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Peer Status Among Incarcerated Female Offenders: Associations With Social Behavior and Adjustment

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Abstract

Peers are a powerful socializing force, especially during adolescence. Whether peer status holds the same meaning, correlates, and consequences for female offenders remains unknown. Using a peer nomination technique in a sample of incarcerated females ($N = 86$, age 15-24 years), our study is the first to examine the association between peer status and psychopathology in a correctional facility. Results indicated that a key indicator of likeability was prosocial behavior; popularity was related to leadership; and social impact was associated with aggression. Popularity might serve as a buffer against, and social impact as a risk factor for, psychosocial problems. Findings shed light on peer status as a mechanism underpinning female offenders' problem behaviors and an entry point for targeted interventions.

Beginning in early adolescence, girls become more sophisticated than boys in their knowledge of others' social ties and are more motivated to achieve peer acceptance or popularity (Xie, Cairns, & Cairns, 2005). Girls may use relational aggression to dominate and control relationships to maintain or enhance their social status. Sometimes, girls' relational aggression is rewarded, as in the case of powerful, influential, *popular* youth (Cillessen & Mayeux, 2004; Vaillancourt & Hymel, 2006). Other times it has negative consequences, as in the case of *disliked*, *rejected* youth (Pepler & Craig, 1995) who are at risk for chronic antisocial behavior (Coie, Terry, Zakriski, & Lochman, 1995) and mental illness (Schwartz, McFayden, Dodge, Petit, & Bates, 1998).

Whether peer social status holds the same meaning, correlates, and consequences for serious female offenders remains unknown. Virtually no one has extended work on peer nominations (listing peers that exemplify a particular *social status or characteristic*) to incarcerated females. This is a considerable oversight as friends within an incarcerated

setting exert substantial influence and control (e.g., telling others what to do, who they can and cannot talk to; Greer, 2000). An exception is Jennings's (1943) study in a New York training school for girls (12-16 year olds) that used sociometric tests (unlimited nominations) to study types of peer relationships (e.g., over-chosen leaders, rejected isolates). One other study used peer nominations among incarcerated adolescents, in this case predominantly African-American males. This study found similar levels of inappropriate behaviors within specific peer "cliques" (Clarke-McLean, 1996), and suggested that behavior supported by the group norm persists at higher rates than behavior uncommon in one's social network (Stroebe & Stroebe, 1996). To our knowledge, there is no current research using peer nominations among female offenders in an incarcerated setting. The present study addressed this gap by identifying distinct indicators of three dimensions of peer status (likeability, popularity, social impact) among girls in a correctional facility, and by examining how female offenders' peer status related to their mental health and adjustment.

The current study extends the literature in three important ways. First, peer relationships were studied in a correctional facility. Researchers often state that peer relationships should be studied in other contexts than classrooms or schools. Second, this study sheds light on the underlying processes and motivations for females' aggression. As girls' aggression is often directed at familiar other girls (Putallaz & Bierman, 2004), the all-female correctional facility is a naturally occurring environment to study girls' aggression. Third, this study contributes to an understanding of the associations of acceptance and popularity among girls with social adjustment. The predictors and consequences of high status among females are not always positive, but include aggression and depression (see, for reviews, Cillessen, Schwartz, & Mayeux, 2011). The current study examined the unique predictors and adjustment outcomes of high status among incarcerated female youth. The findings may inform interventions that prevent relational and adjustment problems from escalating for young female offenders.

Acceptance, Popularity, and Social Impact as Dimensions of Peer Status

Acceptance, popularity, and social impact are important separate dimensions of peer status. Acceptance is obtained by calculating a difference score for youths' nominations of classmates they like most and like least (LaFontana & Cillessen, 1999; Parkhurst & Hopmeyer, 1998). Accepted youth are prosocial, cooperative, socially inclusive, and not aggressive (Rubin, Bukowski, & Parker, 1998). Acceptance or likeability has also been associated with decreased internalizing behaviors among adolescent girls (Sandstrom & Cillessen, 2006).

Popularity is socially constructed by youth who share an understanding of who is popular in their peer groups –meaning well-known, socially central, influential, and emulated (Adler & Adler, 1998; Eder, Evans, & Parker, 1995). Popularity is correlated with dominance (Parkhurst & Hopmeyer, 1998) and with overt and relational aggression (Sandstrom & Cillessen, 2006). Particularly among adolescent girls, popularity is more strongly associated with relational than overt aggression (Cillessen & Mayeux, 2004; Rose, Swenson, & Waller, 2004).

