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Chapter 5

Peer Status beyond Adolescence: Types and Behavioral Associations⁸

⁸ This chapter is co-authored with Jan Kornelis Dijkstra, René Veenstra, and Siegwart Lindenberg. A slightly different version of this chapter has been revised and re-submitted at an international peer-reviewed journal.

5.1. Introduction

A prominent characteristic of the adolescent peer culture and a strong predictor of emotional and behavioral adjustment is individuals' status in the peer group (Coie, Dodge, & Coppotelli, 1982; Dijkstra, Lindenberg, & Veenstra, 2008; Dijkstra, Lindenberg, Verhulst, Ormel & Veenstra, 2009; Parkhurst & Hopmeyer, 1998). Especially the distinction between affective measures of liking or acceptance and reputational measures of popularity has received widespread attention (e.g., Mayeux, Houser, & Dyches, 2011; Parkhurst & Hopmeyer, 1998). However, whereas extensive research has been conducted on the nature and behavioral associations of peer status in childhood and adolescence (Coie et al., 1982; Dijkstra et al., 2009; Lease, Kennedy, & Axelrod, 2002; Parkhurst & Hopmeyer, 1998), knowledge on peer status beyond adolescence is scarce. Research on peer status in this developmental period can help researchers understand motivations of behavior in this age group and shed light on the presumed long-term developmental implications of peer popularity as a potentially risky form of peer status (Mayeux, Sandstrom & Cillessen, 2008; Rodkin, Farmer, Pearl & Van Acker, 2000).

We argue that the emergence of peer popularity in adolescence originates in adolescents' desire to create an image of maturity among their peers through the engagement in adverse behaviors (Dijkstra et al., 2009; Moffitt, 1993), and that the upcoming transition to work contributes to the closing of the maturity gap. We expect that the approaching onset of employment alters the criteria by which status is ascribed and affects individuals' conceptions of what behaviors are admirable and merit a high status position in the peer group. We specifically expect that reputational status will be less driven by adverse behaviors and that peer popularity will be a less salient aspect of the young adult peer culture. We empirically test this expectation by investigating what groups of peer status can be identified in young adulthood along with the behavioral associations of these status in a sample of Dutch young adults on the verge of the transition from vocational education to work.

5.2. Peer Status throughout Adolescence

Adolescent peer status often distinguishes between affective measures of *peer acceptance* and reputational measures of *peer popularity* as two conceptually different but to some extent overlapping types of status in the peer group (e.g., Parkhurst & Hopmeyer, 1998). Peer acceptance reflects the extent to which adolescents are well-liked by their peers and

has been linked to positive developmental and behavioral outcomes such as prosociality, trustworthiness, and better academic achievements (Lubbers, Van Der Werf, Snijders, Creemers & Kuyper, 2006; Parkhurst & Hopmeyer, 1998). Peer popularity reflects the extent to which individuals are socially salient and admired by their peers and serves as an indicator of social dominance and prestige in the peer group (Mayeux et al., 2011; Parkhurst & Hopmeyer, 1998; Vaillancourt & Hymel, 2006). Besides its positive associations, peer popularity also shows close links with disruptive and norm-breaking behaviors such as alcohol and substance use (Dijkstra et al., 2009; Lansford, Killeya-Jones, Miller, & Costanzo, 2009; Mayeux et al., 2011). Previous studies further distinguished between popular adolescents who are also well-liked by their peers and those who are not (Parkhurst & Hopmeyer, 1998; Rodkin et al., 2000; De Bruyn & Cillessen, 2006). Whereas the former group shows favorable behavioral associations comparable to those found in well-accepted peers, the latter group has been shown to engage in fights and relational aggression more often and to be regarded as vulgar or bullies by their peers (De Bruyn & Cillessen, 2006; Parkhurst & Hopmeyer, 1998). Due to the potentially negative repercussions of the behaviors associated with adolescent peer popularity, it has been argued that peer popularity may bear a risk in a long-term perspective if the disruptive behavior persists into adulthood (e.g., Mayeux et al., 2008; Rodkin et al., 2000). This may be especially true for those members of the peer group who are popular but not well-liked. We argue that in young adult peer groups, popularity will be a less salient form of status and may thereby lose its role as a potential risk factor for the continued engagement in disruptive behavior.

5.3. Developmental Changes in the Association between Acceptance and Popularity

Previous research has shown that the distinction between peer acceptance and peer popularity is less clear in younger samples. The emergence of peer popularity as a distinct form of status has been shown to occur in adolescence (Cillessen & Borch, 2006; Cillessen & Mayeux, 2004), and to be higher among elementary school children (e.g., Lease et al., 2002) as compared to middle school children (e.g., Parkhurst & Hopmeyer, 1998). A recent study in a sample of school-bound young adults in the Netherlands has suggested that the two forms of status become more closely related again beyond adolescence (Lansu & Cillessen, 2011). The finding that the distinction between affective and reputational forms of peer status becomes salient throughout adolescence but appears

to decline again in young adulthood suggests that this distinction originates in the social and contextual changes that take place in adolescence. In a period where adolescents experience a discrepancy between biological maturity and the acknowledgement of adult social roles in society, engagement in adverse behavior conveys an image of maturity that is often admired among other adolescents (Moffitt, 1993). Accordingly, it has been argued that popularity can be achieved through the engagement in behaviors that emphasize maturity, and that adolescents' engagement in norm-breaking behaviors such as alcohol and substance use contributes to the closing of this maturity gap (Dijkstra et al., 2009). If true, this implies that the distinction between peer acceptance and peer popularity and the status-benefits of disruptive and norm-breaking behavior are contingent on individuals' experience of the maturity gap. Consequently, we argue that once social and contextual changes close the maturity gap during the transition to young adulthood, the status-enhancing benefits of adverse and norm-breaking behaviors and the importance of peer popularity as a distinct form of reputational status declines.

