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Abstract

Despite growing interest in strength-based rehabilitation frameworks, relevant internal/external resources that are likely to facilitate the rehabilitation of detained female adolescents (DFA) have been understudied. This study aims to fill this gap by studying the role of young women's personal resilience and interpersonal support in building fulfilling and prosocial lives 4 years after youth detention, thereby examining the strength-based good lives model (GLM). Forty-nine former DFA ($M_{age} = 20.75$) completed questionnaires about resilience, support, Quality of Life (QoL), and offending. Hierarchical multiple regression analyses showed that young women with more resilience displayed higher QoL and less offending, while more support was associated with higher QoL only. The relationship between resilience and QoL/offending did not depend upon the level of support. Overall, our results support the

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applicability of the GLM to former DFA, showing evidence for the importance of both internal and external resources in building fulfilling and prosocial lives.

Keywords

good lives model, quality of life, offending, resilience, social support, youth detention, females, follow-up studies

Female adolescents comprise 5% to 13% of all detained youth worldwide, representing a very troubled and vulnerable minority within the criminal justice system (Sheahan, 2014). They often grow up in adverse living conditions (McCabe et al., 2002; Vahl et al., 2016), experience a broad range of mental health needs (Teplin et al., 2012; Van Damme et al., 2014), and often display high levels of antisocial behavior (including severe offending, but also running away from home, truancy, and prostitution; Kerig & Schindler, 2013; Lederman et al., 2004; Lenssen et al., 2000; Van Damme et al., 2015a). The scant prospective research among detained female adolescents (DFA) has unambiguously shown their mental health problems, offending behavior, and broader adjustment problems persist into emerging adulthood, with prevalence rates ranging between 29% to 59%, 32% to 68%, and 65% to 96%, respectively (Abram et al., 2009, 2017; Colman et al., 2009; Teplin et al., 2012; van der Molen et al., 2013). In contrast, a rather small group (i.e., only 4%–35%) of DFA appear to function surprisingly well later in life (van der Molen et al., 2013).

Pathways literature provides one avenue for understanding these different trajectories. Pathways literature focuses on the development of antisocial behavior *within* individuals (Slotboom et al., 2012; Zahn, 2009), with female pathways literature influenced by both mainstream and feminist criminological theories. *Mainstream* criminological theories “tend to explain crime in terms of characteristics of the individual and the individual’s immediate social environment” (Agnew, 2009). Mainstream theories provide insights into *traditional* risk factors, as well as the interaction or cumulative effects of these factors on the development of antisocial behavior. For example, females following the childhood-onset/life-course persistent pathway are characterized by interacting individual and environmental risk factors such as cognitive deficits and adverse rearing environments (e.g., Moffitt, 1993). In contrast, *feminist* criminological theories “examine the role that gender inequality plays in shaping girls’ risks for delinquency, as well as how gender inequality affects the nature of girls’ delinquent activities” (Miller & Mullins, 2009). Feminist theories add insights into *gendered* risk factors as well as the gendered interaction or cumulative effects which contribute to the development of antisocial behavior. Overall, female pathways are characterized by two key gendered themes of relational issues and victimization (e.g., Brown & Bloom, 2018; Chesney-Lind & Pasko, 2004; Nuytiens & Christiaens, 2016). For example, research has found females often grow up in abusive households and experience early trauma exposure, ran away from home, engage in drugs, prostitution, or theft to survive and experience internalizing problems (e.g., stress, depression), substance abuse,

and retaliative violence (Brennan et al., 2010; Brown & Bloom, 2018; Daly, 1992; Schwartz & Steffensmeier, 2017).

Although these theories allow us to gain some insight into traditional and gendered developmental experiences, as well as internal/external obstacles/resources that are relevant in explaining the development of antisocial behavior among females, they provide very limited insight into the function of the behaviors. The female pathways literature tends to focus on the role of traditional (e.g., poor upbringing) as well as gendered (e.g., trauma exposure and relational issues) risk and protective factors in explaining the development of female (re)offending over time (Brown & Bloom, 2018; Gehring, 2018; Schwartz & Steffensmeier, 2017). These studies do include references to underlying functions of females' (re)offending, however, without using a holistic, theoretical framework that explicitly starts from a functional perspective. The functional perspective allows for behavior to be understood in terms of the goals or needs the behavior serves (Cooper et al., 1998). The purpose and motives that underlie a particular behavior are likely to vary between individuals and are "responsive to distinct dispositional and situational antecedents, characterized by distinct correlates, and in many cases lead to distinct consequences" (Cooper et al., 1998, p. 1529). A functional perspective allows for consideration of individual motivations and will have implications for our understanding of the causes, correlates, and consequences of behavior (Cooper et al., 1998). Taking a functional perspective, when considering the behavior of the DFA, while integrating mainstream and feminist etiological insights within a broader, strength-based rehabilitation framework, such as the Good Lives Model (GLM), may help to overcome limitations of the existing theories and allow a more human approach to rehabilitation.

