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The “Other Side of The Fence”: A Learning- And Control-Based Investigation Of The Relationship Between Deviance And Friendship Quality

John H. Boman IV^a, Laura Agnich^b, Bryan Lee Miller^c, John M. Stogner^d, Thomas J. Mowen^{a,e}

^aBowling Green State University, Bowling Green, USA

^bGeorgia Southern University, Statesboro, USA

^cClemson University, Clemson, USA

^dUniversity of North Carolina at Charlotte, Charlotte, USA

^eBowling Green State University, Bowling Green, USA

Abstract

Utilizing frameworks of social control and differential association theories, this study addresses the extent to which deviance (a predictor) is related to friendship quality (the outcome). Using dyadic data, results demonstrate that the highest estimates of friendship quality come from actors who have non-deviant friends and who also refrain from theft and violence themselves. Shared deviance within the friendship, referred to as ‘homophily,’ harms friendship quality, although it does not mediate or moderate the deviance – friendship quality link. Overall, deviance relates to friendship quality in a way that supports a bonding tradition more than a learning tradition.

CONTACT John H. Boman IV jboman@bgsu.edu Department of Sociology, Williams Hall, Bowling Green, OH 43403.
Notes on contributors

John H. Boman IV is an Assistant Professor in the Department of Sociology at Bowling Green State University. His research focuses primarily on the role of peers and friends on crime and development, substance use, construct validation and measurement, and gender. Some of his recent work appears in *Criminology & Public Policy*, *the Journal of Quantitative Criminology*, and the *British Journal of Criminology*.

Laura Agnich is an Associate Professor of Criminal Justice & Criminology at Georgia Southern University. Her research focuses on school violence and examines bullying, mass violence, and sexual assault and dating violence among college students, as well as the link between victimization and drug use. Her recent publications have appeared in *Violence Against Women*, the *Journal of School Violence*, and the *American Journal of Criminal Justice*. She currently serves on the Board of Directors for the Southern Criminal Justice Association.

Bryan Lee Miller is an Associate Professor of Criminal Justice at Clemson University. His research has focused primarily on drugs and crime, peer delinquency, and offender reentry and reintegration. He is an author or co-author of over 40 peer-reviewed publications in criminal justice, criminology, medical, and drug journals. Recent publications have appeared in scholarly journals such as *Pediatrics*, *Journal of Drug Issues*, *Social Science Quarterly*, and *American Journal of Criminal Justice*.

John M. Stogner is an Associate Professor of Criminal Justice and Criminology at the University of North Carolina at Charlotte. He holds a Ph.D. in Criminology from the University of Florida and teaches courses related to drug policy, criminological theory, and biosocial criminology. His research generally focuses on substance use with a particular emphasis in novel and emerging drugs. He also explores issues related to health ramifications of deviance, peer influences on delinquency, and drug policy.

Thomas J. Mowen is an Assistant Professor in the Department of Sociology at Bowling Green State University. His research interests include understanding the role and importance of family within the reentry process, and the impact of punishment on youth and family outcomes. His recent research has appeared in *Journal of Research in Crime and Delinquency*, *Justice Quarterly*, and *Criminology and Public Policy*.

Introduction

Though typically concomitant with learning-based theories of deviant behavior, interpersonal connections have a niche in virtually every criminological perspective. Associations with other people – particularly friends – are frequently theorized to be the means through which definitions are learned and behaviors reinforced (Akers 2009; Norman and Ford 2015; Watkins 2016), an important reason as to why a person may be bonded to society (Hirschi 1969), a substantial conditioning factor on the effect of stressful events on crime (Agnew 2006), and the source of potential informal, non-legal sanctions that may stem from deviant behavior (Cornish and Clarke 1986). Further, changes in behavior have been hypothesized to be partially driven by alterations in the type and depth of associations (i.e., Childs, Sullivan, and Gullede 2010; Sampson and Laub 1993; Warr 1993). However, the field's understanding of peer influence and friendship quality is still in its infancy despite the overwhelming theoretical and empirical support which peer-based perspectives receive (e.g., Thompson, Mitchell, and Dodder 1984; Warr 2002). As a result of this, notable scholars have challenged the appropriateness of peer-based measures (Haynie and Osgood 2005; Thornberry and Krohn 1997) and emphasize that most perspectives limit their assessment of personal associations to the number of friendships, the characteristics of friends, or the position of a person within a social network (e.g., Giordano 2003).

Among other weaknesses of peer-based research (see Warr 2002), perhaps the most problematic trend is that most studies investigating friends, friendships, and interpersonal associations with crime have included only one dimension of friendship quality (if the construct is included at all; see Hartup 1996), such as 'attachment.' Further, many studies which do measure 'attachment' are actually measuring 'attachment to peers' (or something synonymous), a practice that fundamentally misses the point that a friendship is held between two people, not a larger (and often abstract) group of people; stated differently, friendships are dyadic (Hartup 1996). Addressing these shortcomings, a notable friendship researcher has emphasized that the phrase "peer deviance [is] used to hide an appalling lack of knowledge about how peers promote delinquency" (Warr 2002: 88–89). Although more recent works have tremendously helped address this criticism (e.g., Brezina and Azimi 2018; McGloin and Piquero 2010; Young et al. 2014; for a study on mechanisms of peer influence, see Costello and Zozula 2016), we do still agree with this statement. We also believe that criminological literature is further myopic in that the quality and types of associations are almost always treated as independent variables presumed to influence behavioral outcomes rather than as endogenous, dependent variables which can be affected by behavior (e.g., Gillard-Matthews et al. 2015; Payne and Salotti 2007). While several studies do exist that allow personal associations to be dependent measures (Boman et al. 2012; Cillessen et al. 2005), they are exceptionally rare despite a well-known scholar stating (nearly forty years ago) that a more comprehensive framework would incorporate a complex feedback loop whereby the quality and character of personal associations are predicted to cause, and be caused by, deviant behavior (see Kandel 1978).

Kandel's philosophy of a reciprocal relationship between friendship quality and crime is central to the current study and presents a unique opportunity for theoretical extensions relevant to the competing control (e.g., Gottfredson and Hirschi 1990; Hirschi 1969) and

learning (e.g., Sutherland, 1947; Akers 2009) perspectives. Before we discuss these theoretical issues, however, attention to the current state of the literature on both directions of the reciprocal friendship quality – crime pathway is warranted. The first direction – the path from friendship quality to deviance – has been studied a fair amount. At a minimum, it appears that the quality of a friendship conditions the degree to which peer influences can impact behavior (Cairns and Cairns 1994; Haynie 2001; Thornberry et al. 1994). This could be at least partially attributable to the fact that some individuals select friends who already share common interests and behaviors (see Feld 1981; Kalmijn and Flap 2001; McPherson, Smith-Lovin, and Cook 2001; Venkatesh 1997; Warr 2002), thus putting individuals at a predisposition for perceiving that they are in a high quality friendship while simultaneously promoting delinquency (particularly if the friend they chose is also delinquent).

