The Effects of Peer Influences and Negative Peer Orientation on African American and European American Students' Values and Achievement

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Abstract

The purpose of the present study is to investigate the following hypotheses: (1) Positive peer influences will be significantly related to African American and European American adolescents' intrinsic motivation, value of school, and academic achievement (2) Peer orientation will be significantly related to African American and European adolescents' intrinsic motivation, value of school, and academic achievement (3) There will be a significant interaction between peer influences by peer orientation on African American and European American adolescents' intrinsic motivation, value of school, and academic achievement (4) There will be a significant interaction by ethnicity for each of the previous 3 hypotheses. The sample included 623 African American (335 males and 288 females) and 331 European American (155 males and 176 females) eighth-grade students. The eighth-grade students were interviewed and they also completed self-administered questionnaires. For both African American and European American students, peers' positive academic influence was significiantly related to intrinsic motivation and value of school. For African American students, negative peer orientation was a significant predictor of value of school and G.P.A. For European American students, negative peer orientation was significantly related to their intrinsic motivation and value of school. For African Americans, there was a significant interaction effect of negative peer orientation on the relationship between peers' positive academic influence and intrinsic motivation. For European Americans, there was a significant effect of negative peer orientation on the relationship between peers' positive academic influence and value of school, and negative peer orientation was also a significant moderator of the relationship between peers' delinquent influence and value of school. There was a significant interaction of peers' delinquent influence by students' ethnicity on G.P.A. There was a significant interaction of negative peer orientation by students' ethnicity on G.P.A. There was a significant 3-way interaction of ethnicity by peers' positive academic influence by negative peer orientation on intrinsic motivation. There was a significant 3-way interaction of ethnicity by peers' positive academic influence by negative peer orientation on value of school. There was a significant 3-way interaction of ethnicity by peers' delinquent influence by negative peer orientation on value of school.

Introduction

As children enter adolescence, friends take on a more prominent role in their lives. Research findings show that peer relationships are a significant contributor to understanding adolescent development (Brown, Clasen, & Eicher, 1986; O'Brien & Bierman, 1988; Steinberg & Silverberg, 1986). Peer pressure is linked is adolescent girls' decisions to become sexually active (Duncan-Ricks, 1992), both male and female adolescents' decisions to smoke (Urberg, 1992; Stacy, Sussman, Dent, & Burton, 1992), their use of drugs (Iannotti & Bush, 1992), and other antisocial behaviors.

While an abundance of studies have examined the negative influences of peers on delinquent or antisocial behaviors, fewer studies have focused on the extent adolescents' friends foster successful outcomes and prosocial behaviors. Four underlying themes of the prevailing conceptualization of peer influences need to be re-considered. First of all, peer influence has been more commonly conceptualized as encouragement from friends to engage in delinquent behaviors, pressure to hold undesirable values and attitudes, or discouragement from participating in prosocial behaviors. More recently, researchers have questioned this narrow perspective of peer influence. Clasen and Brown (1986) found that peer influence is not unidirectional. Their sample of 689 7th-12th grade students reported that their peers both encouraged and discouraged adolescents in five different areas of their lives: participation in antisocial behaviors, family involvement, conformity to peer norms, school involvement and peer group involvement.

This leads to the next point, which is that a substantial number of studies on peer influence have focused on the relationship between peer influence and adolescents' misconduct. Peers have an impact on many different areas of adolescents' lives. Peers do not only affect adolescents' decisions to drink, smoke, use drugs, or engage in other delinquent behaviors. Peers also influence adolescents' involvement with their families and their involvement in school (Clasen & Brown, 1986).

Because adolescents spend much of their day in school with their peers and because such socialization may impact later educational outcomes, we need to understand how their peer

affiliation affect their academic development. In a study with 109 fourth- and fifth- grade students, Kindermann (1993) found that children's peer context was related to changes in engagement in school. Using composite maps of the social networks of the children, which were based on interviews with the students, Kindermann (1993) found that the motivation of the children's peer groups influenced individual's change in motivation across the school year. Other researchers have posited that peers influence adolescents' value of school (Coleman, 1961; Steinberg & Silverberg, 1986). In addition to affecting motivation, peer influences may also be related to adolescents' different achievement levels in school (Delgado-Gaitan, 1986).

