CREATING CONNECTIONS: A MULTIDIMENSIONAL CONSTRUCT OF EMPLOYEE CONNECTING BEHAVIOR, ANTECEDENTS, AND RELATIONSIHPS TO CREATIVE OUTCOMES

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CREATING CONNECTIONS: A MULTIDIMENSIONAL CONSTRUCT OF EMPLOYEE CONNECTING BEHAVIOR, ANTECEDENTS, AND RELATIONSIHPS TO CREATIVE OUTCOMES

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DEDICATION

To Matt, Maxwell, Nora, Diana & Bob.

This is for you and because of you.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

SUMMARY

When a person introduces two people to each other who were previously unacquainted, a myriad of benefits may accrue to the newly connected individuals, their work, and their organizations. While much research investigates the outcomes of new collaborations and extending one's own network, much less is known about the motivations and outcomes for individuals who introduce others in their social network. Creative behaviors (actions that lead to novel and useful outcomes) often take the form of uniting diverse ideas or importing material from one domain to inspire new solutions in another domain. Relatedly, making a new introduction is an act of uniting two previously unconnected people or bringing an individual from one area in the social network into another. Therefore, connecting two previously unconnected *individuals* may be well-informed by existing creativity theories. In this dissertation, I build off the robust creativity literature to theorize about the behavior of introducing new and useful connections between people, which, like creative behavior, may ultimately lead to creative outcomes. Specifically, I develop a multidimensional construct of employee connecting behavior, which I define as discretionary acts of introducing a professional contact (A) to a new person (B). I propose four distinct types of employee connecting behavior, create and validate new survey measures to assess these types, and propose and test a theoretical model of why employees connect others, and what impact this may have on creative outcomes.

1 INTRODUCTION

When a person introduces two people to each other who were previously unacquainted, a myriad of benefits may accrue to these newly connected individuals and their work. By expanding their personal networks, these individuals may see greater career success (Cross & Cummings, 2004) and become more innovative (Baer, Evans, Oldham, & Boasso, 2015). Social relationships are also critical for employee well-being as relationships have been shown to be the number one predictor of happiness and longevity (Mineo, 2017). Additionally, new introductions often lead to new, fruitful collaborations that provide both individual and organizational benefits. For example, the organization of Apple exists because a mutual friend introduced two gentlemen (Steve Wozniak and Steve Jobs) who liked electronics and pranks (Bolino & Grant, 2016). In everyday work environments, people attain new jobs, new innovations are seeded, and complex problems are solved because one coworker sees the opportunity to bring together the right people at the right time and introduces two coworkers (Cross & Parker, 2004; Granovetter, 1973; Greenberg & Fernandez, 2016; Obstfeld, 2017).

Interestingly, much less is known about the motivations and outcomes for the individual who introduced the new connection in the first place. The sparse extant research that does exist regarding individuals who connect others in their social network is spread across multiple literatures. Examples can be found in the literatures on entrepreneurship (Batjargal, 2007; Shane & Cable, 2002; Wetzel, 1987), careers and sponsorship (Ibarra, Carter, & Silva, 2010), recruiting and labor markets (Fernandez,

Castilla, & Moore, 2000; Greenberg & Fernandez, 2016; Simon & Warner, 1992), boundary spanning (Birkinshaw, Ambos, & Bouquet, 2017), and social networks (Long Lingo & O'Mahony, 2010; Obstfeld, 2005; Quintane & Carnabuci, 2016). Relatedly, there is also a recent mention in the prosocial behavior literature, in which the authors of a review note that "introductions also strike us as ripe for greater exploration" (Bolino & Grant, 2016, p. 649). However, in each of these fields, only a small subset of the research explicitly investigates the act of connecting people in one's social network, and each considers only an aspect of such behavior, such as job referrals (Rubineau & Fernandez, 2013), venture capital referrals (Ebbers, 2014), or creative project execution (Obstfeld, 2017).

In sum, across the span of several different literatures, management research has recognized that for a variety of reasons and in a variety of contexts, employees are introducing people from their own social network. This may be for purposes of benefiting the connector, those being connected, and / or the organization. Articles in the popular press are frequently published coaching people on how to be a better connector, and touting the benefits of introducing others in your network (Giang, 2014; Nixon, 2015; Tugend, 2012). Yet, there remains a critical gap in the management literature that impedes integration and advancement of research regarding the antecedents and consequences of individual-level connecting behaviors at work. Hence, it is the purpose of this research to create a multidimensional behavioral construct of employee connecting behavior that can allow further integration and advancement of knowledge regarding when and why individuals at work connect others in their social network, and when and why this may be advantageous for the connectors and their organizations. Additionally,

this research extends the current literature on social networks and creativity that is equivocal on the impact of connecting people in one's network on one's creative outcomes (Perry-Smith & Mannucci, 2017).

I define employee connecting behavior as discretionary acts of introducing a professional contact (A) to a new person (B). I conceptualize this construct by building off the robust creativity literature in a novel way. While, to date, the social side of creativity literature has investigated how one's network position impacts one's creative outcomes, I utilize creativity theory to conceptualize the behavior one takes in a social network, and then I also look at how this behavior impacts creative outcomes. Definitions of creativity abound, but there is general consensus that the essence of creativity is in the production of outcomes that are both novel and useful (Amabile, 1983; Woodman, Sawyer, & Griffin, 1993). Creativity has been conceptualized as both a behavior and an outcome (Ford, 1996). In this dissertation, I conceptualize connecting individuals as a behavior that is conceptually akin to creative behavior (actions that lead to novel and useful productions; Montag, Maertz, & Baer, 2012), and ultimately investigate the impact of this behavior on creative outcomes: the connector's creativity (the joint novelty and usefulness of an outcomes as judged by relevant stakeholders; Montag et al., 2012) and how much the connector contributes to others' creativity.

Seminal theories of creativity have noted that creative behaviors may occur as a bisociative process, or the process of connecting two previously unconnected pieces of knowledge (Koestler, 1964; Simonton, 2003). Creative behaviors often take the form of uniting previously unconnected ideas or importing ideas from one domain to inspire new solutions in another domain (Uzzi & Spiro, 2005). Relatedly, making a new introduction

is an act of uniting two previously unconnected people or bring an individual from one area in the social network into another. Therefore, connecting two previously unconnected *individuals* may be well-informed by existing creativity theories. Relatedly, creativity research has often considered creativity to be multidimensional (Madjar, Greenberg, & Chen, 2011; Unsworth, 2001). By integrating Unsworth's (2001) multidimensional model of creativity with the existing literature on connecting others at work, I propose that connecting behaviors are also multidimensional and present a multidimensional theory of employee connecting behavior; differentiating this behavior along two dimensions, I propose there are four types of connecting behavior: prosocial connecting, instrumental connecting, conferral connecting, and strategic connecting behavior.

Through this research I hope to make three contributions to the creativity and social networks literatures. First, I will contribute to the creativity literature by introducing a new behavioral antecedent of creativity-related work outcomes: generating new and potentially useful connections between people. I will theorize the multidimensional nature of this new behavioral construct, employee connecting behavior, by extending existing theory on the multiple dimensions of creative behavior (Unsworth, 2001; Unsworth & Luksyte, 2015), and I will provide a new survey measure that allows for testing this phenomenon across a variety of research settings. This will allow for a more nuanced understanding of the phenomenon that ultimately seeds new collaborations that are valuable to those being connected and the organizations they serve.

Second, I will contribute to social network theory by extending recent theory on the brokerage process (which refers to the multiple ways individuals may behave when

they know people who do not know each other in a social network; Obstfeld, 2005; Obstfeld, Borgatti, & Davis, 2014) with a multi-dimensional conceptualization and survey measure that can allow a more nuanced study of connecting behaviors. Current research on connecting others is either measured structurally, assessing one's location in the social network structure and inferring that he or she is connecting people (Grigoriou & Rothaermel, 2014; Quintane & Carnabuci, 2016), or with a broad survey measure that ascertains only one dimension of connecting and that assesses one's propensity or desire to do so, not actual behaviors (Obstfeld, 2005; Soda, Tortoriello, & Iorio, 2017; Totterdell, Holman, & Hukin, 2008). By providing a multidimensional behavioral scale, I seek to extend these theoretical perspectives and enable more empirical research of this behavior at work. This work also answers recent calls from scholars to better understand the personal characteristics that lead to acts of brokerage (Stovel & Shaw, 2012), and to clarify the outcomes of introducing contacts rather than keeping them apart (Obstfeld et al., 2014).

Finally, by integrating the creativity and social networks literatures, I will propose and test the nomological network of employee connecting behavior to establish criterion validity and to spark future research on this professionally critical and common, yet academically overlooked, workplace behavior. By taking a multidimensional view of connecting behavior and investigating the impact on creativity-related outcomes, I hope to shed light on the currently equivocal relationship between connecting others and creativity (Burt, 2004; Obstfeld, 2017; Perry-Smith & Mannucci, 2017).

The antecedents and outcomes considered in this study are informed by both the creativity literature, and the motivation-opportunity-ability (MOA) framework. Given

that this study is introducing a new construct, pulling from several different bodies of literature, it seemed fitting that a more general, "folk" schema (Adler & Kwon, 2002) be used to establish an initial understanding of where this new construct fits in the theoretical space. Additionally, the MOA framework is well established in both the social relationships (Kwon & Adler, 2014; Reinholt, Pedersen, & Foss, 2011) and the broader management literatures (Blumberg & Pringle, 1982; Jiang, Lepak, Han, Hong, Kim, & Winkler, 2012). By integrating this MOA framework and the creativity literature which is guiding the theorizing on the new construct of employee connecting behavior, this research seeks to extend the creativity literature to understand the antecedents and consequences of making novel and useful connections between individuals in one's social network.

2 THEORETICAL BACKGROUND

As noted above, extant research on employees making introductions between people in their social network is currently dispersed across several literatures and is not on the forefront of any of them. The following provides a brief survey of the extant research that exists across several different management literatures and culminates with the integration of creativity theory with this employee behavior to present my conceptualization of the employee connecting behavior construct and its dimensions.

2.1 Previous Organizational Research on Connecting

Social network theory has long looked at the structural position of a *broker*, or one who knows individuals who do not know each other, as one of significant advantage (Burt, 2005). Many studies support the idea that individuals who are connected to many people who are not connected to each other accrue advantages due to access to a wider variety of information and control over the flow of that information (Burt, 1992). However, this robust research has primarily used the structural position of the broker as the definition and operationalization of this phenomenon (Quintane & Carnabuci, 2016). Recently, however, scholars have started to investigate the act of brokering, or the action of relaying information or resources from one contact in one's network to another (Obstfeld et al., 2014). These scholars argue that regardless of network position, individuals can either mediate the flow of information between two individuals (i.e. conduit brokerage), strategically keep two individuals separate (i.e., tertius gaudens brokerage) or introduce new collaboration opportunities (i.e., tertius iungens brokerage).

The latter, which is most relevant to the connecting behavior discussed in this dissertation, has been operationalized as a "behavioral orientation," which is an individual attribute that conceptually resides between a trait and an attitude (Obstfeld, 2005, 2017).

Since the introduction of the tertius iungens concept, some quantitative, but more qualitative, work has been conducted regarding this behavioral orientation (in the quantitative projects; e.g., Kauppila, Bizzi, Mäkelä, & Obstfeld, 2014; Obstfeld, 2005) and behavior (in the qualitative projects; e.g., Long Lingo & O'Mahony, 2010; Maclean & Harvey, 2016; Salvetat & Géraudel, 2012). Regardless of the methodological approach, the studies conducted in this line of research focus on the behavior of bringing people together in the context of executing novel or complex projects in the workplace. Both the theorizing and the research contexts describe the act of bringing people together to work through issues or problems encountered in the execution of work that the connector is involved in. This small body of work suggests that both macro and micro factors such as shared vision and knowledge self-efficacy can impact one's tertius iungens orientation (Kwahk & Park, 2016; Mäkelä & Kauppila, 2013). Also, engaging in bringing people together to execute one's work has been shown to lead to enhanced creativity and being a part of a team helps in implementing organizational innovation (Kauppila et al., 2014; Long Lingo & O'Mahony, 2010; Obstfeld, 2005, 2017). However, the findings are equivocal regarding the impact of tertius iungens orientation on actual job performance (Kwahk & Park, 2016; Soda et al., 2017).

