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Prismatic effects of negative ties

Daniel S. Halgin*, Stephen P. Borgatti, Zhi Huang

Department of Management, University of Kentucky, Lexington, KY, 40506, USA

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ABSTRACT

Research on negative ties has focused primarily on the harm they do. In this paper, we show that negative ties can also have beneficial effects. We argue that, like positive ties, negative ties can link actors together in the minds of observers. As a result, we theorize that negative ties with high-status actors can benefit a focal actor, whereas negative ties with low-status actors can harm the focal actor. This prismatic effect depends on the existing status of the focal actor: a focal actor of low status is likely to benefit far more from negative ties with high-status actors and suffer more from negative ties with low-status actors than will an actor of high-status. To test our ideas, we analyze the phenomenon of "diss songs" in hip-hop music. A diss song is a song in which a rapper makes derogatory comments about another rapper, constituting a negative tie. We analyze the effects of negative ties among 53 rappers over 20 points in time on audience reaction as measured by record sales. We find that negative ties with high-status actors enhance future sales for low-status actors. However, negative ties with lower-status actors have no effect on the future sales of both low- and high-status actors. Just as some researchers have reported both positive and negative consequences of social capital, our study demonstrates that negative ties can also have both positive and negative outcomes.

"The major setbacks in my life made me who I am. Jay-Z makes fun of me at a concert and suddenly everybody wants to know who is this 50 Cent?"

— Rap artist 50 Cent discussing a major break in his career

Negative ties, defined as relationships that include negative affect, judgements about others, and, or behavioral intentions, are often seen as a liability despite being an integral part of social life (Labianca and Brass, 2006). For example, in organizational settings, employees with negative ties have lower social satisfaction, organizational commitment and performance (Marineau et al., 2016; Venkataramani et al., 2013). In school studies, both victims and aggressors of bullying behaviors, are at an increased risk for multiple harmful outcomes including suicidal ideation, isolation, health problems, and diminished academic performance (see Faris and Ennett, 2012 for a review). Put simply, negative ties are costly.

In general, relational ties exert influence by functioning either as pipes through which resources and information flow between connected actors (Borgatti and Halgin, 2011), or as prisms through which third parties make inferences about the actors (Podolny, 2001). Most extant studies of negative ties implicitly or explicitly emphasize negative ties as pipes, theorizing about and documenting how negative ties can influence the flow of resources, information, support, respect, and even affect. For example, because negative ties often are characterized by friction and involve avoidance (de Klepper et al., 2017; Harrigan and Yap, 2017; Labianca, 2014), they may cut off unaware recipients from resource flows and lead to experiences of social exclusion (Grosser et al., 2010) and decreased motivation (Parker et al., 2013). In organizations, negative affect can also adversely influence the selection of work partners, such that those most competent at a task may not be sought out for advice (Casciaro and Lobo, 2008).

What is less researched is whether negative ties can also function as prisms in the sense of Podolny (2001), meaning that observers make consequential inferences about the actors involved in these kinds of ties. A few studies implicitly recognize the importance of third parties in the dynamics of negative ties, although they do not necessarily view negative ties as primarily signals. For example, studies on negative ties related to bullying (e.g., Faris and Ennett, 2012), and status degradations (de Klepper et al., 2017) recognize how individuals' perceptions of status hierarchies can affect the formation of negative ties, but do not explicitly address how negative ties send signals that have consequences for the involved parties.

There is greater recognition of the signaling functions of negative ties at the organizational level in management research. For instance, Porter (1980) notes that a firm can undertake competitive actions to signal competence. Similarly, organizations are thought to use competitive language to exploit a competitor's weaknesses to achieve an

* Corresponding author.
E-mail address: danhalgin@uky.edu (D.S. Halgin).

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advantage in the eyes of shareholders (see Gao et al., 2016, for a review). The insights of these studies suggest that there are benefits of more systematically considering this approach, especially when considering the dyadic nature of competitive signaling. That is, how the signaling function and returns of negative ties may differ based on attributes of the both focal actor and the competitor.

In this paper, we examine prismatic effects of negative ties. Our core argument is that the competition implied by a negative tie invokes an audience perception that the negatively connected actors are related and comparable in some ways (e.g., see Kennedy, 2008). For example, in markets, when two actors are tied by rivalry, audiences are likely to perceive them as similar because visible competition would not exist otherwise between the actors. This invoked perception of relatedness and similarity shapes audiences' inferences about the quality of negatively tied actors, much like it does with positive ties (Podolny, 2001). In this sense, actors each stand in the reflection of their enemies, yielding a reputational spillover effect. In particular, we theorize that negative ties with more prominent actors are likely to enhance the reputation of a focal actor, whereas negative ties with less prominent actors are likely to undermine the focal actor. These two prismatic effects are likely to depend on the existing status of the focal actor; a focal actor of high status is likely to benefit less from negative ties with high-status actors and suffer less from negative ties with low-status actors.

