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Development of Adolescents' Peer Crowd Identification in Relation to Changes in Problem Behaviors

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This 5-wave longitudinal study, which included 1,313 Dutch adolescents, examined the development of peer crowd identification in relation to changes in problem behaviors. Adolescents from 2 age cohorts annually reported their identification with 7 peer crowds and their levels of internalizing and externalizing problem behaviors. Univariate latent growth curve analyses revealed declines (i.e., "Hip Hoppers" and "Metal Heads") or declines followed by stabilization (i.e., "Nonconformists") in identification with nonconventional crowds and increases (i.e., "Elites" and "Brains") or declines followed by stabilization (i.e., "Normals" and "Jocks") in identification with conventional crowds. Multivariate latent growth curve analyses indicated that stronger and more persistent identifications with nonconventional crowds were generally associated with more problem behaviors throughout adolescence. In contrast, stronger and more persistent identifications with conventional crowds were generally associated with fewer problem behaviors throughout adolescence with the notable exception of Brains, who showed a mixed pattern. Though characterized by fewer externalizing problems, this group did report more anxiety problems. These findings and their implications are discussed.

Keywords: adolescent peer crowd identification, problem behaviors, nonconventional, conventional, development

Cross-sectional research has consistently indicated that adolescents' peer crowd identification is related to problem behaviors. Specifically, adolescents who identify with nonconventional or deviant crowds report more risk-taking behaviors and internalizing distress compared to adolescents who identify with conventional crowds (e.g., Delsing, Ter Bogt, Engels, & Meeus, 2007; Hussong, 2002; La Greca, Prinstein, & Fetter, 2001). Although such evidence is valuable, cross-sectional studies cannot demonstrate how adolescents identify with peer crowds over time and, consequently, how peer crowd identification relates to problem behaviors throughout adolescence. The current study is the first to examine how individual changes in peer crowd identification relate to changes in internalizing and externalizing problem behaviors from early to late adolescence.

Development of Peer Crowd Identification

Ethnographic and empirical studies have provided compelling evidence that the adolescent peer culture is composed of a disparate set of youth cultural groups (Bennett, 2001) or crowds (Brown & Lohr, 1987; Kinney, 1993, 1999; Prinstein & La Greca, 2002; Sussman, Pokhrel, Ashmore, & Brown, 2007). Crowds, in this sense, are defined as reputation-based groups of adolescents who share similar interests, attitudes, norms, and behaviors (Brown, 1990; Brown, Mory, & Kinney, 1994). North American and European studies have consistently revealed similarly themed crowds, including athletically oriented groups (i.e., the "Jocks"), deviant groups (i.e., the "Burnouts"), high-status elite groups (i.e., the "Populars" or "Elites"), academically oriented groups (i.e., the "Brains"), and groups that are not clearly distinctive on any particular trait (i.e., the "Normals"; see Sussman et al., 2007, for a review). In addition to these major crowd types, studies have described the existence of music preference-related peer crowds (e.g., "Metal Heads") and ethnically oriented crowds (e.g., "Rastas" or "Asians"; Ter Bogt & Hibbel, 2000; Thurlow, 2001).

Researchers believe peer crowds serve important developmental functions among adolescents. In particular, crowds may reflect and promote adolescents' identity development via social comparison and symbolic appraisal (Brown & Lohr, 1987). This suggests that peer crowds are particularly salient during early adolescence. Specifically, during this period, adolescents become increasingly concerned with asking questions about who they are and where they belong within their social context. Peer crowds may serve as prototypes of values and behaviors with which early adolescents can define and locate themselves among their peers (Brown et al., 1994; Brown, Von Bank, & Steinberg, 2008). Later in adolescence, identities are more fine-tuned and the interest in a differentiated individual identity intensifies. Older adolescents may feel an increased desire to expand beyond the boundaries of a particular crowd in search for their individual identities and may see strong crowd identification as an infringement on their independence and uniqueness (Arnett, 2004; Brown et al., 1994).

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Several studies have noted that, by late adolescence, peer crowds were less influential and important for self-definition (Brown, Eicher, & Petrie, 1986; Brown, Feiring, & Furman, 1999; Kinney, 1993, 1999). Moreover, in his ethnographic investigations, Kinney (1993, 1999) found that crowds became less hierarchical and more open and hybrid as adolescents progressed from mid to late adolescence. Although there was no direct evidence for change in peer crowd identification, these findings may suggest that crowd identification declines as adolescents get older. Clearly, more long-term longitudinal research is needed to investigate how peer crowd identification changes during the course of adolescence. Therefore, the first aim of this study was to examine the developmental trajectory of peer crowd identification over a 4-year period within two age cohorts, covering the ages from 12 to 20 years.

Development of Peer Crowd Identification in Relation to Changes in Problem Behaviors

We suggest that developmental changes in peer crowd identification might be linked to changes in internalizing and externalizing problem behaviors in several ways. First, peer crowds tend to be arranged in a social status hierarchy (Brown et al., 2008; La Greca et al., 2001). Hence, adolescents may believe that their crowd identification reflects their status among peers, which may affect their degree of self-esteem and, subsequently, their degree of problem behaviors. For instance, adolescents who maintain identification with unpopular or rejected crowds may experience overall higher levels of and stronger increases in internalizing distress as a consequence of the constant reminders of their low status among peers (Prinstein & La Greca, 2002). As status distinctions among crowds tend to wane toward late adolescence (Kinney, 1993, 1999), these relations may be stronger for younger adolescents than they are for older adolescents. Second, peer crowd identification may be linked to problem behaviors via the composition of the peer group that the adolescent associates with or wishes to join. Research has indicated that crowd identification structures an adolescent's social interactions (Urberg, Degirmencioglu, Tolson, & Halliday-Scher, 2000). That is, adolescents who identify with a particular crowd are more likely to belong to a social network that includes members of the same crowd. If these peers engage in problem behaviors, peer contagion effects may explain higher levels of and stronger increases in adolescent problem behaviors. For instance, according to a behavioral model for deviancy training, adolescents' maladaptive behaviors may increase over time if peers positively reinforce these behaviors (Dishion, Spracklen, Andrews, & Patterson, 1996; Prinstein & Wang, 2005). Alternatively, peer contagion may be the result of implicit peer modeling, explicit peer pressure, or adolescents' beliefs that imitation of peers' attitudes and behaviors may earn them a higher status or more acceptance by peers (Prinstein & Wang, 2005). Hence, peer crowd identification may be related to adolescents' problem behaviors both via self-evaluation processes and via peer group composition.

Cross-sectional research has consistently indicated that peer crowd identification is associated with differences in problem behaviors (e.g., Delsing et al., 2007; Hussong, 2002; La Greca et al., 2001; Van der Rijt, Haenens, & Van Straten, 2002). For instance, addressing 12- to 19-year-old adolescents, Delsing et al. (2007) found that adolescents who identified with "alternative" and "urban" crowds (i.e., nonconventional crowds) reported significantly more externalizing and internalizing problem behaviors, while adolescents who identified with "conventional" and "achievement oriented" crowds reported significantly less externalizing problem behaviors. These relations also tended to be stronger for younger adolescents compared to older adolescents.

Longitudinal research on the relation between peer crowd identification and problem behaviors is scarce. However, two short-term longitudinal studies found that identification with nonconventional crowds predicted externalizing behaviors 1 to 2 years later (Selfhout, Delsing, Ter Bogt, & Meeus, 2008; Sussman, Dent, & McCullar, 2000). In addition, middle adolescents' peer crowd identification was predictive of both internalizing and externalizing problem behaviors in young adulthood (Barber, Eccles, & Stone, 2001). Finally, in a follow-back study, middle adolescents who identified with high status crowds (i.e., Populars and Jocks) experienced significant declines in internalizing distress between childhood and adolescence, whereas middle adolescents who identified with low status crowds (i.e., Brains) experienced significant increases in internalizing distress during this period (Prinstein & La Greca, 2002). However, with the exception of Selfhout et al.'s (2008) study, previous studies measured peer crowd identification on a single occasion using a homogeneous age sample, thereby ignoring the fact that peer crowd identification may change over time and may have a differential relation to problem behaviors throughout adolescence. Therefore, the second aim of this study was to investigate the development of peer crowd identification in relation to changes in problem behaviors and to examine the role of age in these relations.

Gender Differences

Previous research suggests that girls regard crowd membership as more important than boys do and are more susceptible to peer pressure in crowd settings (Brown, 1990). Moreover, it has been argued that girls comprise a small proportion in nonconventional or deviant crowds, as it is more socially acceptable for boys to prefer deviant crowds than for girls (Lacourse, Claes, & Villeneuve, 2001). Hence, peer crowd identification may develop differently for boys and girls, and the link between developmental trajectories of peer crowd identification and problem behaviors may also be gender specific. Therefore, the third aim of this study was to examine moderation by gender in the development of peer crowd identification and its relations to changes in problem behaviors.