Meanwhile, research on employee referrals in the labor markets and recruiting literatures also investigate the phenomenon of employees connecting others in their social

networks (i.e., job candidate and hiring manager). Global studies have shown that approximately half of new jobs are found through one's network (Bian, Huang, & Zhang, 2015; Franzen & Hangartner, 2006). Given the pervasiveness of this phenomenon, it is surprising how little research has been conducted regarding the antecedents and consequences for the individual making the referral. The vast majority of the research in this area looks at the outcomes for the hiring firm (Fernandez et al., 2000) or the individual being referred (Merluzzi & Sterling, 2017), yet recent work has highlighted the need to look at the referrer (Pieper, 2015; Rubineau & Fernandez, 2013) in order to better understand this phenomenon and how organizations can most appropriately influence desired outcomes. Some initial findings from the studies of the referrer show that those who were referred to jobs themselves are more likely to refer others, and that demographics and tie strength may play a significant role in whether and when one refers others in their network for known jobs (Rubineau & Fernandez, 2013; Smith, 2005).

Similar to the job referrals literature, the entrepreneurship literature has investigated whether and when individuals may refer entrepreneurs to individuals looking to fund new ventures, such as venture capitalists (VCs) (Shane & Cable, 2002; Wetzel, 1987). However, in these studies, similar to social network studies, scholars primarily look at how the social network structure of entrepreneurs or investors facilitates investments and / or performance (Chiu & Lee, 2012; Ebbers, 2014). One key finding from this line of research is that referrals made from contacts whom one regards highly or is close to are more likely to lead to a successful investor or entrepreneurial opportunity referral (Batjargal, 2007; Shane & Cable, 2002).

Finally, a few other areas in organizational psychology have touched on the concept of connecting behavior, but not elaborately. Connecting behavior has been discussed in literature on boundary spanning (e.g., Birkinshaw, Ambros, & Bouquet, 2017; Zhao & Anand, 2013), although the majority of this literature assumes the boundary spanning role to be one of mediating the flow of information rather than connecting people. Research on mentorship has referred to the importance of sponsorship, connecting the mentee to other senior leaders to advocate for promotion (Ibarra et al., 2010; Kram & Isabella, 1985), yet the vast majority of this research focuses on the mentor-mentee dyadic relationship. And as mentioned in the introduction, research on prosocial behaviors in the workplace, which historically looks at dyadic interactions, has recently highlighted the need for future research on the phenomenon of introducing people in one's social network as a way of providing help to coworkers (Bolino & Grant, 2016). Specific individuals have been highlighted in books on the topic (Grant, 2013), yet research in this area of management scholarship is still in its infancy.

2.2 Creativity and Employee Connecting Behavior

The social side of creativity research takes the perspective that creativity is inherently a social process (Perry-Smith, 2006; Perry-Smith & Shalley, 2003) and relatedly has investigated how one's position in the social network influences one's creative outcomes (Perry-Smith & Mannucci, 2015). Researchers have investigated whether knowing people who do not know each other is more advantageous for creativity (Burt, 2006; Zhou, Shin, Brass, Choi, & Zhang, 2009) or whether having connections between one's colleagues best facilitates the creative process (Fleming, Mingo, & Chen, 2007; Uzzi & Spiro, 2005). This research remains equivocal regarding the network position that is most advantageous for producing creative outcomes (Perry-Smith &

Mannucci, 2017). Moreover, this research primarily focuses on the structure of one's network, rather than how one behaves in the network (for an exception, see Long Lingo & O'Mahony, 2010). Additionally, this research at the intersection of creativity and social networks has not yet utilized creativity theory to inform understanding of how one interacts with one's social network, which is the first objective of this research study. Specifically, I focus on the act of connecting others in one's social network as a likely precursor to creative outcomes given that this act of connecting people is somewhat akin to creative behavior.

Creativity theorists have long-described creative behavior as being acts of making connections between two or more pieces of information that have not been connected as such before (at least in that domain), and / or as taking a piece of information that has been used in one domain and applying it in a new way to a new domain (Koestler, 1964; Simonton, 2003; Uzzi & Spiro, 2005). Connecting behavior is akin to creative behavior in that it is taking action to change the status quo by creating a novel connection between two distinct elements (i.e., people) which will hopefully be useful to them and / or the connector (Shalley & Zhou, 2008). However, it is unique from creativity in that the things being connected are people, not ideas. Given that the research on creative behavior is more robust and aligns in important ways to connecting behavior, the creativity literature serves as a logical and strong basis upon which to devise new theory on connecting behavior.

Again, since the focus of this dissertation is on the behavior of making new interpersonal connections, I look to theories on creative behavior to guide my initial theorizing. The limited extant research on connecting behavior reviewed above, as well

as research on creative behavior, suggests that the phenomenon of employee connecting behavior is multidimensional, in that there are unique yet related types of connecting behavior in which one might engage. Specifically, Unsworth's (2001) theory proposing four types of creative behavior provides a useful and relevant framework upon which to build an understanding of the multidimensional nature of connecting behavior. I will first provide a brief overview of this creativity theory and then present my theory regarding the dimensions of connecting behavior which stems from this theory, but takes a few points of departure in order to relate specifically to acts of connecting people.

Unsworth (2001) proposes that creative behavior can be classified into four types which stem from two dimensions. These dimensions result from asking two questions about the problem or need the creative act is attempting to solve or meet: (1) why is the person engaging in the creative behavior and (2) what is the nature of the problem that triggers the creative behavior? The answer to "why" may range on a continuum from *external,* which means the creative behavior is driven by external requirements such as one's own work demands, to *internal,* which means there are no externally driven reasons for this behavior, but that the person simply desires to do it because of more intrinsic motivations. In other words, the *why* question relates to whether the problem being solved or need to be filled stems from one's own work (or a problem being presented by a researcher in an experimental study) or whether one has identified the problem or need on their own and decided to engage in working on a novel solution. The "what" question may be answered on a continuum ranging from *closed,* which means the problem to be solved with the creative behavior is clearly defined and specific, to *open,* which means

the creator needs to find or discover the problem on their own which is unclear and not well-specified.

2.3 Multidimensional Nature of Employee Connecting Behavior

Building off of the existing literatures on connecting at work and creativity, I now move to the conceptualization of employee connecting behavior and the related dimensions. I define employee connecting behavior as discretionary acts of introducing a professional contact (A) to a new person (B). The term "discretionary" is included to exclude role-required instances of connecting as these instances would be driven by different factors and lead to different outcomes from discretionary behaviors. An example of this would be an executive headhunter whose job it is to explicitly identify candidates for positions and introduce them to hiring managers. This definition also restricts the scope of this research to that which takes place in the work context in that it requires that the connection involve at least one professional contact. Given that this research is grounded in the organizational psychology literature and is intended to understand workplace-impacts of connecting behavior, this conceptualization does not include introductions that are made between two individuals who are solely in one's friendship network and not in one's work network. It does, however, allow for connecting a friend to a professional contact.

Related to Unsworth's (2001) creativity typology, I propose similar questions about how the problem or need that triggered the connecting behavior can drive conceptualization of similar dimensions of connecting behavior. First, "*why* did the person engage in the connecting behavior?" relates to where the problem or need originated. I propose that the *problem source* may be the *self*, or one's own work which is similar to Unsworth's (2001) conceptualization of *external* or work demands driving

creative behavior initiation. For example, an employee might connect others in her social network because she needs these two individuals to communicate or help each other in order to accomplish a work goal or achieve completion of a work project (as in the tertius iungens examples cited above). The *problem source* may also be the *others'* work or personal goals. Again this is akin to Unsworth's (2001) idea of *internal* drivers in that the problem or need was not brought forth by the connector's external work demands, and therefore the connector needed internal drivers to act on the opportunity to aid others in their work. An example of others' problem source is if an employee's coworker is tackling a new project type for the first time and she refers the coworker to a colleague who has done this type of work before.

It is a critical point that this "problem source" distinction focuses solely on whether the problem or need that triggered the connecting behavior is related primarily to the accomplishment of the connector's own work goals or that of an individual being connected. If the connector is suggesting the two individuals meet to work on something related to work she is responsible for, this would fall in the *self* range; if the reason for the connection is unrelated to the work that the connector is responsible for, the connecting behavior would fall in the *other* range. The underlying motivation and potential outcomes are intended to remain separate from the behavioral construct itself.

Additionally, the self-other problem source distinction is important for consideration of the multidimensional nature of connecting behavior because it is likely that individuals will vary in the level to which they engage in *self* rather than *other* connecting. Research on networking, or the development and maintenance of personal relationships for the purpose of exchanging work-related resources (Wolff & Kim, 2012),

shows that many individuals find the activity of making new dyadic relationships for the purpose of achieving their own work goals to be off-putting and uncomfortable (Casciaro, Gino, & Kouchaki, 2014). Given that triadic connecting behavior is similar to the dyadic relationship-building activities of networking, it is likely that some employees may similarly have a different impression of connecting two people to advance their own work (which is aligned more to instrumental networking) than to connecting two people to assist them with their own work concerns (which the employee may consider to be a type of helping behavior).

Second, following on the concept of *open* to *closed* problem types triggering creative behavior (Unsworth, 2001), I contend that episodes of connecting behavior vary based on the specificity, clarity and concreteness of the problem or need that is prompting the introduction. Incidents of connecting behavior are similarly triggered by closed, clearly defined opportunities (i.e., need of a resource one possesses by another) or more open, general reasons (i.e., potential for the creation of resources, ideas, or projects by introducing two individuals). Creativity research often harkens back to the idea that novel concepts can come from either moving knowledge from one domain into a new domain where it can be uniquely applied or from putting together two sets of information to create a truly new idea (Hargadon, 2006; Simonton, 2003). Additionally, research on social exchange theory has been summarized at the parsimonious level in that two people can be brought together for the sake of exchange or for the sake of the new relationship as a means of its own.

For employee connecting behavior, I propose that, similar to Unsworth's (2001) typology, the second critical factor to consider in conceptualizing connecting behavior at

work is the problem type, also conceptualized on a continuum ranging from *closed* to *open.* Closed connections are introductions made for specific, explicitly stated, and clearly defined reasons; connectors recommend that one who has a valuable ability, knowledge, or service can provide it to another who needs it (or that they may conduct a mutual exchange). An example would be introducing a coworker who needs to learn a new software package to another coworker who has expertise in that area. Closed connections are closely related to creativity in the form of moving information from one domain into a new domain where it can be useful (Uzzi & Spiro, 2005). The specified reason for the introduction is the movement or transfer of resources. Open connections are more general and unspecified. Open introductions are new connections made for the possibility of creating new outcomes or new resources (i.e., new ideas or a new relationship), and are closely related to creativity in the form of combining unique pieces of information to generate new ideas (Uzzi & Spiro, 2005). An example of this type of connection is introducing a colleague to a friend who has similar interests and complementary skills which may lead to a fruitful collaboration for the two individuals.

The closed - open dimension is important to consider in the conceptualization of employee connecting, as instances of more *closed* connecting and instances of more *open* connecting are likely to relate differentially to antecedents and consequences. Opportunities to initiate defined exchanges are likely more clearly presented to employees (who are potential connectors) than opportunities for open introductions. In other words, the need for individuals to exchange information or resources is more easily seen by employees, and coworkers who need access to information or services to do their work are likely clearly stating this issue to the connector. However, open exchange

opportunities would require deeper, more abstract, and self-initiated thought and therefore are likely less common in organizations and may require a different level or type of cognitive ability. Additionally, the outcomes of closed connections, given the specificity of the reason for the connection, are likely to be less varied in nature than open introductions. Putting this together in a 2 x 2 matrix creates the following typology show in Figure 1. The two dimensions of employee connecting behavior, problem source and problem type, jointly generate four types of employee connecting behavior.

