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Journal of Adolescence

journal homepage: www.elsevier.com/locate/jado

Identity development as a buffer of adolescent risk behaviors in the context of peer group pressure and control

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A B S T R A C T

Keywords:

Identity development
Risk behaviors
Peer groups
Peer pressure
Peer control

We examined identity development as a moderator of the relation between peer group pressure and control and adolescents' engagement in risk behaviors. Participants ($n = 1070$; $M_{\text{age}} = 15.45$ years) completed a self-report measure of *identity exploration*, the degree to which they have explored a variety of self-relevant values, beliefs and goals, and *identity commitment*, the degree to which they have secured a personal identity. Participants further reported on their frequency of risk behaviors (substance use and general deviancy) and experienced peer group pressure and control. Results confirmed that identity commitment was a buffer of substance use and identity exploration was a buffer of general deviancy in more *pressuring* peer groups. In more *controlling* peer groups, teens with greater identity commitment engaged in less risk behavior than teens with low-identity commitment. Thus, identity development may be a suitable target to deter negative effects of peer pressure in high-risk adolescents.

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Adolescence marks a time in which youth begin to experiment with risk behaviors such as substance use and delinquency (Moffitt, 1993). In Western culture, much of this behavior is normative, however, teens can face negative repercussions such as poor physical and psychological adjustment (Willoughby et al., 2007), academic failures, trouble with the law, and even death (Irwin, Burg, & Cart, 2002). Several researchers have shown that peer groups are powerful socialization agents of risk behaviors in adolescence (e.g., Kiesner, Cadinu, Poulin, & Bucci, 2002; Urberg, Degirmencioglu, & Pilgrim, 1997) and many problematic behaviors occur in the context of these groups (Wolfe, Jaffe, & Crooks, 2006). However, teens are not equally susceptible to peer influence. Several factors, including peer group identification, group status and age, have been implicated in the process of peer socialization (e.g., Ellis & Zarbatany, 2007; Kiesner et al., 2002; Steinberg & Monahan, 2007).

In the present study we examined personal identity development, which involves exploring and committing to a set of personally meaningful values, beliefs, and future aspirations (Waterman, 1985), as a potential moderator of the relation between peer group pressure and control and teens' engagement in risk behaviors. Although identity development has been shown to be an important predictor of risk behavior (Jones & Hartmann, 1988), no previous research has examined this factor as a possible moderator of peer influence. Both peer group pressure to engage in undesired or negative behaviors and the presence of clearly-defined peer group leaders that monitor group members' behaviors (i.e., *peer group control*) may promote

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engagement in substance use and deviant acts. On the other hand, in the presence of peer group pressure and control, identity development may deter engagement in risk behaviors because these behaviors may interfere with life decisions and goals.

Adolescent engagement in risk behaviors

According to the Centers for Disease Control and Prevention (2010), the majority of US high school students (72.5%) have used alcohol, and 24.2% of teens engage in frequent binge drinking. A considerable number of teens have also tried marijuana (36.8%). Delinquent behaviors such as vandalism and theft are also fairly common in the high school years, with the number of delinquent acts performed by youth increasing substantially from late-childhood to adolescence (Cairns, Cairns, Neckerman, Ferguson, & Gariépy, 1989; Dodge, Coie, & Lynam, 2006).

Although most teens do engage in some normative experimentation with risk-taking, research suggests that these teens experience poorer adjustment than teens who refrain from risk behaviors altogether (Willoughby et al., 2007). Further, a subset of adolescents develop more problematic and/or long-term patterns of risk engagement, such as substance abuse and addiction. For instance, adolescent drug use is a major predictor of drug and alcohol dependence in adulthood (White, Bates, & Labouvie, 1998) and continued heavy substance use from adolescence to adulthood has significant, negative consequences for later personal adjustment and well-being (e.g., Georgiades & Boyle, 2007; White et al., 1998). Because of these repercussions, it is important to develop a clear understanding of the contributors and protective factors associated with adolescent risk-taking.

Peer group pressure and control in adolescence

Risk behaviors tend to occur within a peer context (Wolfe et al., 2006), and one chief contributor to teens' engagement in risk behaviors is perceived or explicit pressure from peers (Santor, Messervey, & Kusumakar, 2000). Within their peer groups (i.e., the collection of peers with which teens interact on a regular basis) teens experience a host of peer-related interactions that likely shape their attitudes and behaviors concerning engagement in risk behaviors (e.g., Dishion, Spracklen, Andrews, & Patterson, 1996; Patterson, Dishion, & Yoerger, 2000). Thus, it is no surprise that past research demonstrates peer group members tend to develop similar attitudes and behaviors over time regarding substance use (Urberg et al., 1997), general delinquency (Kiesner et al., 2002), school drop-out, (Cairns, Cairns, & Neckerman, 1989) and unsafe sexual practices (Henry, Schoeny, Deptula, & Slavick, 2007).