The other side of the potential feedback loop, the path from deviance to friendship quality, is infrequently researched and is consequentially poorly understood from the perspective of criminologists. Questions remain as to whether and how delinquency may affect 1) an individual's ability to develop close interpersonal relationships, 2) change friendship members' perceptions of friendship quality, and 3) influence cognitive processes about how important a friendship is considered.

In the current study, we seek to explore this “other side” of the friendship quality to deviance pathway – the reciprocal structural path from deviance to friendship quality. To investigate this understudied topic, we employ multilevel structural equation modeling with dyadic data to extend theory and aid in the general understanding of how deviant behavior impacts friendship quality. In the process, we introduce the concept of behavioral homophily – or shared deviance between friends – and argue why it very well could exert an influence on perceptions of friendship quality. It is our hope that the current effort will offer a first viewpoint into the various effects which the crime to friendship quality pathway could hold and to begin the discussion on how this path may inform both theory and policy.

The theoretical background of friendship quality and crime

Early criminological studies on the relationship between friendship quality and deviant behavior included direct observations and ethnographies of gangs that depicted close, rich friendships among members (Thrasher 1927) and a detailed life history of a juvenile delinquent who experienced close friendships with other delinquents (Shaw and Becker 1930). Glueck and Glueck's (1950) classic examination of peers and delinquency, which was central to the development of theories like social learning (Burgess and Akers 1966), social control (Hirschi 1969), and the developmental/life-course perspective (e.g., Moffitt 1993), highlighted the causal importance of friends and friendships on crime. A key finding from Glueck and Glueck's study was that delinquent behavior preceded the formation of friendships with other delinquents in their study of delinquent and non-delinquent boys. Thus, the causal pathway from deviance to friendship quality was implicitly, if not explicitly, central to Glueck and Glueck's viewpoint on how to research criminal behavior.

Working around the same time as the Gluecks, Sutherland (1939; also : 1947) also recognized the importance of the friendship quality – crime relationship. Sutherland's differential association theory posited that close friendships with delinquents are a primary

cause of criminal behavior. To Sutherland, deviant behavior was learned, like any type of behavior, through the process of socialization in intimate personal groups (primarily friendships). According to differential association, the motives, values, techniques, and favorable definitions of deviant behavior can be learned from friends. Further, these relationships vary by frequency, duration, intensity, and priority; associations that are recurrent, longer lasting, marked by close interpersonal ties, and are highly salient have the biggest impact on an individual's learning (Cohen, Lindesmith, and Schuessler 1956; Sutherland 1939).

Though Burgess and Akers (1966) attempted to offer an extension of differential association, their theory of social learning was seen as distinct due to the incorporation of a proposed method through which people learned (operant conditioning and differential reinforcement). Research examining social learning theory clearly demonstrates that peers have a direct influence on delinquent behavior via the process of socialization (e.g., Warr 2002). In particular, peer delinquency has been found to exert one of the strongest (if not the strongest) influences on self-reported delinquency of any theoretically derived variable (Agnew 1991; Akers et al. 1979; Elliot et al. 1985; Warr 1993).

Despite the support provided to Sutherland's and Akers' theories, control theorists have argued that methodological issues have caused researchers to overestimate the role of peer influence on delinquent behavior (see Gottfredson and Hirschi 1990 for a summary) and instead offer a different view on how friendship quality and deviance are related. Instead of focusing on the closeness of friendships like Glueck and Glueck and Sutherland, Hirschi (1969: 141) posited that friendships among delinquent youth are universally characterized as "cold and brittle". Since delinquents exhibit weaker attachments to conforming adults, they are unlikely to have strong attachments to one another. Instead, friendships among conventionally attached, non-delinquent youth are characterized by warmth, loyalty, and intimacy (Wiatrowski, Griswold, and Roberts 1981). The other main control perspective, self-control theory, takes a similar approach, but focuses more on a 'selection effect' where individuals who are delinquent self-select into weak, broken, and low-quality friendships consisting of persons with low self-control (see Gottfredson and Hirschi 1990). Thus, the two control theories share in common the perspective that low quality, broken friendships are related to deviance, but self-control theory's selection hypothesis takes this understanding a step further by insinuating that low quality friendships are a primary result of delinquency and low self-control.

Extending social control and differential association theories

In applied research examining the competing claims of the learning and control perspectives, the vast majority of criminological literature investigating either the deviance – friendship quality or friendship quality – deviance pathways uses extremely simple measures that are generally labeled as 'peer attachment,' or the like. From the perspective of criminological theory, the unidimensional 'peer attachment' component is a theoretically specified variable most commonly tied to Hirschi's (1969) social control theory despite its keen similarity to differential association's and social learning theory's 'intensity' modality of association. Regardless of the origin of one's theoretical perspective, empirical examinations of the

social bond and differential association regularly, although perhaps implicitly, use this construct as a proxy-marker of friendship quality. Despite the theoretical specifications of Hirschi, a more modern viewpoint on this issue demonstrates that the reliance on ‘peer attachment’ measures is a notable shortcoming in the literature because close friends are more than just ‘attached’ to one another (Bukowski, Hoza, and Boivin 1994; see Giordano 2003). As opposed to attachment, ‘friendship quality’ is a preferential and multidimensional construct which includes attachment alongside other empirically-rooted constructs like friendship security, willingness to help the friend, and conflict (Bukowski, Hoza, and Boivin 1994). In short, and following Giordano’s (2003: 262) emphatic statement on the “need for multidimensional assessments of friendship qualities and behaviors”, ‘friendship quality’ offers a much more complete viewpoint than ‘attachment’ and should be considered a preferential measure to the latter.

As an implication, one can see how criminologists’ reliance on ‘peer attachment’ measures has probably limited the assessment of both Hirschi’s social control theory and Sutherland’s differential association theory, particularly. And due to the importance of peers, this statement also rings true for the many other perspectives that either directly incorporate differential association or make similar statements about how friends can impact crime (e.g., strain (Agnew 2006; Huck et al. 2017. “Connecting), opportunity perspectives (Osgood and Anderson 2004), life-course theories (Sampson and Laub 1993), etc.). By drawing on Kandel’s perhaps somewhat forgotten philosophy from the late 1970s, we argue that the time has come (and passed; see Giordano 2003) for a more comprehensive theoretical viewpoint to the reciprocal relationship between friendship quality (as opposed to ‘attachment’) and crime.

Regarding Hirschi’s (1969) element of the bond, the change in emphasis from attachment to friendship quality is rather straightforward and affects measurement and empirical tests of the theory more than the phenomenological perspective from which Hirschi drew. However, the change that we propose would (initially) only apply to peers, as it makes little sense for a friendship quality measure be implemented to measure the extent of one’s attachment to teachers, parents, or other conventional authority figures. While attachment to these conventional others should certainly be scrutinized in the future, focusing primarily on peers offers a ground-floor start to better honing theory while focusing on a group of individuals who are the most consistently supported instigators of crime of which criminologists are aware (e.g., Warr 2002).

In terms of differential association and social learning theories, the redefinition of the ‘intensity’ modality is hardly simple. To clarify, we are not arguing for a ‘definitive’ reinterpretation of the modality of ‘intensity,’ but rather argue that the conversation should begin on how to redefine it. With this extremely important caveat emphasized, we believe an excellent start to this process would be to redefine the ‘intensity’ modality of association as the ‘friendship quality’ modality of association.