		Problem Source	
		Self	Other
Problem Type	Open	Strategic connecting	Conferral connecting
	Closed	Instrumental connecting	Prosocial connecting

Figure 1.
Employee Connecting Behavior Dimensions

The first type, instrumental connecting, is defined as discretionary acts of introducing a professional contact (A) to a new person (B) to exchange a specific

resource primarily needed to attain the connector's work goals. This type relates to new interpersonal connections or introductions made in reaction to a self-originating problem source and for the means of exchanging or providing specific, existing resources (closed). For example, if a supervisor tasks her employee with a new project, the supervisor may introduce the employee to another colleague who has executed this kind of work in the past to obtain key information, materials, or critical contacts that will be useful in executing the project. In this case, the connection helps both the employee and the supervisor, but the initiator is the connector's own work (since the supervisor will be ultimately responsible for the success of the project).

The second type, prosocial connecting, is defined as discretionary acts of introducing a professional contact (A) to a new person (B) to exchange a specific resource primarily needed to attain A and / or B's work goals. This type refers to introductions or referrals stemming from closed problems originating in the realm of the other(s) being connected. In other words, this refers to new interpersonal connections or introductions that are triggered by clearly defined resource needs of a person in the connector's social network that can be resolved by bringing to bear the specific resource(s) of another in the connector's social network. For example, when the connector's coworker mentions having a problem creating a Microsoft Excel report for her boss, the connector introduces her to a friend in the IT department who has strong Excel skills. It is important to note that while it is possible that making the introduction in the aid of another today may benefit the connector's own work in the future through reciprocal acts of helping, this is not the direct trigger for the action and therefore is not key to this type. In other words, this type of connecting does not imply altruistic motives

per say, as the motivation for this behavior remains theoretically distinct from the helping behavior. The construct focuses specifically on the nature of the problem to be solved or need to be met through the introduction.

The third type, strategic connecting, is defined as discretionary acts of introducing a professional contact (A) to a new person (B) for the creation of a new relationship, new ideas, or a new collaboration primarily needed to attain the connector's work goals. It refers to new relationships formed in response to needs or problems the connector is facing in his or her own work. The form of connection being suggested is not a clearly defined resource exchange, but instead is an opportunity discovered or identified by the individual connector to spark a new and valuable relationship. This type of connecting includes bringing people together to support implementing new work the connector is responsible for (Dutton, Ashford, O'Neill, & Lawrence, 2001) and bringing the right people together to integrate their knowledge and ideas to solve new problems in complex, creative projects (Obstfeld, 2017)

The fourth type, conferral connecting, is defined as discretionary acts of introducing a professional contact (A) to a new person (B) for the creation of a new relationship, new ideas, or a new collaboration primarily needed to attain A and / or B's work goals. This type encompasses seeing and making new connections between people in the aim of sparking a new, valuable relationship or collaboration. This type is unique in that it refers to connections made between contacts triggered by exploring new potential relationship / collaboration opportunities. This type applies to connections made in hopes of creating new work products and / or relationships that relate to a problem owned by the other(s) being connected. There is not a clear or specific resource to be

exchanged as the spark of the introduction, but instead the problem or need is vague and unspecified. An example of this behavior would be the aforementioned example of the mutual friend introduced two gentlemen, Steve Wozniak and Steve Jobs, because they both liked electronics and pranks, and the mutual friend saw a possible fruitful connection there; he was not introducing them for a specific resource exchange, but instead for the general idea that they might get along (Bolino & Grant, 2016).

3 HYPOTHESIS DEVELOPMENT

To guide selection of the factors that are likely to lead to employee connecting behavior, I utilize an opportunity-ability-motivation framework (Blumberg & Pringle, 1982). This framework has been proposed as a more holistic way of predicting employee outcomes (Blumberg & Pringle, 1982) and is well-established within the broader management literature (Kwon & Adler, 2002; Jiang, Lepak, Han et al., 2012). Therefore, it is well-suited to guide initial theorizing on a new employee behavior. Leveraging this framework, I present the following model of employee connecting behavior, as shown in Figure 2.

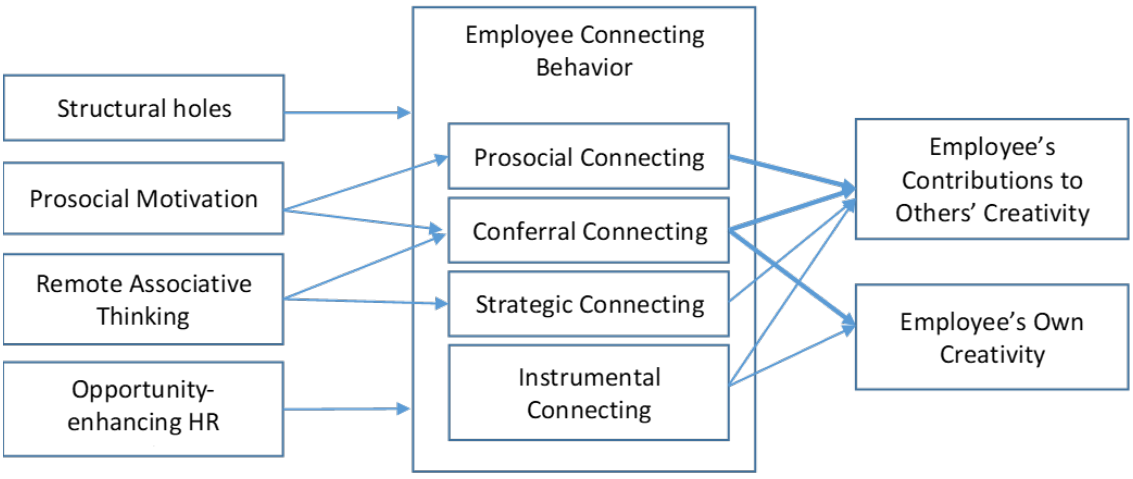

Figure 2.
Nomological Network of Employee Connecting Behavior

This proposed model applies and extends current research in the creativity domain as well as the dispersed literatures on connecting behavior reviewed above. Given that the extant research on various types of connecting have paid minimal attention to individual predictors of this behavior, this model identifies three person-level predictors of connecting: structural holes (opportunity), associative thinking (ability), and prosocial motivation (motivation). In addition, to further situate this model in the employment context, and given the broad acknowledgement that both person and situation influence employee behavior (Johns, 2006; Woodman et al., 1993), I also consider an organizational-level predictor, opportunity-enhancing HR practices (opportunity). To establish criterion validity of this new construct, and to shed clarifying light on when and how connecting behavior may impact creative outcomes, I also propose that the types of connecting behavior may differentially predict employee creativity and employees' contributions to their others' creativity in the workplace.

3.1 Antecedents of Employee Connecting Behavior

3.1.1 Structural Holes and Connecting Behavior

Making new introductions between two people who do not already know each other necessitates that the connector knows people who do not know each other. Social capital researchers conceptualize this situation as a *structural hole*, which is the absence of a relationship (*tie*) between two individuals (*alters*) that the focal employee (*ego*) knows (Burt, 1992, 2005). As mentioned above, individuals who know people who are not connected to each other may opt to introduce them or to keep them apart (Obstfeld et

al., 2014; Simmel, 1950), however the existence of the gap between one's social contacts does serve as the opportunity for one to make new introductions, and hence is more likely to lead to connecting behavior than the relative absence of such gaps. Similarly, individuals who have many unique contacts may not engage in deep conversations with their contacts that highlight potential opportunities, but yet again I argue that the existence of these disparate social contacts increases the chance to identify such opportunities. Individuals whose contacts all already know each other do not have the opportunity to make new introductions between their colleagues until they themselves go out and make new contacts. Therefore, it is expected that the more structural holes employees have in their professional networks, the more likely they are to engage in employee connecting behavior.

While making a new introduction does close, or remove, a structural hole in one's network, the norm of reciprocity (Gouldner, 1960) suggests that those newly connected individuals are likely to return the favor by making new introductions themselves (Obstfeld et al., 2014). Additionally, research shows that individuals who introduce people in their network are also more likely to network themselves (Totterdell et al., 2008). Previous research on tertius iungens orientation has shown a positive correlation between having more structural holes in one's network and having or possessing a tertius iungens orientation (Soda et al., 2017). As structural holes provide the opportunity for all new introductions, I do not foresee any theoretical reason that this should vary differentially with any of the types of employee connecting behavior. Therefore, I propose

Hypothesis 1: Structural holes in an employee's network are positively related to his or her prosocial, conferral, strategic, and instrumental connecting behavior.

3.1.2 Remote Associative Thinking Skills and Connecting Behavior

Creativity theorists have consistently theorized about the importance of creative-thinking skills that enable individuals to generate new and useful ideas or outcomes (Amabile, 1983; Ford, 1996; Shalley, Zhou, & Oldham, 2004). One of the most researched creative thinking skills, remote associative thinking, is particularly relevant to one's ability to see new opportunities to connect disparate people in one's social network. While remote associative thinking has been defined in a number of ways, the conceptualization I am using is that of associative, sometimes referred to as divergent, thinking in which thoughts are more intuitive and "receptive to a broad range of associations to a given stimulus" (DeHaan, 2011, p. 1499). This cognitive skill involves making new combinations of existing elements and is often associated with creativity, especially when the associations are made between more remote elements (De Dreu, Baas, & Nijstad, 2008; Mednick, 1962; Mumford & Gustafson, 1988). This thinking skill is similar to Koestler's (1964) concept of bisociative thinking which entails making associations between two matrices of information that are unique from each other (Santanen, Briggs, & De Vreede, 2004).

The act of connecting two unconnected individuals in one's network is contingent upon one seeing the opportunity in the first place. This step of associating the need or attributes of one individual with the needs or attributes of another is more likely in individuals who are high in associative-thinking skills. Seeing a connection between two people who are presently unconnected requires making the mental association first and

then acting on that association. Hence, one who is able to make more associations mentally is more likely to act on those associations than one who has not. And one who is able to make more remote associations is more likely to make more open introductions.

To my knowledge, no prior research has looked at the relationship between associative thinking and making new interpersonal introductions (e.g., making job referrals or tertius iungens orientation). However, creativity research has shown that individuals who make more remote associations do have more novel and useful outcomes (Acar & Runco, 2014; De Dreu et al., 2008). Shifting this focus to one of making new and useful combinations of people, I propose that individuals high in remote associative thinking will be more likely to engage in connecting behavior. Specifically, I propose that remote associative thinking skills will vary on the problem type dimension of employee connecting behavior. Specifically, I expect remote associative thinking to be positively related to the open, rather than closed, employee connecting behavior types. Given that the basis of the closed types of connecting (instrumental and prosocial) require hearing or identifying a need and filling the need with an individual who has relevant resources, close cognitive associations may be adequate in triggering these types of actions. However, the open types (strategic and conferral) are triggered by a new associative vision of the connector. In other words, this is not triggered by a specific resource need in the moment, but instead by a potential for a future collaboration or relationship. Individuals who are strong in remote associative thinking skills are more likely to engage in cognitions that can lead to new, open, interpersonal connection ideas. Therefore, I propose

Hypothesis 2: An employee's remote associative thinking skills are positively related to his or her strategic and conferral connecting.

3.1.3 Prosocial Motivation and Connecting Behavior

Prosocial motivation is when the direction, intensity, and persistence of one's efforts stem from a desire to aid others or a general concern for others (Bolino & Grant, 2016; Latham & Pinder, 2005). Accordingly, research has regularly shown that higher prosocial motivation leads to higher organizational citizenship behaviors such as helping and cooperation (Grant, 2007; Korsgaard, Meglino, Lester, & Jeong, 2010; McNeely & Meglino, 1944). Research investigating the mechanisms of this relationship suggests that employees high on prosocial motivation are not as concerned with the future rewards or potential costs of helping others as those low on prosocial motivation (Korsgaard, Meglino, & Lester, 1997; Korsgaard et al., 2010). Instead, behavior driven by prosocial motivation is behavior that aids others, even if it does also aid oneself (Bolino & Grant, 2016).