Specifically, peer pressure has been identified as a risk factor for substance use and deviant behavior (e.g., Brown, Clasen, & Eicher, 1986; Santor et al., 2000). According to Brown, Clasen, et al. (1986), peer pressure refers to the feelings of pressure that teens experience when they are encouraged or coerced by others to think or behave in a specific way. These feelings of pressure are often the result of teens' discomfort with the promoted attitude or behavior or the detrimental nature of these attitudes or behaviors. Santor et al. (2000) demonstrated that teens who experienced more peer pressure consumed more alcohol, drugs, and cigarettes, had poorer academic performance, and thought more positively of sexual activity than less-peer-pressured adolescents.

Further, the structural features of adolescents' peer groups, such as the extent to which they possess a hierarchical power organization and possess clearly-defined leaders who monitor members' behavior may play an important role in teen socialization. We labeled this construct *peer group control* in the present study. For example, in peer groups in which membership is more exclusive (e.g., popular groups), group hierarchy is clear and leaders enforce norms and protect group reputation (Adler & Adler, 1998). Members who recognize group control may be less likely to deviate from expected behavior even in the absence of direct peer group pressure. Group norm compliance helps teens avoid coercive behaviors from group leaders, secure their group membership and even uphold the group reputation (Adler & Adler, 1998; Hogg, 2005). Considering that risk behaviors tend to be accepted and even valued in modern adolescent culture (Moffitt, 1993), teens in more controlling peer groups may also engage in risk behaviors to impress more powerful group members and/or to improve their social status within their group (Adler & Adler, 1998).

Identity development and risk behaviors

We examined adolescents' identity development as a potential moderator of the relation between peer group pressure and control and engagement in risk behaviors. The development of a personal identity, meaning an overarching set of culturally-accepted, self-relevant values, beliefs and future goals (Waterman, 1985), initiates in early-adolescence and remains a salient psychosocial task throughout the teen and emerging adult years (Erikson, 1968). Marcia (1966) identified two underlying processes of identity development, *self-exploration*, in which individuals consider different identity-related options (e.g., career paths, dating relationships, family roles) and *identity commitment*, in which individuals commit to an overarching personal identity. Ideally, adolescents move toward a mature adult identity (i.e., high-identity exploration and commitment) by either experiencing a period of uncommitted, active identity exploration and then committing to well-explored identity options or by re-analyzing and re-integrating earlier identity commitments or identifications with others into a well-explored personal identity (Klimstra, Hale, Raaijmakers, Branje, & Meeus, 2010).

Identity development likely has implications for resistance to peer influence and engagement in risk behaviors. Past research demonstrates a relation between identity development and conformity behaviors within laboratory settings; identity-committed young adults tend to conform less to peers' responses during Asch's line judgment experiment than their less-identity-developed counterparts (Toder & Marcia, 1973), and college students who are *identity diffused*, or low in both

identity exploration and commitment (Marcia, 1966), tend to be especially likely to change their answers to hypothetical dilemmas to reflect peer conformity when told that their peers would have access to their responses (Adams, Ryan, Hoffman, Dobson, & Nielson, 1984). This laboratory research helps to shed light on how youth might respond to real-life pressures in their peer group environments as a function of identity development. Both identity exploration and commitment reflect motivation toward developing an independent set of self-relevant beliefs, values and goals and youth who have made strides toward identity construction may be less swayed by feelings of peer pressure, which may deviate from adolescents' developing personal values and belief systems.

Studies also demonstrate a relation between identity development and substance abuse in adolescence. Consistent with conformity research, teens who are both low in identity exploration and commitment (i.e., identity diffused) tend to engage in the most substance abuse as compared to teens with more developed identities (i.e., those who had engaged in identity exploration and/or commitment; Jones & Hartmann, 1988). Adolescents who have begun to develop their identities by exploring and/or committing to personal identity choices may be less likely to engage in peer-initiated substance abuse because these behaviors may interfere with life goals and be inconsistent with burgeoning personal life choices. On the other hand, without a set of personally-relevant values, beliefs and goals to direct life choices, teens who have yet to begin constructing a personal identity may acquiesce to others more readily and may make poor or uncalculated life decisions.

Christopherson, Jones, and Sales (1988) demonstrated that teens with low-identity exploration and commitment (identity-diffused teens) were less likely than more identity-developed teens (those who had engaged in identity exploration and/or commitment) to report personal curiosity as a reason for engaging in substance use, thus implying that social (e.g., peer) forces may be playing a key role in their decisions to engage in these behaviors. Given that young individuals who have made strides in developing a personal identity show particular resistance against peer conformity (Adams et al., 1984), they may engage in fewer risk behaviors than their less-identity-developed counterparts in the face of heightened peer group pressure and control (i.e., group characteristics that likely encourage members' involvement in risk behaviors). The aim of the present study was to test this proposition.

