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Original article

Identity formation in juvenile delinquents and clinically referred youth

La formation d'identité chez des délinquants juvéniles et des jeunes issus d'un échantillon clinique

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ABSTRACT

Introduction. – Little is known about how juvenile delinquents and clinically referred youth handle the key developmental task of identity formation.

Objective. – The aim of this study was to compare identity formation in juvenile delinquent and clinically referred boys to identity formation in boys drawn from the general population.

Method. – Mean scores on identity dimensions and membership to identity statuses in ideological (i.e., education) and interpersonal (i.e., relationship with the best friend) domains were compared across groups of juvenile delinquent boys ($n = 30$), clinically referred boys ($n = 21$), and boys drawn from the general adolescent population ($n = 30$).

Results. – Juvenile delinquents, but not clinically referred youth, displayed a weaker identity in both the ideological and interpersonal domain than adolescents from the general population.

Discussion. – Identity formation among juvenile delinquents deserves more attention from both researchers and clinicians.

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R É S U M É

Le but de cette étude était d'évaluer la formation d'identité chez des garçons délinquants juvéniles et des garçons issus d'un échantillon clinique. Pour cette raison, ces jeunes ont été comparés à des garçons tirés de la population générale. Nos résultats suggèrent que la formation d'identité idéologique (i.e., l'éducation) aussi bien que la formation d'identité interpersonnelle (i.e., la relation avec le meilleur ami) étaient problématique pour les délinquants juvéniles, parce que bon nombre d'entre eux ont semblé avoir des problèmes avec l'obtention d'engagements stables. De leur côté, les garçons issus d'un échantillon clinique ont peu de difficulté en termes de formation d'identité. Étant donné que les problèmes avec la formation d'identité pourraient être une cause sous-jacente des problèmes de comportement, nos résultats suggèrent que la formation d'identité parmi les délinquants juvéniles mérite plus d'attention aussi bien des chercheurs que des cliniciens.

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1. Introduction

Adolescence has continuously been described as a period of "storm-and-stress" (Arnett, 1999). Although this storm-and-stress remains limited to conflicts with parents, temporary mood disruptions, and minor delinquent acts in most adolescents (Arnett, 1999), problems escalate in a minority of youth. Some adolescents are engaged in serious delinquent acts and end up in juvenile detention

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centres, others experience severe emotional distress and come to residential youth care services. In the Netherlands, approximately 7000 adolescents (approximately 0.5% of the Dutch adolescent population) live in juvenile detention centres (Dutch Department of Justice, 2008), whereas another 20,000 adolescents (approximately 1.5% of the Dutch adolescent population) live in residential youth care centres (The Netherlands Institute of Social Research, 2009). All these adolescents receive psychotherapy. For juvenile delinquents, the therapy is usually aimed at increasing their moral reasoning ability, a developmental task that many juvenile delinquents have not fully mastered (e.g., Gibbs et al., 1996). However, limited attention has been devoted to another key developmental task that could be an underlying cause of the problems faced by these troubled youth: the development of a firm personal identity (Erikson, 1950). Since the formation of an identity requires exploration, this key developmental task might be particularly hard to accomplish in highly structured settings like residential youth care centres and juvenile detention centres. In addition, a lacking sense of commitment might be a cause of psychosocial problems (Erikson, 1950). Thus, there are several reasons to assume that identity formation could be disturbed in juvenile delinquents and clinically referred youth. Unfortunately, the extent to which these troubled youth face problems with identity formation is yet unclear. Therefore, the goal of the present study is to examine whether identity formation is problematic for juvenile delinquents and clinically referred youth. In order to accomplish this goal, we will compare identity formation in juvenile delinquents and clinically referred youth to identity formation in adolescents from the general population.

The formation of a stable identity is considered to be the most important developmental task for an adolescent (Erikson, 1950). An individual's identity can be classified along a continuum from identity achievement (reflected by the presence of a stable set of ideals and morals) to role confusion (the inability to establish a useful set of ideals; Schwartz, 2001). In the field of research on adolescent identity formation, the identity status paradigm (Marcia, 1966) is the dominant approach. Marcia distinguished two important factors in identity formation: *commitment* (selection of developmental alternatives and engagement in relevant activities towards the implementation of these choices) and *exploration* (exploring various developmental alternatives in different identity-defining domains). Based on levels of commitment and exploration, four identity statuses can be distinguished (Marcia, 1966): *diffusion* (little exploration, little commitment), *foreclosure* (strong commitments, but alternatives have not been explored), *moratorium* (intense exploration, but no strong commitments yet), and *achievement* (strong commitments, formed after a period of extensive exploration).

