The embedding forces of network commitment: An examination of the psychological processes linking advice centrality and susceptibility to social influence

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A B S T R A C T

We draw on concepts of embeddedness and commitment to explain people's susceptibility to social influence from their personal network. Using two samples and multiple methods (experimental manipulation, social network inventories, and surveys) we assess whether embeddedness in one's social network (i.e., advice centrality) affects susceptibility to social influence, via commitment to one's personal network. We extend concepts of affective, normative, and instrumental commitment to an individual's personal network for this purpose. In Study 1, we experimentally manipulate normative social information and find that central members are more likely to conform to social influence, according to mechanisms of psychological affective and instrumental network commitment. Study 2 tests the robustness of our generalized predictions by considering how advice centrality relates to one's aggregate dyadic network commitments and perceived social influence. Study 2 results indicate that advice centrality positively relates to perceived social influence through relational affective, normative, and instrumental network commitment.

1. Introduction

An individual's susceptibility to social influence can provide both benefits and threats to the individual and their host organization. This susceptibility could have a positive effect on commitment, performance, and employee retention (e.g., Jiang, Liu, McKay, Lee, & Mitchell, 2012; Mitchell & Lee, 2001). Conversely, it is also a mechanism of dependence on collective opinions that might lead to aggregated groupthink processes (Janis, 1983) and also make one more susceptible to suggestion (Asch, 1951). Traditionally, greater centrality within advice networks is believed to enable greater power, influence, and performance (e.g., Chiu, Balkundi, & Weinberg, 2016; Mehra, Kilduff, & Brass, 2001). However, these benefits could have concurrent vulnerabilities if advice centrality makes people more susceptible to social influence.

People are embedded in informal social networks that can influence their attitudes, thoughts, and behaviors (e.g., Burt, 2001; Gibbons, 2004; Granovetter, 1985; McEvily, Soda, & Tortoriello, 2014). Network members can also be influenced through their commitments to dyadic ties (Lawler & Yoon, 1996). However, we know little about how peoples' embeddedness (i.e., centrality) within an advice network, and

their commitment to the personal ties within this network, relates to their susceptibility to social influence. Herein, we examine how advice centrality affects susceptibility to influence from one's personal network via network commitment.

We draw on two samples from professional peer networks to examine how commitment to a personal network relates to one's susceptibility to social influence, and hope to make a few contributions. First, joining recent calls to understand how structural and psychological elements of social networks work together (Casciaro, Gino, & Kouchaki, 2014), we extend commitment research by focusing on a new target of commitment at the individual-level – commitment to one's personal network. Prior commitment research has referenced commitments to one's organization (Meyer & Allen, 1991; Meyer, Allen, & Smith, 1993), occupation (Weng & McElroy, 2012), union (Monnot, Wagner, & Beehr, 2011), team (Kukenberger, Mathieu, & Ruddy, 2015), goals (Klein, Wesson, Hollenbeck, & Alge, 1999), and supervisor (Meyer, Morin, & Vandenberghe, 2015). Surprisingly, personal networks have not been studied as a target of one's commitment.

Second, we consider differences in types of commitment and forms of how these commitments are conceived. In considering forms of commitment, or the ways people psychologically bond with their

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network, we examine the question of commitment both *psychologically* (Study 1) and *relationally* (Study 2). We draw from the literatures on commitment (e.g., Lawler & Yoon, 1996; Meyer et al., 1993), social impact (Latané, 1981) and heuristics (e.g., Gigerenzer & Gaissmaier, 2011) to propose a new multi-dimensional structure of network commitment that accounts for different *types* of commitment bonds (i.e., affective, normative, and instrumental: e.g., Meyer et al., 1993) and different *forms* of network commitment aggregation (i.e., psychological and relational). This detailed specification of the construct should help to extend Lawler and Yoon's (1996) dyadic research to outline a broader array of commitments that one can have with their aggregate set of ties in their personal network.

Third, we will explain and empirically assess how these various types and forms of network commitment can make people more susceptible to environmental (i.e., social) influence attempts either directly from the network or from individuals drawing on the network as part of a proactive influence attempt. This will add precision to our understanding of the psychological mechanisms through which the social environment can influence peoples' thoughts and actions (e.g., Carr, Schmidt, Ford, & DeShon, 2003; Jiang et al., 2012). That is, we seek to understand if a basic model of embeddedness, wherein embeddedness affects susceptibility to social influence through commitment (see Fig. 1), holds when considering psychological commitment to one's personal network, and alternatively, relational commitment to one's personal network. This knowledge should help to improve our understanding of the mechanisms explaining the relationship between network characteristics and social influence for individuals embedded within larger social collectives (e.g., Gibbons, 2004; Zagenczyk, Scott, Gibney, Murrell, & Thatcher, 2010). Using both psychological and relational network commitment and multiple-methods helps to support the robustness of our predictions.

2. Theory and hypotheses

2.1. Overview of the theoretical model

We examine how structural embeddedness and network commitment make a person more susceptible to social influence. Using an integration of Lawler and Yoon's (1996) dyadic model of relational cohesion and Latané's (1981) social impact theory as a theoretical point of departure, we propose: (1) that structural network embeddedness, conceptualized as in- and out-degree advice centrality, will relate to both psychological and relational forms of affective, normative, and instrumental network commitment; and, (2) that these network commitments will subsequently make a person more susceptible to social influence using an experimental manipulation in Study 1 and a measure of perceived influence in Study 2 (see Fig. 1).

According to the theory of relational cohesion, network dyads will interact with each other more frequently, experience more positive

emotion, develop greater relational cohesion, and engage in more committed behaviors when each dyadic member has high total power. Lawler and Yoon, 1996 (p. 91) specifically state that, "the theory of relational cohesion posits an endogenous process by which the structural potential for cohesion is actualized in 'relational cohesion', that is, in the actors' definitions of the relation as a unifying force in the situation." We interpret this logic to suggest that structural network ties promote a psychologically-based relational cohesion between individuals. When aggregated to the network at large, this logic also provides preliminary support for our proposed link between structural embeddedness and network commitment, an individual's psychological bond with their aggregate personal network.

Extending relational cohesion concepts to one's broader personal network also suggests the linkage between network commitment and susceptibility to social influence. Indeed, "the theory of relational cohesion suggests an avenue by which interpersonal relations become a source of 'social embeddedness' … shaping exchanges, generating informal constraints on malfeasance or opportunism, and reducing 'transaction costs'" (Lawler & Yoon, 1996, p. 105). According to this statement, reductions of malfeasance and opportunism are actualized through social influence in a manner that allows more efficient social exchange and fewer transaction costs. We extend this logic to suggest that relational cohesion serves to align individuals' actions (and intentions) with the objectives of the collective, foregoing more individualistic objectives.

We draw on Latané's (1981) discussion of social forces to extend Lawler and Yoon's (1996) model by aggregating beyond a (dyadic) relational cohesion approach to explain network commitment as an individual-level construct relevant to one's entire personal network. This helps to establish a personal-network-targeted commitment construct and identifies person-level outcomes (i.e., susceptibility to social influence) resulting from such commitment. According to Latané (1981) individuals are impacted by social forces (i.e., other people). These influences will be more potent when social forces are stronger, more numerous, and more immediate. Latané (1981) also asserts that each additional person has a marginally decreasing incremental effect on a social force; and an individual target's experience of the social force decreases as the number of targets of the social force increases. We consider each tie within one's network as a unique social force of influence. When aggregated, we expect these social forces to coalesce and create a greater collective social force of influence on an individual.

In their theory, Lawler and Yoon (1996) have considered network commitment, referred to as relational cohesion, as an affectively-based dyadic bond. Our conceptualization is based on this underlying concept of relational cohesion, but also extends the concept in two ways. First, we consider bonds based on instrumentality (instrumental network commitment) and obligation (normative network commitment) in addition to those based on affect (affective network commitment). Second, we consider different aggregate forms of these dyadic
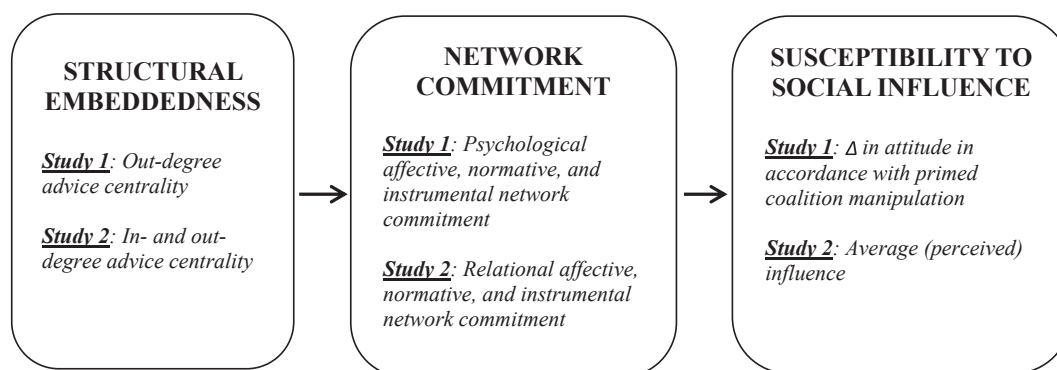

Fig. 1. Conceptual model of the effects of structural embeddedness and network commitment on susceptibility to social influence. *Note: bold headings represent the theoretical constructs and the information in italics represent specific operationalizations in Studies 1 and 2.

commitment bonds operationalized as either heuristic aggregates (psychological network commitment) or quantitative aggregates (relational network commitment).