Up to now, it is not well understood why *some* DFA refrain from future antisocial behavior, whereas *others* continue their antisocial lifestyle. This may be due to the fact that the majority of prospective studies with DFA only adopt a risk management perspective, focusing on risk factors for antisocial behavior that are deemed by society to be important *for* them (i.e., from an outsider's point of view (Van Damme et al., 2016b). Although these studies are relevant from a risk management perspective, they lack attention to what is important *to* the DFA, thereby potentially risking overlooking factors crucial to supporting DFA's rehabilitation (Van Damme et al., 2016b; Ward, 2017). Several scholars, therefore, highlight the need for research that adopts a strength-based perspective, such as the GLM of offender rehabilitation, which encourages the enhancement of DFA's Quality of Life (QoL)¹ in addition to the management of risk (Fisher et al., 2010; Wainwright & Nee, 2014; Wylie & Griffin, 2013). Moreover, self-reported data would also assist in providing some insight into DFAs perspectives on what is important to them, consistent with strength-based approaches, such as the GLM.

The GLM forms a very relevant and often cited strength-based theoretical framework to explain the development and rehabilitation of offending behavior (Ward, 2002). According to the GLM, humans strive for the realization of a range of basic human needs (i.e., physical health, inner peace, relatedness), and achieving these needs contributes to their QoL. Consequently, QoL can be considered an indicator of

the fulfilment of an individual's needs (Van Damme et al., 2015a, 2016b). The GLM starts from the etiological assumption that internal/external obstacles (e.g., psychiatric disorders and a low SES) hamper the achievement of a good QoL, while internal/external resources (e.g., personal resilience and interpersonal support) enhance one's QoL. In addition, a low QoL is assumed to increase the risk of offending, either through a direct or an indirect pathway from QoL to offending (Purvis et al., 2011; Ward et al., 2007).

The GLM was originally developed as a rehabilitation framework for adults who committed sex offenses. Over the past years, the model has been applied to a broad range of offender populations (Purvis et al., 2011), including youth who have offended (Fortune, 2018). Even though the GLM is a gender-neutral framework, there is theoretical support for its use with DFA due to (i) the GLM's hypothesized ability to overcome the Risk Need and Responsivity (RNR) model's (e.g., Bonta & Andrews, 2017) ethical, etiological and clinical limitations, and thereby improve rehabilitative outcomes for DFA, (ii) the GLM's holistic and person-centered approach which is perceived as being appropriate for DFA, and (iii) the GLM's capacity to "wrap around" existing evidence-based treatment programs for DFA (for a detailed consideration of this issue see Van Damme et al., 2017). Research on the GLM among DFA is still very scarce. We are aware of only two empirical studies that tested the GLM in DFA. In support of the GLM's assumption concerning internal and external obstacles, the first study indicated that trauma exposure, psychiatric disorders, and a low socioeconomic status (SES) negatively impacted on multiple domains of DFA's QoL prior to detention (Van Damme et al., 2015a). Partly in support of GLM's assumptions, the second study showed an indirect pathway from QoL prior to detention via mental health problems to offending 6 months after discharge, whereas a direct negative pathway from low QoL to increased offending was not found (Van Damme et al., 2016b).

Resilience has been conceptualized in different ways including "as the absence of a negative outcome (e.g., delinquency) and the presence of successful coping in the face of adversity (Stevens et al., 2011, p. 1434). In terms of resilience, success on developmental tasks during the transition into young adulthood has been associated with core resources present from childhood such as IQ, parenting quality, as well as adaptive resources including autonomy, adult support, and coping skills (Masten et al., 2004). Of relevance to the current focus on DFA, it has been found that the presence of adaptive resources are associated with positive outcomes for individuals whose pattern of adaptation changes from maladaptive to resilient during this transition period (Masten et al., 2004). As previously indicated, many DFA have had a number of adverse childhood experiences (ACE). In a sample of 429 male and female justice involved youth in the United States of America it was found that internal resilience and school connectedness could significantly reduce the relationship between high levels of ACE and psychological distress (Clements-Nolle & Waddington, 2019).

While the particular focus of *strength-based* rehabilitation is to increase individuals' internal/external resources in order to enhance their QoL and reduce the risk of offending (Ward, 2017), up to now, relevant resources (e.g., personal resilience and interpersonal support) that are likely to facilitate the rehabilitation process of DFA

have been largely unaddressed. In addition, prior work focused on DFA's QoL prior to detention or 6 months after discharge. A longer follow-up period would allow for examining the GLM among former DFA in emerging adulthood. This developmental phase (ages 18–25), which is characterized by increasing independence and the exploration of identities, generates new obstacles and challenges regarding the development of resources (Arnett, 2007), which are likely to affect former DFA's QoL and, subsequently, the likelihood of offending. The present study was designed to address these limitations by studying the role of personal resilience and interpersonal support in building fulfilling and prosocial lives, thereby examining the GLM among young women 4 years after youth detention.

The first objective of the current study was to examine the role of young women's personal resilience as an internal resource in building fulfilling and prosocial lives 4 years after discharge. In line with Rumgay (2004), personal resilience is viewed as resourcefulness in coping in conditions of stress. Specifically, we aimed to examine whether higher levels of personal resilience were associated with higher levels of QoL and lower levels of offending after discharge (Hypothesis 1). This hypothesis was based on prior female pathways literature highlighting the importance of personal resilience in building and maintaining new, prosocial identities, and lives (Bernard, 2015; Rumgay, 2004). In addition, it is in line with prior work indicating the significant role of internal resilient factors, such as personal competency, in rehabilitation within the particular developmental periods of adolescence and emerging adulthood (Born et al., 1997; Hauser et al., 2008; Piquero et al., 2014; Todis et al., 2001).