Marcia's (1966) identity statuses are based on two processes of identity formation (i.e., exploration and commitment). However, it has been argued that especially exploration is not a unidimensional construct (e.g., Luyckx et al., 2006). As an alternative, several extensions of the identity status paradigm have been proposed throughout the last two decades (for an overview, see Meeus, 2011). One of the most recent extensions of Marcia's status paradigm is the three-dimension model proposed by Meeus et al. (Crocetti et al., 2008b). In this three-dimension model, processes of *commitment* (choices made in identity relevant domains and the extent to which individuals identify themselves with these choices), *in-depth exploration* (exploring the merits of one's current commitments), and *reconsideration of commitment* (questioning current commitments, and searching for possible alternatives) are distinguished. The three-dimension model of identity formation has been shown to provide a valid and reliable estimate of identity processes in early, middle and late adolescents, boys and girls, and ethnic majorities and minorities (Crocetti et al., 2008b). Even though the dimensions of identity formation described by Meeus et al. (Crocetti et al.,

2008b) are slightly different from those described by Marcia (1966), Crocetti et al. (2008a) were able to replicate Marcia's four identity statuses: *achievement* (high commitment, high exploration, and low reconsideration), *foreclosure* (moderate commitment, low exploration, and low reconsideration), *moratorium* (low commitment, low exploration, and high reconsideration), and *diffusion* (low commitment, low exploration, and low reconsideration). Moreover, Crocetti et al. (2008a) found one additional moratorium status besides the one originally described by Marcia. This status, labelled *searching moratorium*, captures the positive side of moratorium: it comprises adolescents who are highly committed but nevertheless keep on exploring alternatives, and thus are revising their identities. In a recent longitudinal study spanning the entire period from early to late adolescence, Meeus et al. (2010) showed that searching moratorium is a transitory status that is more prevalent in early and middle adolescence, than it is in late adolescence. The prevalence of the classical moratorium status also decreases in late adolescence, but there is a substantial subgroup which remains in this type of moratorium. Thus, the classical moratorium status seems to be a more enduring asset (see also Luyckx et al., 2008b), whereas searching moratorium appears to be a passing state.

Throughout the years, linkages between identity statuses and psychosocial adjustment (i.e., internalizing and externalizing problem behaviour) have been uncovered and replicated (e.g., Crocetti et al., 2008a; Luyckx et al., 2008a; Marcia, 1966; Meeus et al., 1999). An overview by Meeus et al. (1999), mainly focused on associations of identity with internalizing problems (e.g., anxiety, depression), revealed that individuals in identity statuses characterized by strong commitments (i.e., those in foreclosure and achievement statuses) had lower levels of problem behaviour symptoms when compared to adolescents who were high in exploration and low in commitment (i.e., those in the classical moratorium status). Subsequent studies (e.g., Crocetti et al., 2008a; Luyckx et al., 2008a) on identity statuses and adjustment obtained similar results. In addition, Crocetti et al. (2008a) found that adolescents in the classical moratorium status were characterized by higher levels of externalizing problem behaviours symptoms than adolescents in other statuses. Adolescents in the searching moratorium status were found to have lower scores on both internalizing and externalizing problem behaviour symptoms when compared to adolescents in a classical moratorium status, but they did have somewhat higher levels of depressive symptoms when compared to achievers, foreclosures, and diffused adolescents. These findings suggest that searching moratorium is only related to self-doubt (i.e., depressive symptoms), whereas a classical moratorium is indicative of an almost complete absence of identifications to hold on to. This could explain why a classical moratorium results in both internalizing and externalizing problem behaviour symptoms.

In addition to the clear linkages between identity formation and psychosocial adjustment, Luyckx et al. (2005) also uncovered strong linkages with social and academic adjustment. Again, individuals in achievement and foreclosure statuses turned out to be the best adjusted. Overall, these findings suggest that identity statuses are related to social, academic, and psychosocial adjustment, with individuals in achievement and foreclosure statuses exhibiting higher levels of adjustment than those in diffusion and moratorium statuses.

Although linkages between identity statuses and adjustment have been clearly documented, these findings have been obtained in generally well-adjusted population samples. Moreover, all the mentioned studies employed global identity measures examining identity across several domains, instead of focusing on specific domains. Marcia (1966) initially focused on identity formation as a process that mainly takes place in ideological domains (e.g., politics, education), but Grotevant et al., 1982 (Grotevant and Adams, 1984)

extended this focus into interpersonal domains (e.g., friendships, romantic relations). Thus, there are two main types of identity domains (i.e., ideological and interpersonal domains), which can be further subdivided in more specific domains such as education (i.e., an ideological domain) and friendships (i.e., an interpersonal domain). An example of the meaning of identity statuses in these two different domains would be that an individual classified as “achieved” for educational identity is highly committed to his/her study and often thinking about possible job opportunities after graduation. An individual who is highly committed to current friends and often thinks about what these friendships mean to him/her would be in the “achievement” status in the friendship domain.