The Present Study

This study extended previous research by using latent growth curve modeling (LGM) to examine the development of peer crowd identification in relation to changes in problem behaviors over a 4-year period with multiple measurements and a sample population of early to middle and middle to late adolescent cohorts, thereby covering the entire period of adolescence (i.e., from ages 12 to 20). The following research questions were addressed.

1. How does peer crowd identification develop from early to late adolescence?

This research question was based on the notion that the prototypical identities that peer crowds offer are particularly useful for social comparison and self-reflection among young adolescents, while older adolescents strive to form a more differentiated individual identity. Therefore, we expected that peer crowd identification would decline throughout adolescence.

2. Is the development of peer crowd identification related to changes in problem behaviors?

This question was twofold. First, we examined whether the level of peer crowd identification was related to the level of problem behaviors. On the basis of previous research, we hypothesized that higher levels of identification with nonconventional crowds would coincide with higher levels of internalizing and externalizing problem behaviors and higher levels of identification with conventional crowds would coincide with lower levels of these problem behaviors. In addition, we expected that higher levels of identification with the Brains (i.e., low status crowd) would coincide with higher levels of internalizing problem behaviors only. We also expected that these associations would be stronger in the younger age cohort. Second, we examined whether the rate of change (i.e., slope) in peer crowd identification was related to the rate of change in problem behaviors. We hypothesized that adolescents who reported a weaker decline in their identification with nonconventional crowds would report a stronger increase in internalizing and externalizing problem behaviors, and adolescents who reported a weaker decline in their identification with conventional crowds would report a weaker increase in these problem behaviors. Moreover, we expected that adolescents who reported a weaker decline in their identification with the Brains would report a stronger increase in internalizing problem behaviors. Again, we expected that these associations would be stronger for the younger age cohort.

3. Are there differences between boys and girls in the development of peer crowd identification and its relations to problem behaviors?

On the basis of previous findings that girls regard crowd membership as more important than boys do, we expected higher levels of declines and weaker declines in peer crowd identification among girls. Moreover, girls may be less drawn to nonconventional crowds. Even so, as girls have been found to be more susceptible to peer pressure, we hypothesized stronger associations between identification with nonconventional crowds and problem behaviors for girls compared to boys.

Method

Participants

Data for this study were collected as part of an ongoing longitudinal research project on social relationships and emotional states of Dutch adolescents named Conflict and Management of Relationships (CONAMORE; Meeus et al., 2006). Five waves were used, with a 1-year interval between each wave; the first was conducted in 2001. The longitudinal sample consisted of 1,313 participants; 637 (48.5%) boys and 676 (51.5%) girls. Two age groups were represented: early to middle adolescent ($N = 923$; 70.3%), with an average age of 12.42 years ($SD = 0.59$), and middle to late adolescent ($N = 390$; 29.7%), with an average age of 16.68 ($SD = 0.80$) at the first assessment. The early to middle adolescent cohort consisted of 468 (50.7%) boys and 455 (49.3%) girls, whereas the middle to late adolescent cohort consisted of 169 (43.3%) boys and 221 (56.7%) girls. Because both age groups were assessed during five measurement waves, the complete age range from 12 to 20 years was available. Most participants were Dutch (85.8%); 14.2% identified themselves as part of an ethnic minority group. Participants were in junior high and high school at the first measurement occasion.

Sample attrition was 1.2% across waves. Moreover, 6.9% ($N = 90$) of the adolescents had missing data at one or more waves. Because Little's missing completely at random test (Little, 1988) revealed a normed χ^2 (χ^2/df) of 1.19, which indicates a good fit between sample scores with and without imputation (Bollen, 1989), respondents with missing data were included in model estimations using full information maximum likelihood (Enders & Bandalos, 2001).

Procedure

Participating adolescents were recruited from various secondary education schools in the province of Utrecht, the Netherlands. Prior to the study, both adolescents and their parents received written information describing the aims of the study and the possibility to decline participation. If adolescents wished to participate, they were required to provide written informed consent. Over 99% of the approached adolescents decided to participate. Questionnaires were completed at the participants' schools, after school hours. Trained research assistants provided verbal instructions in addition to the written instructions that were included with the battery of questionnaires. Confidentiality of responses was guaranteed, and adolescents received €10 ($13) as a reward for every wave they participated in.

Measures

Peer crowd identification.[1] Peer crowd affiliation can be measured by self-perception (identifications) or peer ratings (assignments; Brown et al., 2008; Urberg et al., 2000). For practical reasons, the present study focused on adolescents' self-identifications with peer crowds. This concept was assessed using seven items from the Peer Crowd Identification Questionnaire (PCIQ; Ter Bogt, 2001). Specifically, participants were asked to indicate, on a 5-point Likert-type scale (1 = *not at all like me*, 5 = *completely like me*, with an additional answer category to indicate that they were not familiar with the crowd), the extent to which they identified with Normals, Elites, Jocks, Brains, Hip Hoppers, Nonconformists, and Metal Heads. Research has consistently identified these crowd categories in both Dutch (e.g., Delsing et al.,

[1] At the time the CONAMORE project began, for reasons of limited space in the questionnaire, it was decided to include measures on peer crowd identification biannually only (i.e., in Waves 1, 3, and 5). However, during Wave 4 it appeared possible to again include the peer crowd identification items. Therefore, in this study, crowd identification data are missing in Wave 2 only.

2007) and international studies on peer crowd affiliation (see Sussman et al., 2007, for a review). We chose to include this particular set of peer crowds because previous research has shown these crowds to be either positively or negatively related to problem behaviors (e.g., Sussman et al., 2007).

The continuous approach used to measure crowd identification in the current study avoided problems associated with categorical crowd scores—namely, that differences between marginal crowd identifications (i.e., those that identify only to some extent with a particular crowd) and central crowd identifications (i.e., those that identify completely with a particular crowd) tend to be obscured and that adolescents can only indicate identification with a single crowd (Brown, Mounts, Lamborn, & Steinberg, 1993; Sussman et al., 2007). Moreover, while several previous studies focused on dimensions of peer crowd identification (e.g., Delsing et al., 2007), the present study examined scores for individual crowds to gain a more detailed understanding of how identification with specific crowds develops during adolescence, as well as how these developments are related to changes in problem behaviors.[2]

Internalizing problem behaviors. Adolescents' internalizing problem behaviors were assessed using two measures that pertain to adolescents' depression and anxiety. Depression was measured using the Children's Depression Inventory (Kovacs, 1992), which is a 27-item measure designed to assess cognitive and behavioral depressive symptoms (e.g., "I feel lonely all the time"). Participants were asked to rate, on a 3-point Likert-type scale (1 = *not true*, 3 = *very true*), the extent to which each item described their level of depressive symptoms during the previous 2 weeks. A total depression score was computed by averaging the responses of the 27 items. Adequate to good internal consistency and test–retest reliability have been reported for the Children's Depression Inventory (Finch, Saylor, Edwards, & McIntosh, 1987). In the current sample, reliabilities (Cronbach's α) ranged from .89 to .93 across waves.

Anxiety was measured with the Screen for Child Anxiety Related Emotional Disorders (SCARED; Birmaher et al., 1997). The SCARED includes 38 items that measure symptoms of panic disorder (13 items; e.g., "When I am scared I have difficulties with breathing"), social anxiety (four items; e.g., "I am shy with people I don't know well"), separation anxiety (eight items; e.g., "I don't like being away from my family"), school anxiety (four items; e.g., "I worry about going to school"), and generalized anxiety (nine items; e.g., "I worry about things working out for me"). Participants were asked to indicate on a 3-point Likert-type scale (1 = *almost never*, 3 = *often*) how frequently they experienced each symptom. A total anxiety score was computed by averaging the responses of the 38 items. Good internal consistency, test–retest reliability, and discriminate validity have been reported for the SCARED (Birmaher et al., 1997). In the current sample, Cronbach's α ranged from .92 to .95 across waves.

Externalizing problem behaviors. Adolescents' externalizing problem behaviors were assessed using two measures that pertain to adolescents' aggression and delinquency. Aggression was measured with two scales of the Direct and Indirect Aggression Scales (Björkqvist, Lagerspetz, & Österman, 1992); direct (five items; e.g., "I hit or kick others" or "I call others names") and indirect (12 items; e.g., "I tell bad or false stories about others") aggression. Participants were asked to rate, on a 4-point Likert-type scale (1 = *never*, 4 = *very often*), how often they displayed the behavior described when they are angry at someone in their class. A total aggression score was computed by averaging the responses of the 17 items. Good validity and reliability have been reported for the Direct and Indirect Aggression Scales (Björkqvist et al., 1992). In the current sample, Cronbach's α ranged from .89 to .93 across waves.

Delinquency was measured with 16 items, which were used and tested in a previous study (Baerveldt, van Rossem, & Vermande, 2003). Adolescents were asked to indicate, on a 4-point Likert-type scale (1 = *never*, 4 = *four times or more*), how often they engaged in certain forms of delinquent behavior (e.g., "stole a bike" or "deliberately broke something on the bus, metro, or train") during the previous 12 months. A total delinquency score was computed by averaging the responses of the 16 items. Good internal consistency has been reported for this measure; in the current sample, Cronbach's α ranged from .81 to .91 across waves.

