

Longitudinal data help illustrate how adolescents actively forge their social identity within the context of peer culture. In addition, this study indicates that the social identity adolescents coconstruct with their peers and individual patterns of activity both influence ego identity.

Identity Development and Peer Group Participation

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Adolescents are an essential component of adolescent identity development. Adolescents are exposed to different norms and values when they interact with peers both within and outside their own peer group. They compare themselves to their peers as they interact. Participation in new activities allows adolescents to explore different norms and values. Discussion with friends and peers about these norms and values assists them in understanding where they stand on these issues (Youniss and Smollar, 1985). Hence, adolescents coconstruct their identity with friends and peers by rejecting some norms and values and identifying with others.

Theoretical Issues

This chapter examines identity development as a process that is facilitated by adolescent peer group participation using data from an ongoing longitudinal study. In this section, we first examine why the peer group plays such an important role in adolescent identity construction. Then we examine the role of peer group norms and present a new approach for measuring peer group norms and values. Finally, we examine stability and change in peer group orientation to norms and values as part of the process of adolescent identity development.

Why Do Peer Groups Influence Identity? Peer groups are important because identity is constructed within relationships. As Piaget (1939) (1965) so succinctly described the process, "In order to discover oneself as a particular

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individual, what is needed is a continuous comparison, the outcome of opposition, of discussion, and of mutual control" (p. 393). This kind of comparison, Piaget suggested, can only occur among peers because one can have true discussions and mutual control only among equals such as peers. Interactions with peers both within and outside of the peer group provide points of resistance to adolescents' thoughts about themselves and the world around them, which Davidson and Youngs (1991) argue is critical to identity development. The wide variety of norms and values associated with potential peer groups provides adolescents with opportunities for continuous comparison, opposition, and discussion. Interactions with peers who have similar and divergent values allow for examination of personal values and beliefs, and they provide a forum for individuals of equal status to discuss who they are and who they want to be within a supportive environment. Thus, peer groups prevent autistic, egocentric views of the self and provide the initial setting and scene for the life story individuals begin to construct in adolescence (McAdams, 1993).

Peer Group Norms. There is consensus among researchers and theorists that different peer groups provide youth with a variety of values and norms with which to identify. Affiliation with a certain peer group implies identification with the values and norms of that group. Brown (1989), however, cautions that peer group affiliation is not entirely a matter of individual choice. Rather, youth are classified by their peers into crowds based on reputation. The more similar an individual's reputation is to that of a prototypical crowd member, the more likely it is that he or she will be assigned to that crowd. Studies support this argument and indicate that adolescents from different crowds have different values, norms, and interests (for example, Brown, Lohr, and Trujillo, 1990; Kinney, this volume). Insofar as reputation differs from self-perception, there is potential for discrepancy between individual values and those of the crowd. This chapter addresses this potential for discrepancy by examining the extent to which individual patterns of activity coincide with the patterns of activity characteristic of the members of the crowd to which students have been assigned by their peers. In addition, it examines the extent to which change in individual and crowd patterns of activity relate to change in adolescent identity development.

Because many adolescents are seen as members of more than one crowd by their peers (Brown, 1989), we examined crowds in terms of their orientation to the value systems that provide the structure for adolescent peer culture (Rigsby and McDill, 1975). As youth tend to affiliate with peers who are part of the same crowd or a crowd that has a similar reputation and status within the peer crowd system (Brown, Mory, and Kinney, 1994), it is most likely that the crowds to which youth are multiply assigned have similar value systems. This method of quantifying peer group norms minimizes the problem of multiple crowd assignments. The question then becomes, To how many value systems do youth attend? Because these value systems are the basis of this chapter, it is important to ensure that the appropriate number of dimensions are utilized, and that these dimensions are appropriately mea-

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sured. The following literature review provides the foundation for the analyses presented in this chapter.

Dimensions of Peer Culture. Coleman (1961) posited a unidimensional adolescent subculture with a single set of norms and values that pitted peer-oriented activities on one end of the dimension against adult-sponsored activities such as academic endeavors on the other. Others, however, have theorized multiple adolescent subcultures based on distinct value systems. For instance, Rigsby and McDill (1975) argued that youth attend to two value systems within the school. The first dimension relates to adult norms and values, while the second is associated with peer norms and values. These dimensions are independent, so youth may be strongly committed to either reward system, or they may strongly reject both. Rigsby and McDill classified youth into social styles based on their orientation to each system. Youth who attended to both reward systems were described as "well-rounded," while those who attended only to the formal reward system were described as "studious." Youth who attended only to the informal reward system were described as "fun-culture," and youth who didn't attend to either system were described as "uninvolved." Rigsby and McDill found that individuals from each social type differed in theoretically meaningful ways on measures not used for classification. Theoretical and empirical research conducted during the past four decades supports Rigsby and McDill's conceptual model.