The second objective was to examine the role of young women's interpersonal support as an external resource in building fulfilling and prosocial lives, 4 years after discharge. Specifically, we aimed to examine whether higher levels of interpersonal support were associated with higher levels of QoL and lower levels of offending after discharge (Hypothesis 2). This hypothesis was based on prior female pathways literature indicating that relational issues (more specifically, supportive relationships with *prosocial* individuals) appear to be particularly important in women's pathways out of criminal involvement and their successful community reintegration (Giordano et al., 2002; Harris et al., 2015; Leverentz, 2006; Rodermond et al., 2016; Rumgay, 2004; Schwartz & Steffensmeier, 2017; Uggen & Kruttschnitt, 1998; Viljoen et al., 2011). Again, this converges with prior work with adolescents transitioning from closed facilities back into the community, which has emphasized the importance of establishing at least "one good relationship" (Hauser et al., 2008, p. 279) with a supportive, *prosocial* adult, who takes the role of both a friend and a guide in the desistance process (Born et al., 1997; Todis et al., 2001).

The third objective was to examine the interaction between personal resilience and interpersonal support (as internal/external resources) in building fulfilling and prosocial lives 4 years after discharge. Specifically, we aimed to examine whether the relationship between young women's personal resilience and QoL/offending after discharge depended upon the level of interpersonal support (and vice versa; Hypothesis 3). This hypothesis was based on prior female pathways literature indicating that women's desistance and successful reintegration was promoted by a complex

interplay of both individual (e.g., agency, personal resilience) and social factors (e.g., employment, interpersonal support; Bernard, 2015; Brown & Bloom, 2018; Rodermond et al., 2016; Viljoen et al., 2011). Overall, these studies propose the existence of *moderator* effects between individual and social factors, while the existence of *mediator* effects is less frequently/explicitly suggested (Rumgay, 2004). This finding is consistent with rehabilitation processes in general (Ward, 2017), and also seems to apply to rehabilitation processes that occurred during the transition from adolescence into emerging adulthood, in particular (Hauser et al., 2008; Piquero et al., 2014). However, despite prior indications of the interdependent contributions of individual and social factors to the processes of desistance and reintegration, an interaction effect of personal resilience and interpersonal support on young women's QoL and offending after discharge has not been statistically explored, to date. Studying the role of young women's strengths is important in light of the growing interest in strength-based frameworks and will assist us in better understanding young women's antisocial pathways, including their journeys to desistance.

Method

Setting

The study was conducted in an all-female youth detention center (YDC) in Flanders, Belgium. Every year, about 140 female adolescents are placed in this YDC, for an average duration of 3 months (Agentschap Jongerenwelzijn, 2012, 2014). Placement in a YDC is only possible following referral by a juvenile court judge because of a criminal offense (e.g., shoplifting, fighting) or an urgent problematic educational situation (e.g., persistent truancy, prostitution), and is considered the harshest measure a juvenile court judge can impose. Duration of placement in a YDC is based on several factors, including a judge's estimation of the length required to address the issues of concern and/or to ensure the safety of the young person and society, as well as practical issues such as the availability of places/capacity of other facilities. The YDC 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 structured day, 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 aims to promote the girls' resocialization and reintegration. This program aims at facilitating less confining forms of care and treatment 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 monitoring; (ii) experiential learning, stimulating personal development through creating opportunities for action and reflection; and (iii) taking a

systemic approach, such as through the involvement of parents' where possible (e.g., conducting a parent intake at the start of placement and involving parents throughout the process of treatment planning) 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).

Participants

Participants were female adolescents who were admitted to the above described YDC. At baseline (i.e., within the first 3 weeks after admission; T0), DFA were eligible to participate if the following criteria were met: (i) adjudicated to be detained for at least 1 month; (ii) sufficient knowledge of Dutch; and (iii) sufficient cognitive abilities. Between February 2012 and June 2014, 147 DFA participated in the baseline assessment (participation rate=87%; see prior work [Van Damme et al., 2016a] for details regarding reasons of exclusion or drop-out). At baseline, participants were between 13.51 and 17.91 years old ($M=16.22$; $SD=1.09$) and were predominantly of Belgian origin (65%). Less than half (39%) of the participants had a moderate-to-high SES, 14% lived with both parents prior to detention, 59% attended school during the past month prior to detention, and 20% had been detained in the past. The primary reasons participants had been placed in the YDC were for criminal offense/s (38%), defiant behavior (15%), persistent attempts to escape parent's/caregiver's/institution's surveillance (37%), and other reasons (e.g., being entangled in dangerous gangs; 10%). The average duration of detention was 4.51 months (range: .36–22.51 months; $SD=3.04$).

Follow-up assessments took place 1 and 2 months after baseline (T1 and T2; $n=124$ and 108; quantitative); 6 months after discharge (T3; $n=103$; quantitative); and 4 years after discharge (T4; $n=50$ of which $n=49$ quantitative and $n=30$ qualitative; being the only wave including questionnaires regarding the present study's main variables of interest, i.e., personal resilience and interpersonal support). The quantitative T0–T3 data have been used in prior work (Van Damme et al., 2015a, 2015b, 2016b). The present study is one of the first to report on the quantitative T4 data, controlling for baseline levels of the two outcome variables.

