisions? YES

* On which platform are these other files stored?

Excel file

individual PC (C:)

research group file server

other

SPSS files

individual PC

research group file server (H: home)

other

Blank copy of informed consent + legal & ethical provisions

individual PC (C:)

research group file server

other

* Who has direct access to these other files (i.e., without intervention of another person)?

Excel file

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other

SPSS files

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other

Blank copy of informed consent + legal & ethical provisions

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other

4. Reproduction

=====

* Have the results reproduced by someone else than the main researcher (e.g. by co-authors)?: NO

Data storage fact sheet – Chapters 2-5 – Primary analyses

Title: Data Storage Fact Sheet <Psychopathology and quality of life in detained female adolescents - Chapters 2-5 – Primary analyses>

Author: Lore Van Damme

Date: 05/06/2015

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1a. Main researcher

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1c. Research group

- name: Department of Special Needs Education
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- website: <http://www.orthopedagogiek.ugent.be/>

2. Study description

=====

The context of the data collection:

The dataset is gathered within the light of the Ph.D. project of Lore Van Damme concerning psychopathology and quality of life (QoL) in detained female adolescents.

Detained adolescents have substantial mental health needs. Yet, research on psychopathology in detained minors suffers from many constraints: (i) the predominant focus on males; (ii) the mainly problem-oriented nature (e.g. focusing on recidivism and substance use), thereby overlooking these minors' own perspective on and satisfaction with different domains of life (e.g., their

QoL); (iii) the use of youth self-report only; and (iv) the lack of prospective studies.

This project attempts to enhance the current scientific knowledge on psychopathology and QoL in detained girls, by addressing these issues. Our findings will provide insight on how interventions can be tailored to the broad range of problems these youngsters experience.

The data collection methods:

This study was approved by the Institutional Review Board of the Faculty of Psychology and Educational Sciences at Ghent University (2011/59) and by the Board of the youth detention center (YDC).

The research was carried out in a sample of detained girls ($n = 147$), from a Flemish YDC, and their parents. The participants were assessed within the first three weeks of detention (T0: youngsters and parents); one and two months after the baseline assessment (T1; T2); and six months after discharge (T3). The participants were contacted and assessed following a standardized protocol. They were approached individually and received detailed information about the study. At T0 (2 hours) and T1 and T2 (20 minutes), the girls were interviewed in a private room in De Zande by Lore Van Damme or by trained final year university students, none of whom were on the YDC staff. T3 (1 hour) took place outside the center. At detention intake, parents were informed about the objectives, the content and the duration of the study. A telephone interview with the parents (30 minutes) was performed within one month after the T0 assessment of the girls. Before the start of each work package, informed consent needed to be given by the girl (active) and their parent(s) (passive for their daughter, active for themselves). Participants did not receive financial compensation, except at follow-up after discharge. Then, they did receive a gift voucher for participation at follow-up, as this assessment required an extra effort.

Three main categories of instruments can be distinguished (i.e., psychopathology, QoL and social adaptation). In addition, some variables that are important for the interpretation, generalization and valorization of the results (e.g. socio-demographic features) have been measured.

Psychopathology: MAYSI-2; DISC-IV (also parents); APSD (also parents); DIPSI

QoL: WHOQOL-BREF

Social adaptation: RPQ, WODC, VSG

Other: socio-demographic questionnaire, social desirability questionnaire, treatment engagement questionnaire (BBV)

All data have been analysed using SPSS, R or M-plus.

Linked dissertation and publications:

- Van Damme, L. (2015). Chapters 2-5. In L. Van Damme, Psychopathology and quality of life in detained female adolescents (Ongepubliceerde doctoraatsverhandeling, Orthopedagogische Reeks Gent, nr.49). Gent: Universiteit Gent, Vakgroep Orthopedagogiek.
- Van Damme L., Colins O., & Vanderplasschen, W. (accepted). The limited prosocial emotions specifier for conduct disorder among detained girls: A multi-informant approach. *Criminal Justice and Behavior*.
- Van Damme L., Colins, O., 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*. 24(6), 1419-1429. Doi: 10.1007/s11136-014-0878-2
- Van Damme L., Hoeve, M., Vanderplasschen, W., Vermeiren, R., Grisso, T., & Colins, O. (accepted). Detained girls' treatment engagement over time: The role of psychopathology and quality of life. *Children and Youth Services Review*. doi: 10.1016/j.childyouth.2015.10.010
- Van Damme L., Hoeve, M., Vermeiren, R., Vanderplasschen, W., & Colins, O. (under review after revision). Quality of life in relation to future mental health problems and offending: Testing the Good Lives Model among detained girls. *Law and Human Behavior*.

3. Files

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3a. Raw data

- * Have the raw data been stored by the researcher? YES
- * On which platform are the raw data stored?
 - researcher PC
 - research group file server
 - other (specify): paper questionnaires stored in the researcher's room at the Department
- * Who has direct access to the raw data (i.e., without intervention of another person)?
 - main researcher
 - responsible ZAP
 - all members of the research group
 - all members of UGent
 - other (specify): ...