We test these predictions by analyzing rappers in the American hip-hop music industry. This context provides a unique opportunity to assess the prismatic effect of negative ties: rappers sometimes "name and shame" other rappers — an act known as "dissing" or "battling" — with derogatory comments in songs, which can engender intense negative feelings. These battles are publicized by disc jockeys (DJ) to audiences of rap music, who consequently draw on these dissing ties between rappers to assess a rapper's quality and decide whether or not to purchase a rapper's music. Hence, we analyze how rappers' dissing ties with other rappers affect audience reactions through their record sales (i.e., rap music audiences' perceptions of the quality of rappers and their songs). The analysis provides general support for our predictions. Rappers who have "dissing" ties with high-status rappers can benefit in their subsequent record sales, and the benefits are especially realized by focal actors lacking status. This finding demonstrates that negative relationships can indeed have prismatic effects, helping establish that the prismatic mechanism traditionally attributed to positive ties is equally applicable to negative ties. Knowing this also enriches our understanding of the effect of negative ties by looking at outcomes of negative ties created by third parties as opposed to those caused by the actors directly involved in the ties (e.g., harmful content or lack of information flow implied by negative ties). Our extension reveals that negative ties can have unexpected benefits, in addition to the established negative effects identified in prior studies.

A theory of Negative Association

Social network research has long supported the observation that similar actors tend to interact, and that interactions lead to further similarity (Blau, 1977; Homans, 1950). While work in this area has typically focused on perceptions of similarity held by the involved actors, (e.g., people assuming that their friends are like them), there is also research indicating that people make sense of others in part by observing the others' social relationships. For instance, Zuckerman (1999) proposes that relationships affect the perceptions of third parties by signaling that the related actors fit the same institutionalized categories. In addition, work in social cognition suggests that audiences use mental representations of categories to make assumptions about objects (e.g., Fiske, 1993; Goldstone et al., 2001), so that actors placed in the same category are also seen to have other attributes in common. Invoked relatedness through relationships should therefore provide opportunities for reputation spillovers, such that ties can provide informational cues to audiences about the underlying quality of one or both of the market actors (Podolny, 2001).

Although work on categorization has typically focused on positive relationships between actors (e.g., friendship, marriage, alliance, endorsements, business exchanges) leading to perceptions of similarity, the same mechanism may apply to other types of ties. Specifically, regardless of the valence of a tie, categorization processes may signal that the connected actors are related in key ways. Consider rivalries: Kim and Tsai (2012), in an analysis of the auto industry, find that firms benefit when they publicly compare themselves to more prestigious industry rivals in marketing materials. Over time, audiences begin to perceive the two invoked rivals as comparable alternatives, including with respect to quality and status. Similarly, Kennedy (2008) finds that media coverage – including a firm's press releases – that mention more than one firm in the same document cognitively embed the mentioned firms together in the minds of observing audiences. Thus, much like positive ties, social comparisons and co-mentions support the development of categories and the validation/legitimation they convey (e.g., Carroll and Hannan, 1989; Hsu and Grodal, 2015; Navis and Glynn, 2010).

When considering ties with negative affect and behavioral intentions more extreme than rivalrous comparisons or co-mentions, a negative tie may signal that the connected actors compete for the same resources (e.g., attention, opportunities), encouraging actors to place them in the same social category (e.g., Fiske, 1993) and cognitively embedding the actors together in the minds of audiences (e.g., Kennedy, 2008). The logic is that if the actors were completely different from each other, the negative tie would not exist because there would be no motivation for conflict. The presence of the tie invokes relatedness – ironic considering that actors may form negative ties in hopes of differentiating themselves and denigrating others (e.g., de Klepper et al., 2017; Rubineau et al., 2019). But like positive ties, not all negative ties will have the same prismatic effects on perceived quality for the involved actors.

Negative ties with high-status others

Social network scholars have long recognized that some connections have greater impact on an actor's opportunities than others for a variety of reasons, including prismatic ones. For instance, ties to high-status actors can serve as signals of quality or identity (Spence, 1973), especially when such attributes are difficult to assess. In short, actors bask in the "reflected glory" of their high-status associations (Cialdini et al., 1976). Moreover, the ties need not be real: as Kilduff and Krackhardt (1994) show, the mere perception that an individual possesses a tie with a high-status actor can be beneficial. In addition, because high-status actors are already familiar to audiences, those with connections to them are more easily categorized and ease of categorization is positively related to the allocation of attention (Zuckerman, 1999; Zuckerman et al., 2003). Huang and Washington (2015) in their research on status hierarchies propose that during categorization processes, audiences use comparative judgements and select an anchored referent to which targets are compared. High-status actors, because of their visibility, are often chosen as referents. Using the example of U.S. college bowls (a type of organization within U.S. collegiate athletics), they find that when the status difference between the high-status referent and the focal actor is within a specific range (i.e., below the middle point of status inequality) audiences will perceive similarities between the actors rather than differences (Huang and Washington, 2015). Thus, in certain circumstances, low-status actors benefit from being perceived as similar to affiliated high-status referents who are barely affected by the associations. In addition, a halo effect may lead audiences to have a variety of positive perceptions about high-status actors, leading them to disregard negative signals provided by association with low-status others. Because audiences often rely on an actor's reputation when deciding whether or not to support the actor, high-status associations thus have important market implications.