Strategy of Analysis

We examined (a) the development of peer crowd identification and problem behaviors over time, (b) associations between the development of peer crowd identification and the development of problem behaviors, and (c) age cohort and gender differences in developmental patterns and associations between developmental patterns using LGM in Mplus (Version 5; Muthén & Muthén, 2006). LGM provides levels (i.e., intercepts) and change rates (i.e., slopes) that represent the developmental trajectories of variables. Variances of these growth factors reflect interindividual variation at the level or rate of change (Duncan, Duncan, Strycker, Li, & Alpert, 1999). Maximum likelihood robust estimation (MLR) was used to estimate models; MLR is a better way to estimate standard errors when normality assumptions are violated (Satorra & Bentler, 1994), as occurred for the problem behavior measures in the current investigation.

To answer the first and the second research questions, we used a multigroup longitudinal model with two groups: early to middle adolescents and middle to late adolescents. All model parameters (i.e., intercept and slope means, variances for the intercept and slope, and the covariance between the intercept and the slope) were thereby freely estimated across groups.

To examine the development of adolescent peer crowd identification and problem behaviors, we first ran a series of 11 univariate latent growth curve models for each crowd and problem behavior measure separately. We modeled linear growth, with factor loadings specified as 0, 2, 3, 4, for crowd identification and 0, 1, 2, 3, 4, for problem behavior, respectively. The fit of the models was evaluated by examining the comparative fit indexes (CFIs) and root-mean-square errors of approximation (RMSEAs). Specifically, CFIs greater than .90 and RMSEAs less than .08

[2] All peer crowds listed in the PCIQ (Ter Bogt, 2001) were identified as distinct crowds in a pilot study with focus groups in secondary schools in the Netherlands. We performed correlation analyses (results are available from the first author) to provide additional evidence for the distinctiveness of the 7 crowds. Except for medium to large correlations between identifications with the Nonconformists and the Metal Heads (r ranging from .34 to .60 across waves) and a medium correlation between identification with the Hip Hoppers and the Metal Heads in Wave 1 (r = .31), effect sizes of all correlations were small (r ranging from .00 to .26 across waves).

indicate an adequate model fit (Kline, 1998). MacCallum, Browne, and Sugawara (1996) further elaborated on these cut points and noted that RMSEAs between .08 and .10 indicate a mediocre fit.

We tested for age cohort differences on each of the 11 models by independently constraining intercept and slope variances and means to be equal across the two age cohorts in the multigroup models. Using robust chi-square difference tests (Satorra & Bentler, 2001), which have been suggested in conjunction with a robust maximum-likelihood estimation procedure, we determined which parameter constraints significantly worsened the model fit and thus indicated cohort differences in the growth factor under investigation. Parameter constraints that did not significantly worsen the model fit were left constrained in subsequent steps.

Second, on the basis of the previously estimated univariate models, we used multivariate latent growth curve models to test associations between the growth curves of peer crowd identification and problem behaviors. Intercepts of peer crowds were correlated with intercepts of problem behaviors to determine whether levels of peer crowd identification were related to levels of problem behaviors. In addition, slopes of peer crowds were correlated with slopes of problem behaviors to examine whether changes over time in peer crowd identification were related to changes over time in problem behaviors. We tested cohort differences in the associations between the growth curves of peer crowd identification and problem behaviors via robust chi-square difference tests to compare constrained models, in which associations were individually constrained to be equal for both age cohorts, with unconstrained models.

To answer the third research question, we used a multigroup longitudinal model with boys and girls representing the two groups. All steps described above for age differences were repeated to estimate gender differences in the development of peer crowd identification and its associations with problem behaviors.

Results

Development of Peer Crowd Identification and Problem Behaviors

Table 1 shows descriptive statistics by age cohort of adolescents' peer crowd identification and problem behaviors. Table 2 shows parameter estimates for the final multigroup univariate models based on age cohort (graphically displayed in Figures 1 and 2). Model fit statistics of these models are presented in Table 3. All models demonstrated adequate model fit.

Identification with the Normals declined in the early to middle adolescent cohort, yet was stable in the middle to late adolescent cohort. This cohort difference in linear slope was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 8.06$, $p = .005$. However, no difference in the mean intercept was found between the two groups. Identification with the Elites increased throughout adolescence. In accordance with this finding, middle to late adolescents reported a

Table 1
Descriptive Statistics of Observed Variables for Early to Middle Adolescents and Middle to Late Adolescents

Variable	Range	*n* range	Wave 1 *M* (*SD*)	Wave 2 *M* (*SD*)	Wave 3 *M* (*SD*)	Wave 4 *M* (*SD*)	Wave 5 *M* (*SD*)
			Early to middle adolescents				
Peer crowd identification							
Normals	1–5	868–884	3.87 (1.04)	—	3.55 (1.18)	3.59 (1.22)	3.62 (1.20)
Elites	1–5	829–881	1.62 (0.91)	—	1.83 (1.09)	1.89 (1.13)	1.96 (1.15)
Jocks	1–5	879–893	3.69 (1.09)	—	3.45 (1.17)	3.44 (1.20)	3.40 (1.22)
Brains	1–5	879–898	1.71 (0.93)	—	1.75 (0.97)	1.68 (0.92)	1.72 (0.91)
Hip Hoppers	1–5	796–880	2.45 (1.25)	—	2.26 (1.23)	2.17 (1.19)	2.11 (1.17)
Nonconformists	1–5	533–823	2.10 (1.12)	—	2.05 (1.19)	1.91 (1.15)	1.85 (1.12)
Metal Heads	1–5	833–885	1.80 (1.13)	—	1.68 (1.07)	1.60 (1.04)	1.54 (0.97)
Problem behaviors							
Depression	1–3	886–918	1.16 (0.26)	1.18 (0.23)	1.18 (0.24)	1.19 (0.24)	1.18 (0.22)
Anxiety	1–3	653–922	1.32 (0.32)	1.32 (0.28)	1.29 (0.28)	1.28 (0.26)	1.25 (0.24)
Aggression	1–4	886–920	1.43 (0.46)	1.48 (0.44)	1.47 (0.42)	1.43 (0.38)	1.41 (0.38)
Delinquency	1–4	812–921	1.17 (0.40)	1.13 (0.28)	1.15 (0.31)	1.15 (0.28)	1.17 (0.31)
			Middle to late adolescents				
Peer crowd identification							
Normals	1–5	359–375	3.87 (1.01)	—	3.72 (1.10)	3.73 (1.09)	3.79 (1.06)
Elites	1–5	357–372	2.03 (1.13)	—	2.05 (1.13)	2.16 (1.21)	2.17 (1.20)
Jocks	1–5	359–379	3.45 (1.15)	—	3.37 (1.18)	3.38 (1.15)	3.38 (1.18)
Brains	1–5	361–372	1.64 (0.88)	—	1.96 (0.93)	2.06 (0.95)	2.09 (0.98)
Hip Hoppers	1–5	359–366	2.17 (1.12)	—	1.97 (1.09)	1.96 (1.09)	1.96 (1.07)
Nonconformists	1–5	343–356	1.95 (1.14)	—	1.94 (1.16)	1.90 (1.07)	1.90 (1.08)
Metal Heads	1–5	360–371	1.64 (0.97)	—	1.52 (0.94)	1.51 (0.86)	1.51 (0.84)
Problem behaviors							
Depression	1–3	362–390	1.23 (0.28)	1.20 (0.21)	1.19 (0.23)	1.18 (0.21)	1.15 (0.21)
Anxiety	1–3	362–390	1.32 (0.28)	1.31 (0.23)	1.28 (0.25)	1.27 (0.25)	1.26 (0.25)
Aggression	1–4	359–390	1.44 (0.44)	1.32 (0.31)	1.30 (0.30)	1.26 (0.29)	1.29 (0.27)
Delinquency	1–4	361–390	1.25 (0.40)	1.16 (0.28)	1.16 (0.32)	1.13 (0.24)	1.12 (0.23)

Note. Dashes indicate that the item was not measured.