In 1962 Clark theorized that three adolescent subcultures exist: a fun subculture similar to Coleman's youth culture; an academic subculture consisting of serious, hard-working students; and a delinquent subculture whose members rebel against everything for which the school stands. In addition to these subcultures, Clark noted that a group of "nobodies . . . who are marginal to all three orientations" (pp. 269-270) exist. Hence, Clark's model also consists of four types of youth.

Next, Cohen (1979) factor-analyzed data from one of the schools in Coleman's study (1961) in an attempt to demonstrate empirically the multidimensionality of adolescent peer culture. He found that a two-factor solution in which each factor had a positive and negative pole best described the data for both males and females. These empirically derived dimensions were similar to those outlined by Rigsby and McDill (1975), and the subcultures derived from these dimensions matched the conceptual groups described by Clark (1962). Interest in studying, entering college, and relative disinterest in peers defined the positive pole of Factor 1, while interest in peers, smoking, drinking, and disinterest in studying and college attendance defined the negative pole. Cohen equated the positive pole with Clark's academic subculture and the negative pole with Clark's delinquent subculture.

Interest in popularity; desirability as a date; wanting to be remembered as the best student; importance or centrality at school; interest, participation, and ability in athletics; and participation in school activities defined the positive pole of Factor 2, while being unpopular and lack of participation in school or extracurricular activities defined the negative pole. Cohen equated

the positive pole with Clark's fun subculture and the negative pole with Clark's description of "nobbies."

Finally, Brown, Mory, and McKinney (1994) demonstrated that Riggsby and McDill's conceptual model (1975) provided a reasonably accurate description of the orientation of peer crowds with regard to these reward systems. First, they asked high school students to rank a variety of crowds on the extent to which members were liked by teachers, and how much status and influence members had with peers in their school. When the results were mapped on the two-dimensional quadrant system, they fit Riggsby and McDill's conceptual model. Populars, jocks, and normals were classified as well rounded; brains, nerds, and loners were classified as studious; and druggies were classified as uninvolved.

In a second study, college students rated the similarity of pairs of peer crowds in order to empirically derive the dimensions by which they are differentiated. Multidimensional scaling indicated that the two-dimensional solution, which nearly replicated their earlier findings, fit the data quite well. Figure 4.1 demonstrates how these studies support the idea that adolescent peer culture is structured by two distinct reward systems. It provides a social map of the subcultures described in the literature in the appropriate quadrant according to Riggsby and McDill's scheme. Note the placement of Cohen's (1979) and Clark's subcultures (1962). As Riggsby and McDill's model suggests that uninvolved social types are disengaged from both reward systems, the "nobbies" described by Cohen and Clark are placed within this quadrant. Because Cohen's analysis suggests that the "fun" subculture is defined not only by an orientation to peer activities but by also a desire to be remembered as the best student and to be a central or important figure within the school, the fun subcultures of both Cohen and Clark are placed in the well-rounded quadrant. Furthermore, as Cohen's analysis found that importance of peers accompanies a proclivity to drink, smoke, and participate in other activities that are considered delinquent for adolescents, the delinquent subcultures of Cohen and Clark are placed in the fun-culture quadrant. These studies demonstrate that crowds with similar reputations are classified within the same social type. Hence measures of the formal and informal reward systems gauge the value systems of peer culture and minimize the problem of multiple crowd affiliations.

Identity Development and Peer Group Change. Few studies have examined the relationship of identity development and peer group change over time. However, one such study suggests that change in peer group orientation affects youth's sense of identity. Kinney (1993) found that some youth who were nerds in junior high changed to normals after their transition to high school. This reconstruction of identity was made possible by a change in the structure of peer culture and participation in new activities.