2.2. Structural embeddedness and advice centrality

Structural embeddedness provides information on the collection of ties or social forces that can influence one's network commitment and establishes coherence across social network research (Kilduff & Brass, 2010; McEvily et al., 2014). Embedded individuals may prefer interacting with people they are closely connected to either directly or indirectly (Kilduff & Brass, 2010). Granovetter (1985) described embeddedness as the degree to which an actor's economic behaviors and transactions are fixed and contingent on a surrounding fabric of social connections, while others describe it as a set of forces that bind individuals to their organizations (e.g., Mitchell & Lee, 2001). Structural embeddedness is primarily concerned with the configuration of social ties within a network and can take the form of brokerage (Burt, 1992) or measures of centrality, prestige, and personal network size (e.g., Umphress, Labianca, Brass, Kass, & Scholten, 2003; Wasserman & Faust, 1994). When embeddedness research focuses on individuals' outcomes, egocentric measures capturing the actors' viewpoints are most relevant.

We consider in- and out-degree advice centrality, as indicators of structural embeddedness to pay specific attention to the direct provision and receipt of advice within instrumental networks. In this regard, we consider in- and out-degree advice centrality as distinct aspects of embeddedness, as out-degree advice centrality represents an individual's overall reliance on network ties for valuable advice resources. Conversely, in-degree advice centrality represents an individual's prestige within the advice network (Wasserman & Faust, 1994). We focus specifically on advice centrality because it has been related to susceptibility to social influence at the dyadic level (Zagenczyk et al., 2010), as well as the psychological confidence and comfort with adopting organizational changes at the individual-level (Vardaman, Amis, Dyson, Wright, & Van de Graaf Randolph, 2012). It also allows us to distinctly consider influence (Brass, Galaskiewicz, Greve, & Tsai, 2004) according to precise positions of reliance and prestige within this professional domain (Wasserman & Faust, 1994).

2.3. Network commitment: a type and forms approach

Commitment is defined as "a volitional psychological bond reflecting dedication to and responsibility for a particular target" (Klein, Molloy, & Brinsfield, 2012, p. 137). Commitment research has largely ignored social networks as a target of one's commitment. The limited research to date on network commitment began at the dyadic level and did not consider an individual's full personal network. Lawler and Yoon (1996) examined network commitment by drawing on the concept of relational cohesion, or an "actor's definition of their relationship as a unifying force, or an object of attachment" with respect to individual network ties (p. 89). *Network commitment* is herein defined as the degree to which an individual is psychologically bound to their current configuration of immediate (relational) ties within a particular social network, and is willing to remain in and be involved with this configuration of ties. When high, this bond further implies a strong attachment to the current configuration or pattern of ties, and encompasses an actor's perception of being enmeshed within a fabric of social dependencies, obligations, responsibilities, and identities that can influence their behavior. When low, it represents a willingness to seek different configurations (e.g., addition or deletion of ties) within the network.

Unlike low organizational commitment, where one may choose to leave the organization for an alternate organization, low network commitment suggests that one would seek an alternative configuration of ties, but within the same social network. We view organizational commitment and network commitment as distinct, parallel, and interrelated concepts. That is, a person's bond with an organization, e.g., a

company or business school, is captured via organizational commitment, with the organization as the clear target of attachment. On the other hand, a person's commitment to the specific configuration of his or her personal network ties within that organization is what we refer to as network commitment. Simply put, organizational commitment captures an individual's bond with the organization at large and predicts attachment to the organization, whereas network commitment captures an individual's bonds with their personal network ties within this bounded collective.

The general commitment literature suggests a range of bonds that can bind individuals to an object or entity (e.g., Klein et al., 2012; Meyer & Allen, 1991), and network commitment represents a form of commitment that binds individuals specifically to their personal network. We apply Meyer and Allen's (1991) three-factor model of organizational commitment to one's personal network, and propose affective, normative, and instrumental dimensions of network commitment. These dimensions capture concepts of identification, obligation and exchange, as well as instrumental need fulfillment (Hershcovitch & Meyer, 2002; Klein et al., 2012; Meyer & Allen, 1991). Indeed, Lawler and Yoon (1996) discuss instrumental, affective, and normative forms of commitment in their literature review, but focus specifically on affective bases of dyadic commitment. The three-dimensional model has also been applied to occupations (Meyer et al., 1993), which, like networks, represent a more loose and informal social collective.

Affective network commitment captures one's psychological merger with their immediate ties within a particular social network, whereby one associates with, affectively attaches to, and defines him or herself according to this network. *Normative network commitment* represents an individual's obligation and dedication towards his or her immediate ties within a particular social network and the responsibility to continue interactions with and support of these ties. *Instrumental network commitment* represents an individual's acceptance of the high personal costs of breaking or weakening one or more immediate ties within a particular social network as well as the recognition that he or she lacks the ability to attain more beneficial network configurations. The term instrumental network commitment highlights a more general instrumental motive (Klein et al., 2012; Lawler & Yoon, 1996) and dissociates the organizational retention implications of "continuance commitment" (Meyer & Allen, 1991).

Networks can be considered at different levels of aggregation and fidelity. *Psychological network commitment* represents a heuristic perception of overall network commitment and reflects one's generalized perceived bond with his or her collection of immediate social ties within a particular network domain. Heuristics are defined as, "a strategy that ignores part of the information, with the goal of making decisions more quickly, frugally, and/or accurately than more complex methods" (Gigerenzer & Gaissmaier, 2011, p. 454). By taking a heuristic approach, we are recognizing that people will simplify nuanced judgements of complex patterns of interrelationships with summary judgments regarding the overall pattern of these interrelationships. People will make heuristic assessments of their overall network commitment when pressed for a quick and efficient evaluation of their social connections from memory. It may be infeasible for one to calculate their actual network commitment by considering all relevant ties and the strength of a certain type of commitment, so they must simplify. This "ignoring" of relational information can be either intentional or automatic, thus it is not expected to be always intentional. Similar heuristic processes are involved in justice judgments (Ambrose & Schminke, 2009; Lin et al., 2017; Lind, 2001).

Relational network commitment represents the average strength of one's commitment bonds with one's immediate ties. This concept would be akin to one's average relational cohesion across all members of their personal network – a mathematical extension and conceptual aggregation of Lawler and Yoon's (1996) concept. As such, we conceptualize the aggregation of these ties according to Chan's (1998) additive composition model, whereby the collection of one's ratings of

his or her (lower-level) dyadic relations compose one's relational network commitment. We apply this model because it enables an aggregated actor-focused perspective of one's relational network commitment. More specifically, it informs us on the relative amount or 'level' of commitment one has to their aggregated collection of ties, and is not based on the perspectives of an individual's contacts as would occur with either a direct consensus or referent shift model (Chan, 1998).

2.4. Structural embeddedness and network commitment

We expect that structural embeddedness, conceptualized as in- and out-degree advice centrality, will relate to affective, normative, and instrumental types of network commitment for both psychological and relational aggregate forms. According to Wasserman and Faust (1994, p. 173), a central actor is "one involved in many ties." This centrality distinctly represents the network from the actor's perspective, making all information relevant to our predictions that an actor's direct interpretation of structural ties are translated into various types and forms of network commitment. In-degree advice centrality assesses whether other members of the network go to the focal actor for advice, and out-degree advice centrality assesses whether the focal actor goes to other members of the network for advice.

Structural embeddedness, in the form of advice centrality, is likely to bind individuals to their social ties and broader personal networks through social enrichment and identification. Specifically, central individuals are expected to experience more enriching affective benefits and identification from their collection of network ties (Lawler & Yoon, 1996; Venkataramani, Labianca, & Grosser, 2013). Enriching interactions can be derived from both in- and out-degree advice ties, as both forms are likely to elicit positive affective experiences from increased meaningful interactions (Lawler & Yoon, 1996), while in-degree advice ties will also confer a certain expert status and prestige to an individual (Venkataramani et al., 2013).

Themes of enrichment and identification underpin concepts of affective commitment (Klein et al., 2012; Meyer & Allen, 1991). Social enrichment occurs when a relational tie is imbued with intrinsic value (e.g., Lawler & Yoon, 1996; Niven, Holman, & Totterdell, 2012), while identification psychologically situates one within their broader social environment (Tajfel & Turner, 1985). Social identification more specifically represents an individual's "oneness with or belongingness to some human aggregate" (Ashforth & Mael, 1989, p. 21). Individuals have been found to experience affective benefits from dyadic network ties in a manner reminiscent of identification and affective dyadic commitment (Lawler & Yoon, 1996). Personal networks with more ties likely expose individuals to more interaction, similarity, liking, equality, and positive emotion through a larger collection of ties and can increase the individuals' social identification, social enrichment (satisfaction), and cohesion with their personal network (Ashforth & Mael, 1989; Venkataramani et al., 2013).

Individuals should benefit from greater network centrality as their more numerous ties enhance the social force (Latané, 1981) of the personal benefits that we expect to accrue through enrichment and identification. These aggregate benefits are likely to occur as individuals interact with their more numerous contacts and experience the enrichment and identification benefits from these interactions to increase relational affective network commitment, or when primed to think about their psychological affective commitment to their personal network. The meaningfulness of these interactions and the associated prestigious 'expert' status are likely to occur across a range of relational advice ties that, when aggregated across an individual's contacts, will positively relate to their relational affective network commitment. At points where an individual must recall information or make a cognitive evaluation, like when the personal network or one's commitment to the network is primed, these ties will also positively relate to psychological affective network commitment.

Hypothesis 1. Structural embeddedness, operationalized as advice centrality, will positively relate to (a) psychological affective network commitment, and (b) relational affective network commitment.

Structural embeddedness, in the form of advice centrality, is also likely to increase psychological and relational forms of one's normative network commitment through reciprocity and social exchange (Blau, 1964; Cropanzano & Mitchell, 2005). Those seeking advice from social contacts will likely obtain more valuable and relevant resources like descriptive information (Cialdini, Reno, & Kallgren, 1990), normative guidance (Barker, 1993; Cialdini et al., 1990), social acceptance (Barker, 1993), and other resources of value involving knowledge from their social contacts (Foa, 1971; Wilson, Sin, & Conlon, 2010). These resources will hold value but their receipt will also build the obligation to reciprocate the value in kind to those giving the advice (Cropanzano & Mitchell, 2005). Advice is likely to be a highly particularistic resource and is likely to be transmitted through social exchanges instead of stricter economic exchanges that involve immediate reciprocation (Wilson et al., 2010). The value of these resources is likely to be conditional (idiosyncratic and temporally-based) as people will need different things at specific times, making immediate reciprocation unlikely. This reciprocation will likely be delayed as part of a more generalized social exchange relationship (Cropanzano & Mitchell, 2005) involving shared obligation and responsibility. In this regard, individuals are expected to feel the need to reciprocate to the contacts from whom they received advice. As Vardaman, Taylor, Allen, Gondo, and Amis (2015, p. 1180) note, "felt obligation toward coworkers are more likely to develop among individuals centrally located in an advice seeking network" (see also Mossholder, Settoon, & Henagan, 2005). Furthermore, individuals imbued with social prestige might feel indebted to those providing them with this social status.