Table 2
Estimated Levels and Rates of Change Derived From Univariate Latent Growth Models for Early to Middle Adolescents and Middle to Late Adolescents

Variable	Range	Intercept		Linear slope	
		M (*SE*)	σ^2 (*SE*)	*M* (*SE*)	σ^2 (*SE*)
Early to middle adolescents					
Peer crowd identification					
Normals	1–5	3.81 (.03)***	.48 (.05)***	−0.06 (.01)***	.05 (.01)***
Elites	1–5	1.61 (.03)***	.42 (.06)***	0.09 (.01)***	.04 (.01)***
Jocks	1–5	3.66 (.04)***	.61 (.06)***	−0.07 (.01)***	.02 (.01)***
Brains	1–5	1.71 (.03)***	.33 (.03)***	−0.00 (.01)	.02 (.00)***
Hip Hoppers	1–5	2.39 (.04)***	.77 (.06)***	−0.07 (.01)***	.07 (.01)***
Nonconformists	1–5	2.12 (.04)***	.31 (.09)**	−0.07 (.01)***	.05 (.01)***
Metal Heads	1–5	1.80 (.04)***	.52 (.06)***	−0.07 (.01)***	.05 (.01)***
Problem behaviors					
Depression	1–3	1.17 (.01)***	.03 (.00)***	0.00 (.00)	.00 (.00)***
Anxiety	1–3	1.33 (.01)***	.05 (.00)***	−0.02 (.00)***	.00 (.00)***
Aggression	1–4	1.47 (.01)***	.10 (.01)***	−0.02 (.00)***	.01 (.00)***
Delinquency	1–4	1.14 (.01)***	.05 (.01)***	0.01 (.00)*	.00 (.00)***
Middle to late adolescents					
Peer crowd identification					
Normals	1–5	3.81 (.03)***	.48 (.05)***	−0.02 (.01)	.02 (.01)**
Elites	1–5	2.01 (.06)***	.89 (.10)***	0.04 (.01)**	.04 (.01)***
Jocks	1–5	3.44 (.06)***	.92 (.09)***	−0.02 (.01)	.02 (.01)***
Brains	1–5	1.71 (.03)***	.33 (.03)***	0.11 (.01)***	.02 (.00)***
Hip Hoppers	1–5	2.15 (.05)***	.77 (.06)***	−0.07 (.01)***	.03 (.01)**
Nonconformists	1–5	1.94 (.06)***	1.03 (.11)***	−0.01 (.02)	.05 (.01)***
Metal Heads	1–5	1.61 (.05)***	.52 (.06)***	−0.03 (.01)**	.01 (.01)*
Problem behaviors					
Depression	1–3	1.22 (.01)***	.03 (.00)***	−0.02 (.00)***	.00 (.00)*
Anxiety	1–3	1.33 (.01)***	.05 (.00)***	−0.02 (.00)***	.00 (.00)***
Aggression	1–4	1.34 (.02)***	.10 (.01)***	−0.02 (.00)***	.01 (.00)***
Delinquency	1–4	1.20 (.02)***	.09 (.01)***	−0.02 (.00)***	.00 (.00)***

Note. σ^2 is the variance around mean levels and rates of change. Estimated parameters that were equal across age cohorts were constrained to be similar on the basis of model testing with robust chi-square difference tests. 95% confidence intervals = $M \pm (SE \times 1.96)$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

significantly higher intercept than did the early to middle adolescent cohort, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 53.12$, $p < .001$. The latter group reported a significantly steeper linear slope than did the middle to late adolescent cohort, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 8.23$, $p = .004$. Identification with the Jocks declined in the early to middle adolescent cohort, yet remained stable in the middle to late adolescent cohort. In accordance with this finding, early to middle adolescents yielded a significantly higher intercept and significantly steeper linear slope compared to middle to late adolescents, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 11.28$, $p < .001$; $\Delta\chi^2_{SB}(1, N = 1{,}313) = 12.44$, $p < .001$, respectively. Identification with the Brains was stable in the early to middle adolescent cohort; however, increased in the middle to late adolescent cohort. This cohort difference in linear slope was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 57.00$, $p < .001$. Confirming this pattern, no difference in the intercept was found between the two groups. Identification with the Hip Hoppers declined throughout adolescence at a similar rate of change for both cohorts. In accordance with this finding, early to middle adolescents reported a significantly higher intercept than did middle to late adolescents, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 18.70$, $p < .001$. Identification with the Nonconformists declined in the early to middle adolescent cohort, while it remained stable in the middle to late adolescent cohort. This cohort difference in linear slope was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 6.92$, $p = .009$. In addition and confirming this pattern, early to middle adolescents reported a significantly higher intercept compared to middle to late adolescents, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 6.00$, $p = .015$. Finally, identification with the Metal Heads declined throughout adolescence. In accordance with this finding, early to middle adolescents yielded a significantly higher intercept than did middle to late adolescents, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 8.11$, $p = .004$. Moreover, the younger group yielded a steeper linear slope than did the middle to late adolescent cohort, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.58$, $p = .032$.

Concerning the development of problem behaviors, depression was stable in the early to middle adolescent cohort and declined in the middle to late adolescent cohort. This cohort difference in linear slope was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 15.16$, $p < .001$. Moreover, the middle to late adolescent cohort reported a significantly higher intercept compared to the early to middle adolescent cohort, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 11.66$, $p < .001$. Further, anxiety declined throughout adolescence at a similar rate of change for both age cohorts. Nevertheless, no intercept difference was found between the two cohorts. Aggression also declined throughout adolescence at a similar rate of change for both age cohorts. Confirming this pattern, early to middle adolescents reported a significantly higher intercept compared to middle to late adoles-

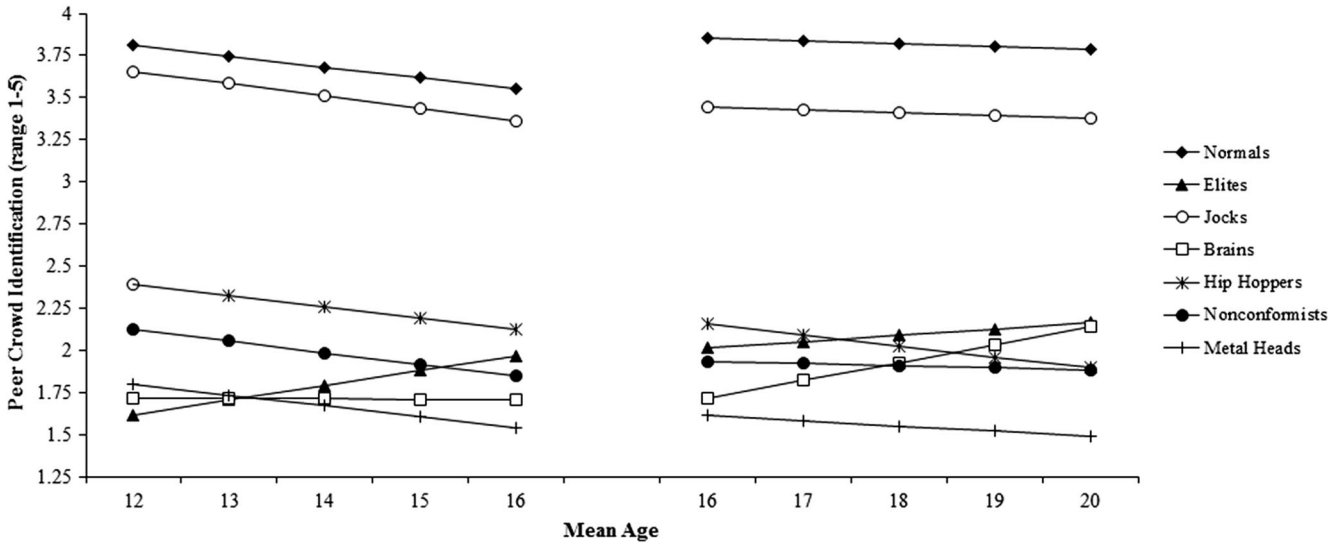

Figure 1. Development of peer crowd identification in adolescence.

cents, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 20.46$, $p < .001$. Finally, the development of delinquency was characterized by a slight increase in the early to middle adolescent cohort, followed by a decline in the middle to late cohort. This cohort difference in linear slope was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 28.40$, $p < .001$. Combining these patterns indicates that delinquency peaks in middle adolescence. Middle to late adolescents yielded a significantly higher intercept compared to early to middle adolescents, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 18.86$, $p < .001$.

Associations between Peer Crowd Identification and Problem Behaviors

Table 3 shows the model fit statistics of the final multigroup multivariate latent growth curve models. Table 4 presents the results of the models based on age cohort; specifically, the associations between the developmental trajectories of peer crowd identification and problem behaviors. Unless described below, no age cohort differences were found in these associations.