Between June 2017 and June 2018, the follow-up assessment 4 years after discharge (T4) was conducted (range: 3.02–5.71 years; $M=4.36$; $SD=.60$). Follow-up participants ($n=49$) did not differ was conducted significantly from those lost to follow-up ($n=98$) with respect to age, SES, intact family, school attendance, past detention history, reason for detention, duration of detention, and self-reported QoL and offending at baseline. However, follow-up participants were characterized by a significantly higher percentage of adolescents of Belgian origin, compared to those lost to follow-up (details available upon request from the first author). At follow-up, participants

Table 1. Descriptive Data for the Study Sample 4 years after Youth Detention ($n = 49$).

N (%)	Attending education (yes)	Having a job (yes)	Having a partner (yes)	Having children (yes)	Living in a facility/center (yes)
Attending education (yes)	-	3 (6)	8 (16)	1 (2)	0 (0)
Having a job (yes)	-	-	12 (24)	5 (10)	2 (4)
Having a partner (yes)	-	-	-	13 (27)	4 (8)
Having children (yes)	-	-	-	-	2 (4)
Living in a facility/center (yes)	-	-	-	-	-

Note. Total number of cases: $n = 49$.

were between 18.30 and 23.71 years old ($M = 20.75$; $SD = 1.45$), 10% had a degree of secondary education, 25% attended education, 27% had a job, 76% had a partner, 27% had children, 4% had been imprisoned after reaching the age of majority, 12% lived in a facility or center (e.g., a residential facility for individuals with behavioral and/or emotional problems, a center providing temporary shelter and support for homeless people), and 55% received outpatient care/support (e.g., psychological/psychiatric counseling, contextual care). The DFA could belong to more than one of these groups (some of these key relationships are presented in Table 1).

Procedure

At baseline, eligible participants were approached and received oral and written information about the aims, content, and duration of the study. They were assured their responses 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 by the participants before starting the assessment. DFA's parents received a letter with information about the aims and practical aspects of the study and could decline participation (i.e., passive informed consent). At the end of the baseline assessment, 124 participants provided written informed consent to contact them for further research. They were also asked to provide detailed contact information of themselves or significant others (e.g., family, friends, their court consultant) in order to facilitate tracing them. The follow-up assessment was conducted by the first author. Again, written informed consent was given by the participants before starting the assessment. The follow-up assessment took place at a time and place that was most convenient for the participant. All participants received a €10 gift voucher for participation in the follow-up assessment. This study was approved by the Ethical Commission of the Faculty of Psychology and Educational Sciences at Ghent University (2016/12).

Measures

Socio-demographics. Standardized information regarding socio-demographic variables was gathered at baseline (i.e., within the first 3 weeks after admission) and at follow-up (i.e., 4 years after discharge) by means of a self-report questionnaire. At baseline, information was collected regarding DFA's origin, SES, family situation, school attendance, and detention history (see prior work [Van Damme et al., 2015a] for details regarding the operationalization of these variables). At follow-up, the young women were asked to report whether or not they had a degree of secondary education, attended education, had a job, had a partner, had children, had been imprisoned after the age of 18 years, lived in a facility or center, and received outpatient care/support, which resulted in eight dichotomous variables. Finally, age refers to the participant's age at the time the questionnaires were administered, at baseline and follow-up.

Quality of life. Self-perceived QoL was assessed at baseline and at follow-up using the Dutch version of the WHOQOL-BREF, an abbreviated version of the WHOQOL-100 (The WHO Quality of Life Instrument; The WHOQOL Group, 1998). In line with prior work (Van Damme et al., 2015a, 2016b), the reference period of the WHOQOL-BREF at baseline was changed from "the last 2 weeks" to "the 2 weeks before detention". Participants answered all items on a 5-point rating scale, ranging from "very poor" (=1) to "very good" (=5). The WHOQOL-BREF includes 26 items tapping into respondents' physical health (e.g., to what extent do you feel that physical pain prevents you from doing what you need to do), psychological health (e.g., how often do you have negative feelings such as blue mood, despair, anxiety, depression), social relationships (e.g., how satisfied are you with your personal relationships), and environment (e.g., how satisfied are you with the conditions of your living place). Continuous total scores for QoL were created by summing all 26 items and transforming it into a scale ranging from 0 to 100, with higher scores indicating a better QoL. Cronbach's alphas for these overall QoL scores were .92 and .89, respectively at baseline and follow-up.

Offending. Offending was measured at baseline and at follow-up, using a self-report questionnaire (van der Laan & Blom, 2005). All items began with the standardized question, "have you ever . . ." (at baseline) and "the last 6 months, have you ever . . ." (at follow-up). Based on 27 items, continuous variety scores were created, indicating the total number of different violent (e.g., fighting, physically harming someone with a weapon) and non-violent (e.g., shoplifting, vandalism, insults, dealing drugs) items that were reported. Cronbach's alphas for these overall offending scores (range: 0–27) were .89 and .83, respectively at baseline and follow-up.