For types of connecting behavior aligned to the other problem source dimension, employees are, by definition, making introductions to people for the sake of aiding them in their work endeavors or goals. Therefore, it is likely that the more an employee is motivated by or concerned with the livelihood of others, the more likely he or she is to make such introductions. It has also been suggested that making introductions may be an efficient way for employees to help others even when they do not have the time or skills to help others themselves (Bolino & Grant, 2016). Hence, I suggest that:

Hypothesis 3: An employee's prosocial motivation is positively related to his or her prosocial and conferral connecting.

3.1.4 Opportunity-enhancing HR Practices and Connecting Behavior

In addition to the individual-level opportunity, ability, and motivation predictors described above, organizational behavior research consistently reiterates the importance of context for driving and understanding employee behavior (Johns, 2001; 2006). Similarly, creativity research and extant research on employee connecting support the idea that environmental factors matter (Mäkelä & Kauppila, 2013; Rubineau & Fernandez, 2013; Shalley et al., 2004). Therefore, a consideration of one's work environment is critical to establishing the nomological network of employee connecting behavior. More specifically, in the interest of providing insights into practical actions organizations can take to encourage or curb such behavior, I investigate the human resource practices that might be most effective in establishing the employee-perceived opportunity to engage in connecting others in their work context.

Strategic human resource management (HRM) research has begun to look at how groupings of HRM practices may impact employee behavior (Huselid, 1995). Recently, researchers have begun to explain differential impacts of HR practices by grouping them together based on whether they are primarily focused on enhancing employee ability, motivation or opportunities to contribute to the HR domain (Jiang, Lepak, Hu, & Baer, 2012). In this model, ability-enhancing practices (i.e., selection, recruiting and training) and motivation-enhancing practices (i.e., rewards and benefits) are more interpersonally focused toward improving individual employee task performance and therefore are less theoretically relevant to the interpersonal nature of connecting behavior than opportunity-enhancing practices. Opportunity-enhancing HR practices such as using work teams, enhancing employee involvement, and encouraging flexibility in job design are geared

toward encouraging employee knowledge sharing and teamwork (Jiang, Lepak, Hu et al., 2012) which are more theoretically aligned to the interpersonal nature of employee connecting behavior.

Opportunity-enhancing HR practices are practices that allow employees to be involved in their work roles and experience, and include practices such as empowerment, voice, employee participation in decision making, flexible job design and information sharing (Jiang, Lepak, Han et al., 2012). These practices enable employees to take control of their roles and feel trusted by their organizations which is likely to enhance their perceptions that they can and should be proactive in their work endeavors and supportive of their coworkers (Parker, Williams, & Turner, 2006). Therefore, it is likely that employees in organizations with these practices will feel more secure and enabled to engage in connecting behavior.

Research shows that such opportunity-enhancing HRM practices positively affect employee creativity (Jiang, Wang, & Zhao, 2012; Prieto & Pérez-Santana, 2014), communication (Jia, Shaw, Tsui, & Park, 2014) and knowledge sharing (Chuang, Jackson, & Jiang, 2016). Employee empowerment and perceptions that one's organization values one's opinions positively predict interpersonal trust in the workplace (Fulmer & Gelfand, 2012; Tzafrir, Harel, Baruch, & Dolan, 2004). These findings provide support for the proposition that opportunity-enhancing HR practices will encourage engaging in creativity, cooperation and communication which are all involved in employee connecting behavior. Additionally, given the level of risk involved in introducing others (i.e., the risk that they will collude and work against the connector's

best interests), the enhanced interpersonal trust brought about by such practices will further enable new introductions. Putting these arguments together, I propose that: *Hypothesis 4: Opportunity-enhancing HR practices are positively related to his or her prosocial, conferral, strategic, and instrumental connecting behavior.*

3.2 Consequences of Connecting Behavior

Extant research on connecting behavior is equivocal on whether connecting individuals in one's social network will lead to enhanced employee creativity or diminish it. On one hand, it is argued that being in a position of knowing people who do not know each other provides an employee with unique access to a wider variety of knowledge which he or she may put together to generate novel ideas (Phelps, Heidl, & Wadhwa, 2012). Empirical investigations, however, show mixed support (Burt, 2004; Zhou et al., 2009). On the other hand, researchers have argued that without bringing people together, the novel idea would not receive the visibility and resources required to implement it (Obstfeld, 2005). Other research suggests that a mix of connecting and not connecting individuals is optimal for producing creative outcomes (Long Lingo & O'Mahony, 2010).

Recently, scholars have theorized that these mixed results may be due to different stages of the creative process requiring different types of social support (Perry-Smith & Mannucci, 2017). I propose that considering the multidimensional nature of connecting behavior, and simultaneously investigating outcomes of creativity for both the connector and his or her colleagues, may further clarify whether introducing people in one's network will enhance one's creative outcomes or not. More specifically, I propose that strategic connecting and, to a lesser extent, instrumental connecting are likely to enhance one's creativity at work, and that all types of connecting behavior may enhance the

employee's ability to contribute to his or her coworker's creativity. Building off previous research, I conceptualize the outcome of *contributes to others' creativity* as stimulating and enhancing the development of new and useful ideas by one's colleagues and being seen as a key contributor to one's colleagues' creativity (Koseoglu, 2015; Tortoriello, McEvily, & Krackhardt, 2014).

3.2.1 Contributes to Other's Creativity

The social side of creativity research repeatedly asserts that other individuals serve as support for one's creativity when they provide non-redundant information to the creator who can recombine that knowledge with other information and generate new ideas (Perry-Smith & Shalley, 2003; Phelps et al., 2012). When an employee connects a colleague to a new contact, he or she is creating a new weak tie for that colleague. A weak tie represents more of an acquaintance relationship, characterized by less emotional closeness and less frequency of contact than a strong tie (Granovetter, 1973). Given that this new contact is a weak tie in the colleague's network, which previously was a structural hole in the connector's network, it is more likely that he or she will hold new, non-redundant information that may serve to fuel the colleague's creativity (Burt, 2007; Perry-Smith, 2006).

Additionally, the new introduction is made for some purpose seen by the connector. As established above, these new introductions are triggered by either the realization that one person has a resource (i.e., information, abilities, access) that the coworker can use, or that there are some similarities or complementarities that the connector sees which are possible to result in a new relationship or collaboration for the two. Therefore, the act of connecting people makes the likelihood of knowledge sharing

across this tie more imminent and potentially more successful (Aral & Van Alstyne, 2011). This scenario also enhances the likelihood that the knowledge exchanged might be useful (given that a potential use is seen by the connector) and novel (given that the source is new). Further, research has shown that new information, especially tacit or complex information, can be difficult to transmit between socially distant parties (Argote, Ingram, Levine, & Moreland, 2000; Zhao & Anand, 2013). But because this new information is being brokered by an employee who is already tied to both parties, he or she may assist in translating the information which can make the transmission more successful (Obstfeld, 2017).

Therefore, my initial premise is that the act of connecting is likely to enhance the creative outcomes of one's professional contacts. And the more frequently this is done for one's professional contacts, the more likely it is that others will see the connector as being one who contributes to others' creativity. Extant research provides some support for this theorizing. Networking through one's contacts, as the colleague is doing with the assistance of the connector, has been shown to enhance the likelihood that one's creative ideas will be seen and realized by others in the workplace (Baer, 2012). Additionally, employees have been reported to be more innovative at work if they work closely with people who believe they have ample resources to support creativity (Grosser, Venkataramani, & Labianca, 2017).

Considering the multidimensionality of connecting behavior, I further propose that open connecting, or initiating new collaborations and relationships, holds a higher possibility for truly creative outcomes than initiating clearly defined, closed exchanges. The latter is initiated as more transactional in nature and may take place with minimal

knowledge exchange. For example, introducing a coworker to a friend who can help fix a computer problem may involve a brief interaction in which service is provided and minimal conversation takes place. The two may not maintain the tie going forward. Yet, when the connector sees a possibility for future collaboration, the intention is that the introduction will lead to an ongoing interaction to produce new and useful outcomes for both parties. If both exchanges proceed as the connector initially envisions, the introductions for new collaborations will lead to greater creative outcomes for the new dyad than the resource exchange. Of course, people are agents of their own lives (Bandura, 1989) and the new ties may proceed in ways unintended. It is possible that the introduction made for a simple exchange blooms into an ongoing relationship and leads to fruitful outcomes for both parties. And it is possible that the open introduction made is never followed up on and leads to no future interactions. Yet, I argue that, in general, similar to the expected outcomes of open and closed creativity (Unsworth, 2001), open introductions are more likely to lead to more creative outcomes than closed ones. Hence, the more an employee makes these types of introductions, the more likely he or he is to be contributing to others' creativity.

Research supports this assertion. Solution-driven ideas are more likely to lead to incremental creativity (i.e., modifications to existing ideas) while problem-driven ideas are more likely to lead to radical creativity (i.e., groundbreaking new ideas; Madjar et al., 2011). Relatedly, closed or exchange-based introductions can be considered solution-driven introductions and open or new relationship-based introductions can be considered opportunity or problem-driven introductions. Creativity has also been shown to be a highly involved and intensive process which requires greater engagement to reach more

creative outcomes (Zhang & Bartol, 2010). It also requires the introduction of new frames or ways of seeing and thinking about a problem (Perry-Smith, 2014). Given that closed, exchange-based introductions are intended to be shorter and are framed for a specific purpose, it is likely that they will lead to lower levels of creativity for those being connected. Therefore, I propose:

Hypothesis 5: An employee's strategic and conferral connecting behaviors are more positively related to employee contributions to coworkers' creativity than instrumental and prosocial connecting behaviors are.

3.2.2 Employee Creativity

Many successful and innovative collaboration teams can be traced back to an initial introduction that was made by a third party, such as John Lennon and Paul McCartney (Bolino & Grant, 2016) who were introduced by a mutual friend. In many of these cases, the person who made the introduction does not stay a part of the collaboration. Yet other times, when people make introductions, they remain a part of the conversation and the triad works together toward outcomes (Obstfeld, 2005; Simmel, 1950), such as when John Lennon introduced George Harrison into the band that would eventually become known as the Beatles (Lifton, 2016). I contend that it is more likely that the connector will be associated with the creative outcomes when the connecting is done in the domain of the connector's own work, or when the problem source is self.

Work on leadership and creativity suggests that enabling creative outcomes may take multiple forms. Individuals may take *directive* actions in leading others to implement their own vision, they may take supportive actions to *facilitate* the creative process in others, or they may *integrate* their own creative efforts with those that they

work with to work together toward creative outcomes (Mainemelis, Kark, & Epitropaki, 2015). As noted above, bringing people together in one's social network enhances the probability and quality of creative outcomes from the interaction. When one is doing this to assist the other(s) in their problem or opportunity, it is less likely that he or she would stay engaged in the conversation or that he or she would be widely associated with broader creative outcomes. Employees are increasingly under time pressures at work as well as expected to stay connected and responsive outside of work hours (Gregoire, 2016). Therefore, employees are unlikely to have the capacity to stay engaged after the initial introduction when the matter at hand does not relate to their own work.

However, when an employee is making the new connection in response to his or her own problem, he or she is more likely to remain associated with the creative outcomes given that they are solutions to his or her own work. In these situations, it is reasonable to consider the act of connecting as one of integration rather than facilitation. Hence, it is likely that employee connecting behavior will enhance the employee's creative outcomes if the problem source is self. In support of this, research shows that when multiple people work together toward creating new outcomes, it is often attributed to the group as a whole, as even they cannot parse apart who contributed which part of the new idea (Harrison & Rouse, 2015). Additionally, people often attribute to an employee the attributes of their close contacts (Kilduff & Krackhardt, 1994). Hence, building off of the arguments stated above, I propose that strategic connecting will lead to higher creativity than instrumental connecting. Research does not provide enough support for the assertion that the other problem source dimension of connecting behavior will significantly enhance one's own creativity. Therefore, I propose:

Hypothesis 6: An employee's strategic connecting behaviors are more positively related to employee creativity than instrumental connecting behaviors are.