Kinney noted a change in the structure of peer culture from a system in which one was either a "trendie" or a "nerd" in middle school to a system in which there were various reference groups with which to identify. Moreover, high school offered more activities in which youth could participate. Partici-

Figure 4.1. Social Types Described in Various Studies

High Formal Well-Rounded: Rigsby and McDill Fun Subculture: Clark and Cohen Populars & Jocks: Brown et al.*	Low Formal Fun Culture: Rigsby and McDill Delinquent Subculture: Clark and Cohen Druggies: Brown et al.
High Informal	High Informal ‡
High Formal Studious: Rigsby and McDill Academic Subculture: Clark and Cohen Brains, Normals, Nerds: Brown et al.	Low Formal Uninvolved: Rigsby and McDill Nobodies: Clark and Cohen Loners: Brown et al.
Low Informal	Low Informal

* Multidimensional scaling model only.

pation in extracurricular activities offered these youth opportunities to achieve and gain self-confidence, and put them in contact with older students who were similar to themselves. Interactions within this supportive reference group provided them with "positive reflected appraisals and more favorable social comparisons" (Kinney, 1993, p. 30).

This study illustrates several points. First, high school offers a wider range of extracurricular activities by which youth can express and explore their interests and values, and a greater variety of peer groups and ideologies with which to identify. It also shows that the extracurricular activities in which adolescents participate may contribute to identity development. This is consistent with retrospective studies that found that youth who participated in 4-H and other extracurricular activities in high school were more likely to be involved in the community (Ladewig and Thomas, 1987) as adults. Finally, it portrays individuals as not merely passive recipients of peer appraisals. Although certain constraints exist, youth may change their behavior to reflect the reputation of the peer crowd with which they identify in the hopes of being viewed differently by their peers. The greater array of extracurricular activities offered by high schools may be one means of affecting such change. Hence, examination of individual norms and values in this study focus on participation in curricular and extracurricular activities offered by the school.

The following analyses examine four points suggested by this area of the literature. First, they examine the extent to which measures of individual

norms and values relate to peer group norms and values. We hypothesize that individual norms and values will correlate with peer group norms and values. However, since youth are assigned to crowds by their peers, the correlations will not be perfect. ~~So~~ we theorize that in the process of identity exploration youth may change the type of activities in which they participate. Such change may be an effort to explore various options available to them, or an attempt to change the perceptions peers have of them. Change on the individual level may then lead to change in peer group orientation. Hence, we hypothesize that change in individual behavior, norms, and values will be associated with changes in peer group orientation. However, Brown (1989) emphasized that changes in individual behavior will not, of necessity, result in changes in the crowd to which youth are assigned because the changes must occur both in the eyes of the individual and in the eyes of their peers. Thus, the relationship between change on the individual level and change on the peer group level may not be strong. Finally, if peer group orientation and participation in individual activities are ways by which youth explore identity in adolescence, we hypothesize that change on these measures will be associated with measures of change in identity.

The last two hypotheses seek to examine growth or change over time. One of the most straightforward methods of analyzing change is to use difference scores, but there has been controversy regarding their use. Some of the early literature suggests that difference scores are unreliable (for example, Benter, 1963; Kessler, 1977). However, Willet (1988) demonstrated that difference scores are an unbiased estimate of the quantity of change for the individual "regardless of the magnitude of the measurement error" (Rogosa, Brandt, and Zimowski, 1982, p. 730). Hence, the analyses that examine change in individual patterns of participation and peer group orientation will utilize difference scores as these are measured at only two points. Since the identity measures were assessed at three points in time, the slopes and intercepts are the preferred measures of change. The slope measures the rate of change over time, and the intercept in this case measures the predicted outcome.

Method

Participants

The data are from students attending a school involved in a longitudinal study on community service, interpersonal relations, and adolescent identity development. Data are from surveys collected during class periods two times during two consecutive school years. The data from year 1 are responses from two cohorts of students attending the 10th and 11th grades, and year 2 data are responses from the same students in the 11th and 12th grades, respectively. Each year the first administration was in the beginning of the year (T1: Fall, 1994), and the second was at the end of the school year (T2 and T4: Spring, 1995 and 1996). Four hundred ninety-seven students provided data at least two times during the study (25 students did not meet these qualifications).

Data augmentation of missing values was completed using the NORM program (Schafer, 1997). Multiple imputation analyses were performed using the 5 data sets that resulted from the data augmentation. This provides an efficiency of approximately 94 percent (Schafer, 1997).

