A Social Network Perspective on Envy in Organizations

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A Social Network Perspective on Envy in the Workplace

This chapter seeks to examine the development and consequences of envy using a social networks perspective. The social network perspective considers that individuals are embedded in a web of relationships which significantly influence individual behavior (Borgatti, Mehra, Brass, & Labianca, 2009). Much of the activity that takes place inside an organization occurs within a structure of informal relationships. These relationships, although informal, often represent key communication-based interactions that allow employees to do their jobs. People often compare their levels of performance and awards attained to those of their coworkers. They gather this social comparison information through direct inquiry and third-party gossip. We argue that the content and structure of informal relationships will affect people's access to and interpretation of social comparison information. We examine dyadic implications of social networks on the development and consequences of envy, such as the bonds that exist between potential enviers and the targets of their envy, the type and strength of the relationships and the frequency of interaction between the dyads. We also explore implications beyond the dyad - which can only be understood by considering the overall network structure in which employees are embedded - such as how the overall network structure creates a context within which interactions take place, how the relative positions of a potential envier and the target of envy within the network structure and their respective individual network characteristics impact the likelihood of comparison and the development of envy, and how the cognitions that employees have about workplace networks affect social comparison and the development of envy. Our goal is to open up a discussion about how social networks within organizations influence 1) social comparison processes, 2) the development of envy and the form it takes, and 3) the consequences of envy, with a specific focus on the behavior of the envier. Our hope is to inspire both envy

researchers and social networks researchers to consider conducting empirical research at the intersection of social networks and envy, with the goal of improving our understanding of both.

First, we provide a list of definitions important to the social network perspective. Second, we explain the common theoretical mechanisms that explain how social networks affect individual and group outcomes. Third, we review the work done to date that incorporates the social context into the study of social comparisons and envy. Finally, we discuss the opportunities afforded by applying the theoretical mechanisms of social networks to the study of envy in organizations.

The Social Network Perspective

Individual employees in organizations experience widely varying challenges and enjoy equally widely varying opportunities and outcomes. One explanation for the differences in experiences and outcomes is the unique talents, abilities and traits of each employee, often called *human capital*. Research on individual differences in human capital explains a great deal about the different outcomes achieved by different employees in organizations (Barrick & Mount, 1991; Cote & Miners, 2006; Judge & Bono, 2001). However, research using this approach tends to consider each individual in a vacuum, and fails to take fully into account the social context within which individual employees operate. Social networks research considers both the content of individuals' relationships and their embeddedness in the overall social structure as important aspects of social context that influence individual behavior (Brass, 2012). For an example of how the social networks perspective complements the human capital perspective, we consider the following question: how could we understand the potential consequences of one employee being promoted over another? Without a deeper understanding of the social context, we would

probably predict that this particular situation could evoke a fair amount of envy on the part of the passed over employee. Could we then predict whether the particular employee will react positively and be motivated to work harder in order to gain the next promotion, or, conversely, react in a retaliatory manner aimed at undermining the other successful individual? In order to answer this question we require a deeper understanding of the social context. For example, what type of relationship did the envier have with the envied? Was it a collaborative and supportive one, or one marked by rivalry and competition? How does their dyadic relationship fit within the broader social structure? Suppose that the envier has other referents who have also recently received promotions. This latest promotion could then remind the employee of his inferiority within his reference group. This type of social context may affect the focal employee's experience of envy, potentially leading to subsequent deviant behaviors. This example illustrates that research on social networks has a natural fit with research on envy, and opens up a new realm of possibilities for research in both areas.

Network Definitions

A social network is made up of actors - who can be individuals, groups, organizations, or industries - and the connections between the actors, which can be defined in a number of different ways (i.e. who communicates with whom, advice-seeking, friendship). For the purposes of this chapter, we will focus on networks of individuals defined by their relationships with each other, but it is important to note that networks can be studied at multiple levels of analysis (Brass, Galaskiewicz, Greve, & Tsai, 2004).

Researchers often depict social networks using network graphs, within which the actors are symbolized by dots, or *nodes*, and the connections, or *ties*, between the actors are symbolized

by lines (Borgatti, Everett, & Johnson, 2013, p.100). The type of tie defines the network. (i.e., a network of friendship ties between individuals within an organization is defined as the *friendship network* of the organization). There are infinite possibilities for the types of ties which can be used to define networks. Some examples include advice-seeking, information-sharing, liking. Many of these kinds of relationships may be relevant for examining the development and consequences of envy. Past research has also examined networks defined by ties of *social comparison*, where respondents indicated the people to whom they compared themselves within their organizations (Shah, 1998; Sterling, 2013).

An actor's position within the network can provide opportunities and benefits. For example, actors who are more central in communication networks have better and faster access to information flowing through the network than actors who are on the periphery of the network (Brass, 1984). In Figure 1, Actor C is central and Actor I is peripheral.

Insert Figure 1 about here

The overall *structure* of the network, defined by the interconnections between the actors, can be described in terms of its *density*, or the relationships that exist between all actors. Density is simply the number of existing ties divided by the number of possible ties (Borgatti et al., 2013). Granovetter (2005, p. 34) noted that in dense networks, norms for appropriate behavior are "clearer, more firmly held, and easier to enforce." Accordingly, dense networks are often associated with a high level of trust between the actors, agreed-upon norms for behavior, and sanctions against behavior that goes against the norms (Coleman, 1988). It is also possible to describe the structure of individual networks, which are made up of the ties between a focal individual, or *ego*, and her contacts, or *alters*, and the ties between her alters. Ego networks that

are dense have been found to be efficient in the sharing of tacit information (Hansen, 1999) and can also provide higher levels of social support (Coleman, 1988). However, dense ego networks also exercise constraints upon ego's behavior, due to the ability for members to monitor and sanction other members for violating group norms (Burt, 1992). In dense networks, the importance of maintaining status and a favorable reputation within the group is increased, often creating competitive pressures within the group (Burt, 2010). We will explore more fully later in the chapter how the level of density in individual networks can influence the development and consequences of envy.