Normals. Supporting our hypotheses, results yielded a negative association between the intercept of the Normals and that of aggression. Hence, adolescents with a higher level of identification with the Normals had a lower level of aggression. In addition, the cohort difference in the strength of the association between the intercept of the Normals and that of delinquency was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.41$, $p = .036$. Early to middle adolescents who reported a higher level of identification with the Normals had a lower level of delinquency; however, this was not the case for middle to late adolescents. Results also indicated a significant

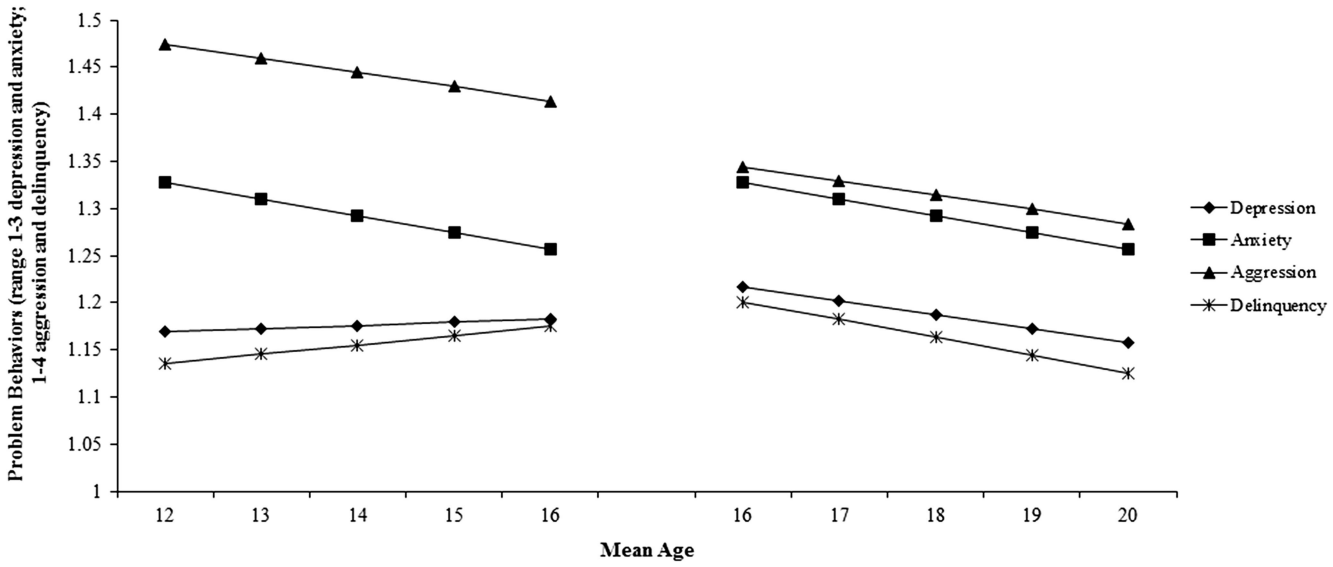

Figure 2. Development of problem behaviors in adolescence.

Table 3
Model Fit Statistics of Univariate and Multivariate Latent Growth Models

Model	Age				Gender			
	χ^2	*df*	CFI	RMSEA	χ^2	*df*	CFI	RMSEA
Univariate models								
Normals	45.56	13	.95	.06	43.49	12	.94	.06
Elites	80.47	11	.95	.10	73.33	13	.95	.08
Jocks	26.85	11	.99	.05	25.44	12	.99	.04
Brains	41.81	14	.95	.06	37.00	13	.96	.05
Hip Hoppers	47.48	12	.96	.07	48.32	14	.96	.06
Nonconformists	69.30	11	.93	.09	62.71	13	.93	.08
Metal Heads	68.14	11	.93	.09	79.31	11	.91	.10
Depression	26.32	21	.99	.02	27.21	23	1.00	.02
Anxiety	41.76	24	.98	.03	42.42	22	.98	.04
Aggression	83.86	23	.95	.06	55.80	22	.97	.05
Delinquency	45.26	21	.95	.04	41.13	21	.96	.04
Multivariate models								
Normals with								
Depression	102.87	68	.98	.03	106.12	69	.98	.03
Anxiety	109.61	70	.95	.05	111.48	68	.98	.03
Aggression	180.89	70	.98	.03	123.15	68	.97	.04
Delinquency	132.23	67	.96	.04	120.11	67	.96	.04
Elites with								
Depression	138.74	66	.97	.04	142.05	70	.97	.04
Anxiety	165.36	69	.97	.05	160.07	69	.97	.05
Aggression	217.25	67	.95	.06	179.86	69	.96	.05
Delinquency	160.69	66	.95	.05	153.10	68	.96	.04
Jocks with								
Depression	88.42	65	.99	.02	82.95	69	1.00	.02
Anxiety	105.69	69	.99	.03	108.23	68	.99	.03
Aggression	157.85	68	.97	.05	103.85	67	.99	.03
Delinquency	114.35	65	.98	.03	101.18	67	.98	.03
Brains with								
Depression	110.88	69	.98	.03	125.26	70	.97	.04
Anxiety	117.63	72	.98	.03	125.79	69	.97	.04
Aggression	179.47	69	.95	.05	141.67	68	.96	.04
Delinquency	140.49	69	.95	.04	121.83	68	.97	.04
Hip Hoppers with								
Depression	92.81	67	.99	.02	86.96	70	.99	.02
Anxiety	121.15	70	.98	.03	130.35	70	.98	.04
Aggression	158.86	68	.97	.05	127.72	68	.97	.04
Delinquency	138.73	67	.96	.04	133.44	69	.96	.04
Nonconformists with								
Depression	126.19	65	.97	.04	111.52	70	.98	.03
Anxiety	150.78	68	.97	.04	150.89	69	.97	.04
Aggression	211.68	67	.94	.06	168.16	68	.95	.05
Delinquency	148.04	64	.95	.05	138.32	68	.96	.04
Metal Heads with								
Depression	133.56	66	.97	.04	146.72	68	.96	.04
Anxiety	146.31	69	.97	.04	164.10	67	.96	.05
Aggression	216.79	67	.94	.06	180.30	66	.95	.05
Delinquency	165.34	66	.94	.05	157.36	65	.94	.05

Note. CFI = comparative fit index; RMSEA = root-mean-square error of approximation.

cohort difference in the strength of the association between the intercept of the Normals and that of anxiety, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 3.99$, $p = .046$; only middle to late adolescents with a higher level of identification with the Normals reported a higher level of anxiety. Effect sizes of these associations were in the range of small to medium. Further, we did not find any significant linkages between the slope factor of the Normals and the slope factors of the problem behavior measures, although the negative association between the slope factor of the Normals and that of aggression was marginally significant in both groups.

Elites. Results revealed a negative association between the intercept of the Elites and the intercept of delinquency. Hence, adolescents with a higher level of identification with this crowd reported a lower level of delinquency. Curiously, the only significant slope association for the Elites was a positive association between the slope factor of the Elites and that of aggression, although this association significantly differed between the early to middle adolescent cohort and the middle to late adolescent cohort, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 6.30$, $p = .012$. Specifically, only early to middle adolescents who reported a stronger increase in their iden-

Table 4
Associations Between Growth Factors Derived From Multivariate Latent Growth Models for Early to Middle Adolescents and Middle to Late Adolescents

	Depression		Anxiety		Aggression		Delinquency	
Estimated association	β	95% CI	β	95% CI	β	95% CI	β	95% CI
Early to middle adolescents								
Intercept–Intercept								
Normals	−.10	[−.21, .03]	−.03	[−.16, .10]	−.19**	[−.31, −.08]	−.34***	[−.51, −.17]
Elites	−.08	[−.18, .02]	−.09†	[−.18, .01]	−.04	[−.14, .07]	−.16**	[−.29, −.04]
Jocks	−.19***	[−.29, −.09]	−.21***	[−.31, −.11]	.02	[−.08, .12]	−.02	[−.14, .10]
Brains	.09	[−.03, .21]	.23***	[.12, .34]	−.15*	[−.27, −.02]	−.22***	[−.35, −.09]
Hip Hoppers	.14**	[.04, .24]	.10*	[.01, .19]	.27***	[.17, .37]	.28***	[.16, .40]
Nonconformists	.26**	[.10, .43]	.27**	[.11, .44]	.28**	[.09, .47]	.06	[−.14, .26]
Metal Heads	.11†	[−.00, .22]	.04	[−.06, .14]	.36***	[.24, .49]	.22***	[.02, .06]
Linear slope–Linear slope								
Normals	−.01	[−.13, .12]	.08	[−.07, .23]	−.15†	[−.31, .02]	−.11	[−.26, .04]
Elites	.02	[−.10, .15]	−.05	[−.20, .09]	.17*	[.01, .33]	−.03	[−.16, .10]
Jocks	−.36**	[−.57, −.14]	−.09	[−.27, .08]	.02	[−.18, .23]	−.15†	[−.31, .01]
Brains	.08	[−.09, .25]	.21†	[−.01, .42]	−.08	[−.34, .17]	−.03	[−.21, .15]
Hip Hoppers	.09†	[−.01, .20]	.09	[−.04, .22]	.06	[−.12, .23]	.08	[−.03, .19]
Nonconformists	.39***	[.20, .58]	.37***	[.16, .58]	.17*	[.02, .31]	.18†	[−02, .38]
Metal Heads	.09	[−.02, .20]	.09	[−.03, .21]	.12†	[−.00, .24]	−.01	[−.00, .00]
Middle to late adolescents								
Intercept–Intercept								
Normals	−.10	[−.21, .03]	.17*	[.01, .33]	−.19**	[−.31, −.08]	−.09	[−.25, .06]
Elites	−.06	[−.13, .01]	−.06†	[−.13, .01]	−.03	[−.10, .05]	−.08**	[−.15, −.02]
Jocks	−.15***	[−.24, −.07]	−.17***	[−.26, −.08]	.02	[−.07, .10]	.11†	[−.00, .22]
Brains	.09	[−.03, .21]	.23***	[.12, .34]	.13	[−.13, .39]	−.16***	[−.26, −.07]
Hip Hoppers	.14**	[.04, .24]	.10*	[.01, .19]	.27***	[.17, .37]	.21***	[.12, .30]
Nonconformists	.14**	[.06, .23]	.15**	[.06, .24]	−.15*	[−.28, −.01]	−.13*	[−.24, −.03]
Metal Heads	.11†	[−.00, .22]	.04	[−.06, .14]	−.01	[−.17, .14]	.16***	[.02, .06]
Linear slope–Linear slope								
Normals	−.03	[−.41, .35]	.13	[−.13, .39]	−.25†	[−.52, .03]	−.18	[−.42, .06]
Elites	.04	[−.18, .26]	−.05	[−.20, .09]	−.21	[−.49, .06]	−.03	[−.16, .10]
Jocks	−.09	[−.45, .26]	−.09	[−.27, .08]	.02	[−.18, .23]	−.15†	[−.31, .01]
Brains	.14	[−.16, .44]	.21†	[−.01, .42]	.41†	[−.02, .84]	−.03	[−.21, .15]
Hip Hoppers	.27	[−.07, .62]	.14	[−.07, .36]	.46**	[.19, .74]	.13	[−.05, .30]
Nonconformists	−.04	[−.30, .22]	.00	[−.21, 22]	.17*	[.02, .31]	−.08	[−.25, .08]
Metal Heads	.32	[−.09, .72]	.17	[−.07, .41]	.24†	[−.02, .49]	−.01	[−.00, .00]