We expect that those with more social ties will feel more obligation and responsibility to that collection of contacts due to the stronger and more numerous social forces of aggregate social debts (Latané, 1981) that are derived from reciprocity and social exchange. Thus, individuals who seek more advice from their direct contacts are likely to have higher levels of relational normative network commitment from having greater reciprocal responsibilities, when aggregated across an individual's contacts. Individuals within broader networks holding stronger collective norms might also feel obliged to reciprocate to the aggregate network in exchange for benefits received from various network members (Barker, 1993). This suggests that the social forces of one's normative commitments to members of one's personal network might coalesce (Latané, 1981) to intensify individuals' commitment to other members of their personal network. Individuals could also recall their collection of ongoing reciprocal obligations in aggregate when primed to consider their commitment to their personal network either directly or indirectly, making this greater advice seeking also positively related to psychological normative network commitment.

Hypothesis 2. Structural embeddedness, operationalized as advice centrality, will positively relate to (a) psychological normative network commitment and (b) relational normative network commitment.

Structural embeddedness, in the form of advice centrality, is expected to elicit instrumental network commitment according to themes of instrumentality and need fulfillment. It is likely to have a negative relationship with psychological instrumental network commitment but a positive relationship with relational instrumental network commitment. When considering the heuristic processes involved in psychological instrumental network commitment, we expect that an individual will place a greater value on direct contacts within their personal network that they perceive as non-replaceable sources of need fulfillment. When making a momentary evaluation of psychological instrumental network commitment those with more ties likely consider their entire personal network and could realize that they have viable alternatives to

directly access certain knowledge resources, or can easily adjust their configuration of ties without sacrificing the direct instrumental value of their immediate ties.

Conversely, those with few connections in the overall network will perceive that they are more dependent on this collection of ties because they lack alternatives within their personal network. Research suggests that specific ties can hold unique value for an individual (Foa, 1971). Research on social network brokerage also suggests that social ties can be more or less substitutable according to the indirect access they provide to other contacts (Burt, 1992). However, the informational value of individual contacts is likely to extend well beyond one's brokerage to other network members, as the value of a relational tie could be due to the contact's personal information resources (Foa, 1971). This value could be derived from their knowledge, expertise, unique personal perspectives (e.g., professional discipline, cultural background, membership in a particular demographic group), in addition to other personal ties. These characteristics could make the contact's advice uniquely valuable, regardless of its original source. Thus, we expect that contacts could be perceived as more or less substitutable during the cognitive evaluation involved with psychological network commitment. When advice ties are perceived as scarce, those that do exist are perceived as critical, valuable, and less substitutable. Thus, we expect that the unique value of any one contact will be perceived as being less for individuals who have more contacts than for those who have fewer contacts (Latané, 1981). This will make those with fewer ties more instrumentally bound to their specific contacts and overall pattern of direct ties. This logic assumes that ties are relatively equal in exchange value. When they are not, it is likely that resource access or tie value will be a more specific negative correlate of psychological instrumental network commitment.

Hypothesis 3a. Structural embeddedness, operationalized as advice centrality, will have a negative relationship with psychological instrumental network commitment.

Advice centrality is likely to have a different relationship with relational instrumental network commitment, albeit this relationship will still be characterized by instrumentality and need fulfillment. In any given relational tie, an individual will value the advice provided and will be less likely to make tradeoffs inherent in heuristic psychological evaluations. When evaluating a dyadic tie, the individual is more likely to assess the instrumental value of the tie according to whether or not they receive beneficial advice. Thus, when considering specific ties, people are much more likely to assign a positive instrumental value to any partner they would choose to receive advice from. When aggregated quantitatively across all dyadic ties, this perceived value will retain the dyadic perspective of the individual.

Hypothesis 3b. Structural embeddedness, operationalized as advice centrality, will have a positive relationship with relational instrumental network commitment.

2.5. Structural embeddedness, network commitment, and susceptibility to social influence

Structural embeddedness, in the form of advice centrality, is expected to indirectly make individuals more susceptible to social influence through its effects on network commitment. Prevailing network attitudes will be more salient, relevant, and influential for those more psychologically and relationally attached to the network. Psychological and relational forms of all three types of network commitment are expected to relate positively to one's susceptibility to social influence but do so for different reasons. Furthermore, the susceptibility to social influence derived from psychological network commitment is likely to be more pronounced in situations where an individual's network, and their commitment to that network, is primed. In these cases, the psychological network commitment is expected to be involved with both

an individual's intentional and unintentional cognitive decisions and evaluations. Relational network commitment will be more likely to influence individuals' susceptibility on an interactional basis representing their aggregate susceptibility to influence across their direct ties.

Those with higher affective network commitment are likely to identify with the network as a whole, and seek to align their personal identity with their network-based social identity (Ashforth & Mael, 1989), making them more likely to align with viewpoints and comply with influence attempts involving their personal network and the specific contacts within it. They are also likely to have an intrinsic desire to stay connected with and contribute to their personal advice contacts. Support, agreement, and more generalized compliance with influence attempts represent opportunities to contribute, making committed responses to influence attempts an intrinsically driven behavioral response to influence. Given the intrinsic nature of these motivations, susceptibility to various forms of social influence should be relatively automatic in cases imposing low personal cost (Gagné & Deci, 2005). Thus, individuals making evaluations and decisions at a given point in time are likely to be susceptible to social influence according to their psychological affective network commitment and generalized identification with their personal network. Relational affective network commitment is expected to make individuals more susceptible to the direct influence attempts of the contacts within their personal advice networks according to both the individuals' commitment to that particular tie, as well as the aggregate effects of more numerous social forces (Latané, 1981).

Hypothesis 4. Psychological affective network commitment (a) and relational affective network commitment (b) will positively relate to one's susceptibility to social influence.

Those with higher levels of normative network commitment are likely to be susceptible to influence from their personal network due to outstanding non-reciprocated favors (Bowler & Brass, 2006), such as advice- and knowledge-based support. This susceptibility to social influence could also be driven by the sense that one is part of a larger social group with shared expectations of member contribution to collective goals, initiatives, and logics (Barker, 1993). In this regard, normative network commitment represents a moderately internalized psychological acceptance of the views of one's personal network and the constituent members of that network. Individuals will likely engage in the cognitive evaluation of the personal costs and benefits of behavioral compliance. However, this evaluation will be biased towards compliance by the established social exchange relationships involved (Cropanzano & Mitchell, 2005) and the individual's sense of obligation and responsibility (Klein et al., 2012). In the absence of personal cost, these individuals will likely succumb to the influence attempts of their personal network and the constituent members as an act of reciprocal contribution. Thus, individuals making evaluations and decisions at a given point in time are likely to be more susceptible to social influence according to their psychological normative network commitment and sense of non-reciprocated obligation to the members of their network. Relational normative network commitment is expected to make individuals more susceptible to the direct influence attempts of the contacts within their personal advice network, as well as the aggregate effects of more numerous social forces (Latané, 1981).

Hypothesis 5. Psychological normative network commitment (a) and relational normative network commitment (b) will positively relate to one's susceptibility to social influence.

Instrumental network commitment is also likely to make a person more susceptible to social influence because of interpersonal and collective pressures to contribute (Barker, 1993; Yukl, 2013). Individuals high on this form of network commitment know that they must maintain a minimal contribution to avoid being identified and castigated as a social loafer. In these cases, the individual could be denied access to

important resources, by either an individual within the network or the collective network. It is likely that compliance with various influence attempts are relatively easy and less effortful ways of displaying either dyadic or collective contribution. However, given the purely extrinsic nature of these motivators, i.e., the avoidance of relational decay, social ostracism, and the costs associated with a degrading personal network, there is likely to be little intrinsic motivation to psychologically comply with the social influence (Gagné & Deci, 2005). Individuals high in instrumental network commitment are expected to be primed to visibly comply with social influence for issues that can be observed by others and/or involve minimal personal cost. While these individuals might passively avoid private and personally costly influence attempts, these instances are expected to be less prevalent than more visible and/or benign influence attempts. Thus, individuals making evaluations and decisions at a given point in time are likely to be more susceptible to social influence according to their psychological instrumental network commitment and reliance on their personal network. Relational instrumental network commitment is expected to make individuals more susceptible to the direct influence attempts of the contacts within their personal advice network according to both the individuals' commitment to that particular contact, as well as the aggregate effects of more numerous social forces (Latané, 1981).

Hypothesis 6. Psychological instrumental network commitment (a) and relational instrumental network commitment (b) will positively relate to one's susceptibility to social influence.

We will test the hypotheses across two separate studies. In Study 1, we use time-separated surveys and an experimental manipulation to evaluate how out-degree advice centrality relates to psychological network commitment to make one more susceptible to conformity in the form of attitude change. This study will test Hypotheses 1a–6a. Study 2 considers an individual's structural embeddedness, their relational network commitment to the exchange partners within their personal network, and their average rated influence of these network members. This study will test Hypotheses 1b–6b.