This change is hardly inconsequential. In writing his final iteration of differential association in 1947, Sutherland failed to precisely define what ‘intensity’ means, stating that it was “not precisely defined” but instead concerned “such things as the prestige of the source of a

criminal or anticriminal pattern and with emotional reactions related to the associations” (p. 7). Given the considerable subjectivity that may exist in one’s interpretation of this statement, we believe our proposed friendship quality-based reconceptualization of this modality offers a more structured ontological definition of the modality while maintaining the integrity of Sutherland’s epistemological thought process. Friendship quality, after all, is an emotionally-based, perceptually-held construct about the nature of the friendship one person shares with another (Saferstein, Neimeyer, and Hagans 2005). Accordingly, the mindset behind our proposed redefinition holds true to Sutherland’s “emotional reactions” statement specifically, and his philosophy generally.

In neither case does the change away from attachment and intensity to friendship quality adversely impact other areas of social control or differential association theories. The similarity (which is almost synonymy) between the attachment element of the bond and the intensity modality of differential association is also retained. In terms of explaining the various causes and consequences of criminal behavior, we see very little downside to extending and honing the theoretical definitions of Hirschi’s concept of attachment and Sutherland’s intensity modality. And though we see further potential for the redevelopment of attachment and intensity alike, these extensions are outside the scope and focus of the current study.

Empirical results on friendship quality and deviance

At first glance, adolescents in both delinquent and non-delinquent friendships report similar levels of friendship quality (Giordano, Cernkovich, and Pugh 1986), which supports the learning tradition more than the control theories’ ‘cold and brittle’ hypothesis (see Boman et al. 2012). Further supporting the learning perspective, a fair amount of drug research concludes that those who are involved in deviant and/or drug-using networks have closer relationships with their friends than those who abstain from those activities (Hawkins and Fraser 1985; Kandel 1978; Kandel and Davies 1991; Krohn and Thornberry 1993). However, using ego-centric (actor-reported) reports on friendship quality on teens involved in romantic relationships, Giordano and colleagues (2010) find support for both learning and control theories’ perspectives on friendship quality. Additionally, Boman and colleagues (2012) found that low self-control among members in a friendship is a major reason for low friendship quality perceptions. Accordingly, there appears to be some extent of support to both the Sutherland/Akers and Hirschi/Gottfredson perspectives on the reciprocal relationship between deviance and friendship quality.

Although not yet closely tied to the friendship quality literature, scholars have discussed how various dimensions of homophily are important for crime (Boman 2017; McPherson, Smith-Lovin, and Cook 2001). Homophily, or similarity between friends, can exist across various dimensions of relationships (e.g., if there are two female offenders, the deviant friends share gender homophily). Though typically applied to demographic characteristics, drug research has suggested that shared deviant behaviors – or substance use homophily – may be associated with intense interpersonal ties more so than shared normative behaviors (Kandel and Davies 1991; Krohn and Thornberry 1993). Drawing on this finding, we incorporate the concept of behavioral homophily, or behavioral similarity, into the current

study. For friends to have behavioral homophily, they both must have reported that they engaged in behavior *A* in the past twelve months.¹

In the absence of tangible knowledge on how behavioral homophily could affect the quality of friendships, we discuss several possibilities. First, respondents engaging in delinquent behavior may perceive their friendships to be low-quality regardless of their best friend's behavior. Though feasible, this is unlikely given that research has yet to find unequivocal support for the control theories' cold and brittle hypothesis (see Boman et al. 2012; David and Fraser 1985; Giordano, Cernkovich, and Pugh 1986; Giordano et al. 2010; Kandel 1978; Kandel and Davies 1991; Krohn and Thornberry 1993). Second, behavioral homophily may completely mediate the relationship between the deviance of those in the friendship and the members' perceptions of friendship quality. If this were to occur, this would suggest that engaging in similar behaviors actually carries the full effect of deviance to friendship quality. A third, related option is that behavioral homophily may carry only a part of the deviance – friendship quality effect (a partial mediation). And finally, a fourth potential conditioning effect is that deviant behavioral homophily may moderate the relationship between respondents' and peers' behavior and friendship quality. In other words, whether or not a particular type of deviant behavior affects perceptions of friendship quality may depend on whether both friends have behaved similarly. Since most research concludes the deviant individuals share close ties (e.g., Giordano, Cernkovich, and Pugh 1986; Giordano et al. 2010; Kandel 1978; Kandel and Davies 1991; Krohn and Thornberry 1993), it is likely that shared involvement in similar forms of delinquency could result in perceptions of stronger friendships compared to non-delinquent behavioral homophily.

Current study

Recognizing that the quality of friendships is multi-dimensional and shares a complex theoretical relationship with crime and deviance, the present study seeks to examine how three distinct types of deviant and criminal offending – substance use, theft, and violence – and homophily in these types of offending affect friendship quality. Utilizing a unique dyadic dataset (i.e., an actor and a friend together) and using multilevel structural equation models, we have four specific aims. First, we attempt to establish the extent to which the actor's and peer's self-reported deviance impacts an actor's perception of friendship quality. Following these baseline results, we secondly explore whether behavioral homophily within the distinct types of offending fully mediates the relationship between the actor's and friend's self-reported deviance and friendship quality. Third, we explore whether a model which includes partial as opposed to full mediation is more empirically supported. Fourth, and finally, we explore whether behavioral homophily between friends moderates – or amplifies – the effect of the actor's and friend's self-reported deviance on friendship quality. We conclude by discussing how our results inform the theoretical extensions which were proposed in the introduction.

¹The nature of the relationship between behavioral homophily and friendship quality is particularly important for policy. If lower quality friendships were found to be criminogenic, then currently existing crime intervention and prevention programs could be altered to also incorporate a section on how to make a client a better friend. We speak to this in the discussion.

Although we are exploring a major theoretical issue, the lack of prior results on our topic of interest guides us to treat the current study as exploratory rather than explanatory. Accordingly, we avoid making hypotheses about friendship quality that are outside of the scope of the learning-based and control-based traditions which we seek to inform.

Methods

Data and sample—The dataset used in this study contains over 1,000 pairs of friends who were currently undergraduate students at a major university in the southeastern United States. To obtain the dyadic sample, the PI contacted the instructors of the largest 50 classes at the university during the spring semester of 2009. Two dozen instructors, with classes ranging from 50 to 1,500 students (total combined enrollment $\approx$ 5,000), agreed to allow an extra-credit-based incentive for students to participate in the survey. Members of the research team then made in-class visits to solicit the study. Potential participants were asked to come to a designated study site during specified operating hours alongside one of their five best friends currently enrolled in undergraduate studies at the university.

Upon arriving at the study, the friends provided informed consent and then were sent into separate rooms and given identical paper surveys which were pre-coded with a matching identification number to link the two as a pair. Among other things, each survey asked each friend to self-report his/her involvement in a wide variety of crimes and report the perceived friendship quality towards the other dyad member. Following completion of the instrument, each dyad member was debriefed apart from the friend. The separation between the friends was crucial to the study because it eliminated the potential for communication between the friends during survey administration.