Note. CI = confidence interval.
† $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

tification with the Elites reported a weaker decline in aggression. The effect sizes for these associations were small.

Jocks. The intercept of the Jocks was negatively associated with the intercepts of depression and anxiety, which indicates that adolescents with a higher level of identification with the Jocks reported lower levels of depression and anxiety. Furthermore, we found a negative association between the slope factor of the Jocks and that of depression for early to middle adolescents only. Early to middle adolescents who reported a weaker decline in their identification with the Jocks also reported a weaker increase, or a stronger decline, in depression. The cohort difference in the strength of this association was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.36$, $p = .037$. The associations yielded small to medium effect sizes.

Brains. The intercept of the Brains was positively related to the intercept of anxiety and negatively related to that of delinquency. Hence, adolescents with a higher level of identification with the Brains reported a higher level of anxiety and a lower level of delinquency. In addition, for the early to middle adolescent cohort only, the intercept of the Brains was negatively related to that of aggression. Early to middle adolescents who reported a higher level of identification with the Brains also reported a lower level of aggression. The cohort difference in this association was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.19$, $p = .041$. The effect sizes for these associations were small. We did not find any significant linkages between the slope factor of the Brains and that of the problem behavior measures. However, the positive association between the slope factor of the Brains and the slope factor of anxiety was marginally significant in both groups, just like the positive association between the slope factor of the Brains and that of aggression in the middle to late adolescent cohort.

Hip Hoppers. Supporting our hypotheses, the intercept of the Hip Hoppers was positively related to intercepts of all problem behavior measures. In other words, adolescents with a higher level of identification with the Hip Hoppers reported higher levels of depression, anxiety, aggression, and delinquency. Furthermore, results indicated a positive association between the slope factor of

the Hip Hoppers and that of aggression, although this association was only significant for the middle to late adolescent cohort. The cohort difference in the strength of this association was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.33$, $p = .038$. Hence, middle to late adolescents who reported a weaker decline in identification with the Hip Hoppers also reported a weaker decline in aggression. The effect sizes were in the range of small to medium.

Nonconformists. The intercept of the Nonconformists was positively associated with the intercepts of depression and anxiety, which indicates that adolescents with a higher level of identification with the Nonconformists also had higher levels of depression and anxiety. In addition, for the early to middle adolescent cohort, we found a positive association between the intercept of the Nonconformists and that of aggression, while this association was negative for the middle to late adolescent cohort. The cohort difference in this association was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 15.41$, $p < .001$. Thus, early to middle adolescents who reported a higher level of identification with the Nonconformists yielded a higher level of aggression, while middle to late adolescents who reported a higher level of identification with the Nonconformists reported a lower level of aggression. We also found a negative association between the intercept of the Nonconformists and that of delinquency for middle to late adolescents only. The cohort difference in the strength of this association was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 6.05$, $p = .014$. Hence, middle to late adolescents with a higher level of identification with the Nonconformists reported a lower level of delinquency. Furthermore, results indicated positive associations between the slope factor of the Nonconformists and that of depression and anxiety for the early to middle adolescent cohort only. The cohort differences in the strength of these associations were significant, $\Delta\chi^2_{SBdepression}(1, N = 1{,}313) = 11.42$, $p < .001$; $\Delta\chi^2_{SBanxiety}(1, N = 1{,}313) = 5.84$, $p = .016$, respectively. Hence, early to middle adolescents who reported a weaker decline in their identification with the Nonconformists reported a stronger increase or a weaker decline in depression and a weaker decline in anxiety. Finally, results revealed a positive association between the slope factor of the Nonconformists and that of aggression, which indicates that adolescents who reported a weaker decline in identification with the Nonconformists also reported a weaker decline in aggression. The effect sizes of the above associations were in the range of small to medium.

Metal Heads. The intercept of the Metal Heads was positively associated with the intercept of delinquency. Hence, adolescents with a higher level of identification with the Metal Heads also reported a higher level of delinquency. In addition, for the early to middle adolescent cohort only, we found a positive association between the intercept of the Metal Heads and that of aggression. The cohort difference in the strength of this association was significant, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 9.59$, $p = .002$. As such, early to middle adolescents with a higher level of identification with the Metal Heads reported a higher level of aggression. Effect sizes for these associations were small to medium. We did not find any significant linkages between the slope factor of the Metal Heads and that of the problem behavior measures. However, the positive association between the slope factor of the Metal Heads and that of aggression was marginally significant in both groups.

Moderation by Gender

Differences in the development of peer crowd identification and problem behaviors. Table 5 shows parameter estimates for the final multigroup univariate models based on gender. Model fit statistics of these models are presented in Table 3.

Girls reported a significantly higher intercept on identification with the Normals compared to boys, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 37.73$, $p < .001$, and boys yielded a significantly steeper linear decline than did girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 5.54$, $p = .019$. Girls had a significantly higher intercept on identification with the Elites compared to boys, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 18.67$, $p < .001$, and there was no gender difference in the increase over time. For identification with the Jocks, boys yielded a significantly higher intercept than did girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 46.92$, $p < .001$, and the decline over time was steeper for girls compared to boys, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.91$, $p = .027$. There were no gender differences in the intercepts of identification with the Brains and the Hip Hoppers, or in the slope of identification with Hip Hoppers. However, while identification with the Brains was stable for boys, it increased for girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 17.79$, $p < .001$. For identification with the Nonconformists, girls reported a significantly higher intercept than did boys, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 5.91$, $p = .015$, yet there was no gender difference in the decline over time. Finally, the intercept of identification with the Metal Heads was significantly higher for boys compared to girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 25.00$, $p < .001$, although boys yielded a significantly steeper linear decline than did girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 13.02$, $p < .001$.

Concerning the development of problem behaviors, it was found that depression declined over time for boys but increased for girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 33.31$, $p < .001$. Girls reported a slightly higher intercept on anxiety than did boys, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 10.46$, $p = .001$, and boys had a steeper decline in anxiety than girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 16.94$, $p < .001$. Boys yielded a significantly higher intercept on aggression than did girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 104.14$, $p < .001$. However, aggression declined over time at a similar rate of change for boys and girls. Finally, although boys had a significantly higher intercept compared to girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 198.66$, $p < .001$, delinquency was found to be stable for both boys and girls.

The intercepts in all models displayed significant variance, which indicates that adolescents differed in their levels of peer crowd identification and problem behaviors. Furthermore, all linear slopes showed significant variance, which indicates that adolescents differed in their rates of change of peer crowd identification and problem behaviors.