In contrast, ego networks that are *sparse* and include connections to people in other groups can provide benefits in the form of early access to non-redundant information, the opportunity to control the flow of information between groups, and the ability to combine ideas from diverse sources (Burt, 1992; Burt, Kilduff, & Tasselli, 2013). In illustration, Figure 2 shows two ego networks. Both individuals have 5 contacts. Paul's contacts, in Network A, in addition to being connected to Paul, are also mostly connected to each other, making Paul's network dense. Natalie's contacts, in Network B, are mostly unconnected to each other. The lack of connection between many of Natalie's contacts, or *structural holes*, means that Natalie is connected to more diverse groups of people, providing her with access to unique information and ideas.

Insert Figure 2 about here

Network research has a long history of examining the consequences of networks for individuals and groups. A more recent stream of research examines the *antecedents* of networks: factors which influence the formation of networks (Brass, 2012). Although we acknowledge that

envy can affect the formation of networks, for the purpose of this chapter we focus on the impact that networks have on envy, thus examining how envy can be a consequence of networks, or how networks influence whether envy develops, the form that it takes, and its consequences.

Social Network Theory

Research on the consequences of networks can be understood as focusing on two broad goals: 1) explaining differences between actors in performance and outcomes, and 2) explaining similarities between actors in attitudes and behavior (Borgatti & Foster, 2003; Brass, 2012). In general, differences between actors can be explained by variations in the opportunities for action on the part of the actor provided by the network. Similarities between actors can be thought of as a result of the network acting on individuals – through the influence of direct contacts or through similarities in experiences afforded by the network (Borgatti & Foster, 2003). Two mechanisms explain how networks provide opportunities and impose constraints on actors: the *flow* mechanism and the *bond* mechanism. The "flow" mechanism conceives of the underlying network as a series of pipes through which things like information, resources and support can flow (Borgatti & Halgin, 2011). Actors who occupy favorable positions in the network are more likely to have access to timely and unique information and resources, based upon the increased flow opportunities provided by their network connections. The "bond," or coordination, mechanism conceives of network ties as bonds that can enable actors to act as one for the benefit of both (Borgatti & Halgin, 2011). The actors in the bond benefit due to the greater capabilities associated with the two actors essentially combining into one node and acting in concert.

A typology developed by Borgatti and Foster (2003) and further refined by Borgatti and Halgin (2011) is helpful for understanding how the explanatory goals and the explanatory

mechanisms of networks fit together. In the two-by-two table shown in Table 1 (Borgatti & Halgin, 2011), the goals of networks are listed across the top and the explanatory mechanisms are listed down the left side. Differences in performance and outcomes afforded by the network have been called *social capital* and *network advantage* in past research, and can be more simply defined as variation in *success* between actors in the network. Similarity in attitudes and behaviors has also been called *homogeneity* in past research, and can be more simply defined as similarity in *choice* between actors in the network.

Insert Table 1 about here

Flow-based mechanisms for explaining differences in success are called "*capitalization*." Capitalization occurs when the network provides unique opportunities for more frequent, timelier, and more diverse flows of information, resources or support (Borgatti & Halgin, 2011). A number of network theories use a flow-based explanation for variation in achievement: Granovetter (1973) notes that actors' weak ties provide more help in getting a job because they connect the actor to diverse groups and thus provide non-redundant information about job opportunities. Lin (1999) argues that ties to contacts who are high in resources or status can help an individual achieve her own status, through the resources, information, legitimacy and support that her contacts provide. Burt asserts that actors who have sparse networks, characterized by structural holes, have access not only to non-redundant information, but also early access to information and opportunities to be the one to introduce new information to one's group (Burt, 1992; Burt et al., 2013).

Capitalization processes could impact both the development of envy and the form that envy takes, as well as the potential consequences of envy. An individual with access to a number

of opportunities due to his position within the workplace network is a potential object of envy to others. In addition, the frequency of contact or relationship between a potential envier and the target of his envy may mitigate or aggravate the development of envy and affect the form envy may take. Also, the access to resources that the envier may enjoy can greatly impact the consequences of envy. Enviers with control over resources are more formidable because of the possibility that they may withhold those resources. Conversely, enviers with access to resources may be more likely to believe that they have opportunities for similar successes, and may experience a more benign form of envy, motivating self-improvement behaviors rather than undermining behaviors aimed at tearing down others (van de Ven, Zeelenberg, & Pieters, 2011).

Flow-based mechanisms for explaining similarity between actors are called "*contagion*." Contagion explains similarities in beliefs, attitudes and behavior as the result of social influence processes that occur between actors who are directly connected to each other (Borgatti & Halgin, 2011). Researchers have used contagion to explain why actors have similar attitudes and beliefs (Erickson, 1988; Friedkin & Johnsen, 1999; Umphress, Labianca, Brass, Kass, & Scholten, 2003),engage in similar behaviors (Bamberger & Biron, 2007), and adopt innovations previously adopted by their friends (Coleman, Katz, & Menzel, 1966; Valente, 1995). In a classic study, Coleman, Katz and Menzel (1966) found that doctors began to prescribe the new drug tetracycline not solely based upon their rational decision-making processes, but also because of the influence of their friends who were already prescribing it.