Personal resilience. Personal resilience was assessed at follow-up, using the Resilience Scale (RS; Wagnild & Young, 1993). The RS (Dutch version; Portzky, 2008) is a self-report questionnaire consisting of 25 items that are answered on a 4-point Likert-scale: strongly disagree (1), partially disagree (2), partially agree (3), or strongly agree (4).

Respondents are explicitly asked to think about a long period of their life, not only the last weeks, when scoring the items. The RS includes items tapping into respondents' personal competence (e.g., I am able to depend on myself more than anyone else) as well as their acceptance of self and life (e.g., I am friends with myself). A continuous total score for personal resilience was created by summing all 25 items (range: 25–100; $\alpha = .87$), with higher scores indicating a higher level of personal resilience.

Interpersonal support. Interpersonal support was assessed at follow-up, by means of the Interpersonal Support Evaluation List (ISEL; Cohen et al., 1985). The ISEL (Dutch version; Renty & Roeyers, 2004) is a self-report measure including 40 items, that are answered on a 4-point Likert-scale (definitely false [0], probably false [1], probably true [2], or definitely true [3]), with no explicit reference period being mentioned. The ISEL includes items referring to the experienced availability of material support (e.g., if I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me), people to talk to (e.g., there are several people that I trust to help solve my problems), people to do things with (e.g., if I wanted to have lunch with someone, I could easily find someone to join me), and a positive evaluation when comparing oneself to others (e.g., there is someone who takes pride in my accomplishments). A continuous total score for interpersonal support was created by summing all 40 items (range: 0–120; $\alpha = .93$), with higher scores indicating a higher level of interpersonal support.

Statistical Analyses

First, descriptive analyses of QoL, offending, personal resilience, and interpersonal support at baseline and/or follow-up were conducted. Second, we calculated correlations to explore the relationship between the variables. Third, we conducted hierarchical multiple regression analysis using *Mplus7* (Muthén & Muthén, 1998–2012) to examine the main effects of personal resilience (cf., Hypothesis 1) and interpersonal support (cf., Hypothesis 2), as well as the interaction effect between these independent variables (cf., Hypothesis 3) on the outcomes of QoL and offending 4 years after discharge. Given that the outcome variable offending has a large fraction of observations at the minimum value, offending was treated as a censored variable, using a Tobit regression model (Tobin, 1958). Given that the outcome variable QoL was a continuous, a linear regression model was used. Maximum Likelihood estimation with Robust standard errors (MLR) was used to estimate all models. Since we tested saturated path models, no model fit indices were obtained. In the initial models for QoL (Model 1a) and offending (Model 2a), only the main effects of personal resilience and interpersonal support were included. In the extended models (Models 1b & 2b), the interaction effect between these two variables was added. To avoid multicollinearity, personal resilience, and interpersonal support were centered before computing the interaction term. Finally, all analyses were conducted while controlling for baseline levels of QoL/offending.

Table 2. Descriptive Data for the Study Sample at Baseline and 4 years after Youth Detention ($n=49$).

	Variable	M	SD	Min.	Max.
1	Quality of life (baseline)	60.50	14.35	28.85	88.46
2	Quality of life (follow-up)	63.57	13.03	25.00	91.35
3	Offending (baseline)	5.45	5.28	0	22
4	Offending (follow-up)	1.65	2.68	0	12
5	Personal resilience (follow-up)	81.90	10.18	52	99
6	Interpersonal support (follow-up)	81.76	19.42	35	112

Table 3. Correlations for the Study Sample at Baseline and 4 years after Youth Detention ($n=49$; Standardized Parameter Estimates).

	Variable	1	2	3	4	5	6
1	Quality of life (baseline)	-					
2	Quality of life (follow-up)	.07					
3	Offending (baseline)	-.15	-.18				
4	Offending (follow-up)	.03	-.21*	.54**			
5	Personal resilience (follow-up)	.22	.50**	-.21	-.38**		
6	Interpersonal support (follow-up)	.15	.50**	-.09	-.15	.39**	-

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

Results

Descriptives and Correlations

Descriptive data (Table 2) and correlations (Table 3) regarding DFA’s QoL, offending, personal resilience, and interpersonal support at baseline and/or follow-up are presented. QoL at follow-up was significantly correlated with personal resilience ($r = .50$; $p = .000$) and interpersonal support ($r = .50$; $p = .000$) at follow-up, while it was not significantly correlated with QoL at baseline ($r = .07$; $p = .532$). Offending at follow-up was inversely significantly correlated with personal resilience ($r = -.38$; $p = .003$), but not significantly correlated with interpersonal support ($r = -.15$; $p = .26$) at follow-up. In addition, offending at follow-up was significantly correlated with offending at baseline ($r = .54$; $p = .000$).

Pathways Toward QoL and Offending

Regression coefficients for the models with main/interaction effects on QoL and offending are presented in Table 4. Model 1a (i.e., the initial model of QoL) showed significant, positive main effects of both personal resilience ($\beta = .37$; $p = .003$) and interpersonal support ($\beta = .37$; $p = .000$) on QoL at follow-up, while a significant main

Table 4. Regression Coefficients for the Models with Main/Interaction Effects on Quality of Life and Offending ($n=49$; Standardized Parameter Estimates).