4 METHODS AND RESULTS

To test the proposed hypotheses, I took a two-study approach. First, I conducted a construct validation study to generate valid and reliable scales to assess the four types of employee connecting behavior and the new dependent variable, contributions to others' creativity[1]. I followed the deductive approach and related procedures set forth by Hinkin (1998) and detailed in the next section. Second, I conducted a field study to test the proposed hypotheses, surveying a sample of working employees and their coworkers across three time points.

4.1 Study 1: Construct Validation

The construct validation study consisted of three steps. First, I theoretically derived items to assess the new constructs, and I reviewed these items with subject matter experts (SMEs) to assess content validity and narrow down the number of items. Second, I conducted a survey of the target sample for these items, full-time working adults, for item reduction and validation. Third, I conducted a second survey, recruiting a new pool of full-time working adults, to validate the factor structure and test convergent and discriminant validity of the new proposed constructs. The following sections detail the methods and results for Study 1.

4.1.1 Item Generation and Content Validity

[1] While some researchers have considered and measured the importance of contributing to other's creativity (Koseoglu, 2015; Tortoriello, McEvily, & Krackhardt, 2014), these measures have been social network measures requiring a whole network data collection, rather than survey measures that allow for sampling across firms. Therefore, I will also validate a survey measure for this dependent variable building off of the extant literature.

Utilizing the deductive approach, (Hinkin, 1998) I first generated 10 sample items that could be self-rated to assess each type of employee connecting behavior. This is following the recommendation that final scales should consist of four to six items, and that approximately half of the initial items are expected to be retained through the scale validation process (Hinkin, 1998). To generate the initial set of these items, I leveraged existing relevant literature, such as the tertius iungens construct (Obstfeld, 2005), the propensity to connect with others construct (Totterdell et al., 2008), and the definitions and theoretical foundation outlined above. I also generated 10 sample items to assess the other-rated measure of contributes to others' creativity. The existing literature on creativity and innovation catalysts (Koseoglu, 2015; Tortoriello, McEvily, & Krackhardt, 2014) were leveraged as input to these items.

To assess content validity of these items, I pre-tested them with five managers and five organizational behavior researchers to assess readability, clarity, and alignment to definitions. I presented the definitions and items in random order to each individual and requested feedback on how well each item matches the presented definition as well as suggestions for clarity. Revisions were made as suggested to make items more clear.

Per feedback from these subject matter experts, I reduced the total number of items to 5 for each type of employee connecting behavior at this stage; the subject matter experts suggested that 40 overall items for this construct (10 for each of the 4 types) was too cumbersome for respondents. Therefore, for each type, I removed the 5 items with the lowest mean ratings for how well they matched the definition. For the construct of contributes to others' creativity, 2 items were removed due to lower mean ratings

regarding fit to the definition, leaving 8 items. The resulting sample items for employee connecting behavior and contributes to creativity are included in Appendix A.

4.1.2 Initial Item Reduction and Validation (EFA)

The next step for construct validation is to include these new scales in a survey of the individuals representing that target population, working adults, to refine these measures and determine the final scales for these constructs (Hinkin, 1998). Full-time working adults residing in the United States were recruited on Amazon's online survey platform, Mechanical Turk (*MTurk*). Previous research has investigated the reliability and quality of data collected through this method and found the outcomes to be in alignment with more traditional methods (Buhrmester, Kwang, & Gosling, 2011). Additionally, multiple instructional manipulation checks (IMCs; Oppenheimer, Meyvis, & Davidenko, 2009) and a duration check was used in this and each subsequent MTurk survey. Subjects who failed the manipulation checks or who completed the survey too briefly (estimated at 3 seconds per item) were removed.

I recruited 300 participants in the study and removed 64 cases which failed at least one IMC. This resulted in a final sample of 236 which is above the target of 200 required for this type of analysis (Hinkin, 1998). In this final sample, 61.9% are female. Regarding age, 22.5% are between 18 and 30, 41.1% are between 31 and 40, 21.2% are between 41 and 50, 12.3% are between 51 and 60, and 2.5% are above 60. The majority of the sample, 72%, are Caucasian, with the remaining participants identifying as follows: 11% African-American / Black, 8.5% Asian / Indian, 6.4% Hispanic, and 2.1% Mixed / Other. Almost half of the participants had a bachelor's degree (45.8%), while

30.1% reported an education level lower than that and 24.1 reported receiving a masters, doctorate, or professional degree.

I conducted the initial EFAs in SPSS v.24 utilizing the principle axis factoring method. For employee connecting behavior, I ran this analysis with promax rotation given that the different types of connecting behavior are theoretically expected to correlate. I fixed the number of factors to extract to 4, given the theory outlined above (Young & Pearce, 2013; Hinkin, 1998). In the initial analysis, item 3 from the prosocial connecting scale (…to give advice) cross-loaded on both prosocial and conferral connecting. Therefore, I dropped this from the analysis and reran the EFA in the same way. All remaining items had a factor loading of .40 or higher on only one factor and therefore were retained. These results are shown below in Table 1.

Table 1.

Study 1 Standardized Factor Loadings of Employee Connecting Behavior Types[a]

	I choose to introduce a professional contact to someone they do not know…	Instrumental Connecting	Strategic Connecting	Conferral Connecting	Prosocial Connecting
Outside the scope of your own work	to exchange specific information				0.82
	to provide a specific resource				0.80
	to get help with something specific				0.82
	to refer someone for a job			0.48	
	who has common interests			0.96	
	to work together to generate new ideas			0.44	
	to form a new collaboration			0.45	
	to form a new relationship			0.88	
	to develop a new relationship that would advance their goals			0.73	
as a part of doing work you are responsible or accountable for	to exchange specific information	0.86			
	to get a specific resource	0.77			
	as a referral for a needed service	0.67			
	to give advice on a specific topic	0.62			
	who had information the other person needed	0.80			
	to form a new working relationship		0.69		
	to work together to generate new ideas		0.93		
	to form a new collaboration		0.85		
	to work together on a new task		0.76		
	to develop a new relationship that would advance our work		0.71		
	Eigenvalues	11.3	1.2	1.6	0.7
	% of variance	59.7%	6.1%	8.2%	3.7%

[a]n=236. Frequency of behaviors was assessed using a 5 point scale ranging from 1 = never to 5 = very frequently.

Items fell within the theorized factor structure except for the last item from the prosocial connecting scale ("…to refer someone for a job") which aligned with conferral connecting instead. The fourth factor had an eigenvalue below 1, but above .7, which has been suggested as an appropriate cut off for factor analysis (Jollifee, 1986). Correlations between factors range from .778 (factor 2, conferral to factor 3, strategic) to .563 (factor 2, conferral to factor 1, instrumental) which aligns to the multidimensional structure given that the lowest factor correlations were between the types that were opposites in both dimensions. In subsequent, exploratory analyses with reduced number of factors (3, 2, and 1), items heavily cross-loaded on multiple factors that did not align well to the theoretical model. From this analysis, I concluded that no other items should be dropped and that there is enough empirical support for the theoretical model to move forward to the next step: confirmatory factor analysis with a new sample to confirm the items and model structure.

I also conducted an EFA on the proposed unidimensional construct, contributes to others creativity. Again, I ran a principal axis factoring analysis in SPSS. I set the factor equal to 1, as hypothesized, and therefore did not utilize a rotation method. The factor loading results are reported in Table 2. The results support the unidimensionality of this construct, given that only the eigenvalue of the first factor was over .7 (Jollifee, 1986). All items loaded at .81 or higher on the single factor. Given the initial target of 4 to 6 items for each new construct (Hinkin, 1998), and the high support for all items in this construct, I selected 4 of these items (2, 5, 6, and 8) to carry forward into the next study. I primarily chose the items with the highest factor loadings, however I omitted "stimulates

creativity for those he / she works with" given the high similarity to the highest loading item "enhances creativity of his / her colleagues."

Table 2.
Study 1 Standardized Factor Loadings of Contributes to Others' Creativity[a]

Stimulates creativity for those he/she works with	0.87
Is seen as someone who helps others be more creative	0.88
Supports his/her coworkers in ways that allow them to generate new and appropriate solutions	0.81
His/her colleagues credit him/her for assisting them in creating new and useful solutions	0.81
Enhances the creativity of his/her colleagues	0.91
Stimulates thinking that leads to new and useful ideas among their coworkers	0.83
Enables other employees to generate new and useful outputs	0.80
His/her colleagues often approach him/her for assistance in creative work	0.84
Eigenvalues	6.0
% of variance	74.6%

[a]n=236. Items were assessed using a 5 point scale ranging from 1 = strongly disagree to 5 = strongly agree.

4.1.3 Confirmatory Factor Analysis

The next step in Study 1 was administering a second questionnaire to a new sample to validate the factor structure and items of the newly proposed constructs. Similar to the previous survey, I conducted this survey on MTurk, recruited full-time employees in the US, and included multiple manipulation checks.

I recruited 300 participants and, after removing cases that failed any manipulation check, the final sample consists of 234 employees. In this sample, 53% of the respondents are female. Regarding age, 17.5% are between 18 and 30, 46.6% are 31-40,

21.4% are 41-50, 11.1% are 51-60, and 3.4% are over 60 years of age. The majority of the sample, 79.9%, is Caucasian, 9% African-American / Black, 6.4% Asian / Indian, 2.6% Hispanic, and 2.1% Mixed / Other. Finally, 43.2% of the sample reported a bachelor's degree as the highest level of education achieved, while 32.1% reported a lower level of education and 24.8 reported earning a master's, doctorate, or professional degree.

I utilized MPlus v.7.2 to conduct confirmatory factor analyses of the four-factor measurement model of employee connecting behavior using the items resulting from the previous analysis. As noted above, one prosocial item was dropped (3) and one item assessing job referrals, which was originally designed as an item to assess prosocial connecting, was modified to be an indicator of conferral connecting in this model, per the EFA results. The resulting four factor model showed a good fit to the data ($\chi^2_{(146)}$= 294.690, $p < .01$; CFI = .961; RMSEA = .066 [CI: .055, .077]; SRMR = .030). I next conducted CFAs on several nested models and compared the fit to the four-factor model with Chi-squared difference tests. The results are shown in Table 3. As shown in the relative fit indices and the results of the comparison test, the hypothesized four factor model appears to be the best fit to the data.

Table 3.
Study 1 Nested Model Comparisons for Employee Connecting Behavior Types

Model ID	Model Name	Model Chi-square	df	p-value	CFI	RMSEA	SRMR	Comparison	LRTS	df	p-value
M1	4 Factor	294.69	146	0	0.961	0.066	0.03				
M2	3 factor (C with S)	396.509	147	0	0.935	0.085	0.037	M2 vs. M1	101.818	1	0.000
M3	1 factor	766.216	152	0	0.841	0.131	0.063	M3 vs. M2	369.708	5	0.000
								M3 vs. M1	471.526	6	0.000
M4	2 factor (I with S) (P with C)	607.697	148	0	0.881	0.115	0.058	M4 vs. M3	158.52	4	0.000
								M4 vs. M1	313.006	2	0.000
M5	2 factor (I with P) (S with C)	462.073	148	0	0.91	0.095	0.043				
								M5 vs. M3	304.144	4	0.000
								M5 vs. M2	65.564	1	0.000
								M5 vs. M1	167.382	2	0.000

4.1.4 Convergent Validity, Discriminant Validity and Internal Consistency

I further investigated the reliability and criterion validity of the employee connecting behavior types utilizing SPSS and the data from sample 1. I validated the internal consistency utilizing Cronbach's alpha, with an alpha of over .70 as the target. The results are shown below in Table 4. I also assessed convergent and discriminant validity to assess whether the new construct types are correlating well with variables that are theoretically similar to them and not correlating with variables that are not theoretically expected to be related.