3b. Other files

 * Have files been stored that contain clear information about the nature of the raw data (e.g., number of files, type, format, content, organization) and the way in which they have been collected (e.g., hardware, software + version)?

YES. An excel file containing basic information for each case (e.g. date of assessment).

* Have files been stored that include processed data (including files used for analyses)?

YES. An SPSS file containing the raw data.

* Have files been stored that contain clear information about how the raw data were transformed into the processed data that were submitted to analyses?

YES. SPSS files: syntaxes are being saved.

* Have files been stored that contain clear information about how the (processed or raw) data were analyzed?

YES. SPSS files: syntaxes are being saved.

* Have files been stored that contain the output of the analyses?

YES. SPSS files: outputs are being saved.

* Has a blank copy of the Informed Consent Form been stored? YES

* Has a file been stored that specifies legal and ethical provisions? YES

* On which platform are these other files stored?

Excel file

individual PC (C:)

research group file server

other

SPSS files

individual PC

research group file server (H: home)

other

Blank copy of informed consent + legal & ethical provisions

individual PC (C:)

research group file server

other

* Who has direct access to these other files (i.e., without intervention of another person)?

Excel file

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other

SPSS files

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other

Blank copy of informed consent + legal & ethical provisions

- main researcher
- responsible ZAP
- all members of the research group
- all members of UGent
- other

4. Reproduction

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* Have the results reproduced by someone else than the main researcher (e.g. by co-authors)?: NO

Appendix 3

List of publications

Publications in journals

Published

- Van Damme, L., Colins, O., De Maeyer, J., Vermeiren, R., & Vanderplasschen, W. (2015). Girls' Quality of life prior to detention in relation to psychiatric disorders, trauma exposure and socio-economic status. *Quality of Life Research*. 24(6), 1419-1429. Doi: 10.1007/s11136-014-0878-2
- Van Damme, L., Colins, O., Pauwels, L., & Vanderplasschen, W. (2015). Relationships between global and domain-specific self-evaluations and types of offending in community boys and girls. *Journal of Community Psychology*. 43(8), 986-1004. Doi: 10.1002/jcop.21727
- Van Damme, L., Colins, O., & Vanderplasschen, W. (2014). Gender differences in psychiatric disorders and clusters of self-esteem among detained adolescents. *Psychiatry Research*. 220, 991-997. Doi: 10.1016/j.psychres.2014.10.012

Accepted

- Van Damme L., Colins O., & Vanderplasschen, W. (accepted). The limited prosocial emotions specifier for conduct disorder among detained girls: A multi-informant approach. *Criminal Justice and Behavior*.
- Van Damme L., Hoeve, M., Vanderplasschen, W., Vermeiren, R., Grisso, T., & Colins, O. (accepted). Detained girls' treatment engagement over time: The role of psychopathology and quality of life. *Children and Youth Services Review*. doi: 10.1016/j.chilyouth.2015.10.010

Under review (after revision)

- Van Damme, L., Grisso, T., Vermeiren, R., Guy, L., Verbeke, L., De Clercq, B., Schmid, M., Vanderplasschen, W., & Colins, O. F. (under review). Cross national gender differences in self-reported mental health problems among youths in residential welfare/justice institutions. *Children and Youth Services Review*.
- Van Damme L., Hoeve, M., Vermeiren, R., Vanderplasschen, W., & Colins, O. (under review after revision). Quality of life in relation to future

mental health problems and offending: Testing the Good Lives Model among detained girls. *Law and Human Behavior*.

(Re)submitted (after revision)

Colins, O. F., Van Damme, L., Andershed, H., Fanti, K. A., & DeLisi, M. (resubmitted after revision). Self-reported psychopathic traits and negative outcomes in detained girls: A prospective study. *Youth Violence and Juvenile Justice*.

Colins, O. F., Van Damme, L., Fanti, K. A., & Andershed, H. (submitted). Prospective usefulness of callous-unemotional traits and conduct disorder in relation to treatment engagement among detained girls. *Journal of Consulting and Clinical Psychology*.

Vahl, P., Van Damme, L., Doreleijers, T., Vermeiren, R., & Colins, O. F. (submitted). Gender differences in childhood emotional maltreatment and related mental health problems among detained adolescents. *Child Abuse and Neglect*.

Publications in books

Van Damme L, Colins O, Vanderplasschen, W. (2014). Gendersverschillen in psychopathologie bij adolescenten in gemeenschapsinstellingen. In Spruyt, B., & Siongers, J. (eds.). *Gender(en). Over de constructie en deconstructie van gender bij Vlaamse jongeren* (pp.319-340). Leuven: Acco.

Vanderplasschen W, Lesseliers J, Van Damme L. (2014). Jongerenwelzijn: Plaatsing en ondersteuning in situaties van verontrusting. In Claes, C., Vandevelde, S., & Vanderplasschen, W. (eds.). *Orthopedagogiek: een situering van praktijk, onderzoek en beleid* (pp.37-83). Gent: Acco.