These same processes may occur with negative ties. For instance, a negative tie held with a high-status other may signal to observers that the focal actor is in the same class as the higher-status other, thus influencing the reputation of the actor and subsequent audience reactions (e.g., whether or not to support the actor). Because audiences are more likely to closely follow the actions of market leaders than they are of marginal actors (Cook & Frank, 1995; Podolny, 1993), these ties will be noticed, increasing the likelihood that the tie will signal that the involved actors are somehow similar, cognitively embedding the involved actors together in the minds of audiences, and leading to reputation spillovers that may move the lower-status actor closer to the higher-status actor (cf Huang and Washington, 2015). In addition, audiences may further interpret the existence of the negative tie as an indicator that the prominent actor considers the focal actor a rival worthy of attention, thereby signaling the quality of the focal actor, given prominent actors are often attributed with higher quality (Podolny and Phillips, 1996).

Actors possessing negative ties with high-status others are still exposed to harmful content directly associated with the tie, but the implications for the audience observing the tie are different, with different consequences for the actors. In summary, we propose that a negative tie with a high-status actor (i.e., an upward-status negative tie), much like a positive or neutral tie (e.g., Kennedy, 2008), cognitively embeds the involved actors into the same network, invoking perceptions of similarity. Perceptions that an actor is similar to the high-status other, due to the existence of the negative tie, should have market implications related to audience beliefs about the actor's quality including sales performance and peer evaluations. Thus, invoked similarity from a negative tie can actually have beneficial consequences, which is unexpected considering that unlike positive ties, negative ties often have the intent of degradation of status (e.g., deKlepper et al., 2017). Stated formally, we hypothesize:

Hypothesis 1. *Audiences will react positively to a focal actor who has many upward-status negative ties.*

The market implications of negative ties with high-status others should also be influenced by the pre-existing status of the focal actor. Work on high-status affiliations suggests that lesser-known actors, with presumably greater market uncertainty due to lack of information, benefit more than others from high-status endorsements because observers don't need to rely on an affiliation as a signal of quality for an actor that is already well-understood with a visible performance history (Podolny, 1993; Podolny and Phillips, 1996; Stuart et al., 1999). We propose that this also occurs when considering a negative tie with a high-status actor. Whereas, an upward-status negative tie will signal to observing audiences that a low-status actor is in the same class as the high-status actor, such a tie will have less of an effect on the reputation of high-status actors with upward-status negative ties. The negative tie may still invoke similarity, but the signal will be less impactful for high-status actors because they are already well-understood by observers and their reputations may be more stable. Stated formally as a hypothesis:

Hypothesis 2. *The positive effect of upward-status negative ties on audience reaction to a focal actor will be stronger for low-status focal actors.*

Negative ties with lower-status others

We have focused our arguments on the benefits of negative associations with high-status others, but there may also be consequences for associating with low-status actors (i.e., a downward-status negative tie). For instance, work on status affiliations and positive ties argues that high-status firms tend to restrict their network ties (Podolny, 1993, 2008) out of fear that associations with less prominent firms may lead audiences to think less of the focal actor (e.g., Benjamin and Podolny, 1999). Similarly, in research on job referrals, Smith (2005) finds that some employed individuals are reluctant to endorse contacts in need of a job out of fear that unreliable and irresponsible job seekers might jeopardize their own reputation in the eyes of their employers and coworkers. There are also findings that such associations can indeed be harmful. Using data from NCAA basketball, Washington and Zajac (2005) find that university teams are penalized when they associate with lower-status teams for reasons related to status leakage. These same mechanisms may be even more pronounced when considering negative ties. Thus, if upward-status negative ties can invoke similarities that benefit the focal actor, for this same reason, downward-status negative ties have the potential to harm the reputation of the focal actor. For instance, audiences may interpret a focal actor's negative ties with lower-status competitors as an indicator that the focal actor travels in the same social circles, or is on a par with lower-status others, thereby raising questions about the quality of the focal actor. Stated formally as a hypothesis:

Hypothesis 3. *Audiences will react negatively to a focal actor who has many downward-status negative ties.*

The status of the focal actor may also influence the reputational costs of possessing downward-status negative ties. For instance, if a high-status actor is involved in a negative tie with a low-status other, it's possible that audiences will interpret this as a signal that the high-status actor must be threatened by and is similar to the low-status other, and therefore may not be as attractive as previously thought. However, because audiences tend to possess positive perceptions about high-status actors, a "halo effect" may prevent audiences from perceiving the high-status actor as similar to the lower-status actor in ways that harm its reputation. For instance, according to Phillips et al. (2013) high-status actors are not always penalized from lower-status affiliations because: "insofar as an actor has established its capability and commitment to a given audience, it earns the benefit of the doubt, or an implicit disclaimer that allows for the default, problematic, interpretation to be superseded by a more benign one" (p 1049). Thus, the tie may still invoke perceptions of similarity, but the consequences may be minimal for the high-status actor. In contrast, the consequences of downward-status negative ties for low-status actors should be more severe, because audiences know less about them and will be more swayed by signals that they are similar to other low-status actors. Stated formally, we hypothesize:

Hypothesis 4. *The negative effect of downward-status negative ties on audience reaction to a focal actor will be weaker for high-status focal actors.*

Empirical context: U.S. hip−hop music industry

Feuds between rappers have existed since the beginning of hip-hop music. In the 1970′s as the music gained popularity in New York City, street parties became informal auditions for aspiring rappers. DJs playing the party music would often invite partygoers onto the stage to perform (Thigpen, 2003). When more than one individual expressed interest in performing at the same party, a lyrical competition would be held to decide who would gain control of the microphone. Rappers would take turns on the microphone showcasing their skills and at times insulting each other and critiquing the other's authenticity, quality, sense of fashion style, physical appearance, and other attributes until the audience declared a winner (Thigpen, 2003). In the 1980′s and 1990′s, another form of rap battling called "diss songs" became prevalent among competing rappers. Similar to a performance during a live rap battle, a diss song consists of rappers recording songs that disparage rivals. In the late 1990s and early 2000s well-known DJs began playing diss songs on the radio and included diss songs on compilation albums called "mixtapes" that were sold throughout the United States.