5.4. Contextual Changes in Young Adulthood

Late adolescence and young adulthood is a developmental period that is characterized by a vast variability in educational and occupational trajectories along with social and contextual changes (Arnett, 2000). As individuals' social contexts and relationships change, so may their conceptions of what characteristics and behaviors merit a high status position in the peer group. Whereas in adolescence, engagement in aggressive or norm-breaking behavior may be beneficial in order to become popular, these same behaviors may not be advantageous and even be detrimental if the immediate social context ceases to convey a popular status position to those who engage in these behaviors. In support of this notion, previous research has suggested that popular adolescents may lose their status position as they enter social contexts with different reward structures and different criteria for social prominence (Cillessen & Rose, 2005). One of the major contextual changes in this developmental period is the transition from school to work (Erikson, 1959; Zarrett & Eccles, 2006), which goes along with the gradual transition from the peer group as a primary socialization context to adult social contexts. We argue that the upcoming transition to the labor market lowers individuals' perceived discrepancy between their biological and societal maturity. Once individuals approach the access to formal adult social roles, attempts of creating an impression of maturity through the engagement in

aggressive, deviant, or norm-breaking behaviors may lose their status-enhancing function. This is in line with previous research suggesting that life transition and in particular the onset of employment can act as a turning point in young people's behavior through changing social roles and responsibilities and the initiation of identity transformation (e.g., Carlsson, 2012; Sampson & Laub, 2005).

Whereas the approaching onset of employment is likely to affect the salience and behavioral associations of peer popularity as a distinct form of reputational peer status, this effect is not probable to hold for the salience and behavioral associations of peer acceptance. Peer acceptance is believed to be a more universal measure of social relatedness tapping into individuals' fundamental need to belong (Baumeister & Leary, 1995). Consequently, interpersonal liking is expected to remain a core aspect of peer status also beyond adolescence. Likewise, the benefits of prosociality for the attainment of affective status are not likely to be bound to a specific developmental period.

5.5. The present Study

Building on the line of argumentation presented above, the present study examines what groups of peer status can be identified in a young adult sample at the verge of the transition from school to work along with the behavioral profiles of the identified status groups. We expect that peer status in young adults is (H1) more strongly defined by affective (i.e., liking) as compared to reputational (i.e., popularity) indicators of status, and (H2) more strongly associated with prosocial as compared to aggressive or norm-breaking behaviors.

Engagement in relational forms of aggression has further been described as more normative for females and shown to be either equally distributed among both genders or higher for females (Crick, 1997; Crick & Grotpeter, 1995; Salmivalli & Kaukiainen, 2004). Likewise, aggressive behavior and substance use have been shown to be differently associated with peer status for males than for females (Cillessen & Rose, 2005; Cillessen & Mayeux, 2004; Lansford et al., 2009; Salmivalli, Kaukiainen, & Lagerspetz, 2000). To account for these gender differences, relational and overt aggression will be addressed separately in the analyses and interactions with gender will be explored

5.6. Method

5.6.1. Data and Educational Context

Data stem from a study conducted in the Netherlands aimed at young peoples' transition from vocational school to working life or further education. In the Netherlands, vocational training is provided as a school-based form of education that students commonly enroll in at the age of 16 (Dutch MBO-BOL). Degrees can be obtained for a variety of professions and at different skill levels. The professional training that is provided at vocational schools typically lasts two to four years, depending on the profession and skill level. During this time, students follow regular classes as well as practical classes in which they acquire vocation-specific knowledge and skills under the supervision of a teacher. Classes are taught in a fixed classroom structure throughout the entire vocational education, meaning that students in the current sample who were at the beginning of their final year in education knew each other for at least one but mostly two to three years (depending on whether they follow a three- or four-year program) at the time of measurement. Throughout their vocational training, students further gain practical hands-on experience in their profession in the course of several internships each lasting several weeks to several months. This implies that the school term is split into periods in which students either attend school or follow an internship. Students are required to spend at least 20% but not more than 60% of their time on internships, meaning that they spend 40% - 80% of their time at school together with their peers.

In the Netherlands, following school-based vocational education is a common and widespread educational pathway. In the years during which data collection for the present study has taken place (2011-2013), approximately 500.000 Dutch students have been enrolled in this type of education. This represents roughly 13.5% of all Dutch students, including all levels from primary education to university. As of the beginning of the school term 2010/2011, vocational schools follow the principle of competence-based education, which means that students do not receive grades. Instead, their progress is evaluated based on their attained competences. The profile of competences that a student needs to attain in a specific profession is a combination vocation-specific professional skills and knowledge as well as aspects of a good professional attitude such as good communication skills and teamwork. These profiles are jointly developed by educational experts and practitioners. Upon completion of their training, students can either enter the labor market directly within their profession or enroll in additional or follow-up

vocational education at the same or a higher level of education. Students who complete their vocational education at the highest obtainable level are eligible to enroll at a University of Applied Sciences. Data collection for the present study has taken place in the school term of 2011/2012 at the beginning of respondents' final year in education.