Before researchers systematically included separate nominations of acceptance and popularity in sociometric studies, the dimension of social impact was often of interest (Coie, Dodge, & Coppotelli, 1982; Newcomb & Bukowski, 1983). Social impact, is derived from liked and disliked nominations (as social preference), but is computed as the sum of both (instead of the difference). Social impact assesses the immediacy of a person and is a key part of social interaction and influence (Latane, 1981). High social impact is the defining characteristic of controversial status, and has been described as a measure of social visibility, saliency, notoriety, and independent of preference (Bukowski & Newcomb, 1984). The traditional dimension of social impact was conceptualized similarly to how popularity is conceptualized today, although they are measured differently (Cillessen & Marks, 2011). Empirically, social impact has been associated with popularity and controversial status (e.g., Parkhurst & Hopmeyer, 1998). The current study examined dimensions and types of peer status in a unique sample and context. As the characteristics of sociometric scores in this setting were unknown, we included social impact as a dimension of interest in addition to acceptance and popularity. Social impact and controversial status were also of interest because, together with popularity, they might be particularly characteristic of high-profile girls in a secure facility who are especially problematic.

Aggression also reaps social benefits in terms of popularity or increased social status for some girls (Cillessen & Mayeux, 2004; LaFontana & Cillessen, 2002; Rodkin, Farmer, Pearl, & Van Acker, 2000). These findings are in accord with the *peer regard-aggression paradox*, which suggests that some aggressive individuals are also socially attractive – meaning socially prominent (popular) but not necessarily liked (Hawley, Little, & Rodkin, 2007).

Liking and popularity are distinct constructs with moderate associations (e.g., LaFontana & Cillessen, 2002; Sandstrom & Cillessen, 2006). An interesting finding is their systematically decreasing association across adolescent development, particularly for girls. In one longitudinal study, the correlation between girls' likeability and popularity declined from .70 at age 9 to almost 0 at age 14 (Cillessen & Mayeux, 2004), and then crossed over to become negative (-.20) by the end of high school at ages 18-19 (Cillessen & Borch, 2006). At least at the aggregated peer group level, popularity and likeability are increasingly incompatible for adolescent girls. Relational aggression plays a role in these changes as it is linked to a decrease in likeability but continued high popularity across adolescence (Cillessen & Borch, 2006).

It is unclear whether these patterns would hold for high-risk incarcerated females. Perhaps, in an incarcerated setting, aggressive youth may be socially prominent *and* preferred. For example, in order to maintain their high status, popular but not necessarily well-liked adolescents may engage in a variety of harmful behaviors such as drug use and delinquency (Allen, Porter, McFarland, Marsh, & McElhaney, 2005). While relying on aggressive strategies, these youth provide negative models of behavior for lower status youth. They, in turn, may use relational aggression to curry favor with the higher-status popular group members, enhance their reputation, or further separate themselves from a subset of lower status, victimized youth (Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukianinen, 1996).

In a secure facility, deviancy training may influence these dynamics. Through the process of homophily – attracting like-minded peers – deviant peer cliques offer an “in group” that may exacerbate members’ delinquent behaviors (Dishion, McCord, & Poulin, 1999). This process involves both selection, choosing like-minded delinquent peers, and influence, being influenced to engage in more delinquent behaviors. The finding that cliques of delinquent youth have a deviation amplifying effect (bad behaviors become worse) sheds light on the unintended negative effects of aggregating deviant youth in group interventions (Dishion et al., 1999). However, more recent research indicates that peer-group processes may relate to both increases as well as decreases in aggression (Boxer et al., 2005). Specifically, findings from small group intervention programs indicated a “discrepancy-proportional peer influence”—the more discrepant a child’s behavior is from her or his peers, the more that child’s behavior will change in the direction of the peer group’s average. High-aggressive youth in groups of relatively less aggressive youth might become less aggressive over time. Still other, meta-analytic research (17 out of 18 new tests) by Weiss and colleagues (2005) found no support for iatrogenic or deviancy training effects in group treatment. Deviancy training in treatment sessions was less impactful than the more extensive peer influences outside of treatment. Thus, the science remains unsettled regarding the iatrogenic effect of deviant peers.

Consequences of Relational Aggression

For adolescent girls, relational aggression may seem like a failsafe way to attain their social goals. However, manipulating intimate peer groups is threatening and not easily forgiven. A relationally aggressive girl may become the victim of relational aggression herself (Leadbeater, Boone, Sangster, & Mathieson, 2006). In the same way that physical aggression is an indicator of poor adjustment in males, relational aggression may be linked to increased risk for girls’ peer rejection and deviant peer affiliation (Odgers & Moretti, 2002). Research has indicated that both perpetrators and victims of relational aggression exhibit internalizing problems (Crick & Grotpeter, 1995). The consequences of relational aggression may be particularly serious among high-risk girls, as they often exhibit high levels of both relational and physical aggression, and are characterized by other pre-existing risk factors such as co-morbid mental health problems (Cauffman, Lexcen, Goldweber, Shulman, & Grisso, 2007) and post-traumatic stress disorder in response to victimization (Cauffman, Feldman, Waterman, & Steiner, 1998). Based on previous research, the role of relational aggression was also considered.