The present study

A sample of high school students completed a battery of measures that assessed perceived peer group pressure and control, frequency of substance-use risk behaviors, general delinquent behavior, and self-reported identity exploration and commitment. First, we proposed that adolescents who perceived more peer group pressure and control would engage in more substance use and general delinquent behaviors than adolescents who perceived less pressure and control within their peer groups. Second, we expected that adolescents' degree of identity exploration and commitment would moderate the relation between perceived peer group pressure and control and engagement in risk behaviors, so that teens with more developed identities would be less likely to engage in risk behaviors when faced with peer group pressure and control than their less-identity-developed counterparts. We also examined the combination of teens' identity exploration and commitment as a potential moderator of the relation between peer group pressure and control and engagement in risk behaviors. Because past studies have demonstrated that individuals with low levels of both identity exploration and commitment (identity-diffused individuals) tend to engage in the most peer conformity (Adams et al., 1984) and risk behaviors (Jones & Hartmann, 1988), and because these individuals have made the least effort toward developing a set of personally-relevant values, beliefs, and aspirations to help direct behavior, we expected them to experience the largest increase in risk behaviors as a function of peer group pressure and control. Finally, we tested if the moderating effects of identity differed across age and sex, given past research indicating that boys as well as younger adolescents experience less-identity development (Klimstra et al., 2010; Meeus, ledema, Helsen, & Vollebergh, 1999), and are more susceptible to peer-influenced risk behavior (Erickson, Crosnoe, & Dornbusch, 2000; Santor et al., 2000) than girls and older adolescents.

Method

Participants

Participants ($n = 1070$; 522 girls) were students from 2 public high schools in a mid-sized, Canadian city. Participants' age ranged from 14 to 17 years ($M_{\text{age}} = 15.45$ years) and their grade distribution was as follows: 340 grade 9 students (32%), 379 grade 10 students (35%) and 351 grade 11 students (33%). Participants represent 60–77% (M consent rate = 69%) of students within their grade who received parental consent to complete this study. Most participants self-identified as White (80.1%), followed by Asian Canadian (9.4%), Arab Canadian (2.3%), or other (8.3%). The socioeconomic classification of participants was middle- to upper-middle-class, as indicated by census data. Participants of classrooms in which all students returned their assent and parental consent forms, regardless of the decision made, received a pizza party for their class. No other participant incentives were provided.

Measures

Identity development

The 32-item Ego Identity Processing Questionnaire (EIPQ; Balistreri, Busch-Rossnagel, & Geisinger, 1995) was used to measure identity development in the domains of future occupation, religion, politics, relationships (family, friends and

dating partners), sex roles, and personal values. Items were measured along a 6-point Likert scale from “disagree” to “agree”. Sixteen items measured identity exploration (e.g., “I have tried to learn about different occupational fields to find the best one for me”) and 16 items measured identity commitment (e.g., “I am very confident about what kinds of friends are best for me”). For each identity domain of interest (occupation, religion, politics, family, friendships, dating partners, sex roles, personal values), two items measured exploration and two items measured commitment. The reliability for identity exploration ($\alpha = .66$) and commitment ($\alpha = .68$) was consistent with other studies that used the EIPQ with similar age groups (Bartoszuk & Pittman, 2010; Luyckx, Goossens, Soenens, & Beyers, 2006).

Peer group pressure

Peer group pressure was measured from 2 items taken from Brown, Clasen, et al.'s (1986) peer pressure scale. On a 5-point Likert scale ranging from “never true” to “very often true,” participants agreed or disagreed with the following statements, “I’ve felt pressure from my group to do things I wouldn’t normally do” and “I felt pressure from my group to smoke, drink, or try drugs.” The scale showed acceptable reliability ($r = .55, p < .001$).

Peer group control

Four items measuring the presence of a group power hierarchy and 5 items measuring the extent to which groups monitor their members’ attitudes and behavior were adopted from Gavin and Furman (1989). All items inform the degree of control within participants’ peer groups. On a 5-point Likert scale from “never true” to “very often true,” participants agreed or disagreed with hierarchy items such as, “There are certain people in my group who make most of the decisions” and “Some people in my group care a lot about the way in which others in the group act.” Items were combined to form one single peer group control score for each participant, which demonstrated strong reliability ($\alpha = .86$).