5.6.2. Procedure

Questionnaires have been administered during regular class hours and consisted of a self-report questionnaire and a sociometric survey. Respondents were assured of the confidentiality of their answers and were free to refrain from participation at any moment of the study. No monetary incentives or course credits have been offered for participation. Names and other identifying information of all respondents and their classmates have been replaced by code numbers in the resulting dataset. Neither respondents nor schools have been given access to any of the raw data retrieved through the self-report or sociometric survey or the coding of respondents' names. In accordance with common practices and ethical research standards in the Netherlands, students who did not themselves participate in the study could still be nominated in the sociometric survey. Information pertaining to respondents' peer status has been derived from the sociometric survey and therefore includes information on respondents and their classmates.

5.6.3. Sample

The data that have been used in the present study stem from $N = 603$ individuals divided over 52 classrooms ($M_{\text{age}} = 20.09$, $SD = 2.49$, 51.3 % female) of which $n = 413$ respondents who provided and received peer nominations in the sociometric survey ($M_{\text{age}} = 20.02$, $SD = 2.75$, 50.1 % female) and $n = 190$ of their classmates who only received but did not provide peer nominations ($M_{\text{age}} = 20.26$, $SD = 1.79$, 54% female). Class sizes ranged from 6 to 34 students ($M_{\text{classroomsize}} = 19.45$, $SD = 7.16$, average response rate 69.1%). Respondents who provided and received nominations did not significantly differ from their classmates who only received nominations on any of the study variables with the single exception that the former were regarded as more popular ($t(601) = -2.82$, $p < .01$).

5.6.4. Measures

5.6.4.1. Peer Status

Respondents were presented with a list of questions containing a positive and a negative

question assessing reputational peer status (“Which of your classmates is popular”; “Which of your classmates is not popular”) and affective peer status (“Which of your classmates do you like”; “Which of your classmates do you not like?”). For each question, respondents could nominate an unlimited number of classmates except for themselves. Standardizing peer nominations within the reference group (i.e., the classroom) controls for variability in classroom sizes and therefore differences in the maximum number of nominations possible. In accordance with methods applied in research on adolescent peer status, proportion scores have been formed for each of the four questions (e.g., Dijkstra et al., 2008; Dijkstra et al., 2009; Salmivalli et al., 2000). For every member of the classroom, the total number of nominations *received* on each of the questions was divided by the number of participating classmates (i.e., the maximum number of nominations possible). This procedure yielded proportion scores ranging from 0 to 1 reflecting the extent to which every class member is liked, disliked, regarded as popular or regarded as unpopular by their classmates (0 = none of the participants has nominated this individual on the respective question; 1 = every participant has nominated this individual on the respective question).

5.6.4.2. Classroom Behavior

To assess prosocial and aggressive classroom behavior, respondents were asked to nominate classmates who show prosocial behavior (“Which of your classmates are helping you”), overt aggressive behavior (“Which of your classmates often fight or seek trouble?”), and relationally aggressive behavior (“Which of your classmates socially exclude others?”). Again, proportion scores within classrooms have been formed for each behavior under study.

5.6.4.3. Alcohol and Substance Use

Respondents were asked to indicate whether and if so, how often they consumed alcohol (‘Do you drink alcohol such as beer, wine or liquor (with or without a mixer drink)?’) and drugs (‘Do you use drugs such as weed/marihuana or other?’). Both questions could be answered on a 5-point scale ranging from 0 = *never* to 5 = *every day*. Because self-report information on alcohol and drug use was only available for respondents who filled in a questionnaire ($n = 413$, 68.5%) and not for their classmates who only received peer nominations but did not provide information themselves ($n = 190$, 31.5%), multiple

imputations were used to minimize the loss of statistical power.

5.6.4.4. Gender

Gender was coded as 0=*female* and 1=*male*.

5.6.5. Strategy of Analysis

Iterative k-means cluster analysis (Calinski & Harabasz, 1974; Jain & Dubes, 1988; Milligan & Cooper, 1985) with running means was used to create clusters of respondents based on their nominations as being liked, disliked, popular, and unpopular. K-means cluster analysis maximizes between-cluster differences and minimizes within-cluster differences to identify relatively homogeneous groups of respondents who differ in their profiles of received nominations on the peer status items. The algorithm requires a pre-specified number of clusters. To evaluate the optimal number of clusters the Variance Ratio Criterion (VRC) by Calinski and Harabasz (Calinski & Harabasz, 1974; Milligan & Cooper, 1985) was calculated for a sequence of two- through five cluster solutions. The VRC compares different cluster solutions based on the ratio between the between-cluster variance and the within-cluster variance. The cluster solution with the highest VRC represents the optimal number of clusters in the data. Based on the VRC, ω_k can be calculated as $(VRC_{k+1} - VRC_k) - (VRC_k - VRC_{k-1})$ where k is the number of clusters to be evaluated. Using ω_k as an alternative means of evaluating the optimal number of clusters, the optimal number of clusters is the one with the lowest value for ω_k . Both the VRC and ω_k will be reported.