In total, the convenience sampling procedure resulted in a dataset containing 2,154 unique individuals nested within 1,077 self-identified friendship dyads. Due to the large number of individuals in the classes, about 20% of the sample contains friends who were both awarded extra credit in one of the 24 classes. What this indicates is that about 80% of the friends who participated in the study did so with the sole incentive of helping their friend receive extra credit.

For this study, the dataset is arranged into what is referred to as a double-entry file in dyadic data analysis (see Campbell and Kashy 2002; Kenny, Kashy, and Cook 2006). In a double entry file, each individual has his/her own line of data. On the end of each actor's line of data, the friend's information is inserted, creating a nested dataset where both persons in the dyad are both the target individual (called the 'actor') and the person to whom they are linked (called the 'friend'). Thus, both individuals in each dyad are treated as both the 'actor' and the 'friend,' creating a nested datafile which maximizes the amount of information which can be inferred with dyadic data.

Measures

Dependent variable—Actor's Friendship Quality. In line with past research (e.g., Bukowski, Hoza, and Boivin 1994; Giordano 2003), we treat friendship quality as an individual-level characteristic. That is, our procedure allowed for the actor to perceive

his/her friendship quality to the friend, and vice versa. This created variation in the estimate of friendship quality both within and between dyads, making our dependent variable a level one characteristic.

The measure of friendship quality that we use is the attitudinal Friendship Qualities Scale (FQS; Bukowski, Hoza, and Boivin 1994). The scale contains 23 items on a 5-point, Likert measurement scale where higher scores capture increasingly positive perceptions of friendship quality. A benefit of the FQS is that it captures 5 different dimensions of friendship quality – closeness, security, help, companionship, and conflict (reverse coded) – as opposed to a typical criminological measure which would only capture one dimension, such as attachment. Using the same factor structure as reported by the scale developers, we treat the FQS as a latent construct ($TLI = .96$; $RMSEA = .11^2$). Since the measure of friendship quality is contemporaneous at the time of the survey and the independent variables are reports of past behavior (see below), causal order is properly established.

Independent variables—Actor's and Friend's Self-Reported Substance Use. Each member of the dyad self-reported his/her involvement in four items which ask about his/her substance use. The items inquire about whether the actor has binge drank (item 1), used marijuana (item 2), used 'hard' drugs (item 3), and used salvia³ (item 4) in the past twelve months.

Although these items were initially measured on the National Youth Survey's 9 point metric (see Elliott, Huizinga, and Ageton 1985), a central interest of ours lies in the mediating and/or moderating properties of shared deviant behavior. Though we speak about the construction of the shared deviance items in a moment, we are focused on shared prevalence of offending rather than shared frequency of offending. In other words, we are concerned with whether the actor and friend have engaged in any particular act in the past 12 months. Accordingly, we chose to collapse all 9 point self-reported items into binary measures where 0 indicates the actor/friend did not engage in the act in the past year and 1 indicates they engaged in the act at least once. Descriptive statistics for the self-reported offending items is provided in Table 1.⁴

Actor's and friend's self-reported theft: Each member of the dyad self-reported his/her involvement in five types of theft. The items asked respondents if they had stolen things worth under \$5 (item 1), between \$5 and \$50 (item 2), and over \$50 (item 3); if they had stolen from their neighbors or friends (item 4); and whether they had avoided paying for goods and services like movies, clothes, or food (item 5).

²Due to a high RMSEA, we made changes to the FQS measurement model's factor structure with the hope of improving fit. While we were successful, the altering of the factor structure presents considerable challenges to construct validity as well as to the understanding of findings since we may no longer be capturing Bukowski and colleagues' notion of 'friendship quality.' As such, we chose to use the measure of FQS that had a slightly high RMSEA.

³Salvia divinorum, or simply 'salvia' or 'sally D,' is a hallucinogen that is smoked through a pipe. The effects are characterized by intense, but short lasting (e.g., +–10 minutes), auditory and visual hallucinogens. For more information about salvia, refer to the work of Miller et al. (2011).

⁴Because of the nesting within the double-entry dyadic data file, the descriptive characteristics of the actor's and friend's self-reported deviance and demographic characteristics is identical (see Campbell and Kashy 2002).

Actor's and friend's self-reported violence: Three items make up the self-reported violence items – the dyad members' involvement in a group fight (item 1), hitting someone (item 2), or throwing rocks or bottles at people (item 3).

Substance use homophily: Based on the self-reported substance use measures between the actor and the friend, we constructed a series of items that distinguished whether the dyad members displayed substance use homophily over the past 12 months. To construct these shared substance use measures, the actor's response to binary substance use item k was added to the friend's response to binary substance use item k (i.e., $k + k = \text{response}$). This produced three potential responses; 0 (indicating neither friend engaged in the substance use), 1 (indicating one friend did engage in the substance use, but the other did not), and 2 (indicating both dyad members engaged in the substance use). Based on these responses, we recoded all non-use and non-homophilous use (responses '0' and '1') into a non-homophily category (now coded '0') and all responses indicating shared use (response '2') into homophilous use (now coded '1'). Accordingly, these items vary between – but not within – dyads, making them level two characteristics of the dyad itself. The descriptives of the substance use, theft, and violence homophily measures are presented in Table 2.

Theft homophily: Using the same mathematical process as the substance use homophily measures, we constructed second level items that captured whether the actor and friend had both engaged in the five theft behaviors.

Violence homophily: Finally, violence homophily at level two was captured in a similar manner as it was in the substance use and theft homophily items.

Controls: Each model controls for three characteristics of the actor and the same characteristics of the friend – sex (0 = female, 1 = male), age, and race (0 = white, 1 = non-white). The descriptive characteristics of each of these characteristics is reported at the end of Table 1.

Analytical strategy

Since mediation and moderation are central to the goals of the current study, we employ a tool that is well suited to estimate them – structural equation modeling (SEM; Kline 2015). Complicating our use of SEM is the fact that our data are nested. Additionally, we are substantively interested in how behavioral homophily – a level-two construct – could affect friendship quality. To statistically account for this, we use multilevel SEM (MSEM – Kline 2015; Rabe-Hesketh, Skrondal, and Zheng 2007) throughout this study. Specifically, our MSEMs are two-level models which contain substantive variables at both levels one and two. Level two of our model also contains an additional control variable – the dyadic friendship identification number, which is an exogenous variable that impacts both the level one actor and partner variables as well as the friendship quality outcome (see the baseline model presented in Figure 1). Conceptually, the use of the dyadic identification number as a level-two exogenous measure is a means of acknowledging in our SEMs that the level-one equation 1) contains markers from both the actor and friend (see Kenny, Kashy, and Cook

2006) and : 2) outcomes of friendship quality may depend on more than just characteristics of the actor.