Students attended a parochial high school in the Washington, D.C., metropolitan area. The school has a reputation of being academically oriented and has high academic standards, but is not considered an elite school. Rather, it is considered "average" for the county in which it resides. A majority of students were of European descent (68 percent); 9 percent of the students came from African American, Asian, and Hispanic backgrounds; and 5 percent were classified as "other." The population was approximately evenly divided by gender, and students came from middle- to upper-middle-class backgrounds based on information provided by the school and students' descriptions of parents' occupations and education.

Measures. Peer group orientation in this study is measured by self-report data, and hence are students' perceptions of their peer group orientation. At both T1 and T2 students were asked to write the name of the crowd or crowds to which other students in their school would assign them. Next they were asked to indicate on a scale of 1 to 5 how frequently (1 = never, 5 = frequently) people in that crowd party, work on school publications, read books not required for school, participate in school sports, participate in the arts (drama, art, music, and the like), study for school classes, get into trouble, and watch sports. Previous research and theory (Pugh, 1995; Rigsoy and McDill, 1975; Youniss, Yates, and Su, 1997) suggest that working on school publications, extracurricular reading, participation in the arts, and studying measure the formal reward system, while partying, getting into trouble, participating in sports, and watching sports measure the informal reward system. Principle components factor analysis in which two factors were extracted was performed on the data from T1 and T2. The two-factor solution accounted for over half of the variance on the items at each point in time, and confirmed our hypotheses regarding the factor on which each item would load.

Scales that measure peer group norms and values were constructed for both T1 and T2 by averaging the scores of the items loading on the two factors. The first scale measures students' perceptions of their peer group orientation to the formal reward system (school publications, extracurricular reading, the arts, and studying; range: 1-5; alphas = .75 and .73 for T1 and T2, respectively). The second scale measures students' perceptions of their peer group orientation to the informal reward system (party, get in trouble, watch sports, participate in sports; range: 1-5; alphas = .59 and .61 for T1 and T2, respectively).

Individual Norms and Values. The construct of individual norms and values was quantified by assessing individual patterns of participation in school-related activities. Students were asked to rate how frequently on a 5-point scale (1 = never, 5 = daily) they participated in school-sponsored team sports, the arts, academically oriented organizations within the school (clubs, student

government, the yearbook, and so on), studying, and spending time alone at T1 and T2. They were also asked to report their grade point average (GPA) on a 4-point scale.

Identity. Because identity is a complex construct, it was operationalized using two measures. The first measure, the identity scale of the Erikson Psychosocial Stage Inventory (EPSI; Rosenthal, Gurey, and Moore, 1981), is a 13-item questionnaire that gauges the strength and stability of adolescents' sense of ego identity ($\alpha = .79$). Because identity development also entails exploring the self within the context of society, the second measure of identity examines the adolescents' visions of their future self—namely, their intentions to volunteer in the future (the following summer, after high school, and as an adult [$\alpha = .75$]). Responses for both measures were indicated on a scale of 1 to 5. Item scores were averaged for each measure to produce scale scores for ego identity and future voluntarism.

Control Variables. Because both grade in school and gender have been found to play a role in peer group affiliation in previous studies, we controlled for these influences in the first set of analyses.³ Students reported their grade in school and gender on each survey.

Measures of Change. Difference scores for peer group orientation to the formal and informal reward systems were calculated by subtracting T1 scores from T2 scores for both peer group orientations. Difference scores for individual activities were calculated by subtracting T1 scores from T2 scores for each individual activity. Slope and intercept for the two identity measures were calculated by creating a regression equation for each individual's longitudinal data with the intercept being the predicted outcome in this case.

Results

Analyses first examine the extent to which individual norms and values correlate with peer group orientation to formal and informal reward systems. Next they examine the extent to which change exists and the extent to which change on the individual level predicts change in peer group orientation. Finally, they examine the relationship of individual patterns of activity and peer group orientation on measures of identity.