Contagion processes could affect the spread of the potential consequences of envy, especially if the envier has numerous opportunities to influence others due to his position within the network, number of contacts, frequency of interactions, lack of relationship constraints, or individual network structure.

In contrast to the contagion explanation proposed in the first tetracycline study (Coleman et al., 1966), later re-analysis of the data suggested an alternative explanation: that doctors adopted the new drug *not* because of the influence of their direct contacts, but rather because they mimicked the actions of doctors who were *structurally equivalent* – those who occupied similar positions within the network (Burt, 1987). Structurally equivalent individuals may not have ties with each other, but they have similar patterns of ties to others. The authors argued that doctors monitored the action of others with whom they were structurally equivalent, and adopted the innovation so as not to be outstripped by others with whom they were in competition. It can be argued that the doctors were adapting in similar ways to the similar structural environment in which they found themselves (Borgatti et al., 2009). This process is called "*convergence*." Convergence uses a bond-based mechanism to explain why actors are similar (Borgatti & Halgin, 2011).

Convergence processes could affect the development of envy and the form it may take. First, since convergence helps to explain similarities between actors within a network, it can lead to the identification of referent others for social comparison. Actors who are similar on a number of dimensions are more likely to compare themselves against each other (Festinger, 1954), leading to increased chances for the development of envy. However, actors who are more similar are also more likely to identify with each other, perhaps mitigating the development of envy (Duffy, Scott, Shaw, Tepper, & Aquino, 2012) and/or influencing the form it may take.

Bond-based explanations for differences in achievement are called "*cooperation*." Cooperation occurs when actors act in concert, exclude others, or exploit divisions (Borgatti & Halgin, 2011). Coleman's (1988) concept of social capital existing as the result of closed networks which enable trust through providing norms for and enforcing sanctions on behavior is

a bond-based explanation. In a different vein, the concept of the *arbitrage opportunities* provided by sparse network is also an example of a bond-based explanation for variation in success. Arbitrage opportunities include opportunities to bring diverse groups together, present ideas to different groups differently, and translate and detect unique information in order to develop new opportunities (Burt et al., 2013).

Cooperation processes could influence the consequences of envy in a number of ways. The overall network structure of the organization and the individual network structure of the envier's ego network each provide a context within which actors interact. If the network structure is very dense, with a large number of interconnections between the actors, then there are likely to be accepted norms for appropriate behavior and sanctions against inappropriate behavior (Coleman, 1988), which would limit an envier's opportunities to act out against the target of her envy. On the other hand, dense networks are also likely to lead to inescapable comparison information, again because of the large number of interconnections between the actors, increasing the likelihood of the development of envy (Sterling, 2013). Future research would do well to disentangle those structural factors that impact both the elicitation of envy and the behavioral consequences of the emotion.

Types of ties

Networks are defined by the types of ties that connect the actors within them. There are as many possible networks as there are possible questions we can ask about the ways that people interact with each other. The type of tie that defines the network plays a huge part in determining the things that can flow within the network. For example, friendship can support flows of many different types, including social support, gossip, and money. In contrast, ties

defined strictly by a work relationship will support more limited kinds of flows, such as business information and resources. And some ties can be *multiplex* (Borgatti et al., 2013), in which the actors may see each other as friends, work colleagues *and* softball teammates.

Ties can be divided into two main types: *events* and *states* (Borgatti & Halgin, 2011). Events are discrete occurrences: they happen once and then are over. Events can be further divided into *interactions* and *flows*. In a conversation by the water cooler (interaction), two colleagues could exchange gossip (flow) about a third colleague. This interaction and the flow associated with it are both examples of events (Borgatti & Halgin, 2011). It is possible to measure the frequency of events over time; recurring events can become good sources for flows of information, and repeated interaction may result in the formation of a relationship.

A relationship is an example of a state, which is continuous while it exists. In other words, as long as two people are friends, their friendship is continuously in effect until one or the other of them decides to end the friendship. In addition to *social relationships*, other examples of states include *similarities*, like co-memberships, co-participation, geographic proximity and shared attributes (Borgatti et al., 2009). These different types of ties can be thought of as pipes through which different things can flow. Therefore, type of tie is most important to consider when using a flow-based mechanism to explain phenomena. For example, some network studies have identified social referent relationships as a type of network tie. Shah (1998) demonstrated that employees vary in terms of whom they choose as social referents when trying to understand their own level of performance. Sterling, Shah & Labianca (2015) demonstrated that characteristics of these referent networks were differentially related to the experience of two forms of envy: benign and malicious.

Networks cognitions

A third network mechanism that doesn't fit neatly into the table above is the concept of networks as *prisms*. In this concept, an actor's network ties act as signals of the actor's quality or status. A story about the financier Baron de Rothschild aptly illustrates the concept: an acquaintance petitioned him for a loan, which he refused. Instead he made the following offer: "I will walk arm-in-arm with you across the floor of the Stock Exchange, and you soon shall have willing lenders to spare." (Cialdini & De Nicholas, 1989, p. 45). In the story, the apparent friendship between de Rothschild and his acquaintance was a signal to observers that was strong enough to ensure that the acquaintance would be able to secure the needed funds. In other words, the acquaintance's network acted as a prism that signaled his quality to observers. Research in this vein has shown that an individual's reputation as a good performer is enhanced by being seen as having a prominent friend in the organization (Kilduff & Krackhardt, 1994), and that in cases of market uncertainty where reputation is key, being seen as having high-status contacts is a signal of quality to potential exchange partners (Podolny, 2001). Cognitions about networks, regardless of their accuracy, can affect the development and form of envy.