Differences in the associations between trajectories of peer crowd identification and problem behaviors. Multivariate latent growth curve analyses with gender as a moderating factor revealed significant differences between boys and girls in eight out of 56 coefficients reflecting associations between developmental trajectories of peer crowd identification and problem behaviors. Five of these differences indicated stronger associations between growth factors of peer crowd identification and growth factors of aggression for boys compared to girls. For instance, the intercept of the Jocks was negatively associated with the intercept of aggression for boys but not for girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 5.26$, $p = .022$. Similarly, results revealed positive associations between

Table 5
Estimated Levels and Rates of Change Derived From Univariate Latent Growth Models for Boys and Girls

Variable	Range	Intercept		Linear slope	
		M (*SE*)	σ^2 (*SE*)	*M* (*SE*)	σ^2 (*SE*)
Boys					
Peer crowd identification					
Normals	1–5	3.62 (.04)***	.35 (.07)***	−0.07 (.02)***	.03 (.01)***
Elites	1–5	1.62 (.04)***	.57 (.06)***	0.07 (.01)***	.04 (.01)***
Jocks	1–5	3.82 (.04)***	.67 (.06)***	−0.04 (.01)**	.02 (.01)***
Brains	1–5	1.71 (.03)***	.32 (.05)***	0.00 (.01)	.02 (.01)***
Hip-hoppers	1–5	2.33 (.03)***	.76 (.07)***	−0.07 (.01)***	.05 (.01)***
Nonconformists	1–5	1.95 (.04)***	.62 (.08)***	−0.05 (.01)***	.05 (.01)***
Metal heads	1–5	1.87 (.05)***	.59 (.08)***	−0.08 (.01)***	.04 (.01)***
Problem behaviors					
Depression	1–3	1.19 (.01)***	.03 (.00)***	−0.01 (.00)***	.00 (.00)***
Anxiety	1–3	1.30 (.01)***	.05 (.00)***	−0.03 (.00)***	.00 (.00)***
Aggression	1–4	1.54 (.02)***	.11 (.01)***	−0.02 (.00)***	.00 (.00)***
Delinquency	1–4	1.23 (.01)***	.10 (.01)***	0.00 (.00)	.01 (.00)***
Girls					
Peer crowd identification					
Normals	1–5	3.98 (.04)***	.35 (.07)***	−0.03 (.01)*	.03 (.01)***
Elites	1–5	1.84 (.04)***	.57 (.06)***	0.07 (.01)***	.04 (.01)***
Jocks	1–5	3.38 (.04)***	.67 (.06)***	−0.08 (.01)***	.02 (.01)***
Brains	1–5	1.71 (.03)***	.32 (.05)***	0.06 (.01)***	.02 (.01)***
Hip-hoppers	1–5	2.33 (.03)***	.76 (.07)***	−0.07 (.01)***	.05 (.01)***
Nonconformists	1–5	2.16 (.04)***	.62 (.08)***	−0.05 (.01)***	.05 (.01)***
Metal heads	1–5	1.60 (.04)***	.38 (.06)***	−0.02 (.01)*	.04 (.01)***
Problem behaviors					
Depression	1–3	1.19 (.01)***	.03 (.00)***	0.01 (.00)**	.00 (.00)***
Anxiety	1–3	1.36 (.01)***	.05 (.00)***	−0.01 (.00)***	.00 (.00)***
Aggression	1–4	1.35 (.01)***	.06 (.01)***	−0.02 (.00)***	.00 (.00)***
Delinquency	1–4	1.07 (.01)***	.02 (.00)***	0.00 (.00)	.00 (.00)***

Note. σ^2 is the variance around mean levels and rates of change. Estimated parameters that were equal for boys and girls were constrained to be similar on the basis of model testing with robust chi-square difference tests. 95% confidence intervals = $M \pm (SE \times 1.96)$.
* $p < .05$. ** $p < .01$. *** $p < .001$.

the intercepts of the Nonconformists and Metal Heads and the intercept of aggression for boys only, $\Delta\chi^2_{SBnonconformists}(1, N = 1{,}313) = 4.95$, $p = .026$; $\Delta\chi^2_{SBmetal\ heads}(1, N = 1{,}313) = 8.73$, $p = .003$, respectively. Moreover, the intercept of the Hip Hoppers was more strongly positively associated with the intercept of aggression for boys than for girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 4.70$, $p = .030$. Finally, results revealed a positive association between the slope factor of the Hip Hoppers and the slope factor of aggression for boys, but not for girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 7.71$, $p = .006$.

Next to these aggression-related differences, we found two other significant differences that revealed stronger associations for boys compared to girls. First, the slope factor of the Hip Hoppers was positively related to the slope factor of depression for boys only, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 6.68$, $p = .010$. Second, the slope factor of the Metal Heads was negatively related to the slope factor of delinquency for boys, but not for girls, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 7.46$, $p = .006$. We also found one gender difference in favor of girls. Specifically, the intercept of the Brains was negatively associated with the intercept of aggression for girls only, $\Delta\chi^2_{SB}(1, N = 1{,}313) = 5.70$, $p = .017$.

Discussion

This five-wave longitudinal study that used a sample of early to middle and middle to late adolescents aimed to address an important lacuna in the literature on peer crowd identification by examining the development of peer crowd identification throughout adolescence in relation to changes in problem behaviors. The findings revealed that identification with nonconventional crowds either declined over the course of adolescence or showed a decline in early adolescence followed by a stabilization, whereas identification with conventional crowds increased or showed a decline followed by a stabilization. Furthermore, stronger and more persistent identifications with nonconventional crowds were generally associated with more problem behaviors throughout adolescence. Conversely, stronger and more persistent identifications with conventional crowds were generally associated with fewer problem behaviors throughout adolescence. One exception to this pattern was an identification with the Brains, which was related to less externalizing problems, indeed, but to more anxiety. We discuss these findings and their implications below.

Development of Peer Crowd Identification

Although changes over time were generally small, we found that peer crowd identification varies across both early to middle and middle to late adolescence. Specifically, our results supported hypothesized declines in identification with nonconventional peer

crowds (i.e., Hip Hoppers, Nonconformists, and Metal Heads). These declines could reflect a greater saliency of peer crowd identification for self-definition and social comparison in early adolescence compared to late adolescence (Arnett, 2004; Brown et al., 1986, 1994). However, these declines might also reflect the crowd system becoming more open and hybrid, which would allow adolescents to select and combine elements of different crowds, rather than strongly focusing on a single crowd (Kinney, 1993, 1999). Alternatively, this might be the result of adolescents becoming more mature as they grow older, thereby identifying less strongly with rebellious or maladaptive values and behaviors. Future research using a person-centered approach should elaborate on the processes that underlie declines in identification with nonconventional crowds.

Conversely, developmental trajectories of identification with conventional crowds (i.e., Normals, Jocks, Elites, and Brains), were characterized by increases or stabilizing patterns over time. For instance, identification with the Normals and Jocks stabilized after a small decline in early adolescence and remained high throughout adolescence. Moreover, identification with the Elites increased throughout adolescence, and identification with the Brains remained stable from early to middle adolescence and increased thereafter. Different processes might explain the developmental changes in identification specific to each of these conventional crowds. For instance, adolescents who identify strongly with the Normals might not experience a need to stand out at any time during adolescence. As such, their tendency to maintain a strong identification with this mainstream crowd might reflect a desire to identify with moderate or broadly accepted values and behaviors (Brown et al., 1999). Furthermore, an increase in identification with the Brains and Elites might be considered in the context of lifestyle changes and emerging adulthood. For instance, Barber et al. (2001) found that both Brains and Elites were more likely to go to college or university than were members of other crowds. As the transition to college or university becomes more salient in late adolescence, particularly highly educated adolescents might identify more strongly with these crowds and their values and behaviors. In addition, toward late adolescence, individuals might increasingly understand and appreciate the social benefits of these two crowds in adulthood. Again, future research based on a person-centered approach should examine the precise processes that underlie the developmental trajectories of identification with conventional crowds.

With regard to gender differences in the developmental trajectories of peer crowd identification, we found partial support for our hypothesis that girls would show stronger levels and weaker declines in peer crowd identification. Specifically, girls showed higher levels of identification with the Normals, Elites, and Nonconformists than boys. They also declined less in their identification with the Normals and Metal Heads compared to boys. Moreover, while boys remained stable, they increased in their identification with the Brains. However, boys showed higher levels of identification with the Jocks and Metal Heads than girls, and girls showed stronger declines in their identification with the Jocks. These results suggest that the stronger identification with peer crowds for girls is limited to specific crowds and may not be generalized to crowds that are defined around activities or preferences that are more typical for boys. Also, these results do not support the notion that girls are less likely than boys to identify with nonconventional crowds. Instead, the type of nonconventional crowd may determine the extent to which boys and girls identify with it.

Development of Peer Crowd Identification in Relation to Changes in Problem Behaviors

Nonconventional crowds. Consistent with our hypotheses, results indicated that higher levels of identification with nonconventional crowds were related to higher levels of internalizing and externalizing problem behaviors. Furthermore, we found several positive associations between rates of change in identification with nonconventional crowds and rates of change in problem behaviors. Specifically, weaker declines in identification with the Nonconformists and, for middle to late adolescents only, Hip Hoppers were associated with weaker declines in aggression. In addition, early to middle adolescents who declined less in their identification with the Nonconformists indicated a stronger increase, or a weaker decline, in depression and a weaker decline in anxiety.