Given this practice, the hip-hop music industry offers several advantages for studying the market performance implications of negative ties. First, during our study period (2001–2007), there was enormous public attention directed towards hip-hop music including multiple

magazines, radio stations, and burgeoning websites devoted to the industry. Second, there were multiple ongoing feuds during this time period. Diss songs were so popular that some DJ's released specialized mixtape albums that only included diss songs. DJ's advertised the battles featured on each mixtape and identified the involved parties in the track listings. Feuds in rap music also attracted the attention of industry analysts who referred to these relations as "*battles on wax*," "*street beefs*," "*street wars*," and were even the topic of a documentary film titled "*War on Wax: Rivalries in Hip Hop*."

One feud during our study period, and considered one of the "biggest beefs in rap history" (Reiss, 1998; Tardio, 2014), involved rival rappers Canibus and LL Cool *J*. In one diss song, Canibus threatened LL Cool *J* with physical violence (*"[I'll] blast you with a Colt 45*"), attacked his authenticity by highlighting accomplishments inconsistent with 'street credibility' (e.g., his appearance on a family-friendly television sitcom), and accused him of copying his lyrical style after others. Concurrently, LL Cool *J* attacked Canibus in a diss song that mocked his small physical stature and threatened gun violence by suggesting that he would "*blast ya' fifty pound* [expletive removed] *and make you float*", and stating that his career was over. In actuality, this did not end Canibus' career, but enhanced it.

It is important to note that although diss songs may appear to purely be marketing attempts to generate publicity, there is a history of dissing battles leading to or being a consequence of years of conflict that can involve physical violence. For instance, during our study period, rapper Dr. Dre, who was involved in multiple feuds involving diss songs, was physically attacked by someone allegedly hired by rival Suge Knight (Li, 2005). The feud persists today. In a 2017 court declaration, Knight now incarcerated, accused Dr. Dre of hiring a hit-man to attempt to kill him (Gerber, 2017). More notably, in the early 1990s, two well-known rappers, Tupac Shakur and The Notorious B.I.G., were actively involved in a long-standing rivalry between West Coast and East Coast rappers that involved diss songs. In the height of the conflict both rappers were murdered and both cases remain unsolved.

Method

To test our theory, we relied on mixtape albums primarily sold by street vendors released between May 2001 and January 2007. Specifically, we focused on albums compiled by DJ P-Cutta and DJ Kay Slay, who specialized in collecting and distributing diss songs during our study period. In the track listings of these compilations the DJs referenced the performing rappers, the song title (if there was one), and the rappers involved in the 'diss'. Based on discussions with an industry expert (a New York based hip-hop music producer and rapper who was active during our study period but not included in our sample) and additional online searches we are confident that our sample includes the vast majority, if not all of the diss songs and industry-recognized artists active in diss relationships during our study period. We stopped our observation at 2007; after 2007, rappers began independently posting diss songs on YouTube, Soundcloud, and other streaming services, making them more difficult to track. We divided our sample into 20 time periods of four-month intervals to match the typical release cycle of popular mixtape compilations. Titles of diss songs in our sample include "*The Takeover*," "*Checkmate*," "*Career Over*," "*Trying to be Gangsta*," and "*Nail in the Coffin*." Although we do not have the lyrics to all of the songs in our sample, lyrics of selected songs include violent threats of "*getting your mouth wired*" (i.e., jaw broken), having "*you in the I.C.U. trying to hold on*" (i.e., in the intensive care unit of a hospital on life support), and getting "*gunned up and clapped quick*" (i.e., getting shot). The sample includes well-known rappers such as Dr. Dre, Eminem, Jay Z, Kanye West, and Snoop Dogg, all of whom won industry awards during our study period. The sample also includes rappers such as 50 Cent and The Game who at the beginning of our study period were relatively unknown but rose to prominence over the course of our study.

Dependent variable

Sales. Our theory is concerned with how negative ties may affect audience reaction towards the involved actors and thus have market implications for those involved in the dispute. To measure audience-driven market outcomes in our context, we utilized longitudinal data on certified record sales from the Recording Industry Association of America (RIAA). Because exact sales figures are not publicly available we relied on RIAA award certifications. When musicians sell more than 500,000 copies of a recording (i.e., a full album, a song released as a single), the RIAA awards them with a Gold Album Award. If sales exceed 1,000,000, the RIAA awards a Platinum Album Award. For each additional increment of 1,000,000 copies sold of that recording, the RIAA awards an additional Platinum Album Award. We used these certifications as a proxy for record sales and created a variable capturing the amount of sales occurring during each period. Specifically, we identified each increase in 500,000 album sales at each point in time. For example, between time periods 1 and 2, rapper DMX was awarded 1 Gold Album and 1 Platinum Album certification. His sales during this time period was 3 (i.e., a proxy for 1,500,000 recordings sold).