Variable	Quality of life (follow-up)		Offending (follow-up)	
	Model 1a	Model 1b	Model 2a	Model 2b
	β (SE)	β (SE)	β (SE)	β (SE)
Quality of life (baseline)	-.07 (.14)	.08 (.14)	-	-
Offending (baseline)	-	-	.48 (.12)**	.46 (.11)**
Personal resilience (follow-up)	.37 (.13)**	.47 (.41)	-.28 (.13)*	-.84 (.48)
Interpersonal support (follow-up)	.37 (.09)**	.57 (.79)	.02 (.15)	-1.02 (.85)
Personal resilience \times interpersonal support (follow-up)	-	-.25 (1.00)	-	1.37 (1.14)

Note. R^2 is .36 for Model 2a and .37 for Models 1a-b and 2b.

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

effect of QoL at baseline could not be found ($\beta = -.07$; $p = .60$). Model 2a (i.e., the initial model of offending) showed a significant, negative main effect of personal resilience ($\beta = -.28$; $p = .033$) on offending at follow-up, which was not the case for interpersonal support ($\beta = .02$; $p = .889$). In addition, the model did show a significant, positive main effect of offending at baseline ($\beta = .48$; $p = .000$). Models 1a and 2a explained 37% and 36% of the variance in the outcome variables QoL and offending, respectively. The interaction effect between personal resilience and interpersonal support, included in Models 1b and 2b (i.e., the extended models of QoL and offending), was not significant ($\beta = -.25$; $p = .800$; $\beta = 1.37$; $p = .227$), nor did it improve the level of explained variance. Consequently, the initial Models 1a and 2a were preferred (see Figures 1 and 2 for a visual representation).

Discussion

This study examined the GLM in a sample of young women 4 years after youth detention ($n=49$), focusing on the role of personal resilience and interpersonal support in building fulfilling and prosocial lives. More specifically, we examined the main effects of personal resilience (cf., Hypothesis 1) and interpersonal support (cf., Hypothesis 2), as well as the interaction effect between these independent variables (cf., Hypothesis 3) on QoL and offending at follow-up, while controlling for baseline levels of QoL/offending. As expected, higher levels of personal resilience were associated with higher levels of QoL and lower levels of offending after discharge. Yet, higher levels of interpersonal support were associated with higher levels of QoL only. Contrasting our expectations, the relationship between personal resilience and QoL/offending did not depend upon the level of interpersonal support.

In line with Hypothesis 1, young women with higher levels of personal resilience also had higher levels of QoL and lower levels of offending after discharge, while controlling

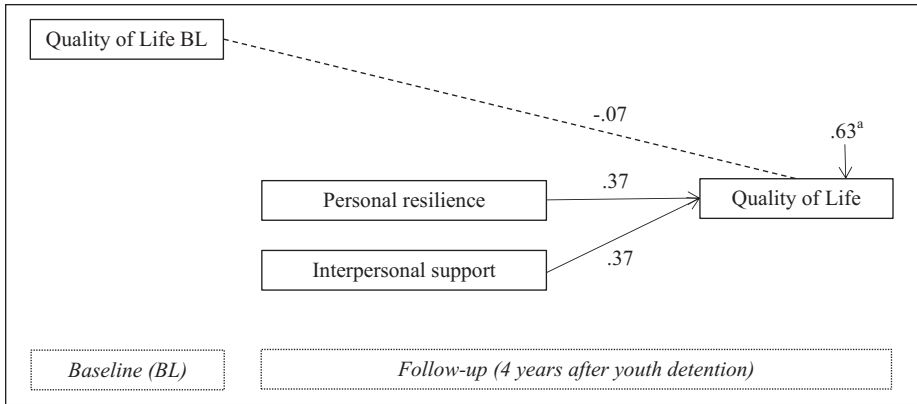


Figure 1. Model 1a: Multiple regression model with main effects of personal resilience and interpersonal support on quality of life ($n = 49$; standardized parameter estimates). Note. Dashed lines indicate non-significant path estimates ($p > .05$); Solid arrows indicate significant path estimates ($p < .05$).
^aThis model explained 37% of the variance in the outcome variable QoL, leaving 63% of the variance unexplained.

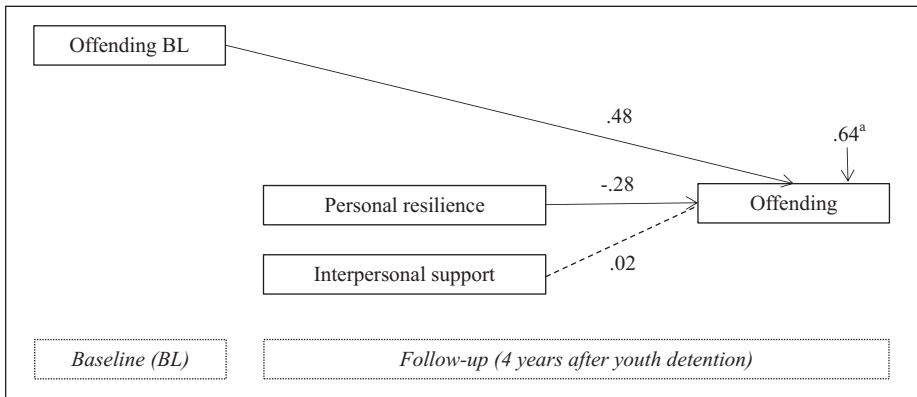


Figure 2. Model 2a: Multiple regression model with main effects of personal resilience and interpersonal support on offending ($n = 49$; standardized parameter estimates). Note. Dashed lines indicate non-significant path estimates ($p > .05$); Solid arrows indicate significant path estimates ($p < .05$).
^aThis model explained 36% of the variance in the outcome variable offending, leaving 64% of the variance unexplained.