Several processes may help to explain these findings. First, adolescents who identify strongly and persistently with nonconventional crowds are more likely to either belong to or attempt to join a social network that includes members of such crowds (Urberg et al., 2000). Through positive reinforcement, explicit peer pressure, or implicit peer modeling (Dishion et al., 1996; Prinstein & Wang, 2005), these adolescents may experience more models and rewards for exhibiting maladaptive behaviors, such as aggression, which may cause them to sustain or increase these behaviors over time. Second, adolescents who identify strongly and persistently with crowds that rebel against norms in clothing and ideas and do not conform to social ideals may feel disliked by members of higher status crowds (La Greca et al., 2001). This low position in the peer status hierarchy might affect an adolescent's degree of self-esteem and subsequently lead to higher levels and increases over time in internalizing distress (Prinstein & La Greca, 2002). Therefore, maintaining strong identifications with crowds that model maladaptive behaviors or that are disliked by most youth seems like a risk factor for persistent or increasing problem behaviors.

Conventional crowds. As expected, higher levels of identification with conventional crowds were related to lower levels of internalizing and externalizing problem behaviors. In addition, findings revealed several (marginally significant) negative associations between rates of change in identification with conventional crowds and rates of change in problem behaviors. Particularly, early to middle adolescents who declined less in their identification with the Jocks indicated a weaker increase or a stronger decline in depression.

Several processes may help explain these findings. First, that Normals report relatively few externalizing problem behaviors may reflect a tendency of adolescents who identify strongly with this crowd to conform to broadly accepted values and behaviors in order to gain and maintain acceptance from a wide range of peers (Brown et al., 1999) and adult figures. Second, prior studies have suggested that adolescents who identify with the Jocks often enjoy a higher status among peers (e.g., La Greca et al., 2001; Prinstein & La Greca, 2002). According to these studies, this high position in the social status hierarchy may positively affect adolescents' degree of self-esteem and, subsequently, their degree of internal-

izing distress. As far as these status arrangements can be assumed in the Dutch context, this process may explain lower levels and weaker increases (or stronger declines) in internalizing distress as found in the present study. However, we need to be cautious in adopting these lines of reasoning, and further research is needed to clarify the social status of different peer crowds in the Dutch context.

Further, our results revealed two significant associations that were contrary to our hypotheses. First, adolescents with a higher level of identification with the Normals also reported a higher level of anxiety. It may be that this mainstream crowd, which is characterized by broadly shared values and behaviors, is particularly attractive for anxious adolescents who seek acceptance from a wide range of peers. Second, early to middle adolescents who increased more in their identification with the Elites indicated a weaker decline in aggression. Elites often enjoy a high status among peers (e.g., La Greca et al., 2001; Prinstein & La Greca, 2002). It may be that these adolescents obtain and defend their high position in the peer status hierarchy by showing aggressive behaviors, particularly verbal (indirect) aggression. This is in line with prior work on the role of aggression in the attainment and maintenance of perceived popularity (e.g., Cillessen & Mayeux, 2004; Rodkin, Farmer, Pearl, & Van Acker, 2000). For instance, Cillessen and Mayeux (2004) found that relational aggression was reciprocally associated with perceived popularity during the school transition years, which may point to the use of aggression as a means of reestablishing a social position in a new context. This may explain why the association between a stronger increase in identification with the Elites and a weaker decline in aggression found in the present study is only apparent among early to middle adolescents (i.e., those who may not yet have established a high status position).

Brains. As hypothesized, the results for the Brains deviated from the pattern of results found for other conventional crowds. Specifically, while negatively related to externalizing problems, a higher level of identification with this crowd was related to higher levels of anxiety. Unlike in childhood, high academic achievement is associated with low peer acceptance during adolescence (Juvonen & Murdock, 1995). Adolescents who identify strongly with the Brains may feel they are not competent in peer-preferred values such as athletic ability, romantic competence, or physical attractiveness. Therefore, these adolescents may retain their identification with the academically oriented crowd and subsequently feel isolated as they recognize that the values of this crowd do not conform to peer norms (Kinney, 1993). This is in line with findings of Prinstein and La Greca (2002), who reported that Brains exhibited significant increases in internalizing distress between childhood and adolescence.

The current investigation found mixed results in regard to age cohort differences in the associations between developmental trajectories of peer crowd identification and problem behaviors. Hence, our results do not confirm our hypothesis that these associations would be stronger for younger compared to older adolescents. Instead, they suggest that although identification with several peer crowds becomes less strong with age, interindividual differences in these identifications are comparably related to problem behaviors from early to middle adolescence and from middle to late adolescence.

Gender differences. Contrary to our hypothesis, we found stronger associations between developmental trajectories of identification with nonconventional peer crowds and problem behaviors for boys compared to girls. It might be that the behavior of boys is differently affected by the crowd they identify with than that of girls. For instance, research has indicated that boys' groups are usually more competitive and hierarchically organized than girls' groups, which tend to be more cooperative and noncompetitively organized (Maccoby, 1990). As crowd identification may be linked to problem behaviors via the peer group that the adolescent associates with or wishes to join (Urberg et al., 2000), it may be these peer group differences that result in stronger associations between peer crowd identification and problem behaviors for boys compared to girls. Future studies should investigate the gender specificity of the mechanisms through which peer crowd identification may be linked to problem behaviors.

Limitations and Future Directions

This study, with its strengths of a long-term longitudinal design and multiple measurement waves, large sample, and two age cohorts, also has its limitations. The first limitation is inherent to our measure of peer crowd identification. Although, in general, similar types of crowds were included in our study as have been consistently identified in predominantly U.S. research (i.e., nonconventional and conventional crowds), we should acknowledge the changing nature and cultural base of peer crowds. Specifically, there may be some cross-cultural and historical variations in the expression of crowd identification or status arrangements among crowds across different samples and studies, which might limit the generalizability of our results. However, given that similar types of crowds were found in our study and links to problem behaviors were generally consistent with prior findings, we believe it is safe to suggest that current results are relevant for other countries as well. Furthermore, prior studies have shown that peer crowd identification (based on self-perception) yields only modest convergence with peer crowd membership (based on peer assignments; Brown et al., 2008; Urberg et al., 2000). As such, future studies should examine whether our results are replicable using measures of peer-rated crowd affiliation.

Second, although the use of two age cohorts enabled us to examine the development of peer crowd identification in relation to changes in problem behaviors over an extended age range, we also observed inconsistencies between cohorts. As such, this made it difficult to interpret the development of these variables throughout adolescence. In addition, our findings indicated that identification with most crowds declines from age 12 onwards. Future studies should follow a single cohort from late childhood to late adolescence to investigate whether an increase in peer crowd identification occurs during the transition to adolescence.

Third, although our study offered important insights into the developmental links between peer crowd identification and problem behaviors, it was beyond the scope of this first, broad investigation to examine the direction of effects or to test for potential mediators. Specifically, peer crowd identification may lead to problem behaviors via the composition of adolescent peer groups and the behaviors these peers model (i.e., socialization effect, Dishion et al., 1996; Prinstein & Wang, 2005); however, adolescent crowd identification may also be a function of existing prob-

lems (i.e., selection effect, Roe, 1995). That is, youth prone to problem behavior may select nonconventional peer crowds because they feel they fit in. In a two-wave study using a cross-lagged panel design, Selfhout et al. (2008) found evidence that identification with the Hip Hopper and Metal Head crowds predicted later externalizing problem behaviors but not the other way around. As our study included multiple measurement waves, more crowds, and externalizing as well as internalizing problem behaviors, it would be an interesting next step to use cross-lagged panel designs to extend Selfhout et al.'s findings on selection versus socialization effects. On a similar note, it was beyond the scope of this study to examine moderation of associations between peer crowd identification and problem behaviors beyond age and gender. For instance, the development of peer crowd identification and its relation to changes in problem behaviors may vary depending on which crowd adolescents primarily identify with. Adolescents may be more strongly affected by the crowd they primarily identify with than by other crowds. Future studies should look more closely at multiple moderators of the developmental links between peer crowd identification and problem behaviors.

Conclusion

In sum, this five-wave longitudinal study was the first to examine the development of peer crowd identification in relation to changes in problem behaviors. Findings indicated that identifications with nonconventional peer crowds decline over time. However, identifications with conventional crowds increase or become relatively stable after a decline in early adolescence, which suggests that different crowds may be relevant during different stages of adolescence. Findings further revealed that adolescents' peer crowd identifications are developmentally related to problem behaviors. For example, adolescents who reported stronger and more persistent identifications with nonconventional crowds generally demonstrated more problem behaviors throughout adolescence. In contrast, adolescents who reported stronger and more persistent identifications with conventional crowds generally demonstrated fewer problem behaviors. One exception included those adolescents who identified strongly with the Brains, who reported more anxiety problems. These findings suggest that crowds may present a particular risk factor for problem behaviors among adolescents who maintain or increase strong identifications with crowds that model deviant behaviors or are disliked by most youth. As such, our findings highlight the importance of studying peer crowd identification and its relation to problem behaviors from a developmental perspective.

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