In a second step, the behavioral profiles of the groups of peer status obtained through the k-means cluster analyses were investigated. An initial ANOVA examined whether the groups were significantly different from each other on the target behaviors (prosocial behavior, overt and relational aggression, alcohol and substance use). Next, a logistic regression analysis has been conducted to examine the behavioral associations of the obtained clusters of peer status.

5.7. Results

5.7.1. Descriptive Statistics

Table 1 displays the descriptive statistics and correlations among the main study variables. As expected, being liked and being popular are positively correlated. Though popularity is

positively correlated with prosocial and aggressive behavior, the correlation with prosocial behavior is higher than the correlation with both overt and relational aggression. Liking positively correlates with prosocial but not aggressive behavior. Neither being popular nor being liked are correlated with alcohol or substance use.

Table 5.1.

Descriptive Statistics and Correlations ($N = 603$)

	<i>M</i>	<i>SD</i>	Range	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Gender (1 = male)												
Peer Relationships												
2. Liked	.34	.28	0.00-1.00	-.09*								
3. Popular	.09	.16	0.00-1.00	.08 [†]	.48**							
4. Disliked	.03	.08	0.00-0.60	-.11**	-.11**	-.04						
5. Unpopular	.05	.09	0.00-0.75	-.03	-.08*	-.03	.55**					
Classroom Behavior												
6. Prosocial Behavior	.16	.21	0.00-1.00	.06	.71**	.60**	-.09*	-.10*				
7. Overt Aggression	.03	.08	0.00-0.60	.06	.07 [†]	.25**	.35**	.25**	.07 [†]			
8. Relational Aggression	.04	.08	0.00-0.71	-.05	-.01	.14**	.52**	.41**	.03	.54**		
Norm-Breaking Behavior												
9. Alcohol Use	3.01	1.05	1.00-5.00	.18*	-.01	.01	-.06	-.11 [†]	-.03	.05	-.07	
10. Substance Use	1.40	0.71	1.00-5.00	.10*	.01	-.01	.01	-.01	.02	.10 [†]	.02	.13**

Note. ** $p < .01$. * $p < .05$. [†] $p < .10$.

5.7.2. Clusters of Peer Status

Iterative k-means cluster analysis showed the highest VRC and the lowest ω_k for the three cluster solution ($VRC_3 = 1409.3$, $\omega_3 = -303.8$) when compared with the 2 through 5 cluster solutions ($VRC_2 = 1220.1$, ω_2 not obtainable⁹; $VRC_4 = 1294.7$, $\omega_4 = 76.4$; $VRC_5 = 1256.5$, $\omega_5 = -168.6$), indicating an optimal solution of three clusters. Final cluster centers of the four variables under study are given in parentheses for each cluster. A graphic depiction of the final cluster centers is displayed in Figure 1.

The first cluster (Cluster 1 – Liked) covers 109 of the respondents (18.1%) and describes a cluster of peer status that is characterized by high levels of being liked (.71) and low levels of being popular (.06), unpopular (.02), and disliked (.01). The second cluster (Cluster 2 – Liked-Popular) covers 81 of the respondents (13.4%) and describes individuals who are both liked and popular as indicated by high levels of being liked (.66), moderately high levels of being popular (.44), and low levels of being unpopular (.05) and disliked (.03). The third cluster (Cluster 3 – Neutral) covers 413 of the respondents (68.5%) and describes a neutral cluster of peer status that is characterized by moderate levels of being liked (.18) and low levels on all other measures (.06 for unpopular, .04 for popular, .04 for disliked).

An additional ANOVA provides information on the extent to which each variable has contributed to the separation between clusters. Because the observed significance levels are not corrected for the choice of cluster means to maximize the difference among cases in different clusters, F-statistics are only used for descriptive purposes and cannot be interpreted as a test of the hypothesis that cluster means are different. Results show that the extent to which an individual is liked has the highest contribution to the cluster formation ($F(2, 600) = 726.24$, $p < .01$) followed by being popular ($F(2, 600) = 668.22$, $p < .01$), being unpopular ($F(2, 600) = 8.84$, $p < .01$) and being disliked ($F(2, 600) = 5.98$, $p < .01$). Results are partially consistent with the expectation that peer status is more strongly defined by affective as compared to reputational measures of peer status (consistent with Hypothesis 1) for the positive (liked, popular) but not the negative (disliked, unpopular) items, though popularity is the second strongest predictor of the cluster formation.

⁹ Calculation of ω_2 not possible due to the term VRC_{k-1} in the formula.