for baseline levels of QoL/offending. These findings confirm the importance of *internal* resources, such as personal resilience, in building *fulfilling* and *prosocial* lives (Bernard, 2015; Born et al., 1997; Hauser et al., 2008; Piquero et al., 2014). A qualitative study of the same sample of DFA in Belgium (see method section for more details), found they

could identify very few internal resources prior to detention, while internal resources were more prevalent in their life stories 4 years post detention, and were seen by the young women as supporting them to live more prosocial lives (Van Damme et al. under review). Of note, personal resilience had a significant main effect on offending, even when controlling for young women's lifetime offending history (which is known to be the most powerful predictor of future offending; Andrews & Bonta, 2010). This suggests that investing in the development of personal resilience (which is considered a dynamic characteristic, rather than a static trait; Runggay, 2004) may be clinically useful, not only in enhancing DFA's QoL, but also, potentially, in reducing their risk of future offending (Todis et al., 2001; see clinical implications below).

Partially in line with Hypothesis 2, young women with higher levels of interpersonal support reported higher levels of QoL, while no significant relationship with offending after discharge could be found, again controlling for baseline levels of QoL/offending. These findings confirm the importance of *external* resources, such as interpersonal support, in building *fulfilling* lives (Harris et al., 2015; Hauser et al., 2008; Runggay, 2004; Todis et al., 2001), but not per se in building *prosocial* lives. In other words, the interpersonal support these young women receive is related to the subjective component of their lives (i.e., the level of self-perceived QoL), but not to the normative component of their lives (i.e., the level of offending). The mixed nature of former DFA's relationships (which is left unexplored in the present study), may account for these findings. While some young women may still be surrounded and feel supported by their former antisocial peers (Van Damme et al., 2015a, 2016b), others may have (re)built a prosocial support network, with respectively positive and negative relationships between interpersonal support and offending canceling each other out. During interviews, former DFA have identified both social support (e.g., the presence or support from their partner or family) and prior/current professional support (e.g., therapy) as external resources which have enabled them to fulfil multiple human needs, including peace of mind, independence, and physical health; Van Damme et al., under review). The importance of interpersonal support should be further explored, taking into account Leverenz's (2006) point that relationships are dynamic (rather than static) concepts and that the distinction between *prosocial* and *antisocial* contacts is not as clear-cut as it seems.

Finally, contrary to Hypothesis 3, the relationship between young women's personal resilience and QoL/offending after discharge did not depend upon the level of interpersonal support (and vice versa). These findings do not confirm the idea of an interplay between both *internal* and *external* resources in building *fulfilling* and *prosocial* lives, as suggested in prior work (Bradshaw & Hazan, 2006; Brown & Bloom, 2018; Rodermond et al., 2016; Viljoen et al., 2011). However, the lack of significant *moderator* effects does not exclude the existence of possible *mediator* effects between personal resilience, interpersonal support, QoL, and offending. For example, it may be that a high level of interpersonal support increases the level of personal resilience, which in turn increases the level of QoL and decreases the level of offending after discharge (Runggay, 2004). Personal resilience mediated the association between interpersonal support and QoL (see Tables 2 and 3). The interplay between internal

and external resources should be further examined (see future research recommendations below).

Based on the above findings, several suggestions for clinical practice can be made. Overall, the results of the present study support the applicability of the GLM to the particular population of former DFA, showing evidence for the importance of both *internal* and *external* resources in building *fulfilling* and *prosocial* lives. In this respect, and in line with prior suggestions (Van Damme et al., 2017), the strength-based GLM seems to be a promising rehabilitation framework to guide the treatment of (former) DFA. When aiming to enhance (former) DFA's QoL, as well as to reduce their risk of future offending, personal resilience proves to be a particularly relevant treatment target, while investment in the development of interpersonal support may further contribute to the enhancement of their QoL. This means that individual skill development (e.g., increasing DFA's coping skills) should be a key component of the YDC's rehabilitation program, yet not without also putting effort into establishing or strengthening DFA's social support networks (Humphrey & Van Brunschot, 2018; Nargiso et al., 2014; Piquero et al., 2014; Todis et al., 2001). More specifically, when starting from a Good Lives perspective, YDC staff are challenged to integrate both internal and external elements in the development of DFA's Good Lives plan (i.e., the sixth phase of GLM-informed rehabilitation; Van Damme et al., 2017; Ward et al., 2007), in order to support DFA to build 'better' lives. With regard to the development of DFA's social support networks, YDC staff are particularly challenged to consider relationships as processes and to broaden the definition of prosocial contacts and relationships (see Leverentz's, 2006 suggestion above).