Independent variables

Negative ties. We defined the number of negative ties as the number of rappers a focal rapper engaged in dissing with at each point in time during our study. The direction of disses was not retained since our theory implies that it is being involved in a dissing relationship, as opposed to who disses whom, that determines the invocation of relatedness and the resulting perception of similarity. DJs, influential gatekeepers of information about diss ties, play an important role in downplaying direction by releasing diss songs side-by-side to preserve the nature of dissing as a "battle" between two rappers as if they appear on the same stage simultaneously. This feature is further preserved and publicized by the media, who normally describe dissing relationship using non-directional terms such as rap "beefs," "rivalries," and "wars".[1]

Status. Status can be derived from different sources. In our context, the clearest source of status is the historical record sales of a rapper; after all, the recognition of a rapper is due in part to attracting large audiences. Rappers often boast about their historical sales in their lyrics and promotional materials with claims of having a "Midas touch" (i.e., selling at least 500,000 albums, and thus earning a gold album certification) or being "triple platinum" (i.e., selling more than 3 million albums, and thus earning three platinum album certifications). Based on this emphasis by industry insiders, we measured the status of rappers using their historical album sales. To measure a focal rapper's *upward-status negative ties*, we counted the number of rappers a focal rapper engaged in dissing with who had greater historical sales than the focal rapper at each point in time in our study period. To measure a focal rapper's *downward-status negative ties* we counted the number of rappers a focal rapper engaged in dissing with who had lower (or equal) historical sales than the focal rapper at each point in time in our study period. To test how focal actor status moderates the relationship between negative ties and market performance, we used the historical sales of the focal rapper to capture *focal actor status*.

[1] In a supplementary exploration of a recent diss feud between rappers Drake and Pusha T (not presented), we analyzed Google Trends data and discovered that the pattern and magnitude of audience attention directed toward the sender and receiver of each diss were indistinguishable. In addition, media coverage of the feud always mentioned both parties, which would tend to lead audiences to associate the dissing rappers regardless of the direction of the disses. We also explored models utilizing directed data, and the results associated with receiving disses were generally consistent with those using symmetrized data.

Control variables

We include two key controls to account for alternative mechanisms relating our independent variables to our dependent variable. First, we control for the number of positive ties – specifically, *collaboration ties* – that the focal rapper has with other rappers, because central actors in the positive tie network are likely to be highly visible, have positive reputations, and gain sales. To do so, we collected the discographies of all rappers in our sample (available on www.rapgenius.com) and identified the rappers with whom they recorded songs at each point in time during our study period. For instance, between periods 2 and 3 Ghostface Killah co-appeared with Raekwon and RZA on new songs, thus he had 2 collaboration ties at time period 3. Later between periods 7 and 8, Ghostface Killah co-appeared with Jadakiss, Missy Elliot, Sheek Louch, and Styles P on new songs, thus he had 4 collaboration ties at time period 8. Second, we include *industry tenure* measured as the years since a rapper released his/her first album, to control for long-term visibility. In addition, as discussed below, we estimated our models with fixed effects to account for any time-invariant characteristics of focal rappers (e.g., ethnicity, gender, geographic location).

Statistical model and analysis

The data is a panel composed of repeated observations for rappers over 20 periods. As described above, the dependent variable is a count of album certifications and overdispersed in distribution. We thus used a longitudinal negative binomial regression model with fixed effects.[2] The negative binomial model requires that actors in the sample experience some change in their dependent variable (i.e., sales growth). Rappers with no record sales certifications during the study period were dropped, resulting in a final sample of 53 rappers across 20 time periods. This may bias our results towards more-established rappers. At the same time, to the extent that the prismatic effects of negative ties are indeed more beneficial to less prominent rappers and less impactful on more prominent rappers, restricting our sample to more established and prominent rappers tends to render our testing conservative. The fixed effects models also allowed us to focus on how the market reacts over time to the same rapper based on the attention they receive from negative ties, rather than making comparisons across rappers. This modeling choice further reduced our concerns about omitted variables, such as time-invariant underlying rapper quality, which might confound our results. The Hausman test also confirmed the appropriateness of the fixed effects model (Hausman, 1979). To account for simultaneity, the independent variables in each model were measured at time t, whereas the dependent variable was measured at time $t + 1$. We used Stata 15 and UCINET 6 (Borgatti et al., 2002) for all analyses.

Results

Table 1 presents descriptive statistics and the correlation matrix, across all person-time observations. In addition, if we take time periods as the unit of analysis, we find the average number of upward-status negative ties observed during each time period was 6.17 (SD = 7.37) and the average number of downward-status negative ties was 10.30 (SD = 19.53). Table 2 presents findings from our hypothesis tests. Model 1 includes only controls and shows a positive relationship between the number of collaboration ties and sales (b = .11, p < .01).