The following established measures were included in this survey to assess convergent and discriminant validity of the new employee connecting behavior types. Detailed items for each of these measures are included in Appendix B.

Emotional Stability: The 10-item emotional stability scale is from the 50-item five factor model representation of Goldberg's (1992) markers from the International Personality Item Pool (IPIP) inventory. Example items are "I seldom feel blue" and "I panic easily" (reverse-coded). Emotional stability is a personality trait characterized as calm, secure, contented. Given that there is no strong theoretical connection between these attributes and employee connecting behavior, this serves as a measure of discriminant validity.

Conscientiousness: The 10-item agreeableness scale is also Goldberg (1992). Example items include "I am always prepared" and "I pay attention to details." Conscientiousness is characterized by traits such as dependability and reliability. Again, given the low theoretical connection between conscientiousness and employee connecting behavior, this is a measure of discriminant validity.

Extraversion: The 10-item extraversion scale (Goldberg, 1992) includes items such as "I make friends easily" and "I am skilled in handling social situations." Extraversion represents how sociable and assertive one is. Given the theoretical relationship between this and employee connecting behavior, I include this scale as one to measure convergent validity of the employee connecting behavior types.

Tertius Iungens Behavioral Orientation: This 6-item measure (Obstfeld, 2005) was included to assess convergent validity of the employee connecting behavior types given the theoretical relationship to wanting to look for opportunities to encourage

collaboration among one's coworkers. Items include "I introduce people to each other who might have a common strategic work interest" and "I will try to describe an issue in a way that will appeal to a diverse set of interests."

As shown in Table 4, the correlations between the employee connecting behavior types and tertius iungens range from .50 to .61 suggesting high convergent validity with this more closely related construct representing a behavioral orientation toward building bridges between individuals. The correlations between the employee connecting behavior types and extraversion were a bit lower, albeit significant (ranging from .16 to .34). The correlations between the employee connecting behavior types and emotional stability (ranging from .08 to .13) and conscientiousness (.16 to .21) were supportive of the discriminant validity proposed above.

Table 4.
Correlation Table for Convergent and Discriminant Validity Assessment[a]

Variables	Mean	SD	1	2	3	4	5	6	7	8
1 Prosocial connecting	3.12	0.91	**.90**							
2 Conferral connecting	2.92	0.91	.69**	**.92**						
3 Strategic connecting	3.08	0.94	.64**	.76**	**.94**					
4 Instrumental connecting	3.19	0.82	.66**	.59**	.74**	**.91**				
5 Emotional Stability	3.71	0.88	.11	.13*	.13	.08	**.91**			
6 Conscientiousness	4.18	0.63	.18**	.21**	.16*	.19**	.46**	**.87**		
7 Extraversion	3.12	0.90	.24**	.34**	.25**	.16*	.53**	.32**	**.90**	
8 Tertius Iungens	3.70	0.77	.51**	.61**	.50**	.51**	.22**	.25**	.37**	**.90**

[a]n=234. All items measured on a 1-5 likert scale. For connecting items, frequency of behaviors was assessed using a 5 point scale ranging from 1 = never to 5 = very frequently. For all other items, a 5 point scale ranging from 1 = strongly disagree to 5 = strongly agree was used. Reliability for each scale, measured by Cronbach's alpha, is listed in bold print on the diagonal.
*$p \leq .05$
**$p < .01$ (two-tailed)

4.2 Study 2: Hypothesis Testing

4.2.1 Participants and Design

The purpose of Study 2 is to test the nomological network of the new employee connecting behavior types. These hypothesized relationships include both antecedents and consequences, and therefore the study design included three time points: the first two surveys completed by the target employee, and the final survey completed by a coworker of the target employee. Given that these behaviors may be highly context dependent (Stovel & Shaw, 2012), the design also calls for the recruitment of respondents from a wide variety of work contexts in order to see adequate variance across the hypothesized relationships. The target sample was approximately 200 full-time employees in order to have adequate power to test the hypotheses. In order to achieve these goals of contextual variety and target number of respondents, respondents were recruited from two key sources: a large University in the southeastern United States and panel respondents through a market research company, Lucid.

The design for the survey was almost identical across both samples, with a minor difference in the Time 3 survey. The Time 1 survey included measures for the hypothesized antecedents and demographic and role control variables. The Time 2 survey was distributed to each respondent approximately 2 weeks after completion of the Time 1 survey. This two week lag was chosen to provide enough time lag for the proposed antecedents to have an effect on the employee connecting behavior types, yet to not be so long as to result in a dramatic drop off in retention between the two studies. The Time 2 survey included the new scales for the employee connecting behavior types which were developed in Study 1, as well as scales for the dispositional control variables. The reason

for including the dispositional control variables in the Time 2 survey was to more evenly distribute the survey length between the two surveys. The Time 1 survey includes an ego network survey in order to collect the measure for structural holes (described in more detail below in Measures section). Ego network surveys are more time consuming than typical scale surveys. Therefore, I moved the dispositional items, which are theoretically stable over time, to the Time 2 survey.

The Time 3 survey included the dependent variables, employee creativity and contributes to others' creativity. For the University sample, I requested contact information for up to three coworkers from the survey participant in the Time 2 survey. I distributed the Time 3 survey to these coworkers one week after the employee completed the Time 2 survey. For the Lucid sample, since I was unable to collect personally identifiable information for coworkers, I instead included a link to the Time 3 survey in the Time 2 survey. The instructions asked the employee to copy and paste the link, along with the email text I had provided that gave instructions on how to complete the survey, into an email and send to a coworker. As a contingency, I also included the dependent variable measures as self-report measures in the Time 2 survey, in case the Time 3 response rate was too low to provide enough power to test those hypotheses.

The first set of respondents were recruited through social media advertisements and marketing emails distributed from the University to alumni, evening and executive MBA students, and staff. Given the broad nature of this distribution, the total number of potential participants who received these communications is unknown. However, 151 participants clicked on the survey link to investigate the opportunity. Of these 151, 99 completed the Time 1 survey, and 71 of these respondents also completed Time 2. I

further removed ten cases of respondents who did not pass at least five of the six attention checks that were distributed through the Time 1 and Time 2 surveys, resulting in 61 cases that successfully completed Time 1 and Time 2. Of these 61, 38 respondents had at least one coworker complete the Time 3 survey. Given the low overall response rate from this sample, I next moved to the vendor, Lucid, for recruitment of the remainder of the target employee sample.

Lucid is a market research company that partners with a large variety of respondent panels to match researchers and respondents by required criteria. Respondents were recruited through advertisements by Lucid and were required to be full-time employees located in the US. Initial pilot tests identified the panels which provided the highest quality of respondents and only these panels were used for this survey. From this source, 526 respondents completed the Time 1 survey, of which 133 completed survey 2. Only three of these respondents had a coworker complete the Time 3 survey. Note, to manage costs, throughout these surveys, if a respondent failed attention checks in the survey, they were dropped from the survey at that point and not allowed to continue. Therefore, no additional cases were required to be dropped in the analysis.

I conducted an attrition analysis to test for non-random sampling bias resulting from attrition between Time 1 and Time 2, and I investigated each sample source (University and Lucid) separately. To investigate the potential for non-random sampling bias, I utilized the steps set forth by Goodman and Blum (1996). First, I conducted multiple logistic regression assessing the effect of key demographic and role variables on whether the participant stayed with the study between Time 1 and Time 2. In the University sample, ethnicity (a binary variable noting whether the participant was white

or non-white) was the only significant predictor of retention (β = -1.92, SE = .54), such that white individuals were more likely to continue through survey 2. In the Lucid sample, age (measured as a 5-point incremental categorical variable) was the only significant predictor of retention (β = .40, SE = .08), such that the older individuals were more likely to continue through survey 2.

Subsequent analyses (Goodman & Blum, 1996) show that, for the University sample, the mean of ethnicity for stayers (mean = .19, sd = .40) is significantly different from the mean ethnicity for leavers (mean = .59, sd = .50; t = 3.71, df = 39), and difference in variances (whole sample variance = .213, n = 99; partial sample variance = .159, n = 61, z = -3.12) is significant. For the Lucid sample, the mean age for stayers (mean = 3.24, sd = 1.18) is significantly different from the mean age of leavers (mean =2.63, sd = 1.24; t = -5.12, df = 252), and difference in variances (whole sample variance = 1.57, n = 526; partial sample variance = 1.39, n = 133, z = -3.5) is significant. Given the lack of the dependent variable in the Time 1 survey, I was unable to test for biases related to these variables in regression coefficients. However, as described below in the Analyses section, neither of these variables (ethnicity / non-white or age) were significant predictors of the mediators or dependent variables in any of these analyses. This helps alleviate some concern for sampling bias effects on the conclusions of this study, although it cannot alleviate all risk.

In sum, 194 cases have completed Time 1 and Time 2 data while only 41 cases have complete data through Time 3. Therefore, in my analysis, I will complete the analysis on the dependent variables with both the other report data, and the self-report measures collected in Time 2. In the final sample, 48% of the respondents were female,

78% were Caucasian, and 49% have some sort of management role in that they supervise one or more other individuals. Regarding age, 13% were between 18 and 30 years old, 30% between 31 and 40, 23% between 41 and 50, 24% between 51 and 60 and 10% above 60. Approximately 39% of the sample reported having earned a bachelor's degree while 33% reported an education level below that and 28% reported earning a master's, doctorate or professional degree. Average tenure in this sample was 9.6 years (SD = 9.76) with their current company.

4.2.2 Measures

Unless otherwise noted, all measures will be assessed on a 5-point Likert scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree." A full inventory of the items for these scales is included in Appendix B.

Associative Thinking: Associative thinking skills were assessed with the Remote Associates Test (RAT) originally developed by Mednick (1962). In each question of this task, three words were presented that are remotely associated with each other through a fourth word which needs to be provided by the respondent. For example, thread-pine-pain are all associated with the word needle (needle and thread, pine needle, needles cause pain). I used 10 items from a 30 items scale psychometrically validated in a US sample (Lee, Huggins, & Therriault, 2014). I excluded 3 items that had significantly different results for males and females. To reduce the likelihood of survey fatigue, I randomly selected 10 items from the remaining 27 items including "piece, mind, dating," for which the correct response is "game."

Prosocial Motivation: To assess prosocial motivation in the broad work context, I used the 5-item scale from Grant and Sumanth (2009). Given that employee connecting

behavior may be related to one's own work (self) or others' work (other), it is important that this measure assess the prosocial motives one holds in the work context in general, not directly toward one's work only. A sample item is "I get energized by working on tasks that have the potential to benefit others."

Structural Holes: Burt's (1992) measure of network constraint is an index score comprised of one's network size, density and hierarchy. The higher the score on a range from 0 to 1, the more an individual is constrained by their network in that they have fewer structural holes and more contacts who also know each other. To obtain this measure, I collected the ego-network of each individual subject using a name-generator and asking them to list the people that they go to for professional advice and individuals who come to them for professional advice. The name generator then presented them with a follow-up question that asked the individual to note whether each contact named knows the other contacts named (Perry, Pescosolido, & Borgatti, 2018). The network constraint measure was calculated in E-Net v.49 (Borgatti, 2006). Since this is an inverse measure of structural holes, I calculated the structural holes measure as 1 - network constraint for easier interpretability.

Opportunity-Enhancing HR Practices: This 9-item measure from Prieto & Pérez-Santana (2014) assesses employee involvement in two specific HR practices that relate to the employee's opportunity to contribute to HR outcomes: flexible job design and extensive use of employee participation. A sample item from this scale is "My company emphasizes employees' job rotation and flexible work assignments in different work areas."