We've briefly described a number of ways that an understanding of the social networks of organizations may help to shed light on the processes underlying the development, form and consequences of envy. This attention to the social context has until recently been under-explored in envy research. However, there are a few recent examples of research that take into account the social context in ways that are helpful in improving our understanding of envy. We briefly review this research next.

Envy and the social context

In a two-study project including hospital employees and student teams, Duffy and colleagues (2012) developed a social context model of envy and social undermining. In the development of their theory, the authors considered how social identification and social norms moderated the relationships between envy and moral disengagement; and between moral disengagement and social undermining, a potential consequence of envy. They found that moral disengagement mediated the relationship between envy and social undermining; that social identification mitigated the positive relationship between envy and moral disengagement; and that team norms for undermining augmented the positive relationship between moral disengagement and social undermining (Duffy et al., 2012). This research is a good first step in considering the overall social context on the development and consequences of envy. Taking a social network approach could compliment and extend this important work. First, a social network approach would allow future researchers to make direct, specific links between the targets of envy and consequences to those targets, rather than measuring envy and its consequences at the aggregate level. Second, it would help account for interdependence between actors, which could greatly impact the likelihood of an individual acting on feelings of envy. Third, it would enable future researchers to take into account the overall network structure, which provides strong clues for the possibility of norms for behavior and sanctions for bad behavior.

Social networks and social comparison

One theoretical piece and one empirical study focus more directly on how the network perspective can contribute to our understanding of social comparison processes. Erickson

(1988), in her theoretical discussion on the relational basis of attitudes, proposed that our understanding of social comparison processes can be greatly enhanced by the social network perspective. She argued that individuals form their attitudes primarily through interpersonal processes. Additionally, she argued that the formation of attitudes is influenced both by the nature of the relationships between individuals and by the overall structure of the network within which they interact. Based on these suppositions, she proposed a number of propositions about the nature of social comparison as influenced by network dyads, cliques and overall social space (Erickson, 1988).

Shah (1998) used a network perspective to empirically determine whom employees select as social referents. Selection of social referents has a significant impact on the development of envy, since individuals compare themselves to their social referents, and social referents who are perceived by the focal individual as achieving superior outcomes may be potential targets of envy. In her study, Shah tested whether cohesion (close friendships) or similarity (occupying similar positions in the overall network, also called *structural equivalence (Burt, 1987)*) was a better predictor of whom an individual will select as a social referent. She acknowledged that the referent choice is limited by the awareness of the actor and the proximity of and actor's access to social comparison information, and is thus constrained by the actor's social network (Burkhardt & Brass, 1990). The actor cannot compare herself to someone of whom she is not aware. Considering three factors likely to be important in the selection of social referents: similarity, availability and relevance (Festinger, 1954), Shah proposed that friends are likely to fulfill the similarity and availability requirements, while structurally equivalent others are likely to fulfill the similarity and relevance requirements. She found that when it comes to questions about job-related information, people are more likely to choose structurally equivalent others,

and that friends are chosen as referents for social comparison and for general information about the organization. This is an interesting result because comparisons between close friends could potentially be detrimental to the relationship, especially in cases where one friend has noticeably better achievement or success. Shah proposed that people might avoid comparisons in instances where there was likely to be a great differential (Shah, 1998). Conversely Tai and colleagues (2012), in a theoretical piece, propose that referent cognitions – specifically, the belief that one's referent other is warm and or competent - could lead to positive behavioral responses to envy. This leads to a research question: how does relational multiplexity affect the experience of envy, which we explore more fully later in the chapter.

Social networks and envy

So far, we have described research that has touched on envy developing within an overall social context, and research that specifically examines social comparison processes within the context of social networks. We are aware of only one project that specifically and directly examines the development, form and consequences of envy within the context of social networks within an organization. Sterling (2013), in his study of a large healthcare organization, used a motivation-opportunity framework to understand the consequences of workplace social comparisons on the development and form of envy and its associated extra-role behaviors. He examined two potential forms that envy can take: benign envy and malicious envy, and argued that the social structure of an individual's reference *group* – the set of referent others indicated by the focal actor (Lawrence, 2006) - affects the form that envy may take. Informed by previous research which suggested that benign envy and malicious envy inspire very different behavioral responses (van de Ven et al., 2011), Sterling specifically measured the differential in achievement between individuals and the people within their reference groups and related it to

feelings of benign and malicious envy and resulting extra role behaviors like work effort, organizational citizenship behavior and deviant behavior. He found that benign envy is related to the positive outcome of greater work effort, while malicious envy is related to deviant behavior and turnover intentions. Additionally, he found that the performance difference between an individual and his reference group is positively related to malicious envy and negatively related to benign envy. He found that reference group size and density – which is the extent to which each actor within an individual's reference group also compares to the others - are related to the form that envy takes, with reference group size negatively related to malicious envy and positively related to benign envy, and reference group closure positively related to malicious envy. Finally, he found that individual network constraint in the communication network mitigates the positive relationship between malicious envy and deviant behavior, due to the norms and sanctions imposed on behavior by closed networks.

In summary, Sterling's research showed 1) that individuals have reference groups rather that single referent others, and that the structure of the network of the reference group has an impact on the form that envy takes, 2) that the two forms of envy are related to different behavioral reactions – with benign envy related to greater work effort and malicious envy related to turnover intentions and deviant behavior, and 3) that the structure of the individual's communication network affects his ability to behave as motivated by malicious envy.

Because envy and its resulting behaviors were measured at the general level, opportunities exist to examine specifically the target of envy and the target of resulting deviant or citizenship behavior. In addition, future research could examine other domains for comparison beyond performance, such as popularity, attitudes and rewards – with the added possibility of examining how the multiplexity of comparison relationships affects the development and

consequences of envy (Sterling, 2013). And an opportunity exists to examine how the *composition* of the network of the reference group – the characteristics of the individuals – affects the development of envy (Sterling, 2013).