In reporting results, we consider hypotheses 1 and 2 together. Model 2 shows that the coefficient for upward-status negative ties is positive, but only marginally significant (b = .18, p < .10). However, as shown in model 3 (and as predicted by hypothesis 2), the effect of upward-status negative ties varies with the status of the focal actor. That is, the interaction of upward-status negative ties with focal actor status is significant (b = -0.31, p < .01). A floodlight analysis (Spiller et al., 2013) indicates that upward-status negative ties is a significant predictor of sales for values of focal actor status up to 1.5 (fairly close to the mean). Fig. 1 graphs the estimated interaction effect. The dashed line for low-status actors has a positive slope, suggesting that low-status actors benefit when connected through negative ties to alters of higher status than themselves. Else being equal, for low-status actors (i.e., those one standard deviation below the mean), projected sales increases from 0.10 to 2.78 when the number of their upward-status negative ties increases from 0 (the sample minimum) to 6 (the sample maximum). This increase translates into nearly 1,400,000 records sold, a sizeable amount for rappers. In contrast, the solid-line for high-status actors is essentially flat. This pattern provides support for hypotheses 1 and 2.

It is worth noting that the pattern of support for hypothesis 2 tends to mitigate against an obvious alternative mechanism that could account for hypothesis 1, namely the beneficial effects of publicity. In our research setting, negative ties tend to draw media attention, which can boost sales. Moreover, media attention is highest when both rappers are high status. If visibility were the key mechanism, sales should go up when two prominent rappers go toe to toe. But, as shown in Fig. 1, disses have little to no effect on sales for high-status actors. This theme is taken up again in the next section.

We also consider hypotheses 3 and 4 together. Model 2 indicates that the coefficient for downward-status negative ties is not significant (b = 0.02, p ns). In addition, model 4 shows that the interaction of such ties with focal actor status is not significant (b = -0.06, p ns). These results lead us to reject hypotheses 3 and 4. Put simply, a focal actor's downward-status negative ties appear to have no effect on an actor's sales, regardless of the status of the actor. Model 5 presents the complete model.

Robustness checks

To explore the robustness of our findings, we ran additional models using an alternative operationalization of a focal actor's status. Specifically, we collected data on the most visible organizations that recognized rappers with artistic awards during our study period. These included: The Recording Academy (Grammys), Dick Clark Productions (The American Music Awards), The Source Magazine (Source Awards), Vibe Magazine (Vibe Essence Awards), Black Entertainment Magazine (BET awards), and Soul Train (Soul Train Music Awards). Because these awards are held for life we counted the cumulative recognition received by each rapper at each time period to determine his or her status in the industry. When using this alternative measure of status, the pattern of results is consistent (see Table 3).

Addressing an alternative explanation

We have proposed that negative ties can invoke attributions of similarity, and these have market implications that can help or harm the involved actors. Accordingly, we found that negative ties with high-status alters are beneficial to focal actors, at least for those with low status. However, as mentioned earlier, a plausible alternative explanation for this finding is that negative ties increase a focal actor's visibility and the observed market benefits are merely a result of increased publicity. Until now, we have only examined the effects of negative ties on third-party audiences – the music-buying public. But we can also use our theory of negative association to make predictions about the reactions of other actors. For example, we should find that a focal actor engaged in negative ties with many high-status alters would attract the attention of additional high-status alters but not low-status alters. The reason is that a focal actor's upward-status negative ties will lead other high-status alters to perceive him or her as similar to themselves and therefore worthy of their attention. But if visibility were

[2] We also ran supplementary analyses utilizing ordered logistic regression models and the results were consistent with those utilizing negative binomial regression models.

Table 1
Descriptive statistics and correlation matrix[a].

		Mean	S.D.	1	2	3	4	5
1	Focal actor status	1.79	1.28					
2	Tenure	4.99	3.82	.53**				
3	Number of collaboration ties	1.24	2.77	.03	.001			
4	Number of upward-status negative ties	0.30	0.80	−.07*	−.14**	.04		
5	Number of downward-status negative ties	0.52	1.64	.23**	−.08*	.10**	.32**	
6	Sales	0.39	1.23	.18**	−. 05	.21**	.08**	.21**

[a]* p < 0.05; ** p < 0.01. N = 1,007.

Table 2
Fixed effects negative binomial regression models predicting sales as a function of negative ties[a].

	Model 1	Model 2	Model 3	Model 4	Model 5
Number of upward-status negative ties		.18+ (.10)	.16 (.11)	.15 (.10)	.13 (.11)
Number of downward-status negative ties		.02 (.04)	.07 (.04)	.09 (.07)	.12* (.06)
Focal actor status × number of upward-status negative ties[b]			−.31** (.08)		−.32** (.08)
Focal actor status × number of downward-status negative ties[b]				−.06 (.05)	−.05 (.04)
Number of collaboration ties	.11** (.02)	.11** (.02)	.11** (.02)	.11** (.02)	.11** (.02)
Tenure	−.09* (.04)	−.08+ (.04)	−.09* (.04)	−.08+ (.04)	−.09* (.04)
Focal actor status	.27* (.11)	.22+ (.12)	.22+ (.13)	.20 (.13)	.21+ (.13)
Constant	−2.04** (.29)	−2.06** (.30)	−1.61** (.25)	−1.57** (.25)	−1.50** (.25)
Log pseudo likelihood	−504.14	−502.14	−494.39	−501.50	−493.60
Wald chi2	47.38	51.24	70.16	52.69	73.61

[a] + p < 0.10; * p < 0.05; ** p < 0.01. Two-tailed tests for all tests. Standard errors in parentheses. N = 1,007.
[b] variables are mean-centered before creating interaction term.