1.1. The current study

In the current study, we aim to investigate ideological (i.e., educational) and interpersonal (i.e., relational) identity formation in juvenile delinquents (i.e., adolescents living in a penitentiary youth institution because they exhibited norm-breaking behaviours) and clinically referred youth (i.e., adolescents living in residential youth care centres). Research on identity formation has examined several other domains, such as gender identity (for an overview, see [Martin and Ruble, 2009](#)) and ethnic identity (for an overview, see [Phinney and Ong, 2007](#)). However, the former domain is more of a childhood issue ([Martin and Ruble, 2009](#)), whereas the latter domain is of more relevance to specific minorities and less to the adolescent majority ([Roberts et al., 1999](#)). For that reason, we chose to follow [Erikson's \(1950\)](#) early focus on identity formation as a process that mainly takes place in ideological domains (i.e., education), and the extension of that focus by [Grotevant et al. \(1982\)](#) into interpersonal domains (i.e., friendships). These domains have a direct relevance to all adolescents, as education is obligatory in The Netherlands (where the present study was situated) and interpersonal contacts with peers are almost inevitable.

To examine identity formation in juvenile delinquents and clinically referred youth, we will compare these youth with adolescents drawn from the general population. Employing this three-group design allows us to examine whether all youth facing severe psychological problems (i.e., either norm-breaking behaviour or emotional distress) have troubles with identity formation, or whether a problematic identity formation applies specifically to youth engaged in norm-breaking behaviours (i.e., juvenile delinquents). Both the juvenile delinquents and the clinically referred sample are institutionalized, whereas the adolescents drawn from the general population are living with their parents. As such, if juvenile delinquents would be different with regard to their identity when compared to clinically referred youth, these differences could not be fully ascribed to the effects of institutionalization.

Because juvenile delinquents display a deficient sense of moral reasoning (e.g., [Gibbs et al., 1996](#)), we expect them to exhibit a lacking sense of commitment towards societal institutions (i.e., education) and relevant others (i.e., friends). As such, juvenile delinquents are likely to exhibit a classical moratorium or a diffusion status of interpersonal and ideological identity, and unlikely to exhibit the more mature statuses achievement, foreclosure, and searching moratorium statuses. Clinically referred youth are also likely to display a weak sense of identity, because previous research has found that psychosocial problems are often accompanied by a relatively weak sense of identity within the general population of adolescents (e.g., [Crocetti et al., 2008b](#)). Shedding light on identity formation in juvenile delinquents and clinically referred adolescents could provide valuable indications for interventions aimed at promoting a more healthy development of these troubled youth.

2. Method

2.1. Participants

In the current study, three adolescent samples were distinguished: a sample of juvenile delinquents, a sample of clinically referred youth, and a sample of adolescents from the general population. All participants were boys. The juvenile delinquent sample comprised 30 adolescent boys residing in a penitentiary youth institution in the Netherlands. All were referred to the institution by a Dutch court. Our sample of clinically referred youth included 21 adolescent boys residing in a residential youth institution in the Netherlands. These youth required institutional care because their parents were no longer able to provide adequate care, because of severe behavioural problems of the adolescent themselves or because of their fathers' and/or mothers' lack of adequate parenting skills. They participated in a psychological foster care program, aimed at teaching them the psychological and socialization skills they would eventually need to earn an independent living. There were no inclusion criteria for juvenile delinquents and clinically referred youth. The sample derived from the general population, matched to the delinquent sample with regard to background characteristics (e.g., age, educational background of the parents), consisted of 30 adolescent boys derived from a larger population sample that participated in a five-wave longitudinal research project on CONflict And Management Of RELationships (CONAMORE; [Meeus et al., 2006](#)). All adolescents (including juvenile delinquents and clinically referred youth) received education at the time the study took place. The three samples were compared on age, ethnicity, and educational background of the parents.

The delinquent sample was somewhat older on average (16.83 years of age; $SD=2.00$) than the clinical sample (15.52 years of age; $SD=1.17$; $p<05$). The mean age of the comparison sample (16.63 years; $SD=1.87$) was not significantly different from the mean age of the clinical and the delinquent sample. For ethnicity, a distinction was made among adolescents that identified themselves as being Dutch, and those that identified themselves as being non-Dutch (e.g., Surinamese, Moroccan, Turkish). The ethnic composition of the clinical (90.5% Dutch) and delinquent sample (96.7% Dutch) was equal, but chi-square tests indicated that the proportion of Dutch adolescents was significantly lower in the comparison sample (73.3%) than in the delinquent sample ($p=.01$). However, additional analyses showed that excluding ethnic minorities from our samples had no substantive impact on outcomes. The parental educational level was higher among clinically referred youth (100% of the fathers and 92.3% of the mothers had completed high school) than among juvenile delinquents (75% of the fathers and 56.5% of the mothers finished high school). Adolescents from the general population (87.5% of the fathers and 69% of the mothers finished high school) did not differ from juvenile delinquents and clinically referred youth with regard to parental educational level.