Individual Norms and Values and Peer Group Orientation. Correlations (See Table 4.1) suggest that peer group orientations to formal and informal reward systems are correlated with self-reports of individual activities, and that the direction of these correlations is generally consistent with what one would expect based on theory. For instance, spending time alone and participation in the arts, academic organizations, and studying were positively correlated with peer group orientation to the formal reward system, and negatively correlated with peer orientation to the informal system. Theory, however, might predict that participation in extracurricular activities, including sports, would be associated with an orientation toward school and achievement. In this case participation in sports had a negative correlation with peer orienta-

Table 4.1. The Relationship Between Peer Group Norms and Individual Activities

	Peer Formal Orientation	Peer Informal Orientation
Peer Formal Orientation	—	—
Peer Informal Orientation	-.09	.50**
Sports	-.14**	-.10*
Studying	.27**	-.12**
Academic Organizations	.33**	-.13**
Alone	.20	-.19**
The Arts	.35**	-.16**
GPA	.16**	

Note: N = 497; *p < .05; **p < .01.

tion to the formal reward system and a positive correlation with peer orientation to the informal reward system. Because this finding may be due to the fact that individual participation in sports may correlate highly with peer group orientation in sports, individual sports participation was correlated with informal peer group orientation when all items related to sports were removed. The correlation remained significant ($r = .33$), which indicates that individual sports participation is associated, albeit moderately, with being part of a peer group in which members party and get in trouble.

How Much Change Occurs? Descriptive statistics for difference scores suggest that change and variation exist for both peer group orientation and individual norms and values (see Table 4.2). These statistics suggest that there is greater change and variability in change on peer group orientation to the formal reward system ($M = .60$, $S^2 = .86$) than for the informal reward system ($M = .12$, $S^2 = .65$). On average, individual adolescents studied more, spent less time alone, and less time participating in the arts, academic organizations, and sports at the end of the school year than at the beginning. There was little change with regard to GPA. Thus, change in GPA will be eliminated from analyses regarding change, but analyses will control for GPA.

Predicting Change in Peer Group Orientation. The preceding analyses show that individual patterns of participation are correlated moderately with peer group orientation to both the formal and the informal reward systems. The next analyses examine the extent to which change on the individual level predicted change on the peer group level. Multiple regression indicated that change in individual patterns of participation provided a unique contribution to predicting change in peer group orientation to both peer systems (formal system, [$F(6,490) = 6.81$; $p < .01$]; informal system [$F(6,490) = 4.15$; $p < .01$]). Table 4.3 indicates increased sports participation predicts a decrease in the orientation of that person's peer group to the formal reward system, and that an increase in spending time alone and increased participation in the arts, academic organizations, and studying predicts an increase. With regard to the informal peer group orientation,

Table 4.2. Descriptive Statistics for Difference Scores

Difference ($T_1 - T_2$)	Mean	SD
Peer Group Orientation:		
Formal Reward System	.60	.86
Peer Group Orientation:		
Informal System	.12	.65
Individual Profile Measures		
School Sports	-.54	1.14
Studying	.33	1.14
Academic Organizations	-.95	1.21
Alone	-.54	1.14
The Arts	-.93	1.10
GPA	.02	.50

Note: N = 497.

Table 4.3. Individual Behaviors Predicting Change in Peer Group Orientation

	Formal Orientation		Informal Orientation	
	Beta	SE	Beta	SE
GPA	.10	.06	1.74	.02
Gender	.06	.08	.73	.07
Grade	-.06	.07	-.81	.02
Difference Scores				
Alone	.07	.03	2.17*	.07
The Arts	.07	.03	2.15*	-.05
Academic Organizations	.07	.03	2.15*	-.07
Study	.09	.03	2.57*	.07
School Sports	-.11	.03	-3.71**	.04
		Adjusted R ² = .06		Adjusted R ² = .03

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

increased participation in academic organizations predicts a decrease while increased studying predicts an increase.

Predicting Change in Identity. In the final analysis multiple regression was used to predict change in ego identity and future voluntarism using change scores for individual patterns of activity and peer group orientations.⁴ Examination of rate of change, or slope, indicates that decreased participation in academic organizations, increased participation in sports, and an increase in peer group formal orientation predicted more rapid growth in ego identity [F(10,486) = 1.34; $p = .01$]. Increased studying and a decrease in peer group informal orientation predicted more rapid growth on future voluntarism [F(10,486) = 2.34; $p = .01$].

Examination of intercept, or final outcome in this case, indicated that neither changes in individual patterns of activity nor peer group orientation significantly predicted outcome for ego identity ($F[10, 486] = 1.39; p > .05$). However, a decrease in the informal peer group orientation and gender (being female) predicted outcome for future voluntarism ($F[10, 486] = 2.56; p < .01$).