A further consideration when using peer nominations is the developmental stage and age range of the sample. Until recently, a majority of sociometric studies focused on elementary and middle school students (see, e.g., Cillessen, 2009). More recent studies used peer nominations with older adolescents (e.g., Golmaryami & Barry, 2010; Laursen, Hafen, Kerr, & Stattin, 2012; Rock, Cole, Houshyar, Lythcott, & Prinstein, 2011) and emerging adult samples (e.g., Heyman, & Sailors, 2011; Lansu & Cillessen, 2012; Pohl, Hojat, & Arnold, 2011; Sandstrom & Cillessen, 2010). Contextual factors may also influence peer nominations. Therefore, age, having been to the facility before, and length of stay in the facility are included in the analyses.

Current Study

This study is the first to examine peer status in a sample of serious female offenders incarcerated in a secure juvenile correctional facility. The results uniquely contribute to the literature by examining three dimensions of peer status (likeability, popularity, social impact), their context-specific characteristics, and their association with psychopathology among girls in a correctional facility. We addressed two key questions. First, what are the behavioral and social indicators of peer group status in this unique context and sample? Second, what are the associations among peer group status, mental health symptoms, and adjustment?

Based on previous studies (cf. Coie, Dodge, & Kupersmidt, 1990), it was expected that being *likeable* would be related to being trustworthy and keeping to oneself. Further, in school samples, “keeping to oneself” is seen as a sign of social withdrawal and low peer sociability associated with rejection (Newcomb, Bukowski, & Pattee, 1993). In the current setting, “keeping to oneself” may instead indicate keeping a low profile and staying out of trouble. We therefore expected that in our setting keeping to self would be positively, rather than negatively, associated with peer acceptance. Given previous research on at-risk, inner city youth (e.g., Farmer & Xie, 2007; Luthar & McMahon, 1996), we expected leadership and prosocial behavior to positively predict *popularity*. Finally, we expected that aggression (overt and relational) would predict *social impact* as aggressive girls might be the most controversial and antagonistic in the facility.

Method

Participants and Procedure

Participants were 86 15-24 year-old females ($M = 18.7$, $SD = 1.87$) in a secure juvenile correctional facility for women and girls in Southern California. The facility is comprised of living units with individual rooms. This environment provided a same-sex only peer context and required that the participants live in close quarters with one another. Participants had extensive contact with each other every day (e.g., time spent on their halls, in common areas, and the yard; at meals; in programs (school or GED classes, recreation, therapy, job training). All girls housed in this facility had committed their crime as a juvenile; however, the Division of Juvenile Justice (DJJ) in California may house a girl until the age of 25 years. The majority of the sample (82.5%) were minority youth; 22.7% African American; 39.8% Hispanic; 5% Native American; 15% Bi- or Multi-Racial. The remaining 17.5% of the sample was Caucasian. Participants had parents with primarily high school or further education (36.7% beyond high school, 44.3% high school diploma or equivalent, 19% less than high school).

DJJ houses serious youthful offenders and participants' committing offenses were primarily violent; 79% were incarcerated for person offenses (e.g., robbery, aggravated assault, attempted murder, and murder). Fifteen percent were incarcerated for property crimes (e.g., burglary, larceny, theft, motor vehicle theft, arson, shoplifting, vandalism), 3% for public order offenses (e.g., disturbing the peace), and 3% for other offenses (e.g., weapon-related, drug-related, violation of probation).

Given the limited number of females housed in the facility (approximately 120, and the need to have a large number of females for the analyses, all English-speaking females were eligible. Of them, some were unable to participate due to structural or situational factors: 17% because of a recreational activity, therapy, or job training; 5% were about to be paroled and involved with exit proceedings, 3% refused to participate, and for 8% parents withheld consent.

For youth under the age of 18, assent was obtained from the youth and informed consent was obtained by phone from a parent or legal guardian. If the participant was 18 years or older, consent was obtained from her directly. Of the parents contacted, there was a 90% successful consent rate. Once appropriate consents were obtained, the youth participated in a 2-hour one-on-one interview about their behaviors and mental health in the facility. Given the reading level of these youth, the interviewer read all questions to the participant. Incarcerated female offenders were interviewed at the California Division of Juvenile Justice (DJJ). On average, girls had been incarcerated in the facility for about two years ($M = 1.79$, $SD = 1.61$, range = < 1 year-7.4 years).

Peer Nomination Protocol—The facility liaison provided our research staff with rosters listing all incarcerated females by name and unit. Research assistants (RAs) provided participants with the roster and instructed them on how to complete the peer nomination section of the interview. Participants were read the following instructions:

When responding to the following statements, think about all of the different girls, NOT staff, here at [NAME OF FACILITY]. I am going to ask you about these girls [*show girls the roster at this time*]. Please try to be open and honest in all your responses. Remember, these answers will be kept completely confidential unless you tell me about one of the three hurts. (*You are going to hurt someone, hurt yourself, or someone is hurting you*).