3. Study 1

We expect individuals to conform to the collective attitude of the network more when presented with cues that reveal the collective opinion of the network according to their levels of psychological network commitment. The social psychology principal of 'social proof' is based on the expectation that people will draw on the thoughts and behaviors of others to determine appropriate ways of thinking and behaving (Cialdini, 1993; Cialdini, Wosinska, Barrett, Butner, & Gornik-Durose, 1999). Organizations and leaders can also engage in coalition building, where, "the agent seeks the aid of others to persuade the target to do something, or uses the support of others as a reason for the target to agree" (Yukl, 2013, p. 202). In line with prior research on social proof (Cialdini et al., 1999; Cialdini, 1993), we propose that coalition influence can be activated indirectly through priming to provide information on the groups' attitudes to influence an individual member. This coalition priming represents a specific form of coalition tactic that involves others as the principal source of influence, but these others are not actively or directly involved in the actual influence attempt. By creating an impression of strong, numerous, and immediate social forces (Latané, 1981), these tactics are expected to affect conformity.

3.1. Methods

3.1.1. Sample and procedures

We solicited 353 full-time MBA students from a large public business school to participate in a study framed as seeking to understand 'professional networking' and the role of social media. In particular, we assessed people's attitudes toward Facebook – a popular social media

technology – and examined how the social network affects changes in one's attitude towards Facebook. MBA students were ideal for the study as they have interdependent work, access to all network members, professional orientations, autonomous social structures, clearly bounded organizational networks, and have informed previous social network research (Mehra, Kilduff, & Brass, 1998; Smith, Menon, & Thompson, 2012). The network was defined as all current, full-time MBA students. We examined members of distinct first and second year student networks within the same program. First year students had been in the program for about six months and second year students had been in the program for about eighteen months. All students completed the surveys at the same time and completed network measures only for their cohort (e.g., first year students) to minimize fatigue. We combine both networks in our analyses and controlled for year in the program.

Two surveys were administered about 1 month apart. Early in the second semester, 166 participants completed an online social network survey and personality measures for controls (Survey 1: 47% response rate). Participants were provided with a full roster of network members and indicated whether or not they would go to that person for advice. This data was used to calculate members' structural network embeddedness (out-degree advice centrality). Additionally, participants were asked about their general attitudes toward social media to establish a 'normative' primer before the data collection and manipulation occurred in Survey 2.

Survey 2 was administered approximately one month after Survey 1 and served several purposes. First, it provided temporal separation between structural embeddedness (captured in Survey 1) and conformity. Second, it captured individuals' pre-manipulation attitude toward Facebook before any experimental priming of normative social information from the network was introduced. Third, it enabled us to measure psychological network commitment at a different point in time from structural embeddedness. Fourth, it provided the opportunity to experimentally present primed coalition attitudes as an experimental manipulation. After presenting several distractor scales unrelated to the study, we used random assignment to present normative social information from the social network to members. Here we manipulated whether an individual received positive or negative views regarding Facebook (normative social information). Finally, the survey re-assessed individuals' attitudes (i.e., post-manipulation attitude towards Facebook) to provide the second measure used to calculate attitude change.

A total of 161 participants completed Survey 2 (28% female; 3.98 years of full-time work experience). They held a variety of positions before pursuing their graduate education (e.g., senior/business analyst, project/supervisory manager, engineer, teacher, insurance adjustor, accountant, consultant, entrepreneur/owner, research associate, and military officer). Our total matched sample (using a listwise deletion) that was used to test our hypotheses was n = 139.

3.1.2. Measures

Structural embeddedness. We assessed structural embeddedness as out-degree advice centrality, the proportion of network members one reports going to for advice (Wasserman & Faust, 1994). Out-degree centrality captures the size, or number of links in a personal network (Umphress et al., 2003), a highly egocentric operationalization of structural embeddedness. Network size represents the ties acknowledged and evaluated by an individual (Casciaro et al., 2014), making it a basis for psychological (heuristic) evaluations of one's personal network. Participants were presented with a complete roster of their cohort (Survey 1; Marsden, 1990; Venkataramani et al., 2013), and were asked to select the people they go to for advice.

Network commitment. Psychological network commitment was assessed in Survey 2 (prior to our manipulation). The measure was based on Meyer et al.'s (1993) organizational commitment scale and applied to personal networks. Participants were provided with the following instructions: "*For the following questions, please refer to the*

network of contacts you have within the (Master's Programs). Your network is the group of people you interact with in the Master's program. Please indicate your agreement with the following statements." Items were selected based on their relevance to one's personal network (affective: 3 items, α = .79; normative: 3 items, α = .76; instrumental: 3 items, α = .72) and appear in Appendix A.

Susceptibility to influence: conformity. Attitude change represented as conformity to the normative view of the social network at large serves as our outcome measure of susceptibility to social influence. The conformity measure had two separate components: an attitude change component assessing changes between T1 (pre-manipulation) and T2 (post-manipulation) attitudes towards Facebook, and a coalition priming manipulation that reflected either positive or negative attitudes toward social media from the network at large. Attitudes towards social media at work provide a strong referent to use in the tests of our predictions,[1] and we expect that coalition priming of these attitudes will affect individuals' conformity. The manipulation provided the normative influence expected to trigger attitude change. Thus, in the forthcoming hypothesis tests, conformity is an outcome of the interaction between the primed coalition influence manipulation (i.e., positive vs. negative attitude of the network overall) and network commitment when predicting changes in attitudes towards Facebook. Conformity would be represented by a positive change in attitudes within the positive condition and a negative change in attitudes within the negative condition.

The focal attitude in the present study was individuals' attitudes regarding the use of Facebook within business settings, representing an object referenced evaluation (Brief, 1998) of a current performance management dilemma. Bohner and Dickel (2011) consider an attitude to be, "an evaluation of an object of thought. Attitude objects comprise anything a person may hold in mind, ranging from the mundane to the abstract, including things, people, groups, and ideas." Thus, we developed a four-item measure assessing individuals' attitudes toward Facebook within their organizations (administered at T1 – Survey 1 and at T2 – Survey 2). Items represented an adjective checklist assessing the degree to which individuals felt that the use of Facebook within their organization (i.e., business school graduate program) is bad/good, harmful/beneficial, foolish/wise, and negative/positive. Checklists were rated on a 5-point scale and had good reliability (T1 α = .92; T2 α = .98). Change in attitudes was operationalized using the standardized residual score created from regressing T2 attitudes towards Facebook onto T1 attitudes towards Facebook, a method used in previous research on organizational cognitions (Lu, Wang, Lu, Du, & Bakker, 2014; Tims, Bakker, & Derks, 2013).[2]

Manipulation: primed coalition influence. The *coalition priming manipulation* was presented randomly to participants using a branching capability in the survey software. It was conducted in two stages. Participants were first asked to present their thoughts on the use of Facebook in business settings in an open-ended question in Survey 1, serving as the basis for subsequent norms. After answering other items in Survey 2, five comments were presented to the participants to reflect actual positions held by the members of the professional network. Comments (see Appendix A) were depicted as being "representative" thoughts from their peer network in aggregate on the use of Facebook,

and were either decidedly in favor of (i.e., positive information) or against (i.e., negative information) the use of Facebook in business settings. This presentation of a primed coalition influence attempt represents injunctive social norms describing what most others "approve or disapprove", as well as descriptive social norms describing "what most others do" (Cialdini et al., 1990, p. 1015).

As a check on our manipulation, changes in attitudes towards Facebook were regressed on the primed coalition influence condition, controlling for year in the master's program to account for separately bounded networks. Results show that the manipulation had a positive relationship with changes in individuals' attitudes towards Facebook (β = .17, $p < .05$).

Control variables. We controlled for year in the program to account for the two independent networks assessed in the study. We also assessed personality characteristics of agreeableness (2 items: α = .69), openness to experience (3 items capturing intellect/imagination: α = .63), and extraversion (4 items: α = .76) from Donnellan, Oswald, Baird, and Lucas (2006).[3] Personality was a particularly important source of alternative explanations due to our focus on psychological network commitment, and associated heuristic psychological processes that we expect could be partially derived from trait tendencies. These personality variables helped us control for alternative explanations for susceptibility to social influence and network commitment derived from one's personal characteristics and heuristic processing. Specifically, agreeable people are expected to be more accommodating of others, possibly making them more malleable in general to social influence attempts. Individuals who are open to experience are likely to be more open to new ideas and perspectives, increasing their generalized malleability to logic and persuasion. Extroverted people tend to value social interactions and could be more susceptible to generalized influence attempts that leverage their ties.

3.2. Results

Confirmatory factor analyses were conducted using all unique self-report measures to ensure measures captured distinct constructs (see Table 1). Results suggest that the seven-factor model that included affective network commitment, normative network commitment, instrumental network commitment, Time 1 attitudes towards Facebook, agreeableness, openness, and extraversion (χ^2 = 234.37, DF = 189, CFI = .96, RMSEA = .04) had a better fit with the data than a single factor model (χ^2 = 1125.46, DF = 209, CFI = .24, RMSEA = .16) and any of the alternative models (best fitting alternative model: χ^2 = 306.14, DF = 195, CFI = .91, RMSEA = .06).[4] Alternative models included a six-factor model where affective and normative commitment were combined into the same factor and a five-factor model, where all network commitment items were combined onto one single factor. In addition to providing superior fit, all item loadings for the best fitting seven-factor model were significant in support of three separate network commitment constructs.

Table 2 presents descriptive statistics and intercorrelations. Table 3

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[1] We focus on attitude toward the use of social media technology (Facebook) at work for two reasons. First, the issue is current and controversial. Social media is a fast-growing technology that has permeated the workspace. Second, it has practical importance within organizations that might consider social media policies and applications.

[2] This approach allowed the identification of participants with more extreme and noticeable changes in attitudes towards Facebook (Chronbach & Furby, 1970), using a more reliable measure of change than a simple difference score (Williams, Zimmerman, & Mazzagatti, 1987), and decreased the threat of common method bias by incorporating a time lag into the calculation (Lu et al., 2014; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

[3] The agreeableness scale was reduced from 4 items to 2 to achieve better reliability (items used included: sympathize with others' feelings; feel others' emotions). Similarly, the one non-reverse-coded item from the openness scale was also removed (items used included: am not interested in abstract ideas; have difficulty understanding abstract ideas; and do not have a good imagination). When these removed items are included in the measurement model, the fit of the model is significantly worse for agreeableness ($\Delta\chi^2$ = +122.04; Δdf = +43, $p < .01$) and openness ($\Delta\chi^2$ = 72.37; Δdf = +21, $p < .01$). All items from the extraversion measure were retained.