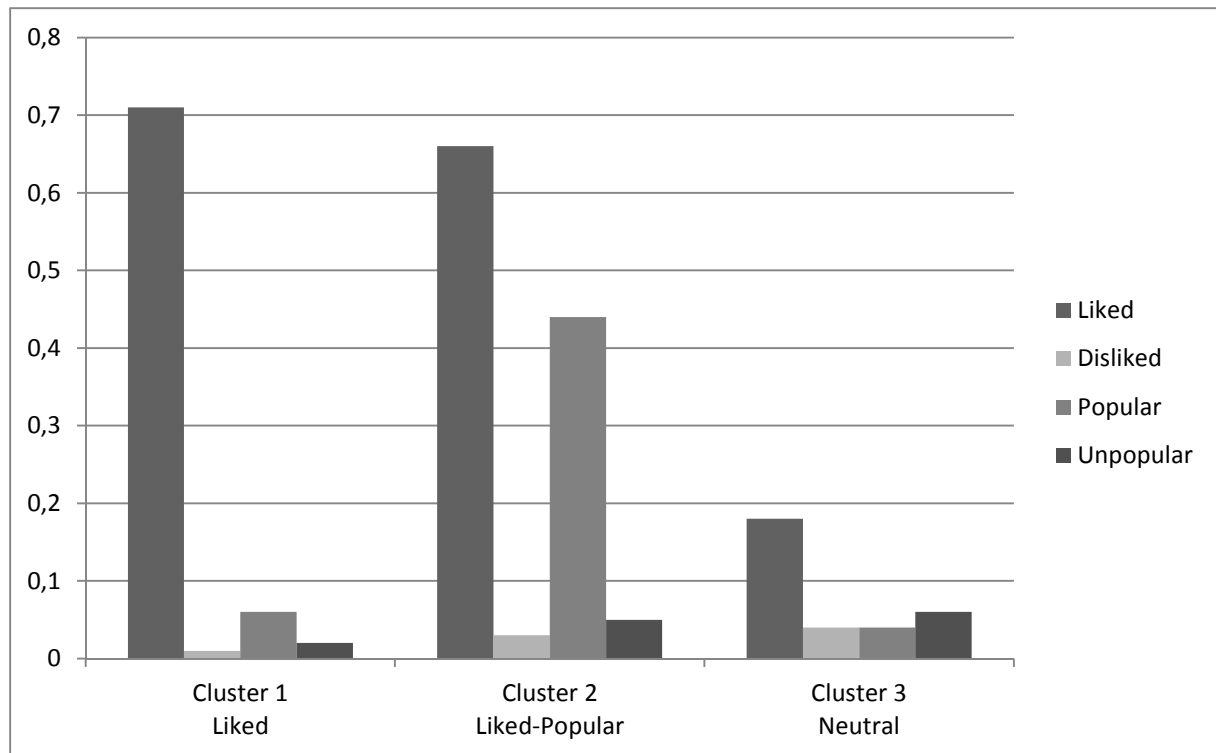


Figure 5.1. Final Cluster Centers of the Three-Cluster Solution to Peer Status

5.7.3. Behavioral Associations of Peer Status

In the following steps it is examined how the three-cluster solution to young adult peer status that has been obtained through the iterative k-means cluster analysis is associated with prosocial and aggressive classroom behavior, alcohol and substance use. Table 2 shows the descriptive statistics of the behavioral variables for each of the three clusters of peer status.

First, an ANOVA was conducted to examine whether the three groups of peer status were significantly different on the target behaviors. Results revealed that the groups significantly differed in their prosocial behavior ($F(2,600) = 218.69, p < .01$), overt aggression ($F(2,600) = 27.68, p < .01$) and relational aggression ($F(2,600) = 8.21, p < .01$) but not in their alcohol ($F(2,600) = 0.08, p = n.s$) and substance use ($F(2,600) = 0.19, p = n.s$). Bonferroni post-hoc comparisons indicated that the mean score for prosocial behavior of the neutral status group ($M = .07, SD = .10$) significantly different from the mean score of the liked status group ($M = .29, SD = .25, p < .01$) and the liked-popular group ($M = .43, SD = .24, p < .01$), as were the mean scores of the liked and liked-popular status group ($p < .01$). The mean scores for overt aggression of the neutral status group ($M = .02, SD = .06$) were significantly different from the liked-popular status group ($M = .08,$

$SD = .15, p < .01$) but not the liked group ($M = .01, SD = .03, p = n.s.$). The difference between the liked and liked-popular group was significant ($p < .01$). The mean scores for relational aggression of the neutral status group ($M = .04, SD = .08$) were likewise significantly different from the liked-popular status group ($M = .07, SD = .12, p < .01$) but not the liked group ($M = .02, SD = .05, p = n.s.$). Again, the difference between the liked and liked-popular group was significant ($p < .01$).

Second, a multinomial logistic regression analysis has been conducted to examine the behavioral associations of each cluster. Results indicate to what extent the odds of being liked (Cluster 1) or liked-popular (Cluster 2) as compared to occupying a neutral status position (Cluster 3, reference category) change depending on respondents' classroom behavior (prosocial behavior, overt and relational aggression), alcohol and substance use with gender as control variable. For reasons of interpretability, proportion scores of classroom behavior have been multiplied by 100 resulting in a continuous variable ranging from 0 to 100% with every 1-unit increase in this variable representing 1% increase in the overall percentage of classmates who have nominated a respondent for the respective behavior. In a first step, the main effects of classroom behavior, alcohol and substance use have been examined. In a second step, the interaction effects with gender have been examined. Results are displayed in Table 3.

Table 5.2.