The third criticism of the current research on peer influences is that much of the research has discussed the influence as the same for all adolescents. Very few studies have examined the role of how the impact of peer influences may be moderated by individual differences. For example, we know that individual's susceptibility to peer influences is related to adolescents' values and behaviors (Steinberg & Silverberg, 1986; Berndt, 1979; Brown, Clasen, & Eicher, 1986). There is also some evidence that examining the adolescents' negative peer orientation or their susceptibility to conform may have a moderating effect on the relationship between peer influences and misconduct behaviors (Brown, Clasen, & Eicher, 1986). Researchers also need to investigate whether adolescents' negative peer orientation has an effect on the relationship between peer influences and adolescents' achievement motivation and school outcomes.

Finally, it seems that the majority of the research has focused on European American middle-class populations. Much less is understood about the relationships among peer influences, negative peer orientation, and academic development in other ethnic populations. However, there is some evidence that the impact of peer influences on school achievement may be different for students of different ethnic groups (Steinberg, Dornbusch, & Brown, 1992). The few studies that have examined the role of peers in minority adolescents' value and achievement in school have primary focused on the negative influences of peers (Ogbu, 1987; Fordham & Ogbu, 1986). There is a need for research that examine how the positive features of minority adolescent peer groups may facilitate positive achievement motivation and outcomes. In addition, few (if any)

the second wave of data collection. The data from the present study are from this second wave of data collection.

In addition to self-report data, record data were collected from the schools. Thus, we have information on the adolescents' grades from their middle schools and their standardized achievement scores (which included their third-grade California Achievement Test scores and their fifth-grade California Achievement Test scores).

See Table 1 for description of the measures.

Results

Hierarchical regression analyses were conducted on each of the dependent variables (intrinsic motivation, value of school, and achievement). Separate analyses were done for students in each ethnic group. In order to determine whether there was a significant difference of each effect (the slope) for each ethnic group, the t-test for differences between two independent regression coefficients was calculated for each of the predictor variables on each dependent variable.

Intrinsic motivation

In the first step of the hierarchical regression, the control variables (gender, SES, and ability) were entered. Table 3 revealed that for the European American students, gender was the only significant predictor in this first step ($\beta = .17$, $p < .05$) whereas SES was the only significant predictor for the African American adolescents ($\beta = -.10$, $p < .05$) as shown in Table 2. For both samples, the control variables did not account for a significant amount of the variance in students' intrinsic motivation.

In the next step of the hierarchical regression, peers' positive academic influence, peers' delinquent influence, and negative peer orientation were entered. These peer-related variables accounted for 23% ($R^2 = .23$, $p < .001$) of the variance in European American students' intrinsic motivation and they accounted for 14% ($R^2 = .14$, $p < .001$) of the variance in African American students' intrinsic motivation (See Tables 2 and 3). Table 2 shows that for African American students, having peers who are positive academic influences was significantly related to their

studies have looked at minority individuals' susceptibility to conformity and its moderating effect on the relationship between peer influences and academic motivation and achievement.

Thus, the goal of the present study is to examine the following hypotheses:

(1) Positive peer influences will be significantly related to African American and European American adolescents' intrinsic motivation, value of school, and academic achievement.

(2) Peer orientation will be significantly related to African American and European adolescents' intrinsic motivation, value of school, and academic achievement.

(3) There will be a significant interaction between peer influences by peer orientation on African American and European American adolescents' intrinsic motivation, value of school, and academic achievement.

(4) There will be a significant interaction by ethnicity for each of the previous 3 hypotheses.

Method

Sample

The sample includes 623 African American (335 males and 288 females) and 331 European American (155 males and 176 females) eighth-grade students. The median annual income of European American families is $50,000-54,999. The median income for the African American families is $40,000-$44,999. The primary caregivers' average levels of education are the same across the two groups. Forty percent of the primary caregivers graduated from college; another fifty-four percent of the primary caregivers' highest level of education is a high school degree.

Procedure

The present study is part of a larger, ongoing study (Maryland Adolescent Growth in Context Study; Principal Investigators-Jacquelynne Eccles & Arnold Sameroff). In the larger study, data were collected from the families at the end of the seventh-grade. The target youth and their primary caregivers were interviewed (approximately 1 hour each) and each completed a 45-minute self-administered questionnaire. If there were a consenting secondary caregiver and an older sibling in the household, they also completed a 45-minute questionnaire. The second wave of data was collected at the end of eighth-grade. Similar data collection instruments were used in

intrinsic motivation ($\beta = .36$, $p < .001$). Similarly, Table 3 reveals that peers' positive academic influence was a significant predictor of European American students' intrinsic motivation ($\beta = .43$, $p < .001$). European American adolescents' negative peer orientation was also a significant predictor of their intrinsic motivation ($\beta = -.18$, $p < .01$). In terms of intrinsic motivation, the first hypothesis (peers' positive academic influence is a significant predictor of intrinsic motivation) was confirmed for both groups of students but the second hypothesis (peer orientation is significantly related to intrinsic motivation) was only confirmed for the European American students.