In an attempt to determine the meaning of the significant difference scores from the previous regression analyses several further analyses were conducted. We first needed to know the relationship of the difference scores to their respective initial scores. Next we needed to know how those difference scores related to the initial scores on the identity variables. To determine the relationship of difference scores to the initial scores, students were classified as being in the lowest, middle, or upper third of difference scores for the formal and informal peer group orientations, academic organizations, sports, and studying. Analyses of variance indicated that in each variable those who had the greatest change in the positive direction generally had the lowest initial scores on each variable and those with the most negative change generally had the highest initial scores. Once we had an understanding of the background of the change scores, separate multiple regression equations were computed to predict both ego identity and future voluntarism at T1 using the significant variables from the analyses presented in Tables 4.4 and 4.5. Results in Table 4.6 indicated near significant trends for low difference scores for peer group formal orientation and individual sports participation in predicting high scores on ego identity ($F[3, 491] = 1.98; p = .12$). In addition, they indicated that not only did females have higher predicted outcomes, but they also started the study with higher scores on future voluntarism than did males ($F[3, 491] = 9.04; p < .01$).

Table 4.4. Change in Identity and Its Predictors: Slope

Individual Profile Measures	Ego Identity			Future Voluntarism		
	Beta	SE	t	Beta	SE	t
Grade	.01	.01	1.07	.00	.01	.23
Gender	-.02	.01	-.24	.01	.01	.88
GPA	.00	.01	.56	-.01	.01	-.79
Difference Scores						
Alone	-.00	.01	-.70	.00	.01	.38
The Arts	-.00	.004	-.24	.00	.01	.70
Academic Organizations	.01	.004	2.03*	-.00	.00	-.95
Study	-.01	.004	-1.48	.01	.00	2.66**
School Sports	.01	.004	2.56*	-.01	.00	-1.30
Formal Peer Orientation	.02	.01	3.43**	.01	.01	.98
Informal Peer Orientation	-.09	.01	-1.26	-.02	.01	-2.57*
Constant	-.11	.02	-4.87**	.04	.03	1.44
			Adjusted R ² = .03			Adjusted R ² = .02

Note: *p < .05; **p < .01.

Table 4.5 Change in Identity and Its Predictors: Intercept

Individual Profile Measures	Future Volunteering		
	Beta	SE	t
Grade	.02	.11	.19
Gender	.29	.11	2.60**
GPA	.10	.08	1.25
Difference Scores			
Alone	.08	.05	1.66
The Arts	-.03	.05	-.61
Academic Organizations	.04	.05	.90
Study	.04	.05	.75
School Sports	-.01	.04	-.23
Formal Orientation	.16	.07	2.35*
Informal Orientation	-.18	.09	-2.14*
Constant	2.73	.27	10.24**
Adjusted R ² = .03			

Note: *p < .05; **p < .01.

Table 4.6 Examining Predictors of Growth Curve Parameters: Predicting Initial Values with Difference Scores

Difference Score	Ego Identity		
	Beta	SE	t
Individual Academic Organizations	.02	.02	.99
Individual Sports	-.03	.02	-1.84
Peer Group Formal Orientation	-.04	.03	-1.67*
Constant			
		Future Volunteering	
Gender	.41	.08	4.99**
Individual Study	-.04	.04	-1.23
Peer Group Informal Orientation	.03	.06	.58
Constant	2.56	.06	43.62**

Note: *p < .10; **p < .01.

The findings of this study provide several insights into the relationship between peer group participation and identity development. First, they provide construct validity for the measures of the formal and informal reward system described here. We found a factor structure similar to that found by Cohen (1979) and similar to the multidimensional scaling model found by Brown, Morv, and Kinney (1994). Moreover, these factors related to theoretically meaningful behaviors on the individual level. Analyses of change also provided evidence for construct validity. Increases in items relating to academically oriented pursuits predicted an increase in the formal orientation, while increases in sports participation predicted a decrease. Further, increases in participation in academic organizations predicted a decrease in the informal orientation. The ~~one finding that was~~ counter to expectations was that increases in studying predicted an increase in the informal orientation. One alternative may be that youth high on the informal orientation may have had more reason to increase studying than their peers. However, it must be kept in mind that scoring high on the informal orientation does not preclude scoring high on the formal orientation. This finding may be an artifact of those youth who have high orientations to both systems (that is, those who are well rounded).