It is also important to bear in mind the developmental period this study spanned. On average, participants were about 16 years of age at the initial assessment and 20 years old at follow-up. This is a period of great developmental change across the physical, psychosocial, and cognitive domains (e.g., Bryan-Hancock & Casey, 2011; Miller, 2014). During this period the young women would also have had a range of experiences including facing a variety of consequences for their behaviors. These factors may have impacted their level of resilience at follow up, but also their antisocial behavior trajectory, whether that be a pathway of continued antisocial behavior or one of desistance. In addition, at the time of follow-up 57% of the sample was receiving some form of psychological support. This is noteworthy where resilience is concerned, as it has been theorized to be associated with the development of resilience (Helmreich et al., 2017). Therefore, the psychological support the DFA received may have facilitated change. We also found that only a minority (14%) of the sample lived with both parents prior to detention. Given that coming from a disrupted family environment, including parental separation/divorce, has been associated with (persistent) externalizing behaviors (Bornovalova et al., 2013), this may also have impacted our findings, including the DFA levels of resilience. These issues were not a focus of the current study, but future research could explore the relationship between (1) duration, intensity and type of psychological intervention, and (2) family environment, and resilience amongst DFA.

This study has several strengths, including the 4-year follow-up period and the use of an understudied but highly relevant population to examine the GLM. Nevertheless, the results should be interpreted in the context of some limitations. First, there was a high number of individuals lost to follow-up (i.e., $n=98$; 67% of the baseline sample). Although the follow-up participants ($n=49$) did not differ significantly from those lost to follow-up ($n=98$) with respect to age, SES, intact family, school attendance, past detention history, and self-reported QoL and offending at baseline, it is still possible that we did not reach the most vulnerable, marginalized, or antisocial young women, as they were unable to be retrieved or refused to cooperate for reasons that we are not aware of. In addition, follow-up participants were characterized by a significantly higher percentage of young women of Belgian origin, compared to those who were lost to follow-up, which is also likely to limit the generalizability of the present results. Additionally, in Belgium, detention is considered the harshest measure a juvenile court judge can impose and is only applied in cases where all other measures have failed or were deemed inappropriate. Therefore, in many ways the current sample of girls from the YDC in Flanders could be considered comparable and generalizable to girls in YDCs abroad (Van Damme et al., 2019). However, there may be other differences that exist in this sample, for which data were not collected (e.g., religious affiliations), that may hamper generalizability to other populations. Second, since the present study's variables of interest were all measured at the same time-point (i.e., 4 years after youth detention), only controlling for baseline levels of the two outcome variables, causal inference regarding the relationship between personal resilience and interpersonal support, on the one hand, and QoL and offending, on the other hand, was not possible. Third, the small sample size forced us to include only a strict selection of variables, and to specify only a strict selection of pathways. As a consequence, we included only total scores for each variable of interest, not allowing us to gain a more profound insight into the particular relevance of specific domains/subtypes (for example, the relevance of material versus emotional support on young women's QoL). Also, we tested only the main and interaction effects of personal resilience and interpersonal support on QoL and offending and did not test a wide range of alternative pathways (e.g., reversed effects, mediator effects). Fourth, since one of the outcome variables was censored (i.e., offending), whereas the other (i.e., QoL) was not, we had to fit two separate models, hampering our ability to consider the relationship between both outcomes of interest (which, in terms of correlations, appeared to be significant; see Results). Finally, data were gathered through self-report methods. Although self-report has been shown to provide valid information about such issues as mental health (Colins et al., 2008) and offending (Enzmann & Podana, 2010), and is deemed necessary for tracing adolescents' QoL, measurement bias cannot be excluded. Both over- and under-reporting may have occurred. For example, DFA may not have disclosed information due to fear it may be used against them or due to difficulties with accurate recall. Nevertheless, we acknowledge our reliance on self-report can be considered a study limitation. Although third-party information (e.g., care workers or parent/s) may have some prognostic usefulness (Colins et al., 2012), it is often difficult to locate, and obtain, accurate information from parents and teachers (Colins et al., 2008). We did

not ask others for information about the variables of interest in the present study and this should be addressed in future research.

Based on these limitations, we conclude that future long-term follow-up studies are warranted to see to what extent our findings can be replicated in other, larger samples of DFA. More specifically, we suggest further research to test an integrated model, considering not only outcome variables but also resources/obstacles at multiple time-points, taking into account domains/subtypes of the different variables, including a broader range of resources/obstacles at micro-, meso-, and macro-level (Bernard, 2015), and studying potential moderator as well as mediator effects. This is needed in order to grasp the complexity of DFA's rehabilitation process, to detect potential bi-directional effects, and to identify causal direct/indirect pathways toward fulfilling and prosocial lives over time, thereby further stimulating the development of comprehensive, multi-level theories (Ward, 2017). We are also mindful that the majority of young women in this sample had nuclear families which were most likely also experiencing a range of difficulties (e.g., financial hardship, parental substance use issues). Due to the developmental context of adolescents, it would be useful to understand if the consequences of their behaviors and subsequent detention, resulted in any systemic changes in their families, and whether or not these changes had an impact on recidivism and QoL, as well as perceived self-efficacy, which is related to resilience (Sagone et al., 2020).

Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Two of the authors (L. Van Damme and C.-A. Fortune) work closely together with Tony Ward, who developed the Good Lives Model. Otherwise, the authors declare that they have no conflict of interest.

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Note

1. Echoing the World Health Organization's definition, 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, p. 551).

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