We examined the interaction effects in the next step. Both interaction terms, peers' delinquent influence by negative peer orientation and peers' positive academic influence by negative peer orientation, were entered in the last step of the hierarchical regression for intrinsic motivation. The data did not support the third hypothesis (negative peer orientation has a moderating effect on the relationship between peer influence and intrinsic motivation) for European American students (See Table 3). For African American students, their negative peer orientation had a significant interaction effect on the relationship between their peers' positive academic influence and their intrinsic motivation ($\beta = -.14$, $p < .01$). See Table 2. Thus, there are some support for the third hypothesis for African American students.

The t-test for testing the difference between independent samples revealed that there was one significant difference between the students in each ethnic group. The interaction effect of peers' positive academic influence by negative peer orientation was significantly different for the two groups ($t=-1.87$, $p < .10$). Figure 1 shows the interaction effect of peers' positive academic influence by negative peer orientation on intrinsic motivation for African American students. Figure 2 provides evidence that there is no interaction effect for European Americans. Ethnic differences in the effect of this interaction provides some support for the fourth hypothesis. All other data revealed no significant ethnic differences.

Value of School

In the first step of the hierarchical regression, the control variables (gender, SES, and ability) were entered. Tables 4 and 5 show that none of the control variables was a significant predictor of African American and European American students' value of school.

In the second step of the hierarchical regression, peers' positive academic influence, peers' delinquent influence, and negative peer orientation were entered. These peer-related variables accounted for 16% ($R^2 = .16$, $p < .001$) of the variance in African American students' value of school and they accounted for 13% ($R^2 = .13$, $p < .001$) of the variance in European American students' value of school (See Tables 4 and 5). Table 4 showed that for African American students, peers' positive academic influence was significantly related to their value of school ($\beta = .24$, $p < .001$) and negative peer orientation was negatively related to their value of school ($\beta = -.26$, $p < .001$). Similarly, Table 5 revealed that peers' positive academic influence was a significant predictor of European American students' value of school ($\beta = .22$, $p < .01$). European American adolescents' negative peer orientation was also a significant predictor of their value of school ($\beta = -.22$, $p < .01$). In terms of value of school, the first hypothesis (peers' positive academic influence is a significant predictor of value of school) was confirmed for both groups of students and the second hypothesis (peer orientation is significantly related to value of school) was also confirmed for both groups of students.

Both interaction terms, peers' delinquent influence by negative peer orientation and peers' positive academic influence by negative peer orientation, were entered in the last step of the hierarchical regression for value of school. The data did not support the third hypothesis (negative peer orientation has a moderating effect on the relationship between peer influence and value of school) for African American students (See Table 4). For European American students, their negative peer orientation had a significant interaction effect on the relationship between their peers' positive academic influence and their value of school ($\beta = .23$, $p < .01$) and negative peer orientation was also a significant moderator of the relationship between peers' delinquent influences and European American students' value of school (($\beta = .17$, $p < .05$). See Table 5. The data confirmed the third hypothesis for European American students.

The t-test for testing the difference between independent samples revealed that there were two significant differences between the students in each ethnic group. The interaction effect of peers' positive academic influence by negative peer orientation was significantly different for the two groups ($t=-2.69$, $p < .05$). Figure 3 provides evidence that there was no interaction effect for African Americans. In contrast, Figure 4 shows the interaction effect of peers' positive academic influence by negative peer orientation on value of school for European American students. In addition, there was also a 3-way interaction effect of ethnicity by negative peer orientation by peers' delinquent influence on value of school ($t=-3.23$, $p <.05$). Figures 5 and 6 present evidence of the 3-way interaction. All other regression coefficients revealed no significant ethnic differences.

Achievement (G.P.A.)

In the first step of the hierarchical regression, the control variables (gender, SES, and ability) were entered. Tables 6 and 7 show that all of the control variables were significantly related to African American and European American students' achievement in school.