[4] We also assessed network-commitment-specific first- and second-order measurement models. While the models showed adequate fit for both a first- and a second-order model, the first-order model had a significantly superior fit with the data ($\Delta\chi^2$ = +6.24; Δdf = +2, $p < .05$). Thus, we consider psychological network commitment according to a three factor first-order model.

Table 1

Study 1 results of confirmatory factor analyses of the full measurement model.

Variable	X^2	DF	X^2/DF	CFI	RMSEA
One-Factor Model	1125.46	209	5.39	.24	.16
Five-Factor Model	414.92	199	2.09	.82	.08
Six-Factor Model (Normative and Instrumental Combined)	348.41	195	1.79	.87	.07
Six-Factor Model (Affective and Instrumental Combined)	344.15	195	1.77	.88	.07
Six-Factor Model (Affective and Normative Combined)	306.14	195	1.57	.91	.06
Seven-Factor Model	234.37	189	1.24	.96	.04

N = 166. Missing values were automatically imputed using the AMOS version 23 software (Arbuckle, 2014). The seven-factor full measurement model that includes the three-dimensions of psychological network commitment had a significantly better fit with the data than all alternative models tested using a X^2 difference test (p < .005). A three-factor 1st order network commitment measurement model had a significantly better fit with the data than both a three-factor (p < .05) and all alternative two-factor 2nd order (p < .005) and the one-factor (p < .005) network commitment measurement models (Howell, 2010).

Table 2

Study 1 descriptive statistics and bivariate correlations.

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11
1. Year	1.28	.45											
2. Agreeableness	3.88	.75	.05	(.69)									
3. Openness	3.79	.69	.12	−.03	(.63)								
4. Extraversion	3.30	.80	−.05	.25**	.09	(.76)							
5. Out-Degree Advice Centrality	8.13	9.16	.07	.07	.04	.20*							
6. Coalition Priming Influence	.49	.50	.10	−.07	.04	.08	.01						
7. Affective Network Commitment	3.39	.84	−.03	.25**	.17*	.33**	.20*	−.03	(.79)				
8. Normative Network Commitment	3.65	.66	−.12	.08	−.14ᵗ	.09	.18*	.08	.31**	(.76)			
9. Instrumental Network Commitment	3.00	.81	−.06	−.01	−.14*	−.08	−.20*	.00	−.09	.09	(.72)		
10. T1 Attitude Towards Facebook	3.67	.89	−.11	.20*	−.10	.05	.05	−.08	.18*	.00	.04	(.92)	
11. T2 Attitude Towards Facebook	3.44	.98	−.17*	.04	.01	.03	.04	.06	.16*	.06	.08	.68**	(.98)

N = 166 (pairwise deletion), scale reliabilities presented in parentheses.

ᵗ $p < .1$ (2-tailed test).

* $p < .05$ (2-tailed test).

** $p < .01$ (2-tailed test).

presents the test results for Hypotheses 1a–6a using ordinary least squares regression. Due to the directional nature of the hypotheses and to reduce the possibility of type II error, we used one-tail tests of significance in all tests of hypotheses. In this regard, the sign of the relationship had to align with the valence of the coalition attitude priming manipulation to represent conformity. Thus, a positive coefficient would represent conformity and a negative coefficient would represent opposition or resistance. Similarly, positive and negative coefficients for the relationship between advice centrality and network commitment would represent substantively different explanations and a significant coefficient with a sign opposite of that predicted would represent a distinct lack of support for a given hypotheses.

Hypotheses 1a–3a predicted that advice centrality would have positive relationships with psychological affective network commitment and psychological normative network commitment, as well as a negative relationship with psychological instrumental network commitment. After controlling for year in program and personality, results indicate that advice centrality had a significant positive relationship with both psychological affective network commitment (b = .02, S.E. = .01, $p \leq .05$, one-tail test) and psychological normative network commitment (b = .01, S.E. = .01, $p \leq .05$, one-tail test). It also had a significant negative relationship with psychological instrumental network commitment (b = −.01, S.E = .01, $p \leq .05$, one-tail test). Hypotheses 1a, 2a, and 3a were each supported.

Hypotheses 4a–6a predicted that each form of psychological network commitment would positively relate to susceptibility to social influence. Within the context of Study 1, these hypotheses more specifically predict that coalition attitude priming would have a stronger

effect on conformity when network commitment is higher.[5] The interaction of psychological affective network commitment and primed coalition influence significantly related to conformity (b = .56, S.E. = .23, $p \leq .01$, one-tail test). Hypothesis 4a was supported. The interaction of psychological normative network commitment and primed coalition influence did not significantly predict changes in attitudes towards Facebook (b = −.21, S.E. = .32, ns). Hypothesis 5a was not supported. The interaction of psychological instrumental network commitment and primed coalition influence had a significant positive relationship with changes in attitudes towards Facebook (b = .37, S.E. = .21, $p \leq .05$, one-tail test). Hypothesis 4c was partially supported, having support under positive information conditions, but not under negative information conditions. Fig. 2 shows the plots of the relevant interactions and simple slopes.

As a supplemental analysis, we also tested the conditional indirect effects of advice centrality on attitude change by assessing a model with parallel commitment mediators (i.e., affective, normative, and instrumental) using bootstrapped confidence intervals and 20,000 bootstrap samples (Hayes, 2013). We used a 90% bootstrapped confidence interval to reduce the possibility of Type II error and account for the strict

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[5] One possible vulnerability of residualized change scores is regression to the mean. Thus, as a sensitivity check, we controlled for Time 1 attitudes towards Facebook (Model 5) to control for the possibility that changes in attitudes towards Facebook were due to regression to the mean. The pattern of results for both models 4 and 5 were nearly identical. We evaluated the more conservative Model 5 for hypothesis tests.

Table 3
Study 1 model testing using ordinary least squares regression.

Variable	Affective Network Commitment 2	Normative Network Commitment 3	Instrumental Network Commitment 4	Conformity (Δ Attitude Towards Facebook) 5	
	1				
Year	−.14(.13)	−.26(.11)**	−.07(.14)	−.25(.18)	−.25(.18)
Agreeableness	.21(.09)*	.00(.07)	.13(.10)	−.21(.13)	−.21(.13)
Openness	.17(.09)*	−.06(.08)	−.15(.10)	.26(.13)*	.25(.13)*
Extraversion	.19(.09)*	.11(.07)	−.08(.09)	−.03(.12)	−.03(.12)
Out-Degree Advice Centrality	.02(.01)*	.01(.01)*	−.01(.01)*	.01(.01)	.01(.01)
Affective Network Commitment				−.28(.16)*	−.27(.16)*
Normative Network Commitment				.16(.18)	.16(.19)
Instrumental Network Commitment				−.05(.15)	−.05(.15)
Social Information Condition				.40(.17)*	.39(.17)*
Time 1 Attitudes Towards Facebook					−.01(.11)
Interaction Terms					
Affective Network Commitment × Social Information				.56(.23)**	.56(.23)**
Normative Network Commitment × Social Information				−.21(.32)	−.21(.32)
Instrumental Network Commitment × Social Information				.37(.21)*	.37(.21)*
R²	.18	.11	.07	.15	.15
F	5.73	3.15	1.90	1.89	1.73
p-value	.000	.010	.099	.042	.062

N = 139 (listwise deletion), unstandardized coefficients with standard errors included in parentheses.

 * $p \leq .05$ one-tailed test.
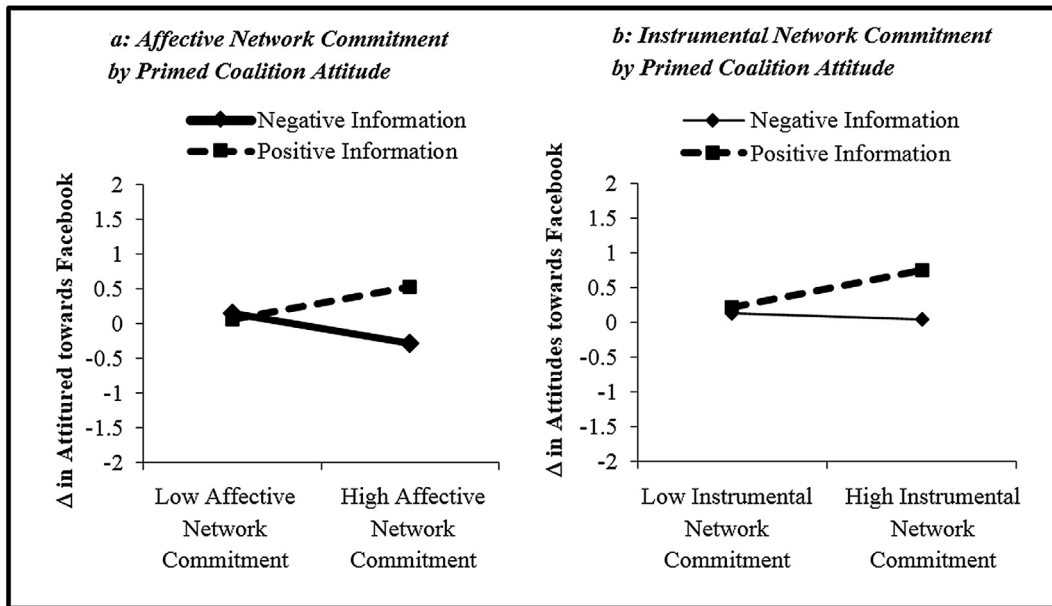
 ** $p \leq .01$ one-tailed test.