The baseline model, presented in Figure 1, investigates our first goal of looking into how friendship quality may be influenced by the deviance of the actor and friend. This MSEM investigates how the behavior of the actor, the friend, and controls from both the actor and friend influence the actor's perception of friendship quality. The second level of this equation contains no substantive variables, and instead is what is referred to as a 'grouping level' in actor-partner interdependence modeling (Kenny, Kashy, and Cook 2006). Because we are investigating three types of deviance (substance use, theft, and violence), three total baseline MSEMs are estimated.

Using a similar MSEM procedure, our second goal is to see if behavioral homophily completely mediates the relationship between individual-level deviance and friendship quality (see Figure 2). Compared to the first series of MSEMS, this equation adds the deviance-construct-specific markers of behavioral homophily at level-two. If the significant effects of level-one deviance were to be eliminated by the level-two behavioral homophily items, we would offer support to complete mediation.

The third MSEM series, conceptually presented in Figure 3, assesses whether behavioral homophily partially mediates the level-one deviance markers through indirect cross-level effects that work through the level-two homophily variables. To assess these indirect effects, we implement the Monte Carlo Method for Assessing Mediation (MCMAM; MacKinnon, Lockwood, and Williams 2004). The MCMAM is a replicative procedure that is designed to produce j number of iterations of the original sample to estimate the effect of the level-one deviance variables (x) on the friendship quality outcomes (y) through the behavioral homophily mediator (z). Using the difference of the unstandardized coefficients between paths $x - z$ (producing b_1) and $z - y$ (producing b_2), the product of $b_1 * b_2$ is calculated many times. Due to the need for many replications of the MCMAM procedure (see Wehrens, Putter, and Buydens 2000), our use of the technique uses 100,000 random draws. The end result of the MCMAM procedure is a 95% confidence interval (95% CI). If the CI were to contain zero, the conclusion would be that there is no meaningful indirect effect of deviance through behavioral homophily. Alternatively, if the CI failed to contain zero, the evidence would suggest that there is a substantive, significant indirect effect of deviance (x) on friendship quality (y) that partially operates through behavioral homophily (z).

Our fourth and final goal investigates if the actor's and friend's deviance statistically interact to moderate each other's effect on friendship quality (see Figure 4). To create the interactions between actor and peer deviance item k , we created a separate set of non-centered variables consisting of the product of $k_{\text{Actor}} * k_{\text{Friend}}$. These measures were loaded onto the friendship quality outcome along with the binary self-reported deviance items.

Dataset management was conducted in Stata SE (v. 14.2), MSEM were estimated in Mplus (v. 7.1), and MCMAM indirect effects were estimated through a program written in R (v. 3.2.5). Very minor amounts of missing data (less than 1% on all measures) were imputed through Mplus's full-information maximum likelihood technique.

Results

Research goal 1: baseline results of the relationship between deviance and friendship quality

Our first research goal inquires as to what baseline effects the actor's and the friend's self-reported deviance have on friendship quality (refer to Figure 1). Results are reported in MSEM models found in Table 3. Overall, only one of the self-reported items in the substance use model (the actor's use of salvia; $b = -.319, p = .01$) shares a significant, negative relationship with the actor's perception of friendship quality. Five of six control measures are also significant in the substance use model, demonstrating that actors estimate significantly lower friendship quality when they are male ($b = -.709, p = .001$) and when they have a male friend ($b = -.576, p = .001$), when both the actor ($b = -.097, p = .05$) and friend ($b = -.114, p = .01$) are non-white, and when the actor is younger rather than older ($b = -.066, p = .05$).

While the theft model's demographics have quite similar patterns as in the substance use model, the self-reported theft items do not. All five actor theft items and four of the five friend theft items share direct, negative, and significant relationships with friendship quality. Accordingly, it appears that both the actor's and friend's engagement in theft are independently harmful to the actor's perception of friendship quality. And this story also is true in the violence model – actors and friends engaging in violent acts exerts independently harmful effects on the actor's perception of friendship quality. Finally, the level two dyadic identifier fails to reach significance in all three models, indicating that there is no significant variability in friendship quality across dyads after controlling for self-reported substance use, theft, or violence, respectively.

Research goal 2: does homophily fully mediate the deviance – friendship quality relationships?

Given the prior results suggested that there was a direct, detrimental effect of deviance on friendship quality, the second goal arises – are these effects fully mediated by behavioral homophily? Results for this research question (refer to Figure 2), which are presented in Table 4, clearly suggest the answer is 'no.' In the substance use model, none of the level-two behavioral homophily variables reach statistical significance, and the model looks nearly identical to how it did without the homophily measures included. In the theft model, two of the behavioral homophily items are negative and significant (theft of low value items and avoiding payment for services), but these two additional measures exert independent effects and do not prove the actor's or peer's self-reported theft spurious. Finally, in the violence model, group fighting homophily is significant and negatively related to friendship quality, but the main effect of the actor's and peer's group fighting on friendship quality remain. Accordingly, no support can be provided to a complete mediation of the effect of deviance on friendship quality by homophily within a certain type of deviant behavior.

Research goal 3: does the effect of deviance to friendship quality work indirectly through homophily?

Since we have observed that there is certainly no evidence of a full mediation, does deviance (x) impact friendship quality (y) by working indirectly through homophily (z ; refer to Figure 3)? The results for the substance use model are presented in Table 5. Overall, the substance use model looks nearly identical to how it did previously, even with the specification of an indirect, cross-level, $x - z - y$ effect. Once again, there is no direct effect of homophily on friendship quality, only one significant direct effect of self-reported substance use on friendship quality, and the demographics hold a very similar pattern of statistical significance as they did in the baseline model. Most importantly, all of the 8 MCMAM post-estimation effects' 95% CIs contain 0, indicating that there is no significant indirect effect of deviance that works through substance homophily on friendship quality.

The results from the theft model tells a different story than the substance use model (see Table 6). As in the prior iteration of this model, two homophily variables are negative and statistically significant as are nearly all self-reported deviance measures. However, the MCMAM results indicate that the actor's (MCMAM 95% CI = $[-12.113, -3.241]$, $p = .05$) and friend's (95% CI = $[-12.053, -3.246]$, $p = .05$) self-reported minor theft does indeed significantly, indirectly influence friendship quality via minor theft homophily. Also, the actor's (95% CI = $[-10.033, -2.076]$, $p = .05$) and friend's (95% CI = $[-10.027, -2.132]$, $p = .05$) self-reported involvement in not paying for goods and services also significantly influence friendship quality via homophily. In all cases, the negative directions of the significant MCMAM indirect effects indicate that the indirect effects further serve to harm the actor's friendship quality perceptions rather than help them.

The third and final indirect effect model investigates the MCMAM indirect effects of violence on friendship quality and is found in Table 7. As in the prior case, one homophily measure and all self-reported violence items have significant and harmful effects on friendship quality. Additionally, two MCMAM indirect effects reach significance. Results indicate that the actor's (95% CI = $[-14.523, -0.317]$, $p = .05$) and friend's (95% CI = $[-14.549, -0.234]$, $p = .05$) self-reported group fighting significantly harms friendship quality perceptions by working through the group fighting homophily variable. Overall, then, results suggest that two friends' involvement in theft and violent behaviors are both directly and indirectly harmful for friendship quality.