Means and Standard Deviations of Behavior per Cluster

	Cluster 1		Cluster 2		Cluster 3	
	Liked		Liked-Popular		Neutral	
	<i>n</i> = 109		<i>n</i> = 81		<i>n</i> = 413	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Prosocial Behavior	0.29	0.25	0.43	0.24	0.07	0.10
Overt Aggression	0.01	0.03	0.08	0.15	0.02	0.06
Relational Aggression	0.02	0.05	0.07	0.12	0.04	0.08
Alcohol Use	3.03	0.99	3.01	1.00	3.08	1.07
Substance Use	1.38	0.64	1.36	0.79	1.39	0.71

5.7.3.1. Liked Status Position

Females have higher odds of being liked than males (Cluster 1; $B = -1.88$, $\text{Exp}(B) = 0.15$, $p < .01$). Results further show that the odds of being liked rather than neutral are higher for individuals who engage in prosocial behavior ($B = 0.12$, $\text{Exp}(B) = 1.12$, $p < .01$) and lower for individuals who engage in relational aggression ($B = -0.08$, $\text{Exp}(B) = 0.92$, $p < .01$). With every additional percent of class members who nominated a peer as someone who shows prosocial behavior, this peer's odds of being liked increase by 12%. With every additional percent of class members who nominated a peer as someone who is relationally aggressive, this peer's odds of being liked decrease by 8%. Neither alcohol nor substance use significantly affected the odds of being liked.

5.7.3.2. Liked-Popular Status Position

Again, females have higher odds of being liked-popular than males (Cluster 2; $B = -1.40$, $\text{Exp}(B) = 0.25$, $p < .01$). Results further show that the odds of being liked-popular rather than neutral are higher for prosocial individuals ($B = 0.14$, $\text{Exp}(B) = 1.15$, $p < .01$) but also for individuals who engage in overt aggression ($B = 0.10$, $\text{Exp}(B) = 1.10$, $p < .01$). With every additional percent of class members who nominated a peer as someone who shows prosocial behavior, this peer's odds of being liked-popular increase by 15%. With every additional percent of class members who nominated a peer as someone who shows overt aggression, this peer's odds of being liked-popular increase by 10%. Again, alcohol and substance use showed no significant effects.

5.7.3.3. Interactions with Gender

In Step 2, interaction effects with gender have been added. A marginally significant interaction with gender was found for the link between prosocial behavior and being liked (Cluster 1; $B = -0.04$; $\text{Exp}(B) = 0.96$; $p = .06$; 1 = male). An additional simple slope analysis showed that prosocial behavior increases the odds of being liked for both genders, with a marginally higher effect for females as compared to males ($B = 0.10$, $\text{Exp}(B) = 1.11$, $p < .01$ for males; $B = 0.14$, $\text{Exp}(B) = 1.15$, $p < .01$ for females; lower part Table 5.3; 0 = female).

A significant interaction with gender was found for the link between prosocial behavior and being liked-popular (Cluster 2; $B = -0.06$, $\text{Exp}(B) = 0.94$, $p = .02$; 1 = male). Additional simple slope analysis of this interaction showed that for males, every 1-unit

increase in prosocial behavior increases the odds of being liked-popular by 13% ($B = 0.12$, $\text{Exp}(B) = 1.13$, $p < .01$). For females, every 1-unit increase in prosocial behavior increases the odds of being liked-popular by 20% ($B = 0.18$, $\text{Exp}(B) = 1.20$, $p < .01$; part Table 5.3; 0 = female). Results show that whereas prosocial behavior is positively associated with a liked-popular status position for both genders, the effect is stronger for females. A second significant interaction with gender was found for the link between overt aggression and being liked-popular (Cluster 2; $B = 0.13$, $\text{Exp}(B) = 1.14$; $p < .01$; 1 = male). Simple slope analysis showed that for males, every 1-unit increase in overt aggression increases the odds of being liked-popular by 16% ($B = 0.15$, $\text{Exp}(B) = 1.16$; $p < .01$). For females, overt aggression does not significantly affect the odds of being liked-popular ($B = 0.02$, $\text{Exp}(B) = 1.02$, *n.s.*; lower part Table 5.3; 0 = female).

Our results show that whether young adults occupy a high status position in the peer group both in terms of being liked or being liked-popular primarily depends on the extent to which they engage in prosocial behavior (consistent with Hypothesis 2). This effect is evident for both genders, though it appears to be stronger for females than for males. Results further show that relational aggression lowers the odds of being liked for both genders, whereas overt aggression increases the odds of being liked-popular for males but not for females.

Table 5.3.

Logistic Regression Results of the Behavioral Associations of Peer Status ($N = 603$)