Given the sensitive nature of identifying rejected, neglected peers (Mayeux, Underwood, & Risser, 2007) and to avoid contagion effects, at the end of the peer nomination section participants were told:

As some of the other girls here at [NAME OF FACILITY] haven't gotten a chance to do this part yet we'd really appreciate it if you didn't discuss this friendship section when you go back to your unit.

Measures

Descriptive measures—Participants provided basic descriptive data (e.g., their age, race, whether they had been to the facility before, length of stay in the facility in years).

Sociometric measures—Peer nominations were used to measure social status, social characteristics, aggression, and relational victimization. Four peer nomination questions were used to assess status. Using the facility roster, participants selected up to 10 peers for the following questions: *like most*, *like least*, *most popular*, and *least popular*. Liked most minus liked least corresponds to likeability. Most popular minus least popular corresponds

to popularity. Liked most plus liked least corresponds to social impact (being liked and disliked).

To assess social characteristics, single items were used. Participants were asked to refer to the facility roster and to choose up to 10 peers who “*stay by themselves a lot*” (introverts), “*you can trust*” (trustworthy), “*cooperate, share, and help others*” (prosocial), and are people whom “*others pay attention to, go along with, and do what they say*” (leaders in the facility). Peer nominations received were summed for each of these four social characteristics with higher scores indicating more introversion, trustworthiness, prosociality, or leadership.

Aggression was measured with two additional peer nominations. Participants were asked to use the list provided to make their nominations of *people who hit, push, or kick others* (overt aggressors), and those who *ignore others, spread rumors, and exclude others* (relational aggressors). The total number of nominations (sum score) received for overt and relational aggression respectively was computed with higher scores indicating more aggression.

Relational victimization was measured with one peer nomination question. Using the facility roster, participants were asked to *name people who have lies, rumors, or mean things said about them* (victims of relational aggression). The total number of nominations received for this question was summed with higher scores indicating more relational victimization.

Depression—The 20-item, Center for Epidemiological Studies-Depression Inventory (CES-D; Radloff, 1977) was used to assess incarcerated youths’ depressed mood, lack of positive affect, somatic symptoms, and interpersonal difficulties ($\alpha = .86$). The CES-D asked participants to rate from 1 to 4 (1 = never; 4 = almost every day) how many times they have had depressive feelings in the past 6 months (e.g., “*I felt that everything I did was an effort*,” “*I felt sad*,” “*I thought my life had been a failure*”). Higher scores indicate more depressive symptomatology with a score of 16 used as a suggested cutoff for a clinical level of depression (Radloff, 1977). The CES-D is a highly reliable measure across both general populations and patient samples ($\alpha = .85$ and $.90$, respectively) and over a 6-month period ($\alpha = .54$) (Radloff, 1977). It is positively correlated with the Profile of Mood States-F (POMS-F) ($r = .54$) and State-Trait Anxiety Inventory-S (STAI-S) ($r = .65$) (Hann, Winter, & Jacobsen, 1999). The CES-D is negatively associated with positive affect ($r = -.21$; Bradburn, 1969).

Anxiety—Anxiety was measured with the Revised Children’s Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1987) including 37 dichotomous items (e.g., “*I get nervous when things do not go the right way for me*,” “*I worry a lot of the time*”). The scale was reliable ($\alpha = .84$). The RCMAS total score was computed for each participant with higher scores indicating more anxiety. Because some female offenders tend to endorse more somatic complaints than males (Cauffman et al., 2007), the physiological anxiety subscale was examined, in addition to the total anxiety score. Previous research has found the RCMAS to be a reliable measure of anxiety ($\alpha = .85$) (Reynolds & Richmond, 1987). Construct validity for the RCMAS comes from its strong positive correlation with the State-

Trait Anxiety Inventory for Children ($r = .88$) (Muris, Merckelbach, Ollendick, King, & Bogie, 2002).

Substance use—Substance use was measured using the 5-item Self-Report of Substance Use scale (SR-Substance Use; Stice, Barrera, & Chassin, 1993). The scale was reliable in our sample ($\alpha = .73$). Participants first rated how often they had ever used substances (e.g., “alcohol,” “marijuana or hashish,” “inhalants,” “other”) from 1 to 8 (1 = twice a day; 8 = never). If an item was endorsed as having occurred at least once in the participant’s life, a series of follow-up questions were asked. For all substances, these questions regarded: age of first experience (years-old), whether the participant had used in the last 6 months (1 = twice a day; 8 = never), and whether the participant had used since arriving at the institution (yes or no). Frequency of substance use was computed by averaging how often individuals reported using alcohol and illicit substances. This is a reliable measure across the alcohol and illicit drug subscales and over a 1-year period (α ’s ranged from .75 to .86) (Stice, Barrera, & Chassin, 1993). It also yields valid self-reported rates of substance use comparable to data from the National Household Survey (National Institute on Drug Abuse, 1989).