Fig. 2. Study 1 affective and instrumental network commitment by valence of primed coalition attitude on changes in attitudes towards Facebook interaction plots. Note: The interaction plot above was created from the results of our ordinary least squares regression analyses. Post-hoc simple slopes analyses suggested that affective network commitment had a positive relationship with changes in attitudes towards Facebook for individuals presented with positive information (b = .29, S.E. = .17, p < .05, one-tail test) and a negative relationship with changes in attitudes towards Facebook for individuals presented with negative information (b = −.27, S.E. = .16, p < .05, one-tail test). Post-hoc simple slopes analyses suggest that instrumental network commitment had a positive relationship with changes in attitudes towards Facebook for individuals presented with positive information (b = .32, S.E. = .16, p < .05, one-tail test), but not for those presented with negative information (b = −.05, S.E. = .15, ns). Bold lines in the figure above represent simple slope relationships that were significant at p < .05 according to a one-tail test.

directional requirement of the changes in attitudes towards Facebook. We controlled for Time 1 attitudes towards Facebook in these analyses. Results suggest that there were no conditional direct effects for either positive information (Effect = .0162, Boot SE = .0144, 90% Boot CI = −.0076–.0400) or negative information (Effect = −.0055, Boot SE = .0145, 90% Boot CI = −.0295–.0184). However, there was a significant indirect relationship for both positive information

(Effect = .0049, Boot SE = .0036, 90% Boot CI = .0013–.0150) and negative information (Effect = −.0042, Boot SE = .0035, 90% Boot CI = −.0118 to −.0003) when considering psychological affective network commitment as a mediator. There was also a significant indirect effect between advice centrality and conformity operating through instrumental network commitment for positive information (Effect = −.0047, Boot SE = .0035, 90% Boot CI = −.0129 to

−.0007), but not for negative information. Normative network commitment did not serve as a mechanism of indirect relationships under either positive or negative information conditions.

3.3. Study 1 summary

Study 1 confirmed that structural embeddedness (operationalized as out-degree advice centrality) relates to all three types of psychological network commitment (affective, normative, and instrumental). Using experimentally manipulated normative social information, results suggest that both psychological affective and instrumental network commitment affect actual attitude change – confirming our general proposition that network commitment makes one more susceptible to social influence. Results also confirm an indirect effect of structural embeddedness (through psychological affective and instrumental network commitment) on attitude change.

However, several limitations in Study 1 warrant additional inquiry. First, we only examined one particular form of structural embeddedness, out-degree advice centrality. Prior network research has considered both inbound and outbound centrality measures (e.g., Lyons & Scott, 2012). While the advice network data captured in our Study 1 data could yield both in- and out-degree centrality measures, our low Study 1 network response rate suggests that there is questionable reliability for a network-derived centrality measure of in-degree advice centrality. We address these limitations in Study 2 by considering both in- and out-degree advice centrality. We then focus our more detailed evaluations of the relationships for in- and out-degree centrality in the Discussion section to provide more precise explanations of directionality in advice giving/receiving. Second, Study 1 used a psychological heuristic approach to measuring network commitment, raising the question, will our model (see Fig. 1) hold when using a relational approach – which aggregates dyadic commitments across the network? Third, in Study 2 we will consider a more generalized measure of susceptibility to social influence that captures an individual's average rating of how influential a dyadic partner is, aggregated across all ties. This represents a direct measure of susceptibility to social influence from the members of one's network by accounting for the total (average) 'social forces' one experiences across their personal network. Fourth, in Study 1 we controlled for aspects of an individual's personality that could account for network commitment and conformity, but did not control for alternative explanations that could be accounted for by relational variables. In Study 2, we focused our controls on these relational measures by accounting for friendship and aggregated dyadic similarity. Finally, it is possible that there was a misalignment between the Study 1 instructions for the commitment and network measures. Specifically, "the network of contacts you have within the Master's Programs" may not have been perceived by participants as being their contacts within specific advice networks. In Study 2, participants indicated directly who they go to for advice and how committed they are to these same alters, reducing the chances that they might have referenced two different sets of alters within their personal network.

4. Study 2

4.1. Methods

4.1.1. Sample & procedure

We solicited 201 full-time first year MBA students and asked them to complete a social network inventory using a full roster of the members of their cohort. From this inventory, we assessed structural embeddedness (in- and out-degree advice and friendship ties), relational network commitment (at the dyad-level), and perceived social influence (at the dyad-level). Overall, 181 participants completed the network inventory, giving us a response rate of 90%. Our sample was 63% male and had an average of 4.15 years of work experience in a wide range of jobs such as: project/supervisory manager, engineer,

business analyst, professional consultant, sales representative, insurance adjuster, accountant, and teacher.

4.1.2. Measures

Structural embeddedness. Individuals were asked to identify if they go to each roster member of the network for advice and whether they consider that person a friend, to measure out-degree advice centrality. In-degree advice centrality was also measured based on other network members expressing whether or not they go to the focal person for advice. Calculations were performed with Ucinet 6 (Borgatti, Everett, & Freeman, 2002).

Relational network commitment. For each roster member of the network, we asked each network participant to assess their commitment to individuals that they identify as members of their personal network using a 4-point rating scale (1 = "not at all" and 4 = "a lot") for each of the three types of commitment: "I maintain a relationship with this person because I want to do so" (affective bonds), "I maintain a relationship with this person because I feel obligated to do so" (normative bonds), and "I maintain a relationship with this person because it is important for my success" (instrumental bonds). We calculated the average (mean) of all specific dyadic bonds (e.g., affective) that one reported having with other members of the network to create our measures, according to an additive composition model (Chan, 1998). Averages were calculated using the subset of roster members identified by the participant. For example, if a participant rated 10 roster members, we would average the ratings across these 10 members.

Susceptibility to social influence. For the outcome measure, we asked network participants to rate each member in their network using a 4-point rating scale (1 = "not at all" and 4 = "a lot") for the statement "I am easily influenced by this person" (perceived social influence). We calculated the average (mean) of all of an individual's ratings of how easily influenced they are by each of the other members of the network to create our outcome measure, according to an additive composition model (Chan, 1998). Averages were calculated using the subset of roster members identified by the participant. For example, if a participant rated 10 roster members, we would average the ratings across these 10 members.

Controls. We controlled for both in- and out-degree friendship centrality. These variables were collected in a manner similar to that of advice centrality. Controlling for in- and out-degree friendship centrality allows us to assess the incremental value of the instrumental advice content of one's personal network above-and-beyond the expressive content of this network. While instrumental and expressive ties can be correlated (Zagenczyk et al., 2010), the professional development focus of the program could create a context where friendship and advice networks serve very different (Brass et al., 2004; Ho & Levesque, 2005) and even non-redundant functions (Vardaman et al., 2012). Thus, we controlled for friendship centrality to account for the possibility that the relationship between structural embeddedness and relational network commitment is driven purely by the affect imbued by friendship ties (Brass et al., 2004).

We also controlled for similarity on a range of demographic characteristics in Study 2, given the interpersonal context of relational network commitment. Demographic characteristics could also form the basis of an individual's membership within dominant demographic subgroups that could determine their social interaction patterns (Lau & Murnighan, 1998), or that could confer seemingly valuable professional status. Empirical research suggests that demographic and occupational similarity can relate to interpersonal similarity in work-perceptions (Zagenczyk et al., 2010). Thus, we controlled for an individual's average level of similarity across their personal network of contacts for a collection of demographic characteristics. We assessed similarity in gender, age, and race as these characteristics are likely to impact the degree to which an individual is similar to other members of their personal network. We also controlled for an individual's average similarity with their personal network regarding the number of years of

Table 4
Study 2 descriptive statistics and bivariate correlations.

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender Similarity	.42	.18												
2. Race Similarity	.31	.20	.41											
3. Years of Experience Differences	7.18	.14	−.13	.08										
4. Current Employment Similarity	.46	.27	.47	.38	.18									
5. Age Differences	3.59	.17	−.14	.04	.89	.14								
6. In-Degree Friendship Centrality	48.30	17.32	−.00	.05	.02	.09	.07							
7. Out-Degree Friendship Centrality	48.30	35.98	.11	.30	.11	.18	.08	.49						
8. In-Degree Advice Centrality	18.47	9.52	.03	−.08	−.13	.01	−.06	.81	.35					
9. Out-Degree Advice Centrality	18.47	22.17	.01	.15	.13	.10	.15	.30	.34	.21				
10. Affective Network Commitment	3.04	.74	.25	.18	−.02	.26	−.04	−.09	.18	.16	.15			
11. Normative Network Commitment	1.53	.68	.22	.24	−.05	.05	−.05	−.04	.03	−.06	.16	.18		
12. Instrumental Network Commitment	1.99	.80	.19	.10	.08	.14	.06	.03	.12	.02	.19	.41	.54	
13. Perceived Influence	1.84	.67	.26	.19	−.09	.09	−.12	.05	.04	.10	.26	.47	.52	.62

N = 181; Correlations of .15 and higher are significant at $p < .05$ (2-tailed test).

Table 5
Study 2 Model Testing Using Ordinary Least Squares Regression.

	Relational Network Commitment				Perceived Influence	
	Affective	Normative	Instrumental			
Variable	1	2	3		4	5
Control Variables						
Gender Similarity	.11(.09)	.19(.09)*	.20(.09)*		.22(.09)*	−.08(.07)
Race Similarity	.06(.08)	.19(.09)*	−.04(.09)		.13(.08)	.09(.06)
Years of Experience Differences	.03(.16)	−.08(.17)	.13(.17)		.09(.16)	.05(.12)
Current Employment Similarity	.19(.09)*	−.10(.09)	.03(.09)		−.05(.08)	−.08(.06)
Age Differences	−.07(.16)	.04(.16)	−.06 (17)		−.18(.16)	−.15(.12)
In-Degree Friendship Centrality	−.25(.13)*	−.02(.14)	−.05(.14)		−.12(.13)	−.03(.10)
Out-Degree Friendship Centrality	.09(.09)	−.06(.09)	.06(.09)		−.11(.09)	−.15(.06)*
Network Predictors						
In-Degree Advice Centrality	.31(.13)**	−.05(.13)	.01(.13)		.18(.12)	.12(.09)
Out-Degree Advice Centrality	.11(.08)	.18(.08)*	.18(.08)*		.30(.08)**	.16(.06)**
Relational Network Commitment						
Affective Network Commitment						.24(.06)**
Normative Network Commitment						.22(.07)**
Instrumental Network Commitment						.38(.07)**
R^2	.15	.11	.08		.18	.55
DFs	171	171	171		171	168
F	3.34	2.44	1.75		4.03	17.20
p-value	.001	.012	.081		.000	.000

N = 181, unstandardized coefficients with standard errors included in the parentheses.
* $p \leq .05$ one-tailed test.
** $p \leq .01$ one-tailed test.

experience one has and whether or not an individual was currently employed while participating in the program. In addition to age, these aspects are likely to carry greater professional status within an MBA context. We calculated these measures by creating normalized average similarity scores for each individual within the network, calculated using Ucinet 6 (Borgatti et al., 2002). In these analyses, we used the normalized number of 'exact matches' for categorical demographic variables (i.e., gender, race, and current employment status), and normalized 'difference scores' for the continuous age and years of experience variable, as our control variables.