Substance use

Using items from the National Longitudinal Study of Children and Youth (NLSCY 2000–2001), participants were asked about the frequency and duration of lifetime alcohol use, and binge drinking and marijuana use over the past 3 months. Participants’ responses were situated along 4-point scales: 1. *no use*, 2. *minimal use* (i.e., alcohol use once or twice a year, binge drinking/marijuana use once or twice in past 3 months), 3. *moderate use* (i.e., alcohol/marijuana use or binge drinking once or twice in a month), 4. *frequent use* (i.e., alcohol use 4 or more times a month, binge drinking/marijuana use 6 or more times in past 3 months). Items were combined to create a single substance-use score for each participant, which demonstrated strong reliability ($\alpha = .82$). Consistent with past research (Willoughby et al., 2007), the majority of teens ($n = 753, 70\%$) reported prior substance use ($n = 434$ mild users, 41%; $n = 218$ moderate users, 20%; $n = 101$ frequent users, 9%) and 30% of teens ($n = 317$) reported no prior substance use.

Deviant behavior

Using 16 items from the National Longitudinal Study of Adolescent Healthy Survey (ADD Health), participants were asked about their general deviancy behaviors in areas such as school suspension, physical violence, theft, selling drugs, and vandalism in the last 3 months. On a 5-point Likert scale from “Never” to “10 times or more”, participants answered questions such as, “how often did you get suspended from school?”, “how often did you go into a house or building to steal something?”, and “how often did deliberately damage property that didn’t belong to you?”. Items were combined to yield a single deviant behavior score for each participant and the scale demonstrated strong reliability ($\alpha = .88$). The majority of teens (69%, $n = 738$) engaged in minimal deviant behaviors (e.g., 1 or 2 times) over the last 3 months, 28% ($n = 300$) reported engaging in no deviant behavior, and 3% ($n = 32$) of teens engaged in more frequent instances of deviancy over the past 3 months (e.g., 3 times or more).³

Procedure

Youth from selected high schools were given information sheets, parental consent, and youth assent forms to complete and return to their homeroom teachers. Assenting youth who received parental consent to participate in this study completed questionnaire packages within their homeroom classrooms. Questionnaire package contained self-report measures of identity development, peer group pressure and control, substance use, and deviant behavior as well as several other items that were part of a larger study. Data collection was supervised by participants’ teachers as well as research staff (undergraduate and/or graduate students). Participants completed questionnaire packages independently at their respective desks and were instructed to keep their answers private and to refrain from looking at each others’ questionnaire packages. Research staff guided participants through the questionnaire package, read instructions and examples for each measure aloud, and answered participants’ questions. Data collection took approximately 1 h per classroom.

³ Because the distribution of participants’ deviant behavior scores was positively skewed with high kurtosis, the scale was log transformed in our analyses. The resulting scale had acceptable values of skewness and kurtosis, lower than 3.0 and 8.0, respectively (Kline, 2005).

Results

Descriptive analyses

To explore relations between the variables of interest, bivariate correlations (see Table 1) were first conducted for continuous variables. There was significant overlap between peer group pressure and control, but they only shared 19% variance and thus they were examined as separate variables in our analyses. Both peer group pressure and control were significantly positively related to engagement in risk behaviors (substance use and general deviancy). Identity exploration was positively related to peer group pressure and control, but not significantly associated with engagement in risk behaviors. Identity commitment was negatively related to peer group pressure and control, and positively associated with engagement in risk behaviors. Finally, older participants experienced significantly more identity exploration, peer group pressure and control, and risk behaviors than their younger counterparts.

Second, a multivariate analysis of variance (MANOVA) was conducted to examine sex differences for all continuous variables of interest. The MANOVA with sex as the independent variable and substance use, general deviancy, identity development variables, and peer group variables as the dependent variables produced a significant multivariate effect for sex, Wilks = .96, $F(2, 1067) = 6.00$, $p < .001$. Follow-up univariate ANOVAs revealed that girls had higher identity exploration than boys, $F(1, 1068) = 10.92$, $p < .001$, and boys had higher peer group pressure and general deviancy scores than girls, $F(1, 1068) = 15.24$, $p = .001$ and $F(1, 1068) = 9.57$, $p = .002$, respectively.

Hypothesis testing

We conducted two hierarchical linear regressions to test our hypotheses of interest. First, we examined peer group control and pressure as predictors of engagement in risk behaviors (substance use and general deviancy). Second, we examined if identity variables moderate the relations between peer group characteristics (control and pressure) and engagement in risk behaviors. Specifically, we were interested in the 2-way interactions between identity exploration/commitment and peer group control/pressure, and the 3-way interactions between identity exploration, commitment, and peer group control/pressure as predictors of engagement in substance use and general deviancy (see Fig. 1). Last, we examined if the moderating effects of identity exploration and commitment differed across age and sex. Following the guidelines of Aiken and West (1991), predictor variables were centered and significant interaction terms were graphed ± 1 SD above and below the mean of each predictor variable. Further, for all significant interactions, simple slopes were tested following the procedures outlined by Preacher, Curran, and Bauer (2006). Predictor variables were entered in five steps: 1. Sex and age, 2. Peer group pressure and peer group control, 3. Identity exploration and commitment, 4. Two-way interaction between identity variables and peer group variables (pressure and control), and 5. Three-way interactions between identity variables and peer group pressure or control. Non-significant interaction terms were removed from the final models to maintain model parsimony and increase statistical power (West, Welch, & Galecki, 2007). Last, sex and age were examined as moderators of any significant relations for each of the models, however no significant sex or age moderation effects occurred and thus we do not discuss them further.