Employee Connecting Behavior: The items developed in Study 1 for the four types of connecting behavior were included in Study 2 in the Time 2 survey. Upon review of the dropped prosocial item, item 3: …to give advice, I noticed that it did not include the same specificity as the other items and perhaps this is the reason for the lack of fit. Therefore, I updated the item to read "…to give advice on a particular topic" and included in Study 2 to assess fit.

Employee Creativity: The focal employee's coworker was asked to provide an assessment of the focal employee's creativity at work. For this coworker report, I used the 4-item scale in Farmer, Tierney, and Kung-Mc-Intyre, 2003. This scale asks the coworker the extent to which he or she agrees that the employee "tries new ideas or methods first" and "seeks new ideas and ways to solve problems," for example. For the self-report creativity measure, I utilize a previously used and validated self-report measure of creativity in Shalley, Gilson, and Blum (2009). This 3-item measure asks the respondent to which extent "the work I produce is creative," "the work I produce is original," and "the work I produce is novel."

Contributes to Others' Creativity: The 4-item survey measure created and validated in Study 1 was included as self-report in Time 2 survey and other-report in the Time 3 survey. For example, in the Time 2 survey, the employee is asked to what extent do you agree with the following: "I enhance the creativity of my colleagues." In the Time 3 survey, this employee's coworker is asked to what extent does the following describe his or her coworker: "He/she enhances the creativity of his/her colleagues."

4.2.3 Control Variables

Demographic and role control variables: Sex, age, ethnicity, education (ordinal measure), position (ordinal measure which will serve as an indicator of hierarchical status), and tenure with company (years) were included as demographic and role-related control variables as these may significantly impact the outcomes of one's own creativity and contributes to others' creativity. These variables were assessed in the Time 1 survey. In addition, source of respondent (University recruitment versus Lucid recruitment) is included as a control variable.

Social desirability: In order to control for social desirability bias which may inflate one's self-assessment of employee connecting behaviors, Time 2 survey included Reynolds' (1982) 13-item scale. Items include "no matter who I'm talking to, I'm always a good listener" and "there have been occasions when I took advantage of someone" (reverse-coded).

Creative self-efficacy: Given the known positive association between creative self-efficacy and creative performance (Shalley et al., 2004), I included a measure of creative self-efficacy as a control in predicting employee creativity. I used Tierney & Farmer's (2002) 3-item measure which includes the item "I have confidence in my ability to solve problems creatively."

Intrinsic motivation: Similarly, given the strong linkage of intrinsic motivation and creative outcomes (Shalley et al., 2004), I control for employee intrinsic motivation using Hackman & Lawler's (1971) 3-item scale. A sample item is "I feel a great sense of personal satisfaction when I do my job well."

4.2.4 Analytic Strategy

First, I assessed the means, standard deviations, reliabilities, and correlations of all study variables. Next, I used MPlus 7.2 to conduct a CFA on employee connecting behavior to further validate the proposed dimensionality of the construct. Then I iteratively added in the latent variables of the dependent variables to ensure a good fit of the measurement model before adding in proposed relationships. Finally, for hypothesis testing, I estimated the hypothesized SEM model and validated the fit of the data to this model by evaluating the chi-square, CFI, RMSEA and SRMR statistics and comparing the fit of this model to alternative and / or nested models as described below. Note, given the relatively small sample size compared to the number of hypothesized control variables, any insignificant control variables were dropped from the reported analyses (Becker, 2005). Also, given the low response rate for the dependent variables from employees' coworkers, the hypothesis testing is done using the self-report measures of creativity and contributes to others' creativity. Finally, to test the final two hypotheses that propose relatively stronger effects of one type over another, I conduct a z-test comparing the beta coefficients, utilizing the following formula recently applied in the management literature (Liu, Jiang, Shalley, Keem, & Zhou, 2016; Paternoster, Brame, Mazerolle, Piquero, 1998): $Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$. This analysis is done when the initial results present more than one significant relationship to be compared.

4.2.5 Results

Descriptive statistics, bivariate correlations, and reliabilities for all Study 2 variables are reported in Table 5.

Table 5.

Means, Standard Deviations, and Correlations of Study 2 Variables.

Variables	Mean	SD	1	2	3	4	5	6	7	8
1 Source	0.65	0.48	--							
2 Age	2.86	1.21	.45**	--						
3 Female	0.48	0.50	-.12	-.20**	--					
4 NonWhite	0.22	0.42	.03	-.18**	-.03	--				
5 Education	3.86	1.16	-.50**	-.28**	.00	.15*	--			
6 Management	0.49	0.50	-.03	.06	-.15*	.06*	.09	--		
7 Tenure with company	9.60	9.76	.29**	.55**	-.10	-.10	-.19**	.19**	--	
8 Social desirability	3.39	0.56	-.00	.16*	-.01	.03	-.08	.02	.12	**.72**
9 Creative self-efficacy	4.12	0.60	.01	.08	-.06	.01	.05	.21**	-.03	.27**
10 Intrinsic motivation	4.07	0.63	-.23**	-.16*	.01	-.01	.25**	.10	-.16*	.03
11 Structural holes	0.53	0.23	-.34**	-.24**	.13	.01	.29**	.11	-.12	.00
12 Associative thinking	4.08	3.16	-.18*	-.01	.19**	-.02	.17*	.01	.02	-.19**
13 Prosocial motivation	4.25	0.59	-.14*	-.14*	.21**	.07	.11	.13	-.13	.11
14 Opportunity-enhancing HR practices	3.72	0.68	.11	-.11	.05	.15*	.01	.08	.00	.17*
15 Prosocial connecting	3.20	0.83	-.18**	-.11	.06	-.00	.13	.28**	-.08	.10
16 Conferral connecting	3.00	0.87	.03	-.07	-.02	.12	.08	.25**	-.06	.18*
17 Strategic connecting	3.43	0.95	-.14	-.16*	.09	.08	.13	.21**	-.12	.20**
18 Instrumental connecting	3.30	0.93	-.18	-.12	.07	-.00	.19**	.29**	-.03	.19**
19 Creativity (self-report)	3.42	0.87	-.04	-.11	.08	.05	.18*	.14	-.02	.18*
20 Contributes to others' creativity (self-report)	3.57	0.84	-.05	-.06	-.03	-.01	.10	.21**	.02	.14*
21 Creativity (other-report)	4.28	0.65	-.16	-.09	-0.1	.02	.17	.15	-.07	-.01
22 Contributes to others' creativity (other-report)	4.33	0.60	-.12	.04	.18	-.19	.16	-.07	.01	.09

Table 5. (Continued)

Variables	9	10	11	12	13	14	15	16
1 Source								
2 Age								
3 Female								
4 NonWhite								
5 Education								
6 Management								
7 Tenure with company								
8 Social desirability								
9 Creative self-efficacy	**.72**							
10 Intrinsic motivation	.52**	**.84**						
11 Structural holes	.09	.21**	--					
12 Associative thinking	.00	.02	.07	--				
13 Prosocial motivation	.36**	.42**	.15*	.06	**.88**			
14 Opportunity-enhancing HR practices	.18*	.22**	-.01	.05	.15*	**.89**		
15 Prosocial connecting	.25**	.27**	.15*	.01	.43**	.11	**.89**	
16 Conferral connecting	.28**	.27**	-.03	-.12	.38**	.13	.71**	**.92**
17 Strategic connecting	.22**	.21**	.09	-.09	.29**	.22**	.57**	.58**
18 Instrumental connecting	.15*	.16*	.14*	-.04	.20**	.08	.55**	.49**
19 Creativity (self-report)	.43**	.43**	.14*	-.08	.29**	.22**	.25**	.36**
20 Contributes to others' creativity (self-report)	.38**	.39**	.17*	-.06	.40**	.20**	.42**	.39**
21 Creativity (other-report)	-.02	.06	-.02	.06	.06	-.23	.06	.05
22 Contributes to others' creativity (other-report)	-.10	-.12	.15	.09	-.16	.04	-.08	-.18

Table 5. (Continued)

Variables	17	18	19	20	21	22
1 Source						
2 Age						
3 Female						
4 NonWhite						
5 Education						
6 Management						
7 Tenure with company						
8 Social desirability						
9 Creative self-efficacy						
10 Intrinsic motivation						
11 Structural holes						
12 Associative thinking						
13 Prosocial motivation						
14 Opportunity-enhancing HR practices						
15 Prosocial connecting						
16 Conferral connecting						
17 Strategic connecting	**.94**					
18 Instrumental connecting	.81**	**.95**				
19 Creativity (self-report)	.25**	.23**	**.83**			
20 Contributes to others' creativity (self-report)	.43**	.40**	.49**	**.89**		
21 Creativity (other-report)	.05	.01	-.06	-.11	**.83**	
22 Contributes to others' creativity (other-report)	.12	.10	.17	-.04	.61**	**.85**

[a]n=194-211. For other-report variables, n=41. For source, 0 = University, 1 = Lucid. For age, 1 = 18-30, 2 = 31-40, 3 = 41-50, 4 = 51-60, 5 = over 60. For Female, 0=male, 1=female. For Non-White, 1=White/Caucasian and 0=all else. For Education, 1 = less than high school diploma, 2 = high school diploma or equivalent, 3 = associates degree, 4 = bachelor's degree, 5 = master's degree, 6 = professional degree or doctorate. For management, 0 = does not supervise others, 1 = does supervise others. Tenure with company measured in years. Structural holes measured as 1 – network constraint. Associative thinking measured as count of number of accurate responses out of 10. All other items measured on a 1-5 Likert scale. Reliability for each scale, measured by Cronbach's alpha, is listed in bold print on the diagonal.
*$p \leq .05$; **$p < .01$ (two-tailed).

4.2.6 Confirmatory Factor Analysis

Similar to the approach described in Study 1, I first conducted a factor analysis in SPSS using principle axis factoring method with Promax rotation and setting factors equal to 4. These results showed that the revised prosocial connecting item 3 (discussed in Measures section above) loaded cleanly on the prosocial type and therefore is retained going forward. However, the item listed as prosocial connecting item 5 in Appendix A, which loaded on the conferral connecting type in this sample, did not load onto any factor at a level above .40. Given the volatility of this item across studies, I removed it from subsequent analyses. Therefore, the final set of items for the four types of connecting behavior are shown in Table 6 along with the related factor loadings from this factor analysis.

Table 6.

Study 2 Standardized Factor Loadings of Employee Connecting Behavior Types[a]

		1	3	2	4
I choose to introduce a professional contact to someone they do not know…		Instrumental Connecting	Strategic Connecting	Conferral Connecting	Prosocial Connecting
Outside the scope of your own work	to exchange specific information				0.73
	to provide a specific resource				0.84
	to give advice on a particular topic				0.76
	to get help with something specific				0.70
	who has common interests			0.89	
	to work together to generate new ideas			0.83	
	to form a new collaboration			0.85	
	to form a new relationship			0.82	
	to develop a new relationship that would advance their goals			0.64	
as a part of doing work you are responsible or accountable for	to exchange specific information	0.94			
	to get a specific resource	0.85			
	as a referral for a needed service	0.62			
	to give advice on a specific topic	0.80			
	who had information the other person needed	0.92			
	to form a new working relationship		0.79		
	to work together to generate new ideas		0.70		
	to form a new collaboration		0.77		
	to work together on a new task		0.78		
	to develop a new relationship that would advance our work		0.64		
	Eigenvalues	11.1	2.7	1.1	0.8
	% of variance	55.5%	13.2%	5.4%	3.8%

[a]*n=205. Note this is slightly higher than the total number of respondents who completed Survey 2 due to some respondents dropping from the survey between this measure and the end of the survey.*

I next moved to conducting CFA analysis of the four hypothesized types of employee connecting behavior in MPlus. I ran the hypothesized 4-factor model and then estimated nested models and compared them to the 4-factor model by comparing fit statistics and conducting a Chi-square difference test. The results were very similar to the

results in Study 1 and are shown in Table 7. The 4-factor model was supported as a significantly better fit to the data given the degrees of freedom than the alternative 1, 2 or 3 factor models. I therefore moved forward to hypothesis testing with the hypothesized four types of employee connecting behavior.