Applying the Social Network Perspective to the Study of Envy

The relative dearth of research using a social network perspective to study the development and consequences of envy affords a number of opportunities for future researchers. Perhaps the first, most obvious opportunities are methodological in nature. We briefly describe some methodological opportunities afforded by the social network perspective, and then move on to discuss the perhaps more interesting theoretical opportunities that exist.

Methodological opportunities

The first methodological opportunity has been partially explored by Shah (1998) and Sterling (2013) in their studies described above: to use a social network method to measure whom employees name as their social referents. However, additional opportunities remain. Although Shah asked her participants to name referents for social comparison, questions about job-related information and questions about general information about the organization, we are unaware of any study which used social network methods to measure social referents for different dimensions of comparisons, such as popularity, rewards, or status. It's likely that employees use different referents when comparing themselves to their peers on the dimension of job performance than the ones they use for the dimension of rewards. It may make more sense to compare oneself to a peer who has similar work responsibilities for the first, while anyone who is at a similar hierarchical level within the organization is a relevant referent for the second. This

opens up possibilities suggested by Sterling (2013) for examining the impact of potentially multiplex comparison relationships, such as examining which types of comparisons have stronger effects on the development of envy, perhaps identifying specific comparison antecedents for the two forms of envy, or examining whether multiplex referent relationships have larger impact on the develop of envy and it consequences..

Another methodological opportunity is to use social network methods to specifically identify the targets of envy and targets of prosocial or anti-social behavior, as suggested by Duffy and colleagues (2012). Asking employees to name the specific people for whom they feel envy, and also perhaps asking them to rate the extent of their envy or to name the comparison dimension that led to the feelings of envy opens up numerous opportunities to go deeper in understanding how felt envy relates to resulting behavior and possible repercussions beyond the dyad of the envier and target. Naturally, these types of questions are sensitive, and are likely to be difficult to collect. However, network researchers have a history of finding ways to encourage candid responses from their participants. Research on negative network ties is a good example (Labianca & Brass, 2006; Labianca, Brass, & Gray, 1998). One possible alternative is to ask employees to name whom has engaged in deviant behavior against them.

Theoretical opportunities

While the methodological opportunities outlined above provide the opportunity for a deeper understanding of envy within the confines of the theoretical framework that already exists, we believe that the possible theoretical opportunities hold even more promise. For the remainder of the chapter, we propose to apply what we know about the mechanisms by which social networks affect individual and group outcomes – namely the flow mechanism and the

bond mechanism - to 1) explore more fully how networks might affect the social comparison processes that lead to envy, 2) explore the impact networks might have on the development of envy into one of its forms: benign or malicious, and 3) explore the impact that networks might have on the likelihood and severity of deviant behavior by those who feel malicious envy. While Sterling (2013) focused for the most part on the size and structure of the network made up by the reference group of an individual, we focus instead on the other networks within which employees are likely to be embedded: friendship networks, advice networks, and workflow networks.

Our goals for this section are threefold. To propose possibilities for future research that 1) examine the influence that social networks have on the social comparison processes that lead to envy, including the selection of referents and the likelihood and frequency of comparison, 2) examine the moderating effect that networks have on the relationship between social comparison and the development of the two forms of envy: benign and malicious, and 3) examine the moderating effect that networks have on the likelihood and severity of deviant behavior on the part of the envier. Figure 3, below, shows the model that guides our discussion and propositions. In the figure, network cohesion refers to *flow* mechanisms that explain how the direct connections between people affect both differential opportunities for success (*Capitalization* in Table 1) and similarity between actors (*Contagion* in Table 1). Network homogeneity refers to the *bond* mechanism that explains similarity between actors (*Convergence* in Table 1). Network position refers to the *flow* mechanism that explains differential opportunities for success (*Capitalization* in Table 1), and network structure refers to the *bond* mechanism that explains differential opportunities for success (*Cooperation* in Table 1).

Insert Figure 3 about here

Social networks' influence on social comparison processes that lead to envy

Network cohesion and network homogeneity. Shah (1998) explored how *network cohesion* and *homogeneity* affected people's choices for referent others within their organization, and found that employees more often chose as social referents (on the dimension of job performance) those with whom they had a strong cohesive relationship (friendship). Since social referent choice directly impacts the development of envy, it is important to fully explore the network characteristics that those choices.

While cohesion can be understood as a close, strong relationship, as described by Shah, it can also be understood simply as the presence of a direct tie between two actors (Borgatti & Halgin, 2011). This tie does not necessarily have to be one of friendship. It can be a strictly professional relationship, like some relationships between supervisors and subordinates, it can be a workflow relationship, in which one person relies upon another for inputs necessary to their job tasks, or it can be a relationship whereby one person seeks advice from another. It can even be a tie that signifies the dislike that one person feels for another. The different kinds of possible ties that directly link one person to another have very different repercussions for the individuals involved in the relationship – not all will act like the strong friendship ties that Shah studied (Labianca & Brass, 2006). Therefore, opportunities exist to examine how the type of relationship, strength of relationship and frequency of interaction affect the choice of social referents. Similarly, homogeneity, as defined by structural equivalence (occupying similar positions within a network (Burt, 1987)) can be measured on many different kinds of networks. It seems likely that structural equivalence within the friendship network is very different from structural equivalence in the workflow network – the structurally equivalent individuals are competing for very different kinds of rewards, resources and information. Therefore, it is

important to examine how structural equivalence in different kinds of social networks affects social comparison and the development of envy.