Step 1 – Main Effects	Cluster 1 – Liked				Cluster 2 – Liked-Popular			
	<i>B</i>	<i>SE</i>	Exp(<i>B</i>)	CI Lower CI Upper	<i>B</i>	<i>SE</i>	Exp(<i>B</i>)	CI Lower CI Upper
Intercept	-2.53	0.57			-3.55	0.68		
Gender (1 = male)	-1.88**	0.32	0.15	0.08 0.28	-1.40**	0.38	0.25	0.12 0.52
Prosocial Behavior	0.12**	0.01	1.12	1.10 1.15	0.14**	0.01	1.15	1.12 1.18
Overt Aggression	-0.02	0.04			0.10**	0.02	1.10	1.05 1.15
Relational Aggression	-0.08**	0.03	0.92	0.87 0.97	-0.03	0.02		
Alcohol Use	0.12	0.15			0.04	0.19		
Substance Use	0.02	0.21			0.35	0.32		
Step 2 - Interaction								
Intercept	3.12	0.76			-4.35	0.98		
Gender (1 = male)	-0.57	0.20			0.07	1.48		
Prosocial Behavior	0.14**	0.02	1.15	1.11 1.19	0.18**	0.02	1.20	1.15 1.24
Overt Aggression	-0.04	0.05			0.02	0.04		
Relational Aggression	-0.10**	0.04	0.91	0.85 0.98	0.01	0.03		
Alcohol Use	0.19	0.21			0.13	0.25		
Substance Use	0.20	0.28			-0.57	0.54		
Gender*Prosocial Behavior	-0.04 [†]	0.02	0.96	0.92 1.00	-0.06*	0.03	0.94	0.90 0.99
Gender*Overt Aggression	0.03	0.06			0.13**	0.05	1.14	1.04 1.25
Gender*Relational Aggression	-0.01	0.08			-0.07	0.05		
Gender*Alcohol Use	-0.16	0.32			-0.18	0.39		
Gender*Substance Use	-0.39	0.44			0.30	0.64		

Note. ** $p < .01$. * $p < .05$. [†] $p < .10$. Cluster 3 (Neutral) as reference category. CI = 95% Confidence Interval.

5.8. Discussion

In this study, we argue that the adolescent distinction into an affective and a reputational form of peer status and particularly the emergence of popularity as a distinct form of peer status is driven by adolescents' desire to create an image of maturity through the engagement in norm-breaking and adverse behaviors (Moffitt, 1993; Dijkstra et al., 2009). We further argue that as young people approach the transition from school to work, the maturity gap gradually starts to close, making norm-breaking and aggressive behaviors less admirable and making popularity a less salient form of peer status in this age group. To empirically test this proposition, this study investigated the different groups of peer status that can be identified in a sample of Dutch young adults on the threshold of the transition from vocational education to work along with the behavioral associations of these status groups in terms of young people's engagement in prosocial behavior, overt and relational aggression, and their alcohol and substance use.

The results of our study suggest that the main criterion that determines whether young adults occupy a high status position in the peer group is the extent to which they are liked by their peers. However, it also appears to remain of relevance whether or not being liked is combined with being popular. We identified a cluster of individuals who were both liked and popular and who thus occupied a high status position in terms of both affective and reputational measures. In contrast to adolescent samples (e.g., De Bruyn & Cillessen, 2006; Parkhurst & Hopmeyer, 1998; Rodkin et al., 2000), we did not identify a group of individuals who were popular without also being well-liked by their peers. Our findings demonstrate that although popularity as a reputational measure of status does not cease to exist in the young adult peer group, it is closely linked to affective measures of status and does not come about independent from being well-liked.

5.8.1. Prosocial and Aggressive Behavior

In line with our expectation, prosocial behavior showed the strongest associations with high peer status, both in terms of being liked and being liked-popular. This effect was evident for both genders, though the effects were stronger for females than for males. This observation is consistent with our expectation that prosocial rather than norm-breaking or aggressive behaviors discriminate between peers who occupy a high status position in the young adult peer group and those who do not. The results of the behavioral analysis further strengthen our assumption that engagement in aggressive

behavior becomes less admirable in young adulthood, though this observation requires a more in depth discussion. An initial observation of the descriptive statistics supports the conclusion that popularity as a reputational form of peer status does not entirely cease to exist in the young adult peer group and shows that both overt and reputational aggression remain positively correlated with popularity (though to a lower extent than prosocial behavior). Whereas the correlations as well as the results of the regression analysis indicate that both a liked and a liked-popular status position is most strongly associated with prosocial behavior in the peer group, the correlational data also suggest that aggressive behavior does not entirely lose its role in young adult peer status but remains an important factor in the behavioral repertoire of high status individuals in the young adult peer group.

5.8.2. Gender Differences Aggressive Behavior and Peer Status

Upon closer inspection, the effect of aggression on young adult peer status further appears to be gender-specific. In younger samples, engagement in overt and relational aggression is positively correlated with popularity for both genders (for a comparison see Dijkstra et al., 2009; $r = .28$ overt aggression/boys, $r = .36$ relational aggression/boys, $r = .28$ overt aggression/girls, $r = .41$ relational aggression/girls). Regression results of the present study show no positive association between relational aggression and either form of peer status but rather indicate that engagement in relational aggression *decreases* the odds of being liked for both genders. Engagement in overt aggression increased the odds of being liked-popular for males but not for females.

The finding that overt aggression is positively associated with a liked-popular status position for young males suggests that aggressive behavior still serves a status-enhancing function in this age group. Especially the strategic use of aggressive behavior may not be bound to the peer group but provide benefits in other social contexts and therefore persist beyond adolescence. Whereas aggressive behavior is unlikely to be rewarded with a higher status position in informal settings, it may provide individuals with status benefits in formal settings. Organizational literature has shown that instrumental aggression reflects a form of strategic goal-oriented action in organizational settings that can be used to acquire status and to 'get ahead' (Neuman & Baron, 1998; 2005; Spector, Fox & Domagalaski, 2006). Likewise, adolescent research has identified individuals who draw on bi-strategic forms of prosocial and coercive behavior to acquire

power among their peers but who nonetheless take in a central position in the peer group (Hawley, 2003). Research on adolescent samples has further suggested that overt aggression is more normative and frequent in males as compared to females (Crick, 1997; Crick & Grotpeter, 1995). It appears that instrumental overt aggression is a distinctive feature of higher status and a tolerated form of strategic goal-oriented action for young adult men, but not for women.