Loneliness—Loneliness was measured with the Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980), a widely used 20-item self-report measure of global loneliness. The scale has 10 positively and 10 negatively worded items, rated on a 4-point scale (1 = never, 4 = often). Participants rated “how often you felt this way in the past six months” (at baseline) or “since the previous interview” (at follow up interviews). Sample items are: *I lack companionship; I feel left out; I feel isolated from others*. A total loneliness score was computed by summing the 20 items with higher scores indicating more loneliness. The scale had good internal consistency with the present sample ($\alpha = .91$).

Anger—The Novaco Anger Scale (NAS) (Novaco, 2003) is a self-report measure of psychological aspects of anger in clinical and non-clinical populations. The NAS items focus on total anger (NAS Total score) that is based on cognitive, arousal, and behavioral domains of anger. The NAS uses a 3-point response scale: 1 = never true, 2 = sometimes true, 3 = always true. Participants reported if they had felt this way in the past 6 months. The NAS total score for the present sample ($\alpha = .90$) was computed by summing scores on the cognitive, arousal, and behavior subscales (48 items). Anger disposition is fairly stable (Novaco, 2003). The NAS correlates highly with other measures of anger such as the Buss-Durkee Hostility Total score ($r = .82$), the Caprara Scales of Irritability ($r = .78$) and Rumination ($r = .69$), the Cook-Medley Hostility Scale ($r = .68$), and the STAXI Trait Anger Scale ($r = .84$) (Novaco, 2003).

Results

Descriptive analyses were conducted for peer nominated social characteristics and social status (see Table 1 for raw scores and proportion scores). On average, girls were named as liked most by 6% of their peers and popular by 2% of their peers. Correlations among key study variables are presented in Table 2. The correlation of popularity with likeability was .27 ($p = .01$) and the correlation of popularity with social impact was .50 ($p < .001$). We

examined correlations between the key study variables and three covariates: age, having previously been in the facility, and length of stay in the facility in years. Age was negatively correlated with having been a victim of relational aggression ($r = -.27, p = .01$). Length of stay, however, was positively and significantly correlated with leadership ($r = .41, p < .001$), prosocial behavior ($r = .43, p < .001$), and keeping to oneself ($r = .26, p = .01$). None of the other correlations were significant.

Neither age, having previously been in the facility, or length of stay in the facility (in years) were correlated with likeability, popularity, or social impact. In addition, age, previous time in the facility, or length of stay were not significant covariates in subsequent regression analyses. Therefore, these three covariates were removed from the models.

Behavioral Predictors of Peer Status

Three separate regression analyses were used to examine indicators of likeability, popularity, and social impact, as three dimensions of social status.

Likeability—As hypothesized and noted in Table 3, likeable youth were nominated as being prosocial and trusted in the facility. In addition, peer nominated leadership and being a victim of relational aggression were negatively related to likeability.

Popularity—Being a leader and being trusted predicted popularity, whereas keeping to oneself was negatively related to popularity (see Table 3). Unlike the positive association found in community samples, relational victimization was negatively related to popularity. Contrary to our hypothesis, being prosocial was not significantly related to popularity. Trustworthiness positively predicted both popularity and likeability.

Social impact—As hypothesized, peers perceived youth with high social impact as both physical and relational aggressors in the facility (see Table 3). Surprisingly, peers perceived youth with high social impact as trustworthy as well. Interestingly, trustworthiness was a significant indicator of all three dimensions of social status.

Status Predictors of Psychopathology and Adjustment

To examine the association between social status and psychopathology in the facility, further regression analyses were conducted. It was expected that likeability and psychopathology would be negatively related, suggestive of a buffering effect of likeability. Results indicated that this was not the case, however. Specifically, being perceived as likeable by peers was not associated with psychosocial adjustment (Table 4). Instead, being perceived as popular was related to reduced levels of depression, (physiological) anxiety, loneliness, and anger in the institution. While previous research with school-based samples suggests that popularity is linked to risky behaviors such as substance use and delinquency, in the present study, popularity was not significantly related to substance use. In contrast, social impact was related to greater depression and substance use, but was not related to general anxiety. However, youth high on social impact reported elevated physiological anxiety, loneliness, and anger. These findings suggest a possible buffering effect among girls with a popular social status.

Post-hoc Analyses

Given the association between trustworthiness and social impact, a modified social impact variable was created. Because social impact is composed of both liked and disliked nominations, it allows for a lot of variance. A “7” on the scale could be: 7 liked and 0 disliked nominations, 0 liked and 7 disliked nominations, or 3 liked and 4 disliked nominations, 1 and 6, etc. In order to refine this variable, post-hoc analyses were conducted. The variable was recoded such that individuals who received exclusively liked nominations (e.g., 7 liked, 0 disliked, that is, their raw liked score equaled their social impact score) received a score of 0. (Other youth who received a score of 0 were “neglected” meaning that they received no nominations either way). The same was done for individuals who received exclusively disliked nominations. Even after recomputing this variable, so that it reflected youth who were both liked and disliked, the pattern of results remained the same.