In addition to the capitalization and convergence processes described above, contagion processes can also have an effect on the choice of social referents. Individuals are exposed to different opinions and attitudes depending upon the people to whom they are connected. Referent choices may be influenced by contagion processes in densely connected workgroups, since their members are likely to look to each other to confirm their opinions and attitudes (Erickson, 1988).

Network position. The employee's position within the overall network can also have an effect on the size and composition of their reference group. Employees who are central in the organizational network may have a larger pool of possible referents, since they are often connected to a larger number of people. However, they may feel less compelled to compare themselves to others if they have achieved a certain level of success within the organization. People on the periphery of the network may feel more motivation to compare themselves to others, because they realize they are out of the loop and have a desire to fit in. On the other hand, people on the periphery may be happy to be where they are and lack the ambition to move up within the organization – and thus have little motivation for social comparison.

In addition to individual employees' positions within the overall network, the respective network positions of an employee and his potential referents will affect the choice of social referents. Research has shown that the choice of social referents is limited by the network within which employees are embedded (Burkhardt & Brass, 1990), which suggests that people who are connected only by long paths of indirect ties are less likely to choose each other as social referents. In addition, it seems reasonable that individuals who occupy very different positions

within the social network would be less likely to select each other as social referents, even if a direct tie exists, since people often choose social referents who are relatively similar to them (Festinger, 1954). Imagine a highly popular employee who occupies a central place within the network and who is friends with another employee who is on the periphery. It seems unlikely that either one would choose the other as a social referent, but that is a question to be resolved empirically.

Network structure. The overall structure of the network of the organization, department or workgroup, as well as the structure of an employee's individual network each have influence over the employee's choice of social referents. A *core-periphery structure* is a relatively common type of organizational network structure. It is characterized by a core group of individuals who occupy central positions within the network and have many ties to each other, and by actors on the periphery who have many ties into the core but very few among themselves (Borgatti et al., 2013). In this kind of structure, those on the periphery are perhaps more likely to choose core individuals as social referents, both because they have more direct ties with those individuals and also because the overall structure of the network tends to focus attention on the core individuals (Borgatti et al., 2013). In contrast, in organizational networks that are characterized by a *clumpy structure* – one in which there exist a number of clusters with many ties within clusters but very few ties between clusters - choices of social referents are more likely to occur within rather than between the clumps in the network.

Individual network structure is likely to influence referent choice, based upon availability of options and perceived appropriateness of choice. Individuals whose networks are more interconnected, or dense, may have fewer options in choosing their social referents, because their social worlds are constrained by the limited contact they have outside their immediate group

(Burt et al., 2013). In addition, they may feel constrained in their choice by the strong norms associated with closed networks (Burt, 2005; Coleman, 1988) – they may feel compelled to compare themselves to people who are approved by the group. In contrast, individuals in sparse networks have relatively more freedom to choose and also have more visibility to numerous choice options (Burt et al., 2013).

Network cognitions. One aspect of network research that cannot be ignored is how employees perceive and evaluate the networks around them. Work done to study the accuracy of employees in perceiving social networks has found that on the whole, people are not very accurate, often over-perceiving their own centrality, over-perceiving the reciprocity of their own ties (Krackhardt, 1987; Kumbasar, Rommey, & Batchelder, 1994), and over-perceiving the extent of clustering, or clumping, in friendship networks (Kilduff, Crossland, Tsai, & Krackhardt, 2008). Given the often inaccurate perceptions of networks, it seems possible that employees may not be very good at recognizing structurally equivalent others – those whom occupy similar positions within the network – which puts doubt upon the assumed competition between structurally equivalent people and also the perceived relevance of a structurally equivalent other as a social referent. However, employees who are highly central in the network have been found to be more accurate in perceiving the overall network structure (Krackhardt, 1987), which may influence their choice of social referents – they may be better at selecting people who are relevant referents.

Next, we explore how social networks might influence the development and form of envy.

Social networks' influence on the development and form of envy

Network size, structure and composition. Network size refers to the size of employees' individual, or *ego*, networks. Employees with small ego networks are likely to experience more exposure to potentially envy-inspiring comparisons, since they have fewer communication options than employees with larger ego networks. Because they have fewer sources for comparison, the importance of surpassing each referent is heightened, which can result in increased competition and rivalry (Sterling, 2013).

Ego network structure can also be a factor. In dense, or closed, ego networks, employees may experience lower feelings of control because of norms and sanctions imposed by closed networks (Coleman, 1988; Granovetter, 2005). Low feelings of control have been found to be related to malicious envy (Buunk, Collins, Taylor, VanYperen, & Dakof, 1990), which suggests that employees with dense ego networks may be more likely to feel malicious envy than employees in sparse networks, who are more likely to have more options of social referents (Sterling, 2013) and less likely to feel "trapped" by their network.

Ego network composition should also have an impact on the development of envy. Network composition refers to the characteristics of the individuals' contacts, or *alters*, within her network. These characteristics include demographic characteristics like gender, race, age and education; work-related characteristics like functional area, rank, title and experience; attitudes and opinions; and networks characteristics like network position (centrality). Potential enviers might benefit from having a wise mentor within their network, who can coach them through experiences with upward comparison and encourage the development of benign envy

and its attendant positive behavioral reactions. In addition, individuals whose ego networks are characterized by variability in performance enjoy more options for the choice of referent others that may provide opportunities for downward comparisons, lessoning the likelihood of feelings of malicious envy.