Research goal 4. do the actor's and friend's self-reported behaviors moderate each other's effect on friendship quality?

Table 8 offers results from the final of our research questions – do the actor's and friend's deviant behaviors interact to influence friendship quality? In the first model, which investigates substance use, there is one significant interaction. After controlling for the main effect self-reported deviance measures, the actor's and friend's binge drinking significantly interact to produce deviance ($b = .012$, $p = .01$). The positive direction of this interaction indicates that being in a friendship where 1) both friends report binge drinking in the past year or 2) neither friend reports binge drinking in the past year significantly increases actor's perceptions of friendship quality. On the other hand, the coefficients of the theft model's

interactions are all either zero or near zero, suggesting that the self-reported theft of an actor and a friend do not interact to impact an actor's perceptions of friendship quality. However, one final significant moderation appears between the actor's and friend's self-reported battery ($b = .012, p = .01$). Once again, the direction of this interaction indicates that either 1) both friends self-reporting assault or 2) both friends not self-reporting assault increases the actor's perception of friendship quality. Despite these two moderating effects, there appears to be only minimal evidence suggesting that an actor's and peer's self-reported deviance interact to influence perceptions of friendship quality on a large scale.

Discussion and conclusions

Drawing on social control (Hirschi 1969) and differential association theories (Sutherland 1947), this study sought to explore the reciprocal pathway from deviance and deviance homophily to friendship quality – a construct that we have argued is preferential over Sutherland's precariously defined 'intensity' modality of association. In exploring the main effects of substance use, theft, and violence on friendship quality as well as the possibility that homophily across these types of deviance may mediate and/or moderate the deviance – friendship quality relationship, results suggest that higher levels of substance use, theft, and violence from an actor and friend relate to lower levels of perceived friendship quality. These results yield tentative support to the notion that deviance in its main effect form is not beneficial for a person's perceived quality of friendship with a friend, thereby pointing initial support to Hirschi's "cold and brittle" hypothesis.

Building on the prior observation, results from the main effect SEM models demonstrated that higher amounts of not only the actor's theft and violence, but also the friend's theft and violence, are both related to friendship quality. This finding is of importance as it demonstrates that a person's estimates of friendship quality to a close friend are not solely dependent on the behavior of that friend, but rather on the friend's behavior and his/her own behavior alike. Interestingly, however, the findings for the theft and violence models are not similar to the substance use models. Instead, the results rather consistently point to the observation that the actor's and friend's substance use carries little importance for the friendship quality that the actor perceives. This finding directly contradicts studies by Krohn and Thornberry (1993), Kandel (1978), and Kandel and Davies (1991), who all conclude that higher levels of friendship quality are found in friendships consisting of persons who have a proclivity towards substance use.

The main effects of actor and friend self-reported deviance are further understood by models investigating how shared deviance among the friends, or deviance homophily, relates to perceptions of friendship quality. Results demonstrated that behavioral homophily for only two of the five theft items and one of the three violence items related to friendship quality. In these cases, higher levels of behavioral homophily between the friends related to lower levels of friendship quality perceptions towards the other person in the friendship, again supporting Hirschi's "cold and brittle" hypothesis more than Sutherland's differential association theory. However, substance use homophily carries no substantive meaning for friendship quality, a finding that is again in contention with studies which show that substance users have more intimate friendship ties (e.g., Boman et al. 2012; Kandel 1978;

Kandel and Davies 1991; Krohn and Thornberry 1993). Overall, only three of the eleven homophily items relate to friendship quality, thereby perhaps suggesting that shared deviant behaviors are not as consequential for friendship quality as prior studies (e.g., Kandel 1978) have suggested.

What is also clear is that the effect of deviant behavior on friendship quality is, for the most part, not mediated by homophilous behaviors. Again, only two of the theft items' and one violence item's relationship with friendship quality was mediated through behavioral homophily. Taking this finding in conjunction with the main effects of self-reported actor and friend deviance, the results from this study strongly suggest that the individual behaviors of the actor and his/her friend are more meaningful for friendship quality rather than homophilous behaviors between the dyad members. Stated differently, perceptions of friendship quality are harmed extensively by deviance from the actor and the friend, but are harmed only minutely by shared deviance between the friends.

The same general finding is reinforced by an overall lack of moderation found in this study. While the actor's and friend's self-reported deviant behaviors in their main effect form are negatively related to friendship quality, their effects on friendship quality are independent, not interdependent. As such, a main conclusion from this study is that individual deviant behaviors of actors and friends negatively relate to friendship quality perceptions. At the same time, however, shared behavior in a mediating or moderating relationship on those main effects does little to change this finding, leading to the conclusion that shared deviance between friends appears to not be related to friendship quality.

Although we are wary of making firm policy recommendations due to limitations (see our concluding remarks), our findings do loosely speak towards crime prevention and intervention programs. Overall, higher amounts of deviant behavior and higher amounts of deviance homophily both appear to result in lower friendship estimates. Accordingly, perhaps programs could try to increase people's capacity for generating high quality friendships. Considering that higher quality friendships contain persons who are significantly less involved in deviant behavior, this increase in friendship quality could potentially reduce crime. However, we strongly caution against policy changes based only on this and the few other studies on friendship quality and crime. The research on friendship quality and deviance is mixed, with some studies finding that higher estimates of friendship quality are actually related to higher amounts of deviance (Boman et al. 2012; Kandel 1978; Kandel and Davies 1991; Krohn and Thornberry 1993). For example, Brezina and Azimi (2018) find that among delinquent peers, peer support actually increases delinquency. Accordingly, research must more carefully establish how friendship quality is related to deviant behavior prior to making changes to policy due to the potential for deleterious effects in increasing peoples' levels of friendship quality.

Of course, there are limitations inherent in this study that warrant discussion. First, although there is some semblance of time-ordering in this study since current perceptions of friendship quality are regressed onto past behaviors, the data are still cross-sectional and causation cannot be definitively established. Second, the sample contains friends at only one university in the southeastern United States. Not only are students at this university

potentially different from students at other universities, college students may not generalize to larger populations due to differences in demographics and behavior (although see Wiecko 2010). Third, while a strength of this study is the friendship design, the use of only dyads is limiting unto itself. People generally have more than one friend and, in the process, are nested within larger friendship networks. While dyads are the integral component of friendship networks (Hartup 1996), this data is incapable of placing persons within their larger social network, meaning only one of the actor's potentially influential friends has been captured (see Giordano 2003).

Despite some limitations, this study nonetheless demonstrates that deviant behavior – but not shared deviant behavior – is harmful for perceptions of friendship quality. Approaching this from the perspective of Sutherland, two observations become immediately relevant. First, friendship quality in both concept and practice appears to provide a potentially viable and useful operationalization to the poorly defined ‘intensity’ modality of association. Despite this potential advantage of using friendship quality as an empirical marker of the modality of intensity, findings regarding how friendship quality is related to deviance call into question the other side of the theory's reciprocal feedback loop from deviance to friendship quality. As such, while differential association may be an extremely useful theory in explaining how friendship quality may relate to deviant and criminal behavior, the verdict remains out on how well the theory can explain the reciprocal relationship from deviance to friendship quality.