2.2. Procedure

In all three samples, participants and their parents received an invitation letter, describing the research project and goals, and explaining the possibility to decline from participation. After a detailed instruction, all participants signed an informed consent form. For the clinical and delinquent sample, consent was also obtained from the participating institutions. The clinical and delinquent samples completed questionnaires in their own institution, whereas the adolescents from the general population completed the questionnaires at their own high school. Confidentiality of responses was guaranteed. Verbal and written instructions were offered.

2.3. Measures

2.3.1. Identity

Identity was assessed with the Utrecht-Management of Identity Commitments Scale (U-MICS), a self-report measure designed by Meeus (Crocetti et al., 2008b; Meeus et al., 2010) based on the Utrecht-Groningen Identity Development Scale (Meeus, 1996). The U-MICS consists of 13 items with a response scale ranging from 1 (*completely untrue*) to 5 (*completely true*). The same items can be filled out to assess identity dimensions in different domains. In the current study, we focused on the domains of education and friendships. Hence, each item was presented once for an ideological domain (i.e., education) and once for an interpersonal domain (i.e., friendships) for a total of 26 items. Sample items are: “My education/best friend gives me certainty in life” (ideological/interpersonal commitment; five items per domain), “I think a lot about my education/best friend” (ideological/interpersonal in-depth exploration; five items per domain), and “I often think it would be better to try and find different education/a different best friend” (ideological/interpersonal reconsideration of commitment; three items per domain). The three-factor structure of U-MICS has been confirmed for both boys and girls, both early and middle adolescents, and both Dutch and ethnic minority youths (Crocetti et al., 2008b). In the present study, Cronbach’s alphas for ideological identity were .90, .94, .94 for commitment; .81, .80, .90 for in-depth exploration; and .88, .90, .72 for reconsideration of commitment in the delinquent sample, clinical sample, and adolescents from the general population, respectively. For interpersonal identity, Cronbach’s alphas were .86, .89, .94 for commitment; .60, .74, .88 for in-depth exploration; and .84, .83, .86 for reconsideration of commitment in the delinquent sample, clinical sample, and adolescents from the general population, respectively.

3. Results

Means and standard deviations of the clinical sample, delinquent sample, and adolescents from the general population for commitment, in-depth exploration, and reconsideration of commitment are displayed in Table 1. All three dimensions were examined in an ideological (i.e., education) and an interpersonal identity domain (i.e., relation with the best friend).

3.1. Identity processes

3.1.1. Ideological Identity

For ideological identity, a multivariate analysis of covariance (MANCOVA) in which we controlled for the adolescents age and educational level of father and mother, revealed that there were overall differences between the three samples ($F(6, 148) = 5.21$; $p < .001$; $\eta^2 = .17$). Univariate tests indicated that these differences were significant for commitment and in-depth exploration (Table 1). Bonferroni tests for pair-wise comparisons between all possible pairs of groups (i.e., clinical sample–delinquent sample, clinical sample–comparison sample, and delinquent sample–comparison sample) revealed that delinquent adolescents significantly differed from adolescents drawn from the general population, as they displayed significantly lower levels of commitment and in-depth exploration (Table 1). Delinquent adolescents were also significantly less committed than clinically referred youth.

3.1.2. Interpersonal Identity

A MANCOVA in which we controlled for the adolescent’s age, and educational level of father and mother, revealed that there were overall differences between the three samples with regard to interpersonal identity processes ($F(6, 148) = 9.19$; $p < .001$; $\eta^2 = .27$).