Stated differently, the results suggest that in young adulthood, a certain level of aggressive behavior is tolerated and might even be rewarded with the attainment of a higher status in males, whereas females do not derive status benefits from these same behaviors. Especially in the light of the strategic use of aggressive behavior a form of strategic goal-oriented action in organizational settings, these findings suggest that whereas for men it may be tolerated to pursue their career-goals in an aggressive manner, women will need to rely on different strategies to achieve their goals, presumably less assertive and therefore potentially less effective ones in the light of their prospective career advancements. Given that a certain level of assertiveness and aggressiveness is often regarded as a strategic means to acquire status and advance one's career (Neuman & Baron, 1998; 2005; Spector, Fox & Domagalaski, 2006), this may pose a challenge for young women seeking to get ahead in their professional career.

5.8.3. Alcohol and Substance Use in Young Adulthood

The behavioral associations of peer status identified in the present study are consistent with our notion that the norm-breaking behaviors that are commonly associated with popularity in adolescence (Dijkstra et al., 2009; Lansford et al., 2009) are less admirable in older peer groups. Whereas in adolescent samples, norm-breaking behavior (alcohol and substance use) is positively correlated with popularity in both boys and girls (see for example Dijkstra et al., 2009 for a comparison with Dutch adolescents; $r = .30$ for boys, $r = .26$ for girls), the results of our study show no significant associations of alcohol or substance use with peer status. This lack of an effect may be due to the developmental meaning of these behaviors in this age group. Whereas in adolescent samples, alcohol and drug use clearly represent a form of norm-breaking and in some instance also illegal behavior, these behaviors become less provocative in older age groups. Once these behaviors do not clearly violate a norm anymore but become to some extent 'normative' to the whole age group as the majority of young people engage in them to some extent,

they lose their signaling function as a marker of maturity and adult status. The finding that alcohol and substance use did not significantly correlate with any of the peer nominations (liked, disliked, popular, unpopular) and that the three status groups (neutral, liked, liked-popular) did not significantly differ on these variables support the notion that at least these types of norm-breaking behaviors are no longer relevant to peer status in young adulthood.

5.8.4. Strengths and Limitations

The present study is among the first to address the conceptualization and behavioral associations of peer status beyond adolescence and advances our knowledge on peer status in young adulthood. There are however some limitations to this study. First, we focused on prosocial and aggressive classrooms behavior as well as alcohol and substance use. Although these are behaviors that are commonly associated with peer status in adolescence (Dijkstra et al., 2009; Mayeux et al., 2008), future studies may take into account a wider array of behaviors. It is possible that certain behaviors which can be classified as norm-breaking in adolescence are perceived differently in older samples. For instance, whereas alcohol use may be a form of norm-breaking behavior in an underage sample, it might be perceived as less severe or even to some extent 'normative' in older age groups. Instead, new forms of norm-breaking behavior that were not yet available to adolescents might emerge (e.g., reckless driving). Future research may focus on additional behavioral associations, positive and negative, of peer status in young adulthood.

Second, the present study employs a sample of young adults who are on the verge of the transition from school to work. This unique sample is one of the major strengths of the present study and allows us to examine peer status in the transition period to adulthood. One great advantage of this sample and the form of vocational education that respondents are following is the relatively high amount of time that students spend together with their peers in the classroom as compared to different forms of vocational training that primarily rely on one-the-job-training. However, while providing a great number of benefits to the present study, this sample may also limit the generalizability of the results to young people who experience different forms of transitions. Respondents in the present sample are going through an extended transition period in which they gradually approach working life. While this is a normative transition in the cultural

context of the Netherlands in which the study was conducted, this may not be the case in other countries and cultural settings. The results of the present study therefore need to be interpreted in the light of this specific context. It is a worthwhile endeavor for future studies to investigate other forms of transitions in which individuals move more abruptly from the peer group of the classroom to the workplace. Findings may differ for young people who are not embedded in a reasonably stable peer context in the classroom during the transition period. However, the classroom is not the only setting in which young adults interact with their peers and in which status is established. Future studies may address the question whether the findings that have been obtained the school-bound peer group in the present study can be replicated in young adult peer groups in non-educational settings.

Finally, results do not provide information on how peer status changes throughout the course of the transition and after individuals have completed the transition. Future studies may take a longitudinal approach and examine how the types and behavioral associations of peer status change during the transition to adulthood. However, there are practical constraints attached to the examination of peer status beyond the school context. As young people who are embedded in more diverse social contexts can no longer be approached in an institutional setting, identifying the focal peer group for the assessment of peer status becomes a major obstacle to research on peer relationships beyond the school context.

5.8.5. Conclusions and Future Directions

The present study has shown that in young adult peer groups, peer status is most consistently associated with prosociality. The results of our study suggest that the status-enhancing benefits of norm-breaking and to some extent also aggressive behaviors are lower in young adulthood than commonly found in adolescent samples. However, the status-enhancing benefits of overt aggression are not eradicated and appear to persist beyond adolescence for young adult males. Future studies may extend the present research to different cultural contexts and different forms of the transition to working life.