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Figure 1.

Model series 1. Baseline two-level SEM model with actor and friend controls: Level one measures in black text with white background; level two measures in white text with black background.

Figure 2.

Model series 2. Two-level SEM model hypothesizing complete mediation of actor and friend deviance via behavioral homophily between dyad members.

Note: Controlling the measures which were included in Model 1 (not pictured)

Figure 3. Model series 3. Two-level SEM model hypothesizing indirect effects which operate through behavioral homophily. **Note:** Controlling the measures which were included in Model 1 (not pictured)

Figure 4. Model series 4. Two-level SEM model hypothesizing moderation effects between the actor's and the friend's deviant acts. **Note:** Controlling the measures which were included in Model 1 (not pictured)

Table 1.

Descriptive statistics and factor structure of measures used in analyses (N = 2,154).

	Item #	M	SD	Min.	Max.
<i>Substance Use Construct</i>					
Binge drank	1	.643	.479	0	1
Used marijuana	2	.327	.469	0	1
Used 'harder' drugs	3	.040	.195	0	1
Used <i>Salvia divinorum</i>	4	.042	.200	0	1
<i>Theft Construct</i>					
Stolen goods worth under \$5	1	.194	.395	0	1
Stolen goods worth between \$5 – \$50	2	.077	.267	0	1
Stolen goods worth \$50	3	.047	.212	0	1
Stolen from neighbors or friends	4	.074	.263	0	1
Avoided paying for movies, clothes	5	.256	.437	0	1
<i>Violence Construct</i>					
Involved in a group fight	1	.101	.301	0	1
Hit someone	2	.247	.431	0	1
Thrown rocks or bottles at people	3	.144	.351	0	1
<i>Control Variables</i>					
Male (= 1)	-	.336	.472	0	1
Age	-	19.339	1.433	18	42
Non-white (= 1)	-	.369	.483	0	1

Table 2.

Descriptive statistics of behavioral homophily items (N = 2,154).

	M	SD	Min.	Max.
<i>Substance Use Construct</i>				
Binge drinking homophily	.489	.500	0	1
Marijuana use homophily	.171	.377	0	1
'Harder' drug use homophily	.008	.091	0	1
<i>Salvia divinorum</i> use homophily	.005	.068	0	1
<i>Theft Construct</i>				
Theft of goods worth under \$5 homophily	.058	.234	0	1
Theft of goods worth \$5 – \$50 homophily	.008	.091	0	1
Theft of goods worth over \$50 homophily	.006	.075	0	1
Theft from neighbors or friends homophily	.007	.086	0	1
Not paying for movies or clothes homophily	.070	.255	0	1
<i>Violence Construct</i>				
Group fight homophily	.021	.145	0	1
Hitting someone homophily	.076	.266	0	1
Throwing rocks or bottles at people homophily	.034	.180	0	1

Table 3.

Substance use, theft, and violence construct results from the first series of SEM models (n = 2,154).

	Substance Use Model		Theft Model		Violence Model	
	b(to FQ)	SE	b (to FQ)	SE	b (to FQ)	SE
Level Two						
Dyadic ID #	6.935	7.573	8.112	7.658	7.297	7.566
Level One						
<i>Actor Self-Reported Deviance</i>						
ASRD item 1	-.016	.049	-.380	.062 ***	-.354	.074 ***
ASRD item 2	-.067	.050	-.294	.093 **	-.260	.052 ***
ASRD item 3	-.213	.126	-.552	.115 ***	-.204	.063 ***
ASRD item 4	-.319	.112 **	-.381	.088 ***	-	-
ASRD item 5	-	-	-.244	.053 ***	-	-
<i>Friend Self-Reported Deviance</i>						
FSRD item 1	.021	.049	-.297	.060 ***	-.202	.073 **
FSRD item 2	-.082	.051	-.259	.094 **	-.181	.052 ***
FSRD item 3	-.224	.131	-.384	.110 ***	-.180	.063 **
FSRD item 4	-.143	.112	-.125	.086	-	-
FSRD item 5	-	-	-.104	.052 *	-	-
<i>Control Variables</i>						
Actor male	-.709	.060 ***	-.716	.060 ***	-.711	.060 ***
Actor age	-.066	.034 *	-.065	.034	-.066	.034 *
Actor non-white	-.097	.049 *	-.100	.048 *	-.102	.048 *
Friend male	-.576	.057 ***	-.583	.057 ***	-.579	.057 ***
Friend age	-.057	.035	-.057	.035	-.057	.035
Friend non-white	-.114	.049 **	-.117	.048 *	-.118	.048 *

*
p .05

**
p .01

p .001

Table 4.

Substance use, theft, and violence construct results from the second series of SEM models (N = 2,154).

	Substance Use Model		Theft Model		Violence Model	
	b (to FQ)	SE	b (to FQ)	SE	b (to FQ)	SE
Level Two						
Dyadic ID #	6.930	7.580	8.156	7.672	7.337	7.537
<i>Behavioral Homophily</i>						
Item 1 homophily	.047	.052	-.372	.096 ***	-.293	.125 *
Item 2 homophily	-.053	.068	-.199	.277	-.144	.080
Item 3 homophily	-.440	.287	-.349	.301	-.143	.105
Item 4 homophily	-.439	.442	-.363	.239	-	-
Item 5 homophily	-	-	-.295	.090 ***	-	-
Level One						
<i>Actor Self-Reported Deviance</i>						
ASRD item 1	-.014	.052	-.392	.063 ***	-.360	.075 ***
ASRD item 2	-.069	.053	-.305	.095 ***	-.265	.054 ***
ASRD item 3	-.224	.130	-.568	.117 ***	-.208	.064 ***
ASRD item 4	-.329	.115 **	-.388	.089 ***	-	-
ASRD item 5	-	-	-.253	.054 ***	-	-
<i>Friend Self-Reported Deviance</i>						
FSRD item 1	.022	.052	-.309	.062 ***	-.208	.074 **
FSRD item 2	-.084	.053	-.270	.095 **	-.186	.053 ***
FSRD item 3	-.235	.135	-.398	.112 ***	-.185	.064 **
FSRD item 4	-.152	.115	-.132	.087	-	-
FSRD item 5	-	-	-.112	.052 *	-	-
<i>Control Variables</i>						
Actor male	-.710	.060 ***	-.720	.060 ***	-.713	.060 ***
Actor age	-.066	.034	-.065	.034	-.066	.034 *
Actor non-white	-.097	.049 *	-.101	.048 *	-.103	.048 *
Friend male	-.577	.057 ***	-.587	.057 ***	-.581	.057 ***
Friend age	-.057	.035	-.056	.035	-.057	.035
Friend non-white	-.114	.049 *	-.117	.048 *	-.119	.048 *

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Table 5.

Substance use results from the third series of SEM models (N = 2,154).