Second, the findings yield evidence supporting previous studies of crowds and peer group orientation (for example, Kinney, this volume). This study found that at least some youth identify closely with the norms of the peer group to which they have been assigned. The moderate correlations among measures of individual norms and values and peer group orientations to formal and informal reward systems suggests that there are a number of youth who do not identify completely with the norms and values of their assigned peer group. This lack of correspondence may motivate youth to participate in certain activities in an attempt to be better understood by their peers. Or, perhaps, youth may participate in new activities in the process of identity exploration, and be reassigned by their peers into a different peer group at a later time. Because the analyses cannot imply causation, however, further research should examine the extent to which individual behavior is mediated by peer group orientation and individual behavior at an earlier point in time. In any case, these data illustrate that change exists in both individual patterns of participation and in peer group orientation. Furthermore, this change is orderly in that changes in one area are associated with changes in the other.

Third, the data provide evidence that both individual patterns of participation and peer group orientations relate to identity development in adolescents. Findings are compelling with regard to individual patterns of participation because they indicate that various individual activities differentially predict each measure of identity. For instance, increased participation in sports was associated with more rapid growth in ego identity, while increased participation in academic organizations was associated with slower growth. This finding was derived by the analysis in Table 4.6. Students with low initial scores on sports

participation tended to have higher initial scores on ego identity at the outset of the study. We also know that these students started the study with lower levels of sports participation than their peers. Hence, an increase in sports participation by students who previously had the lowest levels of participation led to a faster rate of growth in ego identity. For academic organizations, we found a slightly different pattern. Those students who decreased their participation in academic organizations had a slower rate of growth over two years. Examination of initial levels of participation indicates that those students who changed in a negative direction started the year with the most involvement in academic organizations. Those students who may have been initially overwhelmed by too much participation and who backed off somewhat in their participation may have found more time in their lives to contemplate who they are in the context of the society in which they live. Hence, mere quantity of participation in academic organizations does not seem to help clarify identity, but the process of choosing the activities that are most important and eliminating those that are not as central seems to play an important role in identity development.

Findings are also compelling with regard to peer group orientations because each orientation differentially predicted the measures of identity used in this study. In particular, the formal orientation was associated with ego identity, and the informal orientation was associated with future voluntarism. As with the individual patterns of activity, the higher the change in the positive direction for each peer group orientation, the lower that orientation was initially. The findings from Table 4, 6 indicate that those students who had less gain in formal orientation (that is, those who had a high formal orientation to begin with) tended to have higher initial scores on ego identity. Other findings indicate that those students who initially had a low formal orientation and who increased their orientation to the formal system had more rapid growth on ego identity. So the change in the formal orientation allowed those students to "catch up" with their peers who started the study with a high formal orientation.

While the findings for the formal orientation were positive, those regarding the informal orientation were generally negative. Those students who experienced a decrease in the informal orientation tended to be the highest on that orientation at the outset of the study. Thus, the decrease in the informal orientation that was positively associated with more rapid growth on future voluntarism and predicted outcome suggests that those students who were initially high on the informal orientation and who lessened their orientation somewhat over time had more positive outcomes regarding identity.

Finally, these data help to explain Eccles and Barber's findings (1999) that participation in sports did not predict academic performance in the same way as did participation in more academically oriented activities. In this study, individual participation in sports was associated with a low score on peer group orientation to the formal reward system, while participation in all other extracurricular activities was associated with a high score. Moreover, participation in sports was associated with a high score on peer group orientation to the informal reward system even when peer group participation in sports was

removed from this measure. This suggests that sports participation is different from other extracurricular activities. Sports participation may shift adolescents away from peer groups with an academic orientation, and toward peer groups having reputations for partying or getting into trouble. However, as indicated earlier, sports participation provides benefits to certain youth.

Overall this study indicates that adolescents explore who they are by participating in activities with their peers within the context of the peer culture. What they do and how they are perceived by their peers are inextricably linked, and changes in activities and perceptions are associated with strength and stability of ego identity and their visions of their future selves.

As the variance explained in these examinations of change is low, it is important to examine other factors that are also involved, for example, parent and friend relationships. Moreover, future research should investigate the relationship of individual patterns of participation and peer group orientations to other measures of identity and explore how participants' feelings about their peer group assignment relate to identity development to provide a more focused picture of this process.

Notes

- 1. Data from T3 are not used in these analyses.
- 2. Analyses were initially performed by gender, but as no differences existed regarding factor structure analyses were conducted together.
- 3. SES was not included as the school was relatively homogeneous regarding SES, and it had no relationship with peer group orientation in this sample.
- 4. Gender, GPA, and grade in school are controlled for in these analyses.

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