Discussion

The present study distinguished likeability, popularity, and social impact, and determined their differential associations with social behaviors and mental health among serious female offenders incarcerated in a secure facility. Popularity (a leader, someone who is outgoing, and trusted) was negatively related to depression, physiological anxiety, loneliness, and anger. In contrast to popularity, social impact (i.e., a physical and relational aggressor yet also trustworthy) was related to more health risks (e.g., substance use, self-reported institutional offending). This observed link between social impact and maladaptive outcomes is consistent with findings for 7th grade urban high-risk youth (Miller-Johnson, Costanzo, Coie, Rose, Browne, & Johnson, 2003). The present study adds to our understanding of social impact and its negative correlates by examining it in a unique context – a same-sex secure facility. We also examined dimensions of peer status in an age-heterogeneous sample that included older participants (adolescents, young adults) than typically measured. There were no significant differences by age suggesting that findings may be more related to the effects of context on group dynamics than to age differences.

Findings are in contrast to the literature on “bistrategic controllers,” aggressive yet prosocial youth who use aggression to get what they want (Hawley, 2003). This phenomenon did not appear to occur in our study. Given the non-significant association between relational aggression and popular status, it may be that incarcerated females are not using aggression for status. Conversely, given the positive association between aggression and social impact, it may be that girls with greater peer nominated social impact use aggression to achieve or maintain status. Per our nomination data, the larger social ecology of peers in the facility may not condone aggression, but smaller cliques and dyads might. This potential subgroup dynamic is consistent with research by Clarke-McLean (1996) suggesting that the acceptability of some behaviors might be clique-dependent. While outside of the scope of the present study, we plan to examine network centrality and cliques. It is also possible that the association between high impact and externalizing behaviors overshadows girls’ internalizing problems. Thus, high impact girls may be especially at-risk, warranting treatment that is sensitive to their status and the peer context.

Popular status is somewhat positive in an incarcerated setting – the more popular a girl was rated by her peers the less likely she was to report social adjustment problems. This pattern is not suggested in the scant literature on high-risk, detained youth, which instead suggests that incarcerated females exhibit uniformly high rates of psychopathology. Extroverted girls may rise to leader status, which may reduce mental health problems. It may also be the case that extroverted girls receive more social support and exhibit less psychopathology.

A key piece of the social ecology of female offenders may be that relational aggression might not be rewarded with popularity. This is not to suggest that popularity was not associated with aggression; it was positively correlated with physical aggression ($r = .50$), but not relational aggression. Yet, it is important to note that our analyses did not yield a significant association between aggression and popular status. Findings should be considered in light of context: Physical aggression may have resulted in sanctions that impacted members of the peer group, possibly contributing to why it was not associated with popularity in the same way as in low-risk, school samples, or even in high-risk community samples (e.g., Luthar & McMahon, 1996).

Another nuanced finding was the positive association between likeability and popularity ($r = .27$). In community samples, the association between likeability and popularity changes from positive to negative across adolescence (Cillessen & Mayeux, 2004). It may be that the peer perceptions of incarcerated females are more similar developmentally to children and early adolescents than to their same-age peers. For high-risk females, this potential developmental delay may relate to lower IQ and verbal ability. More likely, the positive correlation between likeability and popularity may be due to the small, same-sex environment of the facility. A similar pattern occurs in small town high schools (Mayeux & Rodkin, 2009) where behaviors may shift from valuing aggression to valuing prosocial behavior and friendship. The association is not so much a developmental delay as it is the rejection of a social culture that idolizes mean girls. Thus, the allure of a mean friend (Hawley, Little, & Card, 2007) is diminished.

The correlation between popularity and likeability inspires greater confidence that popularity may be linked with psychosocial benefits. Yet there are distinctions between likeable and popular status given their varied behavioral associations. Leadership varied by these peer statuses; the association was positive for popularity and negative for likeability. The likeability-leader link was not significant at the bivariate level, but negative when other factors were controlled, suggesting that for a girl to be considered likeable in a secure facility it may be more important that she is cooperative and helpful than influential. Popular girls may be likeable, but perhaps likeable girls may not be as popular.

This set of social status findings makes a unique contribution to the literature and has important implications for treatment and intervention. Until now, sociometry has been primarily limited to school youth. Our data suggests that peers perceive popular girls as trusted leaders. Popular girls may serve as linchpins for tailored interventions in incarcerated settings: as they seem to be serving as leaders in the facility (recall that being a leader accounted for most of the variance in popularity), their behavior may be used to create new group norms and model more prosocial avenues to high social status. Youth who are the

most influential in the social structure are considered leaders of their peer group (Farmer & Xie, 2007). Yet, the practical application of such an intervention may have iatrogenic effects. Once popular girls are targeted by facilities, and they comply, they may no longer be viewed as popular. Benefits may be short term and even counterproductive. High social impact girls might engage in deviancy training or mechanisms that would serve to undermine interventions (Dishion et al., 1999) and exacerbate externalizing problems. Alternatively, high social impact girls may be less aggressive than their peers, and in accord with research by Boxer and colleague (2005), when placed in small group intervention programs might serve to reduce high-aggressive girls' behavior over time. Additional research into peer-level effects is needed.