In the second step of the hierarchical regression, peers' positive academic influence, peers' delinquent influence, and negative peer orientation were entered. These peer-related variables accounted for 4% (Change in $R^2 = .04$, $p < .001$) of the variance in African American students' achievement and they accounted for 6% ($R^2 = .06$, $p < .001$) of the variance in European American students' achievement (See Tables 6 and 7). Table 6 shows that for African American students, having a negative peer orientation was negatively related to their achievement in school ($\beta = -.19$, $p < .001$). Similarly, Table 7 reveals that peers' delinquent influence was a significant predictor of European American students' G.P.A. ($\beta = -.20$, $p < .01$). For both African American and European American students, there was no support for the first hypothesis (peers' positive academic influence is related to achievement). The data confirmed the second hypothesis (negative peer orientation is related to achievement) for only the African American students.

Both interaction terms, peers' delinquent influence by negative peer orientation and peers' positive academic influence by negative peer orientation, were entered in the last step of the

hierarchical regression for achievement. The data did not support the third hypothesis (negative peer orientation has a moderating effect on the relationship between peer influence and achievement) for both groups of students (See Tables 6 and 7).

The t-test for testing the difference between independent samples revealed that there were two significant differences between the students in each ethnic group. There was an ethnicity by negative peer orientation interaction ($t=-3.08$, $p < .01$). Figure 7 shows that negative peer orientation was significantly related to African American students' achievement in school but not to European Americans'. There was also an ethnicity by peers delinquent influence interaction on achievement ($t=-2.00$, $p <.05$). Figure 8 shows that for European American students, peers' delinquent influence was significantly related to their grade point average but it was not a significant predictor of African American students' performance in school.

Discussion

Hypothesis 1:

- In understanding how peers impact adolescents' academic motivation, peers' positive academic influences may be even more important to look at than peers' negative influences.

Hypothesis 2:

- Future studies on the influences of adolescents' peer groups need to consider individual differences in their orientation to their peer groups.

Hypothesis 3:

- The present study provides evidence that peers do not have an uniform effect on students' motivation; the extent peers influence adolescent values depend on the individual's willingness to conform to their peers.

Hypothesis 4:

- The manner in which adolescent peer groups shape adolescents' academic development may not be the same for students of different ethnicities.
- Although a majority of the research on African American adolescents' peer groups have looked at the negative influence of their peer groups, the present study's findings show that

such a perspective provides a limited and biased understanding of the relationship between peer influences and academic development for African American students.

- Future studies that examine the relationship between African Americans' peer group and their achievement should also look at peers' positive influences as well as individual differences in adolescents' willingness to conform to their peer groups.

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Table 1

Description of Measures

Ability Mean of students' 3rd- and 5th-grade California Achievement Test scores.

SES Index which included family income, parent education, and parent occupational status, using the Nam and Powers (1983) approach.

Achievement Students' overall grade point average at the end of eighth-grade.

Peers' Delinquent Influence (6 items) $\alpha = .81$

"How many of the friends that you spend most of your time with skip school without an excuse?"

"How many of the friends that you spend most of your time with put pressure on you to drink?"

Peers' Positive Academic Influence (6 items) $\alpha = .74$

"How many of the friends that you spend most of your time with do well in school?"

"How many of the friends that you spend most of your time with think it is important to work hard on schoolwork?"

Negative Peer Orientation (4 items) $\alpha = .67$

"Do you agree or disagree that it is O.K. to let your schoolwork slip and get a lower grade in order to be popular with your friends?"

How much does the amount of time you spend with your friends keep you away from doing things you ought to do?

Intrinsic Motivation (3 items) $\alpha = .75$

"I go to school because I enjoy my classes."

"I go to school because I like what I am learning."

Value of School (2 items) $\alpha = .81$

"Compared to other kids your age, how important is math to you?"

"Compared to other kids your age, how important are other school subjects to you?"

Table 2

Hierarchical Regression Results for African American Students' Intrinsic Motivation

		B	Beta	B	Beta	B	Beta
Step 1	Gender	.02	.00	-.16	-.05	-.19	-.07
	SES	-.19*	-.10*	-.20*	-.11*	-.17	-.10
	Ability	.09	-.05	-.17*	-.10*	-.16*	-.10*
Step 2	Peers' delinquent influence			.11	.02	-.02	.00
	Peers' positive academic influence			.84***	.36***	.79***	.34***
	Negative peer orientation			-.32	-.08	-.28	-.07
Step 3	Peers' delinquent influence X Negative peer orientation					.29	.03
	Peers' positive academic influence X Negative peer orientation					-.86**	-.14**
Change in R^2		.02		.14***		.02**	
Adjusted R^2		.02		.15***		.16***	

Note. All predictor variables were centered.

*p < .05.