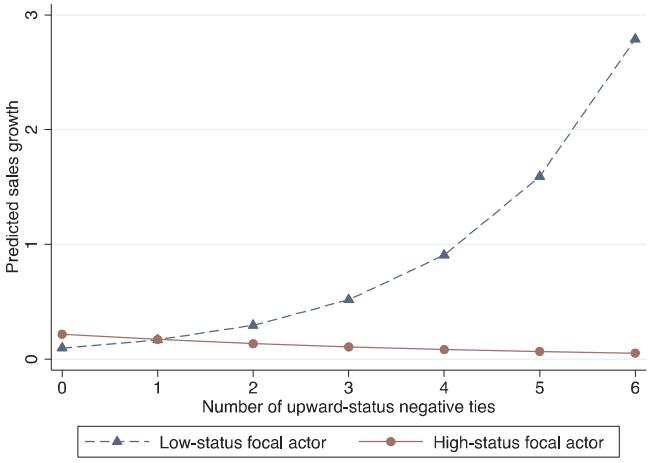

Fig. 1. Interaction between upward-status negative ties and focal actor status on sales.

the only mechanism linking negative ties to outcomes, it should work across the board: an actor engaging high-status others would attract all others' attention, not just high-status others. To explore this possibility, we conducted a supplementary analysis using the Arellano and Bond (1991) estimator that allows for lags of the dependent variable and independent variables as covariates (e.g., modelling upward-status negative ties at *t + 1* as a function upward-status negative ties at *t, t-1, t-2,* etc.). We controlled for tenure, collaboration ties, and focal actor status, as in our other regressions. Consistent with our theory, we found (results not presented) that engaging in upward-status but not downward-status negative ties has a significant positive effect on involvement in future upward-status negative ties. We next explored predictors of downward-status negative ties. We found that engaging in downward-status negative ties, but not upward-status ties has a significant positive effect on such ties. Put simply, the results indicate that rappers engaging with high-status competitors are more likely to attract attention from other high-status competitors but not from low-status competitors, a finding that is incongruent with a visibility argument. In summary, these supplementary results provide support for our proposed theory of negative association and appear to discount the possibility that our results are merely an artifact of increased visibility.

Discussion and conclusion

Social ties have consequences for those who hold them, not just in the sense of access to resources flowing through a network (Lin et al., 1981; Burt, 1992), but also in the sense of "prismatic" effects (Podolny, 2001) in which third parties, observing an actor's ties, make inferences about the quality or status of the actor based on the status of those they are connected to (Kilduff and Krackhardt, 1994). A key objective of the present study has been to examine how these prismatic effects play out with negative ties, since most work on prismatic effects has focused on positive ties, and since most work on negative ties has focused on their direct effects, as in bullying (e.g., Faris and Ennett, 2012) and abusive supervisor relationships (e.g., Lian et al., 2014). Moreover, research on negative ties has largely focused on their harmful effects (Labianca and Brass, 2006), whereas we consider their positive effects as well.

What our study shows is that negative ties do indeed have powerful prismatic effects, these are not necessarily negative. Particularly in the case of low-status actors, our findings suggest that negative ties with high status others can be beneficial because (we theorize) audiences interpret the ties as signals that the low-status actors are more on a par with the higher-status actors than previously thought. At the very least, the negative tie between the two actors associates the two in the minds of observers, creating a sense of comparability and similarity. Negative ties may be even more powerful than positive ties in eliciting this effect as negatives are more salient (Taylor, 1991).

The observed pattern is consistent with anecdotes from the industry. For instance, in the epigraph, the remark by 50 Cent references how his career took off after battling prominent rapper Jay Z. The negative relationship signaled to the market that 50 Cent was worthy of audience support, as evidenced by increased album sales. A similar situation was the 2018 diss feud between heralded rapper Drake and lesser-known rapper Pusha T. Numerous journalists covered the battle (e.g., Giulione, 2018), nearly always mentioning the rappers together and often providing detailed information comparing the two rappers (i.e., career histories, common collaborators, common enemies). Consistent with our theory of cognitive association, Pusha T experienced a tremendous boost in sales following the feud.

The logic of our 'interaction creates cognitive association"

Table 3
Fixed effect negative binomial regression models predicting sales as a function of negative ties. These models use artistic award recognition to capture focal actor status[a].