Substance use

The regression model was significant, $F(10, 1060) = 26$, $p < .001$, with the final model (see Table 2) accounting for 22% of the variance in substance use. Age was a positive predictor of substance use. Further, peer group pressure was a positive predictor and identity commitment was a negative predictor of substance use.

Three significant 2-way interactions emerged. First, as expected, a significant interaction emerged between identity commitment and peer group pressure (see Fig. 2).

Simple slope analysis revealed that participants who were low in identity commitment engaged in more substance use when they perceived more rather than less-peer group pressure ($b = .41$, $t = 5.82$, $p < .001$), but for participants high in identity commitment, this was not the case ($b = .09$, $t = 1.06$, *n.s.*). Second, as expected, a significant interaction emerged between identity commitment and peer group control (see Fig. 3). Contrary to hypothesis, simple slope analyses revealed that

Table 1
Pearson product-moment correlations between variables.

Measure	1	2	3	4	5	6	7
1. Identity exploration	–						
2. Identity commitment	–.17***	–					
3. Peer group pressure	.07*	–.20***	–				
4. Peer group control	.11***	–.07*	.44***	–			
5. Substance use	.04	–.25***	.37***	.17***	–		
6. Deviant behaviors	.04	–.17***	.28***	.22***	.56***	–	
7. Age	.12***	.03	.12***	.09**	.23***	.09**	–

* $p < .05$, ** $p < .01$, *** $p < .001$.

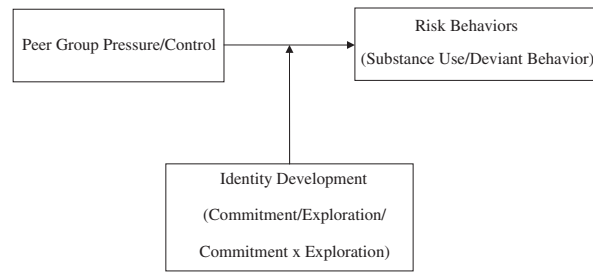


Fig. 1. Predicted main effects of peer group characteristics and predicted moderating effects of identity on adolescent risk behaviors.

participants low in identity commitment did not engage in more substance use as a function of peer group control ($b = -.05$, $t = -.64$, *n.s.*), however, they did engage in more substance use than participants high in identity commitment regardless of peer group control. Unexpectedly, participants high in identity commitment engaged in more substance use when they were members of more controlling groups ($b = .15$, $t = 1.92$, $p = .05$). Finally, although no three-way interactions between identity variables and peer group variables emerged, a two-way interaction between identity exploration and commitment was detected. Participants low in identity commitment engaged in the most substance use regardless of their levels of identity exploration, and participants high in both identity commitment and exploration engaged in the least substance use.

Deviant behavior

The final regression model, which accounted for 12% of participants' deviant behavior, was significant, $F(8, 1062) = 17.21$, $p < .001$ (see Table 3). Boys engaged in significantly more deviant behavior than girls. Identity commitment was a negative predictor and peer group pressure and control were positive predictors of deviant behavior.

Two significant 2-way interactions emerged. First, an interaction between identity exploration and peer group pressure was detected (see Fig. 4). Analysis of the slopes demonstrated that participants with low-identity exploration engaged in more deviant behavior when they perceived more as opposed to less-peer group pressure ($b = .07$, $t = 4.21$, $p < .001$), but for participants with high-identity exploration this was not the case ($b = .03$, $t = 1.58$, *n.s.*). No three-way interactions reached significance. Second, although no three-way interactions between identity variables and peer group variables emerged, a two-way interaction between identity exploration and commitment was detected. Although all participants engaged in minimal deviant behavior, those with low-identity commitment and high-identity exploration engaged in the most deviancy and teens low in both identity exploration and commitment engaged in the least deviancy.