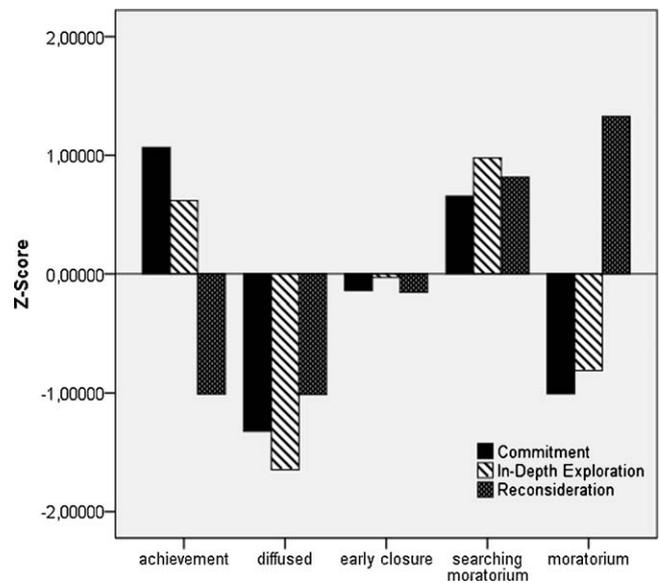


Fig. 1. Final cluster-solution in the combined sample for ideological identity. Standardized means for commitment, in-depth exploration, and reconsideration.

Univariate tests indicated that these differences were only significant for commitment and reconsideration (Table 1). In a subsequent step, post-hoc Bonferroni tests revealed that delinquent adolescents were clearly differentiated from adolescents from the general population, since they displayed significantly lower levels of commitment and higher levels of reconsideration (Table 1). Delinquent adolescents also displayed significantly higher levels of reconsideration when compared to clinically referred youth.

3.2. Identity statuses

3.2.1. Ideological identity

To extract identity statuses for the three samples, we used a two-step cluster analysis procedure (Gore, 2000) on the combined sample. Before conducting cluster-analyses, scores on all three ideological identity dimensions were standardized. In the first step, a hierarchical cluster analysis was conducted using Ward’s method based on squared Euclidian distances. The cluster centres obtained in the first step were then used as starting values in the second step: the k -means cluster analyses. Different cluster solutions were compared. On the basis of three criteria (i.e., theoretical meaningfulness, parsimony, and explanatory power), we finally retained a five-cluster solution (Fig. 1) that strongly resembles the solution found in a large Dutch community sample (Crocetti et al., 2008a). The same cluster solution was replicated in all three samples, separately. Furthermore, the degree of correspondence, calculated by means of Cohen’s kappa coefficient, between the cluster solution obtained in the entire sample (including all three samples) and cluster solutions obtained in separate samples was acceptable, with values ranging from .82 to .95, supporting the replicability of the five-cluster solution.

The five clusters were labelled *early closure* (medium scores on all three identity dimensions), *achievement* (high on commitment and in-depth exploration, low on reconsideration), *searching moratorium* (high on all three identity dimensions), *diffusion* (low on all three identity dimensions), and *moratorium* (low on commitment and in-depth exploration, high on reconsideration). The distribution of the participants from the three samples across the five clusters was very heterogeneous (Table 2).

Fisher’s Exact Test (using Monte Carlo approximation to deal with issues related to our small sample sizes) indicated that there

Table 1
Means and standard deviations of clinical, delinquent, and comparison samples on identity dimensions.

	Clinical sample (<i>n</i> = 21)	Delinquent sample (<i>n</i> = 30)	Comparison sample (<i>n</i> = 30)	<i>F</i> -value	Effect size (partial η^2)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
<i>School identity</i>					
Commitment	3.54 ^a (1.07)	2.35 ^b (0.96)	3.79 ^a (0.88)	15.94 ^{***}	.30
In-depth Exploration	3.12 ^{a,b} (0.90)	2.55 ^b (0.95)	3.57 ^a (0.87)	8.87 ^{**}	.19
Reconsideration	2.63 ^a (1.29)	3.36 ^a (1.19)	2.74 ^a (1.01)	2.15	.05
<i>Relational identity</i>					
Commitment	3.19 ^{a,b} (0.92)	2.63 ^a (0.93)	3.54 ^b (0.89)	7.02 ^{**}	.16
In-depth Exploration	3.16 ^a (0.78)	2.85 ^a (0.71)	3.30 ^a (0.89)	2.45	.06
Reconsideration	1.81 ^a (0.96)	4.06 ^b (1.04)	2.49 ^a (1.13)	27.36 ^{***}	.42

Different superscripts represent significant mean-levels differences between samples ($p < .05$). Samples with different superscripts across rows differ from one another with regard to an identity dimension (e.g., commitment). Differences were assessed by the means of pair-wise comparisons (i.e., clinical sample–delinquent sample, clinical sample–comparison sample, and delinquent sample–comparison sample) with Bonferroni tests. *F*-values and partial η^2 were derived from MANCOVAs with age and educational level of father and mother as control variables.

** $p < .01$.

*** $p < .001$.

were significant overall differences in prevalence of the clusters between the three samples in this study ($p < .001$). Post-hoc pair-wise comparisons between all possible pairs of samples (i.e., clinical sample–delinquent sample, clinical sample–comparison sample, and delinquent sample–comparison sample) revealed that delinquents were more likely to be in the moratorium cluster, and less likely to be in the achievement cluster when compared to clinically referred youth and adolescents from the general population. In addition, delinquents were also more likely to be classified in the diffused cluster when compared to adolescents from the general population. Clinically referred youth and adolescents from the general population did not differ from one another with regard to the prevalence of any of the clusters.