	Model 1	Model 2	Model 3	Model 4	Model 5
Number of upward-status negative ties		.21*	.23*	.18+	.21*
		(.10)	(.10)	(.10)	(.10)
Number of downward-status negative ties		.01	.05	.08	.09
		(.04)	(.04)	(.06)	(.06)
Focal actor status (as measured by artistic awards) × number of upward-status negative ties[b]			−.19*		−.17+
			(.09)		(.09)
Focal actor status (as measured by artistic awards) × number of downward-status negative ties[b]				−.03	−.02
				(.02)	(.02)
Number of collaboration ties	.11**	.11**	.11**	.11**	.11** (.02)
	(.02)	(.02)	(.02)	(.02)	
Tenure	−.08*	−.07+	−.08*	−.08*	−.09*
	(.04)	(.04)	(.04)	(.04)	(.04)
Focal actor status (as measured by artistic awards)	.20**	.19**	.16*	.22**	.18*
	(.11)	(.07)	(.08)	(.07)	(.08)
Constant	−1.81**	−1.89**	−1.70**	−1.71**	−1.65**
	(.23)	(.24)	(.24)	(.24)	(.24)
Log pseudo likelihood	−502.85	−500.37	−497.95	−499.40	−497.61
Wald chi2	50.57	55.39	62.87	57.87	64.66

[a] + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. Two-tailed tests for all tests. Standard errors in parentheses. N = 1,007.
[b] variables are mean-centered before creating interaction term.

mechanism also led us to hypothesize that negative ties with low status actors would tend to harm the reputations of higher-status actors. But this was not supported empirically. One possibility is that an actor's high status serves as a shield that deflects reputational harm associated with downward-status negative ties. As summarized by Coombs and Holladay (2006), a halo shield is related to expectancy confirmation bias, such that observers will cling to an actor's favorable reputation and ignore negative information about them. In other words, negative ties may indeed lead audiences to perceive that the involved parties are similar to each other, but the strength of the pull could be weaker when observers already have a well-established perception of an actor. An analogy can be made to gravitational force acting on two masses. The force is symmetric, but because it takes more force to move the more massive object, the high-mass (high-status) object moves less than the low-mass (low-status) object.

There is also the possibility that negative ties work differently than positive ties when invoking similarity. For instance, conventional wisdom suggests that success can put a bullseye on someone's back. This expectation that higher-status actors are likely to receive "hate" based on success alone may lead observers to discount negative ties with lower status actors. An alternative, is that high-status actors are expected to reinforce status hierarchies and are therefore rewarded by audiences when they repudiate lower-status competitors. It's also possible that negative ties motivate actors to improve their craft – leading to future successes – especially when they are cognizant that their ties are being observed by third parties. For instance, Collins (2009) emphasized that "conflicts are the lifeblood of the intellectual world" (p 80), sparking creativity. Similarly, Kilduff and colleagues explored how rivalrous relationships may have a positive effect on both motivation and performance (Kilduff et al., 2010). While these researchers did not explicitly explore audience reaction, our theory of negative association may still apply. Specifically, involvement in a negative tie can invoke perceptions of similarity in the minds of audiences, and thus may motivate actors to develop a new voice and innovative approach that better displays their core strengths. This effect may be stronger for lower-status actors who have yet to solidify their reputation and have more room for improvement than for high-status actors who may already be at the top of their game.

Our work on public negative ties complements existing work focusing on privately held ties. For instance, Yap and Harrigan (2015) find that negative ties may not even be known by targets of the tie, due to avoidance. This may insulate the target from some of the harmful effects of the tie. However, even if the focal actor is unaware of the negative tie, third-party perceptions of the tie may still have an effect on the actor. This calls for future work, perhaps using a cognitive social structures approach to collecting data about negative relationships (e.g., Marineau, 2017; Marineau et al., 2018) that can more deeply explore varying perceptions of negative ties. Such work would also enable researchers to study additional mechanisms that explain the positive effects of negative ties. Specifically, in some situations, being perceived to possess a negative tie with someone or something that is widely despised (e.g., corporate management, a difficult client, or members of a different faction) whether or not the tie exists, may serve as a badge of honor, serving as a signal of authenticity in the internal market for reputation and creating solidarity.

In our study, we did not explore the specific content of each negative tie. It's possible that, in some instances, the direct negative effects of having a negative tie will outweigh any benefits from being cognitively associated with high-status others. For instance, the previously referenced diss feud between rappers Drake and Pusha T included lyrics attacking defenseless family members and referencing personal health issues. The conflict was eventually diffused when *J*. Prince, a respected third party to the feud, intervened and called a truce, stating that the disses were leading to "a career-ending situation" with the potential to "damage…a whole lot of livelihoods" (Penrose, 2018). Thus, in some situations, it's possible that emotional harm associated with a negative tie may outweigh any prismatic benefits. In addition, our theory addresses how involvement in a negative tie determines actor outcomes, and does not differentiate between senders and receivers of such ties (although our supplemental analyses present a similar pattern of findings when considering disses received from high-status others). Future work may more thoroughly explore directed attacks, as well as the psychological experience of receiving and sending negative ties.

To conclude, this study extends research on negative ties and provides some support for two old adages: (1) 'There's no such thing as bad publicity. All publicity is good publicity' (attributed to many including P.T. Barnum, Oscar Wilde, and Brendan Behan); and (2) "A man's stature is determined by his enemies, not his friends." (a quotation from the film City Hall, used by Labianca and Brass (2006)). Specifically, we find that even negative ties can be beneficial if they are visible and with more prominent others. However, these benefits decrease as an actor's status increases. We hope that our discussion and exploration of the prismatic aspects of negative ties complements existing research on the pipe-like effects of negative ties and will facilitate new theory and

research in this area.

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