Social networks' influence on deviant behavior resulting from malicious envy

Network size, structure and composition. We propose that the size of the envier's ego network affects the magnitude of impact of any deviant behavior. Individuals with large ego networks necessarily have contact with a larger number of people, so their deviant behavior towards a target of envy has the potential to have a bigger negative impact on the target. However, we also propose that if the target of the envy has a large network, their network's size provides them with some protection against deviant behavior, by providing them with more opportunities for social support.

Ego network structure is also important. As we've mentioned a number of times, dense networks often impose norms for behavior and sanctions against poor behavior (Coleman, 1988; Granovetter, 2005), which suggests that individuals with dense ego networks will have fewer opportunities to engage in deviant behavior. On the other hand, individuals with sparse ego networks enjoy relatively more freedom in their behavior. As Burt and his colleagues suggest, sparse, open network structures provide few opportunities for reputation to form (Burt et al., 2013) – people are simply not monitoring each other that closely in sparse networks. Therefore there is more opportunity for deviant behavior on the part of an envier. Earlier we pointed out that individuals in sparse networks are *less likely* to feel malicious envy, yet they enjoy *more*

opportunities for engaging in deviant behavior. On the flip side, those in dense networks are *more likely* to feel malicious envy, yet they have *fewer opportunities* for engaging in deviant behavior. This conundrum raises a question that can only be resolved empirically: are dense or sparse ego networks better for preventing the negative outcomes associated with malicious envy? The content of ties is also a factor. Sterling (2013) found that dense referent networks motivated malicious envy, but dense communication networks mitigated the relationship between malicious envy and deviant behavior.

Individuals' ego network composition can also affect the potential impact of deviant behavior on the target. If the envier has a network characterized by many connections to powerful others, then any deviant behavior is likely to be more damaging to the target. On the other hand, if the target of envy has many connections to powerful others, they provide protection from the deviant behavior.

Network cohesion. We have discussed the constraints that can be imposed upon behavior by the structure of an individual's ego network. Under the heading of network cohesion (direct ties), we group the potential constraints that *relationships* can impose upon behavior. The type and strength of the relationships may impact the likelihood of deviant behavior: it seems unlikely that an individual would engage in deviant behavior towards a close friend, but that is a question to be resolved empirically. There are opportunities to test how a number of potential relational constraints like strength of tie, type of relationship, multiplexity of the relationship, and asymmetry of the relationship affect the likelihood or severity of deviant behavior (Brass, 2012). It seems possible that relational constraints may act to prevent deviant behavior in the absence of organizational or network constraints.

In addition to possible relational constraints, the dependence relationship within the envier / target dyad will influence the likelihood and severity of deviant behavior. If the envier is dependent upon the target of envy for resources or information, the envier should be less likely to engage in deviant behavior towards the target. On the other hand, if the target is dependent upon the envier for resources or information, than any deviant behavior is likely to be much more harmful to the target.

Conclusion

Envy in organizations is an inherently social issue. Envy occurs within dyadic relationships, and also within a broader social context. We propose that the social network perspective provides unique methodological and theoretical opportunities for deeper understanding of the impact of the social context within which envy and its consequences occur. There is a relative dearth of research that uses the social network perspective to examine the processes related to envy. We described a number of ways in which the social network perspective can aid in the study of social comparison processes, the development and form of envy, and the likelihood and severity of deviant behavior associated with malicious envy, with the hope of inspiring additional research on the intersection of social networks and envy in organizations.

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Figure 1: Example of a Network Graph