3.3. Interpersonal identity

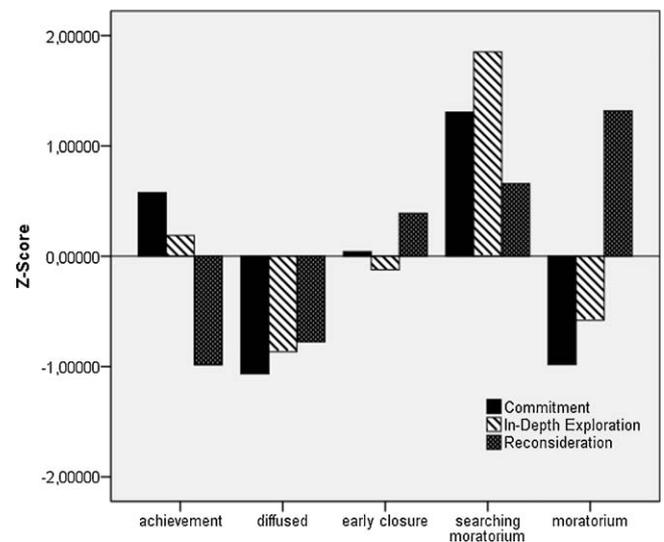
For interpersonal identity, we ran the same procedure as we did for ideological identity. We again retained a five-cluster solution (Fig. 2) that strongly resembled the solution for ideological identity, and hence the one found in a large Dutch community sample (Croccetti et al., 2008a). This cluster solution was replicated in all three samples, separately. Cohen's kappa coefficient, indicating the degree of correspondence between the cluster solution obtained in the entire sample (including all three samples) and cluster solutions obtained in separate samples was high, with values ranging from .72 to 1.00.

The five clusters were labelled in the same way as the highly comparable clusters for ideological identity were, and will therefore not again be discussed in terms of their mean-levels. Similar

Table 2
Distribution of adolescents from clinical, delinquent, and comparison samples across five ideological identity clusters.

	Clinical sample (<i>n</i> = 21)	Delinquent sample (<i>n</i> = 30)	Comparison sample (<i>n</i> = 30)
Early Closure	6 (28.6%)	9 (30.0%)	11 (36.7%)
Achievement	7 (33.3%) ^a	1 (3.3%) ^b	9 (30.0%) ^a
Searching Moratorium	4 (19.0%)	3 (10.0%)	9 (30.0%)
Diffused	2 (9.5%) ^{a,b}	6 (20.0%) ^a	1 (3.3%) ^b
Moratorium	2 (9.5%) ^a	11 (36.7%) ^b	0 (0.0%) ^a

Percentages represent the percentage of adolescents within a sample that is assigned to a cluster. Hence, percentages within a column add up to 100%. When samples have different superscripts across rows, the proportion of individuals that were classified in a certain status was significantly different ($p < .05$). Differences were assessed by the means of pair-wise comparisons (i.e., clinical sample–delinquent sample, clinical sample–comparison sample, and delinquent sample–comparison sample) with Fisher's Exact Tests, using Monte Carlo approximation.

**Fig. 2.** Final cluster-solution in the combined sample for interpersonal identity. Standardized means for commitment, in-depth exploration, and reconsideration.

to the results we obtained for ideological identity, Fisher's Exact Test (using Monte Carlo approximation to deal with issues related to our small sample sizes) revealed that there were overall differences between samples in their distribution across the clusters ($p < .001$). Post-hoc pair-wise comparisons between all possible pairs of groups indicated that the juvenile delinquents differed in a remarkable way from clinically referred youth and adolescents from the general population (Table 3). Delinquents were far more likely to be in the moratorium cluster, and less likely to be in the achievement cluster when compared to clinically referred youth and adolescents from the general population. Clinically referred youth and adolescents from the general population did not differ from one another with regard to the prevalence of any of the clusters.

4. Discussion

In the current study, we assessed whether juvenile delinquents and clinically referred youth experience problems with the key developmental task of adolescence: identity formation (Erikson, 1950). For that purpose, we compared identity formation in these

Table 3
Distribution of adolescents from clinical, delinquent, and comparison samples across five interpersonal identity clusters.