Using interpersonal relationships as a mechanism for change has proven successful in a randomized trial of treatment foster care (TFC), a family-based alternative to residential, institutional, and group care for youth with significant psychosocial impairment (Leve & Chamberlain, 2005). Close relationships with non-deviant friends may protect against high-risk behaviors (e.g., health risking sexual behavior, delinquency). Accordingly, Leve and Chamberlain (2005) suggested using female peers as skills trainers. Popular female peers could provide training in social skills, emotion regulation, healthy relationships, and becoming comfortable with appropriate competition (Underwood & Coie, 2004).

To effectively reach girls with high social impact who may be resistant to popular female peers, interventions could also use token economies to reward various opportunities for girls to belong (Adler & Adler, 1995). If a girl with high social impact were to regularly reduce her own hostile attributions in relationally provoking situations, she could be rewarded with entry into a desired program (e.g., animal grooming, volunteer fire fighting). In addition to rewarding the absence of harmful behaviors, prosocial behaviors (e.g., defending a victim, interrupting malicious gossip) should also be rewarded.

Strengths, Limitations, and Future Directions

Before drawing inferences for policy and practice, some limitations should be considered. As the data are cross-sectional we cannot infer causality; instead we can only discuss associations between constructs. Longitudinal measures would enable a dynamic investigation of transactional relations. Longitudinal research should examine the degree to which physical aggression may decline during incarceration in relation to peer status. Given the association between aggression and substance use, research should examine peer status in relation to unique characteristics of girls who use substances in secure facilities despite institutional obstacles.

Another key issue is the importance of trust across all three dimensions of status. Trust may hold a unique meaning for incarcerated females. Given the power hierarchy in incarcerated settings there may be an in- versus out-group phenomenon whereby female inmates feel a bond with their fellow inmates ("us") and a distrust of guards and authority figures ("them"). They may be overly trusting or quick to trust others perhaps related to a preoccupied attachment style (Main, Kaplan, & Cassidy, 1985). A preoccupied attachment pattern is characterized by strong interpersonal needs, establishing relationships quickly, and behaving in an intense and demanding manner in relationships (Shaver & Hazan, 1993). For

incarcerated females, reports of trusting one's peers may be a pseudo-intimacy used to establish and maintain relationships. Research should improve measures of status by using a more nuanced conceptualization of social impact and refine the way that it is measured with nominations.

The present study benefits from several strengths. It is among the first to explore social behavior and social status among incarcerated females. The use of a high-risk, ethnically diverse, incarcerated sample is itself a unique contribution – one that is needed in the field. Researchers often neglect peer processes among incarcerated youth and yet their prolonged and close proximity to one another represents a unique perspective. As most studies of aggression rely on low-risk samples our understanding of how aggression operates for high-risk females is limited. Additionally, the participation rate (90%) was especially high given the sample (Holsinger & Holsinger, 2005). Furthermore, these data include 86 of the approximately 120 juvenile female offenders incarcerated in the state of California. These data are not merely a representative sample but instead represent the majority of the serious female offender population of this group for the state. These features give us greater confidence that our findings are valid, robust across informants, and representative of females in the justice system.

The most important findings from this study are the defining of the three dimensions of peer status, related peer-nominated social behaviors, and psychosocial correlates. This study is the first to expand upon current conceptualizations of the interpersonal function of aggression to include three dimensions of peer status among high-risk females. Even among a highly reactive sample, popular females reported fewer mental health problems suggesting that more popularity is related to less internalizing problems. As such, ecologically sensitive interventions should vary by participants' context and their social status in their peer group.

Finally, as noted in the literature (e.g., Odgers, Moretti, Burnette, Chauhan, Waite, & Reppucci, 2007), female offenders are not a homogenous group. Given the accelerating rate of female offending and incarceration, it is critical to better understand the dynamics of female delinquency, in particular, the impact a female offender may have on her peers. Even in a serious adolescent offender sample, peer acceptance seems to be valued and was linked to prosocial outcomes. An ecological perspective on the form and function of female aggression is necessary to understand the maintenance and continuation of problem behaviors.