4.2. Results and discussion

In Study 2 we examine how individuals' advice centrality, operationalized as in- and out-degree advice centrality, relate to their relational network commitment and susceptibility to social influence. Table 4 presents descriptive statistics and bivariate correlations. Table 5 presents the results of OLS regression analyses. Results suggest that individuals' in-degree advice centrality was positively related to

relational affective network commitment (b = .31, S.E. = .13, $p \leq .01$, one-tail test), out-degree advice centrality was positively related to relational normative network commitment (b = .18, S.E. = .08, $p \leq .05$, one-tail test), and out-degree advice centrality was positively related to relational instrumental network commitment (b = .18, S.E. = .08, $p \leq .05$, one-tail test). These results provide support for Hypothesis 1b for in-degree advice centrality, Hypothesis 2b for out-degree advice centrality, and Hypothesis 3b for out-degree advice centrality. All three types of relational network commitment positively related to perceived influence (affective: b = .24, S.E. = .06, p ≤ .01, one-tail test; normative: b = .22, S.E. = .07, p ≤ .01, one-tail test; instrumental: b = .38, S.E. = .07, p ≤ .01, one-tail test). Hypotheses 4b, 5b, and 6b were supported.

We conducted post-hoc analyses using nonparametric bootstrap confidence intervals (20,000 simulations) to examine the indirect effects of advice centrality on perceived influence through network commitment. We considered 90% confidence intervals (aligning with a one-tail significance test) to reduce type II error, given our directional hypotheses. In-degree advice centrality operated through relational

affective network commitment to have a positive indirect relationship with perceived influence (Estimate = .0091, 90% Boot CI = .0030–.0200). Out-degree advice centrality also related to perceived influence through relational normative network commitment (Estimate = .0025, 90% Boot CI = .0002–.0047), and instrumental network commitment (Estimate = .0032, 90% Boot CI = .0004–.0100). These results suggest that relational affective, normative, and instrumental network commitment partially mediate the relationship between advice centrality and perceived influence.

5. General discussion

We examined how individuals are influenced by their centrality within advice networks and their commitment to their personal advice networks. Our results across two separate studies using multiple measures and methods provide support for the premise that elements of structural embeddedness, operationalized as degree advice centrality, relate to various types and forms of network commitment and, in turn, an individuals' susceptibility to social influence. There also appear to be differences in what forms of structural embeddedness relate to specific measures of network commitment, and in the relationships between various types and forms of both network commitment and susceptibility to social influence. For example, results of Study 1 suggest that both psychological affective and instrumental network commitment relate to conformity, while normative network commitment does not. Perhaps normative network commitment is more tie-specific, whereby individuals feel obliged to reciprocate to specific individuals, but not to a detached aggregate or social surrogate. Study 2 results support this possibility, as those with higher relational normative network commitment tended to perceive that their network contacts had more influence over them. Results also suggested that normative network commitment served as a mediating mechanism between out-degree advice centrality and perceived influence when examined relationally (Study 2), while the indirect relationship was non-significant when tested heuristically (Study 1).

Results of Study 2 suggest that different types of network centrality predict different types of relational network commitment. Specifically, in-degree advice centrality related to relational affective network commitment, while out-degree advice centrality related to both relational normative and instrumental network commitment. This pattern of relationships was not predicted at this level of specificity, but is logical when considered post-hoc. In-degree advice centrality confers prestige and can allow an individual to self-identify as an important player in the network, making them more affectively committed to the collection of contacts that give them this positive regard. Conversely, both normative and instrumental types of relational network commitment are more transactional in nature and are guided by the principals of exchange and dependence respectively. As such, these forms of commitment are developed as individuals become obligated to and dependent on their social ties, making out-degree centrality the most potent predictor of both types of relational network commitment.

Finally, a comparison of results across both studies suggests that out-degree advice centrality had a positive relationship with psychological affective network commitment in Study 1, but did not have a significant relationship with relational affective network commitment in Study 2. It is possible that by accounting for the variance in perceived influence accounted for by in-degree advice centrality in the Study 2 analyses, the out-degree centrality measure actually represented the degree to which an individual was non-reciprocally dependent on their connections within the cohort. This would not be an intrinsically appealing self-identification to hold and might make an individual less affectively committed to their collection of network contacts. Conversely, it is exactly this unreciprocated dependence that keeps individuals normatively and instrumentally bound to their advice ties within the network.

5.1. Theoretical implications

Understanding how formal collectives influence individuals has been a focus of social influence research for over eighty years (Cialdini & Goldstein, 2004). However, the study of social influence in informal social networks, or the collective influence of a social network on individual network members, is relatively new. Although there have been many advances in social network theory (e.g., Tasselli, Kilduff, & Menges, 2015), our understanding of how informal networks influence individuals remains unclear, despite the important role that embeddedness and social networks play in organizations (Burt, 2001; Casciaro et al., 2015; Ibarra & Andrews, 1993; Kilduff & Brass, 2010; Sparrowe, Liden, Wayne, & Kraimer, 2001). Our research contributes to knowledge on commitment, social networks, and social influence in several important ways.

First, we facilitate a better understanding of how social networks can represent a viable *target* of commitment. By extending Meyer and Allen's (1991) commitment framework to focus on individuals' personal networks we provide a means by which one's affective, normative, and instrumental psychological attachment to their personal network can be represented. To our knowledge no previous study has sought to capture people's commitment to their personal network, and our current efforts to do so answer commitment scholars' calls to help "move the literature away from a focus on organizational commitment" to other meaningful targets (Klein, Cooper, Molloy, & Swanson, 2014, p. 223). Herein, we answer this call and contribute to further explaining individuals' psychological experiences with their personal networks (e.g., Casciaro et al., 2014, Porter, Woo, & Campion, 2016; Porter & Woo, 2015). Prior research on social exchange generally ascribes stronger effects when antecedents and outcomes are aligned with similar or comparable objects of reference than when they relate to different objects of reference (e.g., Hansen, Alge, Brown, Jackson, & Dunford, 2013). Thus, a personal-network-focused form of commitment would be a logical mechanism of personal-network-relevant outcomes.

Second, our research begins to show that one's embeddedness within a social network affects how susceptible one is to influence from the network, and network commitment appears to explain why. Conceptually, embeddedness and social networks are inextricably linked (e.g., Granovetter, 1973). It appears that one's central position in a network psychologically binds them to their collection of informal ties. This makes them more susceptible to social influence from the network because of the increased potency of social forces. Prior research has looked at the influence of large collectives or crowds wherein people are anonymous or have no formal or informal ties (e.g., Reicher, 1984, 1987, 1996), and also within smaller, defined groups (e.g., Asch, 1951; Nemeth, 1986; Moscovici, 1980). However, far less research has examined how informal networks as a collective, and one's centrality within a specific network structure, cause one to conform, change his or her attitude, or generally become more susceptible to influence.

Third, an interesting observation that can be drawn from our study is that unlike majority-minority influence research which generally shows that a majority wields greater influence, and those in the minority position are likely to conform to the majority, our research shows that structural 'majorities' in the sense of those who are 'well-connected' in a network (high centrality) are more susceptible to influence than those who are not (low centrality, peripheral members). As one becomes more central, the social forces mount and one can become more vulnerable to the influence of the collective, consistent with social impact theory (Latané, 1981). These social forces appear to be manifest in one's psychological binding to the network.

Our research points to a hidden disadvantage of being central within a social network. Indeed, central members in a network are typically seen as having advantages. For example, they are seen as better performers (Mehra et al., 2001; Sparrowe et al., 2001) and they are thought to wield greater power and influence which is associated with

more effective leadership (e.g., Brass, 1984; Brass & Burkhardt, 1992; Brass & Krackhardt, 1999; Chiu et al., 2016). These findings might suggest that organizations should seek out highly dense, centralized social networks, and members would benefit from becoming more firmly embedded in these networks. However, our research indicates there is a vulnerability for highly central network members. Such members may be more vulnerable to groupthink processes occurring within the professional network. When networks share strong prevailing attitudes, central members might be more likely to conform (as we saw in Study 1) and less likely to challenge the status quo, suggesting a possible vulnerability to faulty decision-making. They are also more likely to view the network as having more generalized influence on them (as we saw in Study 2). When the most central members of a network are also the most susceptible to influence, a collectively held attitude or belief could become more firmly entrenched and difficult to change.

This possibility is also consistent with research suggesting that central members within a network may be less creative than members of moderate centrality (Cattani & Ferriani, 2008). Indeed, peripheral members can "elude the homogenizing influences typical of an established institutional framework and therefore attend to divergent ideas without the anxiety of contrasting accepted norms" (Catanni & Ferriani, 2008, p. 827). Research also suggests that stronger ties are characterized by social pressures that could promote conformity (Granovetter, 1973; Krackhardt, 1992), a recognized hindrance of creativity (Amabile, 1996; Cashdan & Welsch, 1966; Perry-Smith & Shalley, 2003). Our findings suggest that central members are more committed to their personal networks possibly increasing their vulnerability to conformity and social influence.