	Clinical sample (<i>n</i> = 21)	Delinquent sample (<i>n</i> = 30)	Comparison sample (<i>n</i> = 30)
Early Closure	4 (19.0%)	9 (30.0%)	9 (30.0%)
Achievement	11 (52.4%) ^a	2 (6.7%) ^b	11 (36.7%) ^a
Searching Moratorium	1 (4.8%)	2 (6.7%)	6 (20.0%)
Diffused	5 (23.8%)	3 (10.0%)	4 (13.3%)
Moratorium	0 (0.0%) ^a	14 (46.7%) ^b	0 (0.0%) ^a

Percentages represent the percentage of adolescents within a sample that is assigned to a cluster. Hence, percentages within a column add up to 100%. When samples have different superscripts across rows, the proportion of individuals that were classified in a certain status was significantly different ($p < .05$). Differences were assessed by the means of pair-wise comparisons (i.e., clinical sample–delinquent sample, clinical sample–comparison sample, and delinquent sample–comparison sample) with Fisher's Exact Tests, using Monte Carlo approximation.

youth to identity formation in adolescents from the general population.

Remarkably, our findings suggest that clinically referred youth did not significantly differ from youth from the general population with regard to identity formation. Thus, despite the severe emotional distress these adolescents displayed, they still managed to gain, or hold on to a sense of identity. Perhaps the fact that they had been institutionalized and received adequate guidance helped them to establish or maintain a sense of commitment. Similarly, youth with adverse physical conditions like congenital cardiac disease, who also receive additional guidance, have been shown to display identities that were as strong as those of youth drawn from the general population (Luyckx et al., *in press*). Combined with our findings, these previous findings could suggest that receiving adequate guidance is a buffer of possible adverse effects of physical and psychological ill-being on identity formation.

On the contrary, juvenile delinquents differed significantly from male clinically referred youth and male adolescents from the general population with regard to various identity processes for educational and friendship domains. First of all, juvenile delinquents tended to commit themselves to a lesser extent with regard to both education and friendships. Other findings were domain-specific. With regard to education, delinquents exhibited less reflection on their current commitments as they showed lowered levels of in-depth exploration. For friendships, delinquents had more doubts about their current commitments as they exhibited much higher levels of reconsideration than clinically referred youth and adolescents from the general population did. Even though these findings already provide some insight into the problems juvenile delinquents face with regard to identity formation, an individuals' identity status is determined by examining one's amount of commitment relative to the degree to which an individual engages in exploration processes (Crocetti et al., 2008a, Marcia, 1966). Therefore, we proceeded to assess the prevalence of identity statuses based on all three identity processes among the three groups that were distinguished in this study.

For both educational and relational identity formation, clinically referred youth and adolescent from the general population were most often classified in the achievement status and the early closure status. Adolescents in the achievement status have reached satisfying commitments and they thoroughly reflect on these commitments. Achieved adolescents tend to display the lowest levels of problem behaviour symptoms (e.g., Crocetti et al., 2008a). Adolescents in the early closure status, which is comparable to Marcia's (1966) foreclosure status, are to some extent committed (or at least not characterized by a lacking sense of commitment), but they do not engage in thorough exploration and reflection on their com-

mitments. Thus, they seem to be in a sort of status quo that could indicate that they simply adopted the first options they came across with regard to education and friendships. Adolescents in such a state of identity usually display low levels of problem behaviour (e.g., Crocetti et al., 2008a). However, early closure is still not the most optimal identity status. As such, our results do indicate that a substantial proportion of youth from the general population and clinically referred youth yet need to engage in more thorough exploration activities in order to move towards the most desirable identity status, identity achievement (Marcia, 1966). Because much identity formation takes place in late adolescence and emerging adulthood (Arnett, 2004; Waterman, 1982), they still have plenty of time to move towards an achieved identity. Another substantial group of adolescents are already engaged in such a process, as they are classified in the searching moratorium status. Individuals in this status engage in extensive exploration from a relatively secure base provided by strong commitments. Available evidence points out that the searching moratorium status represents the positive facet of moratorium, as adolescents in this status feel certain and are satisfied with regard to their commitments, but nevertheless keep on looking for something better (Crocetti et al., 2008a).