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Table 1
 Descriptive Statistics for Nomination Measures of Peer Status and Social Behavior

	Min	Max	M	SD	Proportion
Peer Status					
Number of Liked Votes	0	14	4.83	3.33	.06
Number of Disliked Votes	0	14	2.78	2.88	.03
Likeability (# of liked minus disliked votes)	-10	12	2.04	4.47	.02
Number of Popular Votes	0	23	2.06	3.90	.02
Number of Unpopular Votes	0	15	2.43	2.78	.03
Popularity (# of popular minus unpopular votes)	-15	23	-.37	5.18	-.00
Social Impact (# of liked plus disliked votes)	0	22	7.61	4.33	.09
Social Behaviors					
Leader	0	19	1.31	2.87	.02
Trustworthy	0	8	1.96	1.86	.02
Prosocial	0	17	3.20	3.17	.04
Keeps to self	0	14	2.71	2.94	.03
Physical Aggression	0	40	2.48	6.11	.03
Relational Aggression	0	14	2.08	2.57	.02
Relational Victimization	0	19	2.68	3.37	.03

Table 2

Correlations Among key Study Variables

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
<i>Peer Status</i>															
1. Likeability	.27**	.14	.02	.58***	.48***	.27**	-.21*	-.34**	-.37***	-.15	-.11	-.18	-.22*	-.06	-.16
2. Popularity	--	.50***	.62***	.35***	.11	-.27**	.50***	.19	-.14	-.31**	-.18	-.19	-.03	-.27**	-.13
3. Social Impact	--	--	.49***	.46***	.17	.01	.62***	.51***	.34***	.09	.01	.11	-.29***	.11	.25*
<i>Social Behaviors</i>															
4. Leader	--	--	.25**	.31**	.07	.65***	.19	.01	-.22*	-.22*	-.11	-.16	.12	-.19	-.09
5. Trustworthy	--	--	.36***	.24*	.05	-.03	-.02	-.03	-.13	-.13	-.17	-.10	-.28**	.03	.04
6. Prosocial	--	--	.51***	-.20*	-.18	-.22*	-.18	-.22*	-.16	-.16	-.05	-.11	.07	.05	-.09
7. Keeps to self	--	--	--	-.19	-.21*	--	--	-.19	-.04	.01	-.01	.09	-.04	.12	-.02
8. Physical Aggr.	--	--	--	--	.49***	.25*	--	.49***	-.01	-.01	-.03	.02	-.07	-.10	.08
9. Relat. Aggr.	--	--	--	--	.51***	--	--	.51***	-.01	-.01	-.07	-.03	-.07	.02	.21*
10. Relat. Victim.	--	--	--	--	--	--	--	--	.26**	.26**	.06	.12	-.03	.08	.30**
<i>Social Adjustment</i>															
11. Depression	--	--	--	--	--	--	--	--	--	--	.64***	.52***	-.03	.43***	.47***
12. Anxiety	--	--	--	--	--	--	--	--	--	--	--	.78***	.09	.38***	.43***
13. Physiol. Anxiety	--	--	--	--	--	--	--	--	--	--	--	--	.08	.37***	.48***
14. Substance Use	--	--	--	--	--	--	--	--	--	--	--	--	--	-.04	-.08
15. Loneliness	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.36***
16. Anger	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Note.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 3
Results of Regression Analyses Predicting Likeability, Popularity, and Social Impact From Social Behaviors

	Likeability			Popularity			Social Impact		
	β	<i>t</i>	95% CI	β	<i>t</i>	95% CI	β	<i>t</i>	95% CI
Leader	-.29*	-2.31	-.82 - -.06	.41**	3.60	.33 - 1.16	.22	1.83	-.03 - .81
Relational Aggression	-.13	-1.26	-.61 - .14	.08	.86	-.21 - .52	.30**	2.99	.21 - 1.05
Physical Aggression	.15	1.11	-.08 - .29	.17	1.45	-.05 - .35	.26*	2.08	.01 - .43
Relational Victimization	-.27**	-2.93	-.58 - -.11	-.22**	-2.70	-.59 - -.09	.13	1.49	-.07 - .46
Prosocial	.36***	3.30	.20 - .79	.08	.76	-.20 - .45	-.17	-1.69	-.61 - .05
Keeps to self	-.03	-.32	-.31 - .22	-.37***	-4.49	-.94 - -.36	.06	.72	-.19 - .40
Trustworthy	.50***	6.11	.84 - 1.65	.31***	4.11	.47 - 1.36	.26*	3.26	.29 - 1.19
R^2	.53			.61			.58		
R^2_{adjusted}	.49			.57			.54		

Note.

* $p < .05$,

** $p < .01$,

*** $p < .001$.

Table 4
Results of Regression Analyses Predicting Social Adjustment From Likeability, Popularity, and Social Impact

	Depression		Anxiety		Physiological Anxiety		Substance Use		Loneliness		Anger	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Likeability	-.07	-0.65	-.06	-0.56	-.15	-1.38	-.01	-0.05	.03	.25	-.16	-1.15
Popularity	-.43**	-3.75	-.21	-1.71	-.27*	-2.25	-.12	-.94	-.41***	-3.48	-.25*	-2.16
Social Impact	.31**	2.77	.12	.99	.27*	2.34	.31**	2.60	.29**	2.55	.40***	3.57
R^2	.17**		.01		.06*		.08**		.07**		.12***	
R^2_{adjusted}	.15***		.01		.08*		.04		.11**		.13***	

Note.

* $p < .05$,

** $p < .01$,

*** $p < .001$.