Discussion

During adolescence, teens spend considerable time interacting in peer groups. Previous work has shown that group influence may result from processes such as peer pressure, manipulation, and control, but that these processes do not produce equal outcomes (e.g., Brown, Clasen, et al., 1986). Our results offer further support to the notion that some teens may be more susceptible to peer group influence than others. Overall, our results show that adolescent identity can buffer the effects of peer group pressure on risk behaviors. We examined two potentially problematic behaviors and found that, on the

Table 2

Hierarchical regression analysis predicting substance use from sex, age, identity exploration and identity commitment and their interactions.

	B	SE	b	R ²	ΔR ²	ΔF
Step 1				.060	.060	26.40***
Sex	-.01	.05	-.01			
Age	.20	.03	.19***			
Step 2				.148	.088	42.83***
Peer group pressure	.24	.04	.25***			
Peer group control	.04	.04	.05			
Step 3				.195	.046	23.55***
Identity exploration	-.05	.05	-.08			
Identity commitment	-.25	.05	-.36***			
Step 4				.211	.016	8.57***
Identity commitment × peer group pressure	-.15	.07	-.27***			
Identity commitment × peer group control	.09	.07	.17*			
Identity commitment × identity exploration	-.11	.07	-.24			

* $p < .05$, ** $p < .01$, *** $p < .001$.

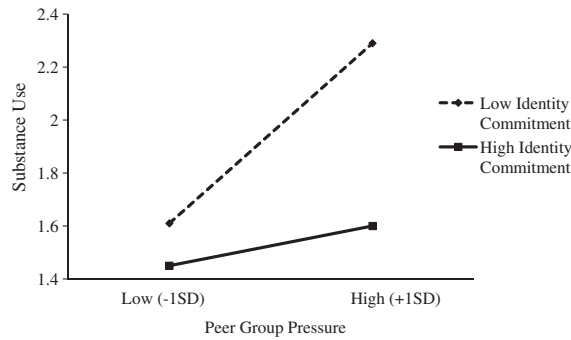


Fig. 2. Interaction between identity commitment and peer group pressure in predicting substance use.

whole, adolescents who are more committed to a personal identity and open to identity exploration had lower rates of risk behaviors than adolescents with lower rates of identity development when group pressure and control was high.

Peer group contributions to risk behavior

Consistent with previous research (Brown, Lohr, & McClenahan, 1986; Santor et al., 2000), our results suggest the importance of peer behavior for adolescent risk-taking. We found that peer group pressure was a positive predictor of substance abuse and peer group pressure and control were positive predictors of general deviant behavior. Although our results are cross-sectional, on the whole, they are in line with past longitudinal research suggesting that peer pressure leads to more risk behaviors (see Crockett, Raffaelli, & Shen, 2006 for sexual risk-taking). Teens who perceive more group pressure and control may engage in risk behaviors as a way of fulfilling group expectations and securing or improving their group position (e.g., Adler & Adler, 1998).

It is important to note, however, that, unlike peer group pressure, peer group control was not a significant predictor of substance use in our study, although the relation was in the predicted direction. This distinction may have emerged due to the measures used. Our peer group pressure scale was directed more toward negative behaviors (e.g., drug and alcohol use) than the peer control measure, thus perhaps explaining why peer pressure was a stronger predictor of risk behaviors on the whole. Also, peer group pressure is more explicit and direct than more subtle forms of behavioral control (e.g., group members who care about how others act), and as such, may elicit stronger compliance by others. Surely, future research is needed to better understand routes of peer group socialization on adolescent risk behaviors.

Identity commitment as a buffer of risk behavior

We found that teens who were more committed to their personal identities engaged in less risk behavior (substance use and general deviancy) than their less-identity-committed peers, with teens high in both identity commitment and exploration experiencing the lowest amount of risk behavior. Further, as expected, identity commitment was a buffer of substance use in more pressuring peer groups. Thus, these findings demonstrate that adolescent identity commitment may help to deter engagement in risk behaviors, even in the face of more domineering peer group behavior. A personal identity, or a set of personally-relevant values, beliefs and goals, provides individuals with a unique set of guidelines or principles for making life

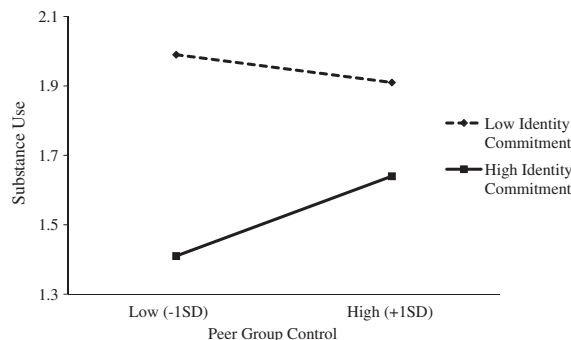


Fig. 3. Interaction between identity commitment and peer group control in predicting substance use.

Table 3

Hierarchical regression analysis predicting deviant behavior use from sex, age, identity exploration and identity commitment and their interactions.