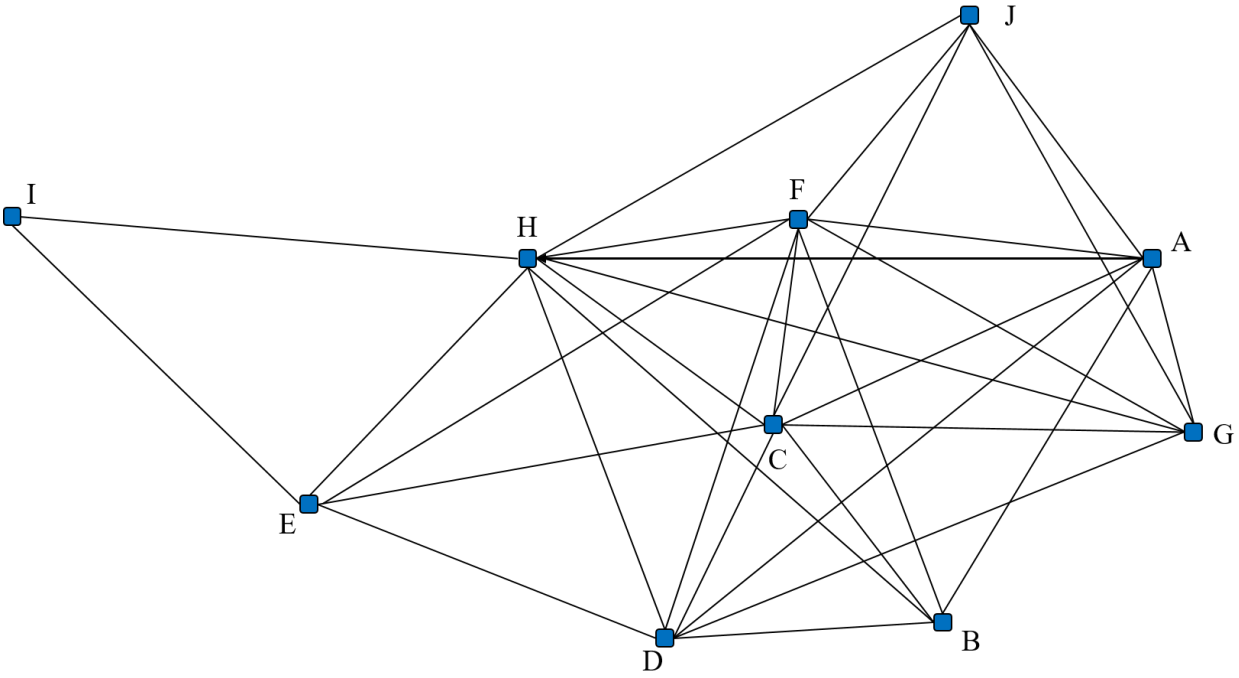
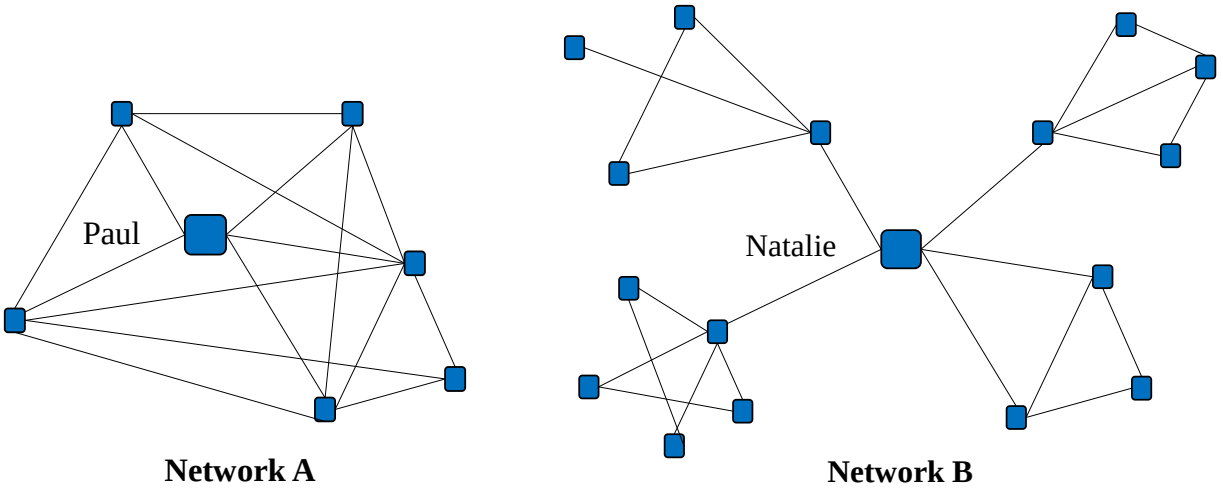


Figure 2: Examples of Ego Network Graphs



Network A **Network B**

Figure 3: Social Networks and Envy Model

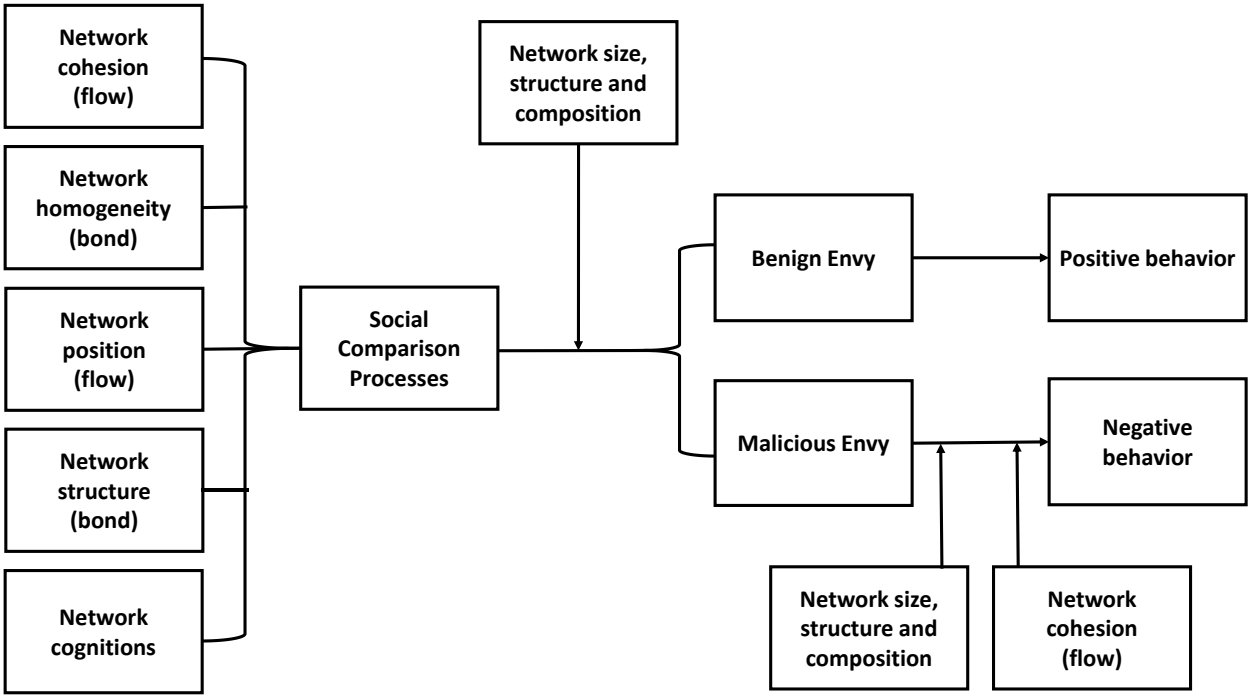


Table 1: Network goals and mechanisms

	Explanation for:	
Mechanism	Differences in Success	Similarities in choice
Flow-based	Capitalization	Contagion
Bond-based	Cooperation	Convergence

Borgatti and Halgin, 2011