**P < .01

***p < .001

Table 3

Hierarchical Regression Results for European American Students' Intrinsic Motivation

		B	Beta	B	Beta	B	Beta
Step 1	Gender	.49*	.17*	.02	.01	.03	.01
	SES	-.10	-.05	-.28*	-.15*	-.27*	-.15*
	Ability	-.02	-.01	-.16	-.10	-.16	-.10
Step 2	Peers' delinquent influence			-.15	-.03	-.21	-.04
	Peers' positive academic influence			.89***	.43***	.88***	.42***
	Negative peer orientation			-.79**	-.18**	-.79**	-.18**
Step 3	Peers' delinquent influence X Negative peer orientation					.40	.03
	Peers' positive academic influence X Negative peer orientation					.08	.01
Change in R^2		.02		.23***		.00	
Adjusted R^2		.02		.25***		.25***	

Note. All predictor variables were centered.

*p < .05.

**P < .01

***p < .001

Table 4

Hierarchical Regression Results for African American Students' Value of School

		B	Beta	B	Beta	B	Beta
Step 1	Gender	-.07	-.03	-.28*	-.11*	-.29*	-.11
	SES	-.03	-.02	-.03	-.02	-.02	-.01
	Ability	.12	.-8	.03	.02	.03	.02
Step 2	Peers' delinquent influence			-.11	-.03	-.19	-.05
	Peers' positive academic influence			.50***	.24***	.47***	.23***
	Negative peer orientation			-.88***	-.26***	-.86***	-.25***
Step 3	Peers' delinquent influence X Negative peer orientation					.23	.03
	Peers' positive academic influence X Negative peer orientation					-.32	-.06
Change in R^2		.00		.16***		.00	
Adjusted R^2		.00		.16***		.16***	

Note. All predictor variables were centered.

*p < .05.

**P < .01

***p < .001

Table 5

Hierarchical Regression Results for European American Students' Value of School

		B	Beta	B	Beta	B	Beta
Step 1	Gender	.02	.01	-.28	-.11	-.28	-.11
	SES	.01	.01	-.06	-.04	-.03	-.02
	Ability	.14	.10	.02	.02	.01	.01
Step 2	Peers' delinquent influence			-.31	-.07	-.73	-.16
	Peers' positive academic influence			.42**	.22**	.36**	.19**
	Negative peer orientation			-.88**	-.22**	-.90**	-.22**
Step 3	Peers' delinquent influence X Negative peer orientation					2.74**	.23**
	Peers' positive academic influence X Negative peer orientation					.96*	.17*
Change in R^2		.01		.13***		.04***	
Adjusted R^2		.00		.14***		.16***	

Note. All predictor variables were centered.

*p < .05.

**P < .01

***p < .001

Table 6

Hierarchical Regression Results for African American Students' Achievement (G.P.A.)

		B	Beta	B	Beta	B	Beta
Step 1	Gender	.44***	.26***	.37***	.22***	.37***	.22
	SES	.19***	.18***	.19***	.18***	.18***	.17
	Ability	.33***	.33***	.30***	.30***	.29***	.30
Step 2	Peers' delinquent influence			-.02	-.01	.08	.03
	Peers' positive academic influence			.06	.04	.09	.06
	Negative peer orientation			-.42***	-.19***	-.43***	-.19***
Step 3	Peers' delinquent influence X Negative peer orientation					-.39	-.06
	Peers' positive academic influence X Negative peer orientation					.24	.07
Change in R^2		.26***		.04***		.01	
Adjusted R^2		.26***		.29***		.30***	

Note. All predictor variables were centered.

*p < .05.

**P < .01

***p < .001

Table 7

Hierarchical Regression Results for European American Students' Achievement (G.P.A.)

		B	Beta	B	Beta	B	Beta
Step 1	Gender	.33***	.22***	.25**	.17**	.25	.17
	SES	.17**	.18**	.13*	.13*	.13	.13
	Ability	.33***	.42***	.30***	.38***	.30	.37
Step 2	Peers' delinquent influence			-.53**	-.20**	-.59	-.22
	Peers' positive academic influence			.13	.12	.12	.11
	Negative peer orientation			.13	.06	.13	.06
Step 3	Peers' delinquent influence X Negative peer orientation					.28	.04
	Peers' positive academic influence X Negative peer orientation					-.03	-.01
Change in R^2		.30***		.06***		.00	
Adjusted R^2		.30***		.34***		.34	

Note. All predictor variables were centered.

*p < .05.

**P < .01

***p < .001