Fourth, we also shed light on the mechanisms driving social influence within networks at a level of analysis higher than that typically examined. Past research has either focused on perceptions of one's own influence (e.g., Brass, 1984; Brass et al., 2004; Sparrowe & Liden, 2005), or direct relationships between social ties and shared perceptions/cognitions (e.g., Gibbons, 2004; Shah, 1998; Umphress et al., 2003). Research on the mechanisms of network influence is lacking. The current research allows us to draw some initial conclusions about the relationships that network bonds have with individuals' susceptibility to social influence, which appear to operate through multiple types and forms of network commitment. The present research more generally fits with a call for more research on the microfoundations of social networks that suggests individuals and networks 'co-evolve' (Tasselli et al., 2015). Emerging evidence points to a diffusion effect wherein attributes of the network such as happiness or loneliness diffuse to members in the network (Cacioppo, Fowler, & Christakis, 2009; Fowler & Christakis, 2008). Our findings suggest this diffusion is more pronounced for central members who are committed to their networks.

5.2. Practical implications

The current model of embeddedness and commitment could help explain the influence processes involved in strategic leadership (Varella, Javidan, & Waldman, 2012), sponsorship (Sparrowe & Liden, 2005; Venkataramani, Green, & Schleicher, 2010), and surrogacy (Galvin, Balkundi, & Waldman, 2010). Leaders must influence followers through formal and informal channels to affect change. Our results suggest the possible effectiveness of influence attempts that draw on one's personal network and one's commitment to this network. While building a coalition of support in a formal hierarchy is a traditional approach to managing change (Kotter, 1995), our results suggest that understanding and communicating information about the social network might also be an effective influence tactic for targets more committed to their network.

This suggests several practical implications. First, managers might seek to understand individuals' levels of commitment toward networks within their organizations. They could then divulge critical information to central members within the organization who are committed to their

personal networks, but resistant to organizational change efforts. Once committed to the initiative, these members could, in turn, exert further influence on others yet to commit to the initiative. In this regard, managers could proactively inform and present members with the attitudes of "the network at large." In our first study, influence was manipulated using what we referred to as primed coalition influence whereby an 'authority' presented information on the overall attitudes of the social network. Although a leader (or organization) could certainly prime such information (as done in Study 1), over time this information may diffuse itself through the network (e.g., via leader statements, participant observation, water cooler conversation, etc.).

On the other hand, our results suggest that non-central members may be particularly tough to influence, due to lower structural embeddedness and associated lower affective commitment. Managers might identify the peripheral members most resistant to the attitudes of the network using social network analyses and decide if it is necessary to influence these members. In some cases, resistance might be healthy and might promote positive conflict and discourse. In other cases, however, it might make sense to try to integrate the peripheral members such that they too are more affectively bound to the network.

5.3. Future research and limitations

There are a few avenues for future network commitment research. First, it should consider the personal antecedents and outcomes of network commitment. Personality characteristics, gender, values, as well as other biodata might help to predict network commitment. National culture might also impact the occurrence and outcomes of network commitment, as structural predictors could relate to network commitment differently across cultures (Burt, 1992; Xiao & Tsui, 2007). Future research should also continue to explore the benefits and vulnerabilities of centrality and network commitment, as well as empirically test, specify, and elaborate the psychological mechanisms proposed for affective (i.e., enrichment, identification), normative (i.e., reciprocity, social exchange), and instrumental (i.e., instrumentality, needs fulfillment) network commitment.

Second, future research should consider a wider breadth of relational antecedents of network commitment. Prior research on social networks suggests that social ties can have a variety of content and qualities other than advice (e.g., Lyons & Scott, 2012; Venkataramani et al., 2013), and can also be considered according to metrics other than degree centrality to elaborate beyond an individual's set of immediate or direct contacts (e.g., Burt, 1992, 2001; Xiao & Tsui, 2007). Measures of interaction frequency, friendship, utility, trustworthiness, liking, reciprocity, or negative ties could explain structural embeddedness in greater detail. Metrics like betweenness centrality, eigenvector centrality, density, closeness centrality, and brokerage could also yield important insight.

Third, future research might consider more detailed within-person configurations of network commitment. We adopted an additive composition model (Chan, 1998) to consider individuals' relational network commitment that was calculated using the mean values. However, this approach does not fully account for within-person alignment and differentiation in network commitment(s). People could have more configural 'patterns' of network commitment represented as aspects of within-person relational alignment and diversity for relational forms of network commitment, or different patterns of focus for specific recalls/evaluations of psychological network commitment. Furthermore, some definitions of attitudes incorporate stability as a defining characteristic (Bohner & Dickel, 2011). Thus, future research should assess this stability and change, possibly by considering three-or-more time points of data to facilitate the use of polynomial regression or observed/latent within-person change.

Finally, future research should consider how network commitment relates to social influence within multiple network contexts. Our research considered MBA students within single cohorts, but this does not

reflect the professional reality that workers experience. Perhaps a central member is less susceptible to within network influence when he or she is well connected within external networks that offer differing perspectives and challenge one's thinking. Many people work in contexts where there are multiple parallel networks (e.g., departments within an organization or organizations within a temporary collaboration), overlapping networks (e.g., organizational networks and occupational networks), and even conflicting networks (e.g., organizational networks and union networks, or the networks of organizations competing to recruit talent from each other's ranks). There could also be different cliques within team networks (Lau & Murnighan, 1998). Future research should also consider network commitment according to multiple targets, whether those networks overlap, whether those networks might present conflicting demands, and if these multiple network patterns have similar or different implications in large social aggregates (e.g., organizations) or much smaller collectives (e.g., groups and teams). This research might also consider the outcomes of various forms of network commitment when controlling for other relevant social entities.

We tried to have the strengths and limitations of Study 1 and Study 2 complement each other. However, some general limitations should be considered in future research. There was the predominance of men in both samples and future research should seek to study networks with more balanced gender representations. Both studies also relied on MBA student samples. It is possible that workers within organizations could differ from full-time MBA students in at least two ways. First, full-time employees are connected by both formal organizational structure and informal social networks. Second, the effects of full-time employees' commitments could be shaped by formal job responsibilities, reporting relationships, and job performance. Using distinct cohorts might also neglect the possibility of cross-cohort ties and reduce the variability in the resource value of network ties (i.e., everyone could be roughly equivalent). Thus, future research should sample working employees and consider formal organizational structure, boundary spanning, job design, leadership/supervision, and job performance.

We took efforts to minimize the threat of common method bias by collecting data from different sources, using a randomized experimental manipulation, collecting multiple time-points of data, and conducting hypothesis tests using different methods across the two studies. However, there were instances of potential common method bias in each study and there could have been some response biases (e.g., bias to maintain consistency in the responses, bias to please the researcher)

that were involved in the interaction between network commitment and the experimental manipulation in the prediction of changes in attitudes towards Facebook. Future research should continue to strive for methodological and temporal separation of the key study variables. It should also consider ways to assess out-degree ties, network commitment, and susceptibility to social influence using different sources of data. Furthermore, while, we used multi-item measures of network commitment and attitudes towards Facebook in Study 1, our Study 2 measures of network commitment and perceived social influence used single item measures. Thus, future research should also consider using multi-item scales for these measures.

The current research was also limited in its assessment of temporal dynamics of network commitment and both psychological and behavioral change. Our Study 1 measurement of attitude change did not allow us to truly assess change and stability, while Study 2 was a cross-sectional study of perceived influence. Considering three or more time-points will also help reduce common method bias and provide a superior measure to the residualized change scores (Irving & Meyer, 1999). Experimental manipulations could also be sequenced in different waves of data collection to reduce the possibility of demand characteristics. The most effective and valid way of presenting the normative social information should be further explored.

5.4. Conclusion

One's commitment to their personal network is an important mechanism of susceptibility to social influence. Structural embeddedness relates to various forms of network commitment, or one's psychological bonds with their personal network of contacts. These commitments explain how networks can exert normative pressure for conformity and other forms of social influence to inform future research on influencing organizational and social change.

Acknowledgement

Appendix A. Study 1 normative social information manipulations, attitudes towards Facebook, and psychological network commitment Items.

Scale Items

Primed Positive Information
"(**School Name**) needs to be more proactive in encouraging students to use Facebook"
"I think it is a great way to connect with peers, especially when we travel"
"People need to get with the times and embrace Facebook and the new social media"
"I think Facebook could be a great tool for planning an event and getting student input"
"Facebook is a powerful tool to reveal my hidden network at both school and home"

Primed Negative Information
"Facebook is good for home, but not something that needs to be used in our professional environment"
"I'm afraid I might say something that I would regret"
"I don't really see how Facebook would help me at my school or work"
"Why should everybody broadcast every detail of their life, I think its silly"
"I have little use for Facebook"

Attitudes Towards Facebook
Suppose your organization encouraged its members to use Facebook for organizational communications. How would you feel about this? For each of the four adjective pairs below (e.g., Bad-Good), indicate how you feel about the use of Facebook within your organization.
Bad: Good

Scale Items

Harmful: Beneficial
Foolish: Wise
Negative: Positive

Affective Network Commitment
I do not feel like "part of the family" within my network. R
I do not feel "emotionally attached" to the members of my network. R
I do not feel a strong sense of belonging to my network. R

Normative Network Commitment
I would not cut relations with the members of my network right now because I have a sense of obligation to them.
I would feel guilty if I cut relations with the members of my network now.
The members of my network deserve my loyalty.

Instrumental Network Commitment
I feel that I have too few options to consider cutting relations with the members of my network.
One of the few serious consequences of cutting relations with the members of my network would be the scarcity of available alternatives.
One of the major reasons I maintain relations with the members of my network is that leaving would require considerable personal sacrifice – another set of network relations might not match the overall benefits that I have here.

Notes: R = Recoded item. All network commitment items measured using a 5-point agreement scale with anchors of 1 = "Strongly Disagree" and 5 = "Strongly Agree".

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