	B	SE	B	R ²	ΔR ²	ΔF
Step 1				.011	.011	9.57***
Sex	-.08	.01	-.03*			
Age	.06	.01	.01			
Step 2				.099	.088	43.61***
Peer group pressure	.18	.01	.05***			
Peer group control	.15	.01	.04***			
Step 3				.110	.011	5.69**
Identity exploration	.003	.01	.001			
Identity commitment	-.11	.01	-.04**			
Step 4				.120	.009	4.71**
Identity exploration × peer group control	-.07	.02	-.04*			
Identity commitment × identity exploration	-.07	.02	-.04*			

* $p < .05$, ** $p < .01$, *** $p < .001$.

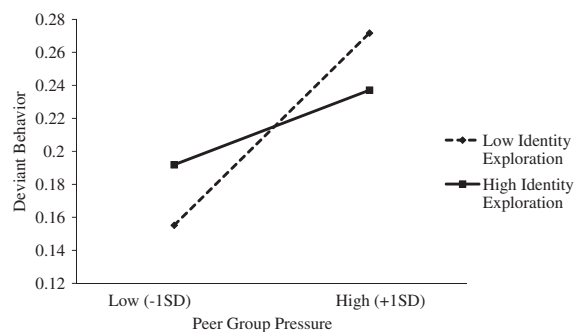
decisions; as such, teens who have committed to a personal identity have an additional “frame of reference” independent of peer group norms for evaluating their own actions and behaviors (Toder & Marcia, 1973). A committed identity, which provides individuals with a sense of personal clarity and conviction (Erikson, 1968) likely helps young individuals resist peer-pressured conformity (Toder & Marcia, 1973) and make more healthy choices regarding risk behaviors in the face of peer pressure.

Contrary to hypothesis, we found that teens with high-identity commitment engaged in significantly more substance use when they perceived more peer group control. This finding is unexpected and perhaps reflects that identity-committed teens may be less resistant to more subtle or indirect forms of group control as opposed to more explicit forms of behavioral control in the form of direct peer pressure. However, given that this is the first study to examine such relations, future research is required before conclusions can be drawn. In any case, teens with high-identity commitment still engaged in less substance use in more controlling peer groups than teens with low-identity commitment and so identity commitment does appear important for reduced substance use in adolescence.

Identity exploration as a buffer of risk behavior

Consistent with our hypotheses, teens with minimal identity exploration engaged in more general deviancy when they perceived more pressure from their peer groups. Teens with greater identity exploration, on the other hand, engaged in a comparable amount of risk behavior regardless of peer group characteristics. High-identity-exploration teens tend to be more autonomous and feel more personally responsible for their behavior than teens who have engaged in minimal identity exploration (Marcia, 1993). During the identity-exploration process, teens are exposed to and reflect on a variety of differing personal beliefs, values and goals from which to construct their own personal identities; this process may encourage high-identity-exploration teens to rely less on one external source of information or influence (e.g., the peer group) when making personal decisions, for example, about engagement in risk behaviors.

Interestingly, we also found that although high-identity-exploration teens appeared resistant to peer group pressure, they still engaged in similar levels of overall risk behaviors as low-identity-exploration teens. Particularly, teens with high levels of identity exploration and low levels of identity commitment engaged in the most deviant behaviors. Good, Grand, Newby-Clark, and Adams (2008) suggest that identity-exploratory teens may seek out and experiment with new activities such as risk behaviors as part of the identity construction process, as opposed to, for example, doing so for peer-related reasons;

**Fig. 4.** Interaction between identity exploration and peer group pressure in predicting deviant behavior.

indeed, high-identity-exploration teens are most likely to report “personal curiosity” as a reason for substance use (Christopherson et al., 1988). Further, research demonstrates that teens who rely on an exploratory (Berzonsky, 1989) style of identity construction appear to be particularly resistant to poor psychological adjustment resulting from engagement in risk behavior (Good et al., 2008). Understanding why these teens may be less susceptible to the psychological risks associated with problem behaviors, for example, by examining potential differences between self-initiated and peer-influenced risk behaviors, may shed light on strategies to maintain healthy psychological development in adolescence, a time in which risk behaviors feel quite normative for many youth (Moffitt, 1993).