MCMAM Indirect Effects of Substance Use through Use Homophily				
	b (to FQ)	SE	Mediator	95% CI (LL, UL)
Level Two				
Dyadic ID #	6.970	7.549	-	-
Substance Use Homophily				
Binge drinking homophily	.049	.046	-	-
Marijuana homophily	-.040	.061	-	-
Hard drug homophily	-.386	.282	-	-
Salvia use homophily	-.371	.445	-	-
Level One				
Actor Self-Reported Substance Use				
Actor binge drinking	-.110	.070	Binge drinking homophily	(-0.988, 3.362)
Actor marijuana use	-.078	.063	Marijuana use homophily	(-3.962, 1.972)
Actor hard drug use	-.150	.138	Hard drug use homophily	(-27.756, 5.047)
Actor salvia use	-.307	.110**	Salvia use homophily	(-35.910, 14.554)
Friend Self-Reported Substance Use				
Friend binge drinking	-.035	.069	Binge drinking homophily	(-0.996, 3.367)
Friend marijuana use	-.101	.065	Marijuana use homophily	(-3.974, 1.977)
Friend hard drug use	-.168	.146	Hard drug use homophily	(-27.585, 4.835)
Friend salvia use	-.105	.111	Salvia use homophily	(-36.168, 14.674)
Control Variables				
Actor male	-.706	.060***	-	-
Actor age	-.066	.034	-	-
Actor non-white	-.097	.048*	-	-
Friend male	-.573	.057***	-	-
Friend age	-.056	.035	-	-
Friend non-white	-.115	.048*	-	-

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Table 6.

Theft results from the third series of SEM models (N = 2,154).

MCMAM Indirect Effects of Theft through Theft Homophily				
	b (to FQ)	SE	Mediator	95% CI (LL, UL)
Level Two				
Dyadic ID #	8.129	7.620	-	-
Theft Homophily				
Theft under \$5 homophily	−.313	.092 ***	-	-
Theft between \$5 and \$50 homophily	−.083	.285	-	-
Theft of over \$50 homophily	−.217	.316	-	-
Theft of neighbors, friends homophily	−.321	.234	-	-
Avoiding payment homophily	−.260	.087 **	-	-
Level One				
Actor Self-Reported Theft				
Actor theft under \$5	−.363	.071 ***	Theft under \$5 homophily	(−12.113, −3.241) *
Actor theft of \$5 to \$50	−.305	.097 **	Theft between \$5 and \$50 homophily	(−18.793, 13.826)
Actor theft of over \$50	−.577	.120 ***	Theft of over \$50 homophily	(−24.900, 11.936)
Actor theft of neighbors, friends	−.378	.092 ***	Theft of neighbors, friends homophily	(−22.256, 3.921)
Actor payment avoidance	−.213	.059 ***	Avoiding payment homophily	(−10.033, −2.076) *
Friend Self-Reported Theft				
Friend theft under \$5	−.252	.068 ***	Theft under \$5 homophily	(−12.053, −3.246) *
Friend theft between \$5 and \$50	−.262	.098 **	Theft between \$5 and \$50 homophily	(18.568, 13.806)
Friend theft of over \$50	−.386	.115 ***	Theft of over \$50 homophily	(−24.454, 11.977)
Friend theft of neighbors, friends	−.093	.091	Theft of neighbors, friends homophily	(−22.192, 3.793)
Friend payment avoidance	−.032	.057	Avoiding payment homophily	(−10.027, −2.132) *
Control Variables				
Actor male	−.711	.060 ***	-	-
Actor age	−.065	.034	-	-
Actor non-white	−.100	.048 *	-	-
Friend male	−.578	.057 ***	-	-
Friend age	−.056	.035	-	-
Friend non-white	−.116	.048 *	-	-

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Table 7.

Violence results from the third series of SEM models (N = 2,154).

MCMAM Indirect Effects of Violence through Violence Homophily				
	b (to FQ)	SE	Mediator	95% CI (LL, UL)
Level Two				
Dyadic ID #	7.278	7.572	—	—
Violence Homophily				
Group fight homophily	−.246	.121 *	—	—
Hitting someone homophily	−.110	.077	—	—
Throwing things homophily	−.107	.102	—	—
Level One				
Actor Self-Reported Violence				
Actor group fight	−.365	.084 ***	Group fight homophily	(−14.523, −0.317)*
Actor hit someone	−.292	.061 ***	Hitting someone homophily	(−6.906, 1.086)
Actor throwing things at people	−.216	.072 **	Throwing things homophily	(−8.967, 2.656)
Friend Self-Reported Violence				
Friend involved in group fight	−.176	.084 *	Group fight homophily	(−14.549, −0.234) *
Friend hit someone	−.185	.060 **	Hitting someone homophily	(−6.895, 1.076)
Friend throwing things at people	−.186	.072 **	Throwing things homophily	(−8.941, 2.745)
Control Variables				
Actor male	−.710	.060 ***	—	—
Actor age	−.066	.034	—	—
Actor non-white	−.102	.048 *	—	—
Friend male	−.577	.057 ***	—	—
Friend age	−.056	.035	—	—
Friend non-white	−.118	.048 *	—	—

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Table 8.

Substance use, theft, and violence construct results from the fourth series of SEM models (n = 2,154).

	Substance Use Model		Theft Model		Violence Model	
	b (to FQ)	SE	b (to FQ)	SE	b (to FQ)	SE
Level Two						
Dyadic ID #	6.738	7.577	9.738	7.682	8.207	7.593
Level One						
<i>Actor Self-Reported Deviance</i>						
ASRD item 1	-.018	.049	-.380	.062 ***	-.356	.074 ***
ASRD item 2	-.068	.050	-.293	.094 **	-.260	.053 ***
ASRD item 3	-.219	.128	-.552	.115 ***	-.203	.063 ***
ASRD item 4	-.324	.112 **	-.381	.088 ***	-	-
ASRD item 5	-	-	-.244	.053 ***	-	-
<i>Friend Self-Reported Deviance</i>						
FSRD item 1	.019	.049	-.297	.060 ***	-.203	.073 **
FSRD item 2	-.082	.051	-.258	.094 **	-.181	.052 ***
FSRD item 3	-.229	.132	-.383	.110 ***	-.179	.063 **
FSRD item 4	-.146	.112	-.124	.086	-	-
FSRD item 5	-	-	-.103	.051 *	-	-
<i>Interactions – Moderation</i>						
Actor * friend item 1	.012	.005 **	.002	.004	-.001	.002
Actor * friend item 2	.005	.005 **	.002	.002	.012	.004 **
Actor * friend item 3	-.003	.002	.000	.002	.003	.003
Actor * friend item 4	-.001	.002	.000	.002	-	-
Actor * friend item 5	-	-	-.001	.004	-	-
<i>Control Variables</i>						
Actor male	-.707	.060 ***	-.716	.060 ***	-.714	.060 ***
Actor age	-.066	.034	-.065	.034	-.066	.034 *
Actor non-white	-.096	.048 *	-.100	.048 *	-.103	.048 *
Friend male	-.575	.057 ***	-.583	.057 ***	-.580	.057 ***
Friend age	-.057	.035	-.057	.035	-.057	.035
Friend non-white	-.113	.049 *	-.117	.048 *	-.119	.048 *

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