In both identity domains that were distinguished in the current study (i.e., education and friendships), delinquent youth had a much less favourable identity status distribution. Delinquents were more often classified as diffused with regard to ideological (i.e., educational) identity than youth from the general population, which suggests that delinquents tend to postpone educational identity related issues. For both ideological and interpersonal identity, juvenile delinquents were underrepresented in the achievement status, and often displayed the negative side of moratorium, as they were overrepresented in a maladaptive moratorium status. Individuals in this status lack a stable sense of commitment, do not reflect on their current commitments, but merely keep on looking for alternatives without committing to one of the available options. Erikson (1950) has argued that the stress associated with a lack of commitments can cause adolescents to engage in delinquent acts. This would lead to the conclusion that difficulties in identity formation caused youth to become delinquent and, hence, end up in detention centres. On the other hand, being in a juvenile detention centre imposes several developmental constraints on adolescents, which might further obstruct their identity formation (Greve, 2001). Thus, identity formation could both be cause and effect of detention. However, the clinically referred youth examined in the current study face a similar situation as juvenile delinquents, because they also reside in a residential institution. Living in such an institution might impact their opportunity to freely explore their identities and could frustrate their attempts to find satisfying commitments in a similar way in which identity formation among juvenile delinquents seems to be blocked. Yet, clinically referred youth did exhibit little exploration, but they did have stronger commitments. Thus, juvenile delinquents' lacking sense of commitment cannot be solely attributed to their current living situation. Therefore, our findings suggest that the lacking sense of identity commitment among the juvenile delinquents examined in the current study might be a cause rather than an effect of their incarceration. In order to really determine causal relationships between delinquency and identity formation, longitudinal data are needed. All the same, our data do suggest that identity formation is largely disturbed in juvenile delinquents. Given that previous empirical (e.g., Crocetti et al., 2008a; Meeus et al., 1999) and theoretical work (Erikson, 1950) has repeatedly stressed that a stronger sense of commitment is associated with less psychosocial problems, juvenile delinquents' lacking sense of identity commitment deserves the attention of both researchers and clinicians.

4.1. Strengths and limitations

The current study is, to the best of our knowledge, the first to compare identity formation of juvenile delinquents, clinically referred youth, and adolescents drawn from the general population. This three-group research design had many advantages. Because both the juvenile delinquents and clinically referred youth were institutionalized, whereas only the juvenile delinquents differed from the noninstitutionalized comparison sample, our results strongly suggest that juvenile delinquents' problems with identity formation are not entirely due to their institutionalization. Thus, our three-group design can be perceived as a means to adjust for the effects of institutionalization. Despite the strengths of the study, several limitations need to be recognized.

First, the current study employs only small samples. A reason for this is that it is hard to approach juvenile delinquents and clinically referred youth for research purposes, because youth care institutions and juvenile detention centres try to limit the burden on these adolescents. Two of the coauthors of the current study had connections with the participating institutions, which allowed us to reach these vulnerable youth. Although differences between detention centres should be minimal because the Dutch juvenile justice system is highly structured (Dutch Department of Justice, 2008), our findings could be somewhat biased because they were obtained in only one detention centre. Replication of our findings in different detention centres is needed.

A second limitation is the cross-sectional nature of the current study. As previously mentioned, cause and effect of identity formation and delinquency could not be examined in this study. Therefore, we strongly encourage researchers to examine identity formation longitudinally in at-risk youth as well as among youth who already are in detention in order to individuate causal explanations.

A third limitation of the current study concerns its lack of more detailed background information on juvenile delinquents and clinically referred youth. Unfortunately, we were unable to examine what the exact reason for their institutionalization was due to privacy policies of institutions. Information about the exact clinical diagnosis that caused youth to be institutionalized or the exact delinquent act that had put them in detention would have allowed us to make a more detailed differentiation among institutionalized youth. The length of the sentence of juvenile delinquents might also have an impact, as it might be worthwhile for adolescents with longer sentences (e.g., a 3-year sentence) to commit themselves to life (including education and friends) in a detention centre, whereas adolescents with a shorter sentence (e.g., 3 months) may feel less of an urge to commit themselves. Future studies should therefore try to get more detailed background information.

The fact that the current study only employed samples from the Netherlands can be perceived as a fourth limitation. The political and social system in the Netherlands is quite different from the political and social system of, for example, the United States. For example, soft drug use (e.g., marijuana, hash) is not prohibited in the Netherlands, which implies that the delinquents in the current study could not have been convicted for soft drug use related issues. On the other hand, regulations concerning firearms are much stricter in the Netherlands than they are in the United States. As a result, firearm availability is lower which could, in turn, affect the prevalence of the firearm-related type of crimes (Hepburn and Hemenway, 2004). In addition, youth detention centres in the Netherlands offer juvenile delinquents educational and psychological care programs aimed at fostering a healthy development (Dutch Department of Justice, 2008). These programs might affect the identities of youth in a different way than the programs offered in youth detention centres in other countries do. Thus, cross-national replications of the results we obtained would be valuable.

Finally, we only focused on boys. Because previous studies (e.g., Klimstra et al., 2010) have demonstrated substantial gender differences in adolescent identity formation, future studies should also include girls.

Notwithstanding these potential limitations, the current study provides an important first step in the examination of identity formation among troubled youth. Our data showed that delinquent youth, and not clinically referred youth, seem to display the most severe problems with regard to identity formation.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

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