In sum, within the context of heightened peer group pressure, both identity exploration and commitment appear to be important for deterring engagement in risk behaviors. Future research is required, however, to explore why identity commitment appears to be a buffer of substance use and not deviant behavior and why identity exploration appears to be a buffer of deviant behavior but not substance use. Perhaps teens perceive certain deviant behaviors such as skipping a class or lying to parents as less detrimental to personal goals than engaging in substance use, which could initiate a more long-term, addictive patterns of use (e.g., White et al., 1998); thus, teens who have established identity commitments may be especially resistant to peer-pressured substance-use behaviors that can have more long-term consequences for future aspirations. Alternatively, it might be easier for identity-committed teens to resist engagement in alcohol and marijuana use as compared to deviant behaviors, such as vandalism and stealing, which, as evidenced by our results as well as others' (e.g., Willoughby et al., 2007), are not as normative and widespread among adolescent populations. Instead they tend to occur more within deviant circles of peers, in which deviant teens employ specific socialization techniques (i.e., *deviancy training*; Dishion et al., 1996) that may be especially difficult to resist as compared to general pressures to engage in substance use.

As mentioned previously, deviant behaviors by high-identity-exploration teens may be motivated more by self-exploration rather than peer pressure (Christopherson et al., 1988; Good et al., 2008). However it is unclear why similar patterns of findings did not emerge for substance use. Perhaps, given the normative nature of substance use in adolescence (e.g., Moffitt, 1993), some degree of experimentation with alcohol and/or marijuana should be expected regardless of teens' level of personal identity exploration.

It is important to note that the above explanations are speculative and require further testing. In order to shed light on our findings, it will be beneficial for future research to further examine teens' reasons for engagement in risk behaviors, and how they might differ as a function of identity exploration and commitment, as well as if peer socialization strategies or motives to conform to peer-pressured risk behaviors differ as a function of type of risk behavior.

Finally, it is important to note that, overall, only identity commitment was significantly associated with less risk-taking, for both substance use and general deviancy. Identity exploration may encourage teens to consider different points of view and may rely less on peer influence, which may be beneficial for peer-initiated risk behaviors; however, it may be most beneficial for us to focus on helping teens to build identity commitments, or another frame of reference other than their peers, to deter risk behaviors and promote healthy life choices both within and outside of more domineering peer groups.

Practical implications

Our findings suggest that identity development may be an important construct to target in attempts to reduce adolescent risk-taking behaviors, particularly in more domineering peer environments. Research suggests that adolescent identity development is fostered within supportive families that encourage teens' individuality (e.g., Grotevant, 1998; Grotevant & Cooper, 1986) and who, through conversation, encourage open opinion-sharing and expose youth to different perspectives (Perosa, Perosa, & Tam, 2002). Thus, it may be fruitful to construct programs to educate families on how to promote healthy adolescent identity development (Papini, 1994). Likewise school- or community-based programs could teach identity-facilitative techniques to help guide and support teens' identity construction.

Oyserman and Destin (2010) have demonstrated that teens' identity construction can be modified in short-term in-class and after-school intervention programs. These researchers adopted an identity-based motivation framework in order to improve the academic performance of “at-risk” youth. Participants were encouraged make academic and future-career-related identity commitments and were given important tools, skills, and motivation for helping to attain and maintain identity commitments (e.g., identifying role models, creating timelines, brainstorming strategies to deal with identity-related conflicts). Results demonstrated a significant impact on teens' academic performance two years after intervention, which were directly related to the degree to which intervention helped teens to develop future academic and career-based identity commitments and adopt strategies to achieve future identity-related goals.

This type of identity-related interventions may be particularly promising for reducing teens' engagement in risk behaviors, particularly in more dominating peer contexts. By helping teens to construct personal identities, which act as another strong frame of reference other than peer group norms for guiding actions and behaviors, teens may be less likely to engage in behaviors that may conflict with their beliefs and values regarding who they are or that potentially interfere with personal life goals.

Limitations and conclusions

Despite the contributions of the present study, our results must be interpreted with certain limitations in mind. First of all, the peer group information was collected on the basis of self-reports. Actual peer-group-level perceptions were not collected

and having others' perceptions of group pressure and control would improve the accuracy of our conclusions. Further, because we relied on adolescents' self-reports of group characteristics, we have no information on the manner through which peer pressure and control were enforced. However, individual perceptions of group characteristics may be sufficient to control teens' behavior.

Second, because of the present study's correlational design we must refrain from making causal conclusions regarding peer group characteristics and engagement in risk behaviors. For example, it is possible that adolescents' risk behaviors determine peer group processes. In the future, it would be useful to employ research with data at more than one time point to track changes in adolescent risk behavior and identity as a function of peer group processes.

To conclude, although our findings were not entirely straightforward, the present study provides an important first step in understanding the complex relation between adolescent identity development and peer socialization of risk behaviors. We found that peer effects on risk behaviors were evident, however, the experiences of identity commitment and exploration moderated peer pressure on adolescent risk-taking. Further, when faced with more controlling peer groups, adolescents who had secured identity commitments still engaged in less risk behaviors than adolescents who have yet to establish such personal commitments. As such, our results suggest that adolescent identity development may be a suitable target to deter negative effects of peer pressure in high-risk adolescents.

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