Table 7.
Study 2 Nested Model Comparisons for Employee Connecting Behavior Types

Model ID	Model Name	LL	npar	Model Chi-square	df	p-value	CFI	RMSEA	SRMR	Comparison	LRTS	df	p-value
M1	4 Factor	-3749.7	63	351.68	146	0	0.945	0.083	0.041				
M2	3 factor (I with S)	-3848.85	62	549.978	147	0	0.891	0.116	0.048	M2 vs. M1	198.296	1	0.000
M3	1 factor	-4233.67	57	1319.626	152	0	0.685	194	0.122	M3 vs. M2	769.648	5	0.000
										M3 vs. M1	967.944	6	0.000
M4	2 factor (I with S) (P with C)	-3911.43	61	675.146	148	0	0.858	0.132	0.057	M4 vs. M3	644.48	4	0.000
										M4 vs. M1	323.464	2	0.000
M5	2 factor (I with P) (S with C)	-4085.5	61	1023.287	148	0	0.764	0.17	0.12				
										M5 vs. M3	296.338	4	0.000
										M5 vs. M2	473.31	1	0.000
										M5 vs. M1	671.606	2	0.000

4.2.7 Hypothesis Testing

Hypothesis testing was conducted with structural equation modeling in MPlus using latent variables for each of the hypothesized constructs (except for associative thinking and structural holes, which were not scale measures). I first tested the antecedents of the employee connecting behavior types and then tested the consequences.

For each analysis, I tested with all control variables and then removed the control variables that did not significantly relate to the outcome. For Hypotheses 1-4, with the employee connecting behavior types as dependent variables, the significant control variables included were management and social desirability. Results for the control variables are excluded from the SEM diagram for parsimony, but the analysis suggests that employees in a supervisory role (management) were higher on each type of employee connecting behavior ($\beta = .50$, $p < .01$ for prosocial, $\beta = .47$, $p < .01$ for conferral, $\beta = .39$, $p < .01$ for strategic and $\beta = .64$, $p < .01$ for instrumental). Employees high on social desirability were more likely to report engaging in strategic ($\beta = .30$, $p = .03$) and instrumental ($\beta = .37$, $p < .01$) employee connecting behavior. The hypothesized model represents a relatively good fit to the data according to the model fit statistics ($\chi^2_{(636)} = 1096.44$, $p < .01$; CFI = .906; RMSEA = .063 [CI: .056, .069]; SRMR = .077). Results from this hypothesis testing are shown in Figure 3.

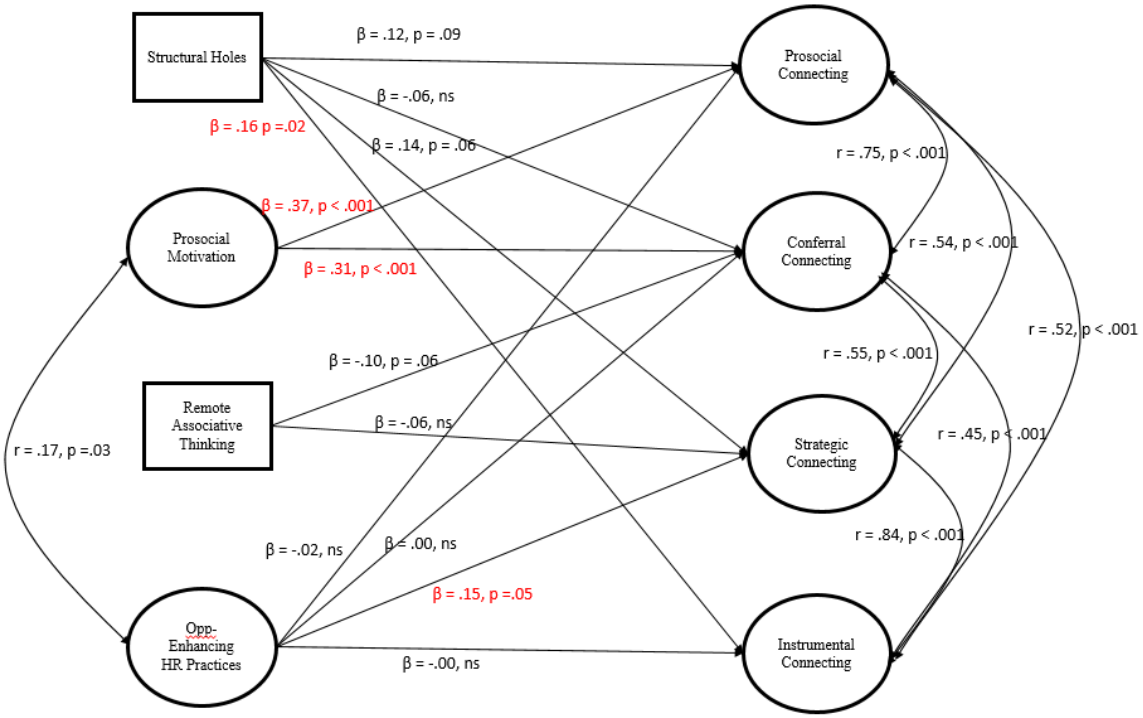

Figure 3.
Structural Equation Model for Antecedents of Employee Connecting Behavior (H1-4)

As shown in Figure 3, Hypothesis 1, which proposed that each type of employee connecting behavior would be positively significantly related to the existence of structural holes in one's social network was partially supported. According to this analysis, only instrumental connecting behavior was significantly related to structural holes (β = .16, p = .02), however prosocial connecting and strategic connecting were marginally significantly related (β = .12, p = .09 for prosocial connecting and β = .14, p = .06 for strategic). Hypothesis 2, proposing that employees higher in remote associative thinking ability would be more likely to engage in conferral and strategic connecting was not supported. Contrary to the hypothesis, remote associative thinking was negatively

related to conferral connecting at a marginally significant level (β = -.10, p = .06) and not significantly related to strategic (β = -.06, ns). Hypothesis 3 which proposed that prosocial motivation would enhance ones' prosocial and conferral connecting behavior was supported. Prosocial motivation was significantly, positively related to both prosocial connecting behavior (β = .37, p < .001) and strategic connecting behavior (β = .31, p < .001). Finally, Hypothesis 4, which proposed the contextual factor of opportunity-enhancing HR practices would increase the likelihood of engaging in each type of connecting behavior received only partial support in that only strategic connecting behavior was positively related to these HR practices (β = .15, p = .05).

I next conducted structural equation modeling for the proposed consequences of employee connecting behavior. The analysis was first run with all control variables, but only creative self-efficacy and intrinsic motivation were significantly related to the dependent variables of employee creativity and contributes to others' creativity. Therefore the analysis was rerun with only these control variables to conserve power for significance testing (Becker, 2005). The overall fit of the hypothesized consequences of employee connecting behavior was good per the model fit statistics ($\chi^2_{(326)} = 649.318$, $p < .01$; CFI = .931; RMSEA = .069 [CI: .061, .076]; SRMR = .055). The detailed results of the hypothesis testing are represented in Figure 4. Controls are not included for parsimony, however both creative self-efficacy and intrinsic motivation were positively and significantly related to both employee creativity (β = .32, p < .01 for creative self-efficacy and β = .27, p < .01 for intrinsic motivation) and contributes to others' creativity (β = .20, p < .01 for creative self-efficacy and β = .21, p < .01 for intrinsic motivation). Creative self-efficacy and intrinsic motivation correlated with each other at $r = .55$.

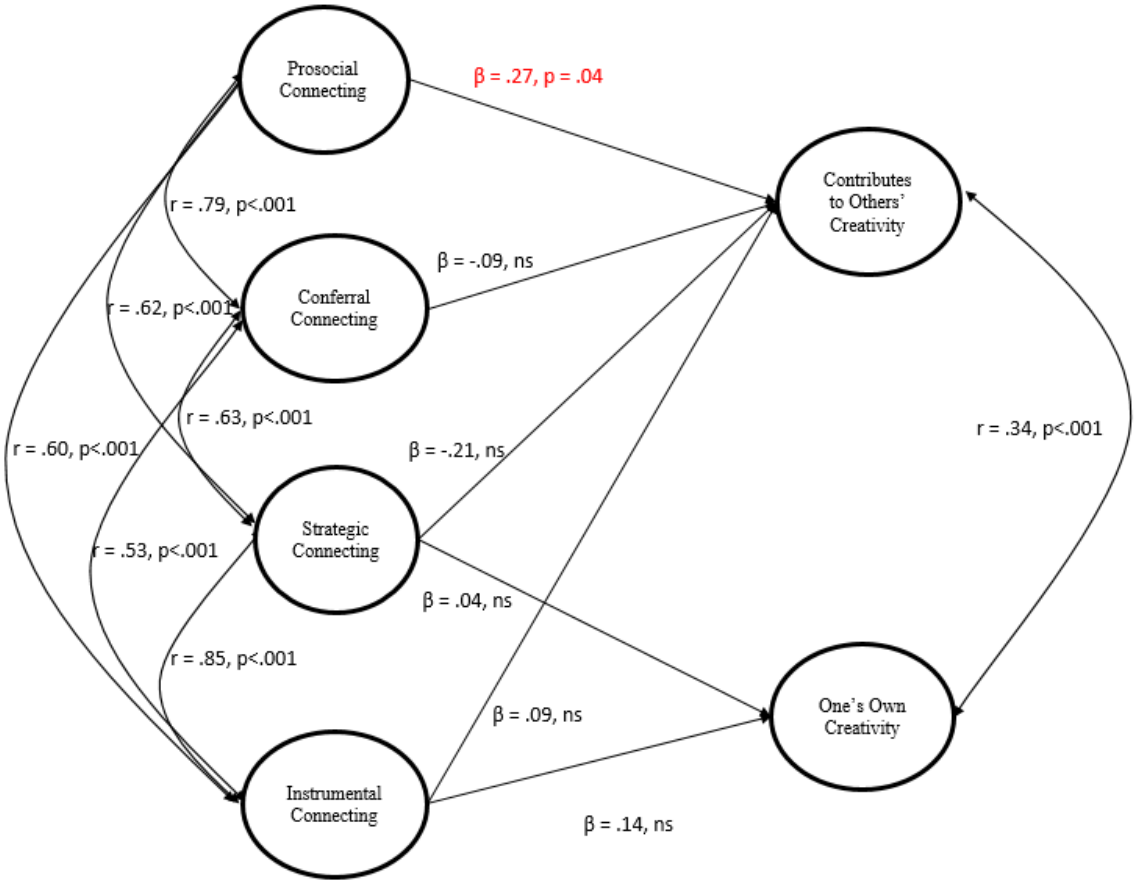

Figure 4.
Structural Equation Model for Consequences of Employee Connecting Behavior (H5-6)

Hypothesis 5, which proposed that all types would be positively related to contributes to others' creativity and that strategic and conferral connecting would be more strongly related than prosocial and instrumental connecting. However, the results show that only prosocial connecting is positively, significantly related to contributes to others creativity (β = .27, p = .04). Hypothesis 6, which proposed that strategic

connecting would be more strongly related to one's own creativity than instrumental was not supported as neither was significantly related to one's own creativity.

4.2.8 Supplemental Analyses

As noted above, testing of Hypotheses 5 and 6 was conducted with self-report creativity and contributes to others' creativity. These variables were collected in the same survey as the predictors, the employee connecting behavior types. Therefore, this analysis is subject to an increased possibility of common method variance (CMV; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In the survey design, I followed Podsakoff and colleagues (2003) recommendations to take multiple steps to differentiate the survey items related to the employee connecting behavior scales and the self-report dependent variable scales in order to alleviate some CMV concerns. For instance, these items were on separate pages with other items in between, were presented in different colors and with different scales (the former assessed by frequency and the latter by agree-disagree likert scale).

As a post-hoc test for the presence of CMV, and the potential for bias in results due to this variance, I utilized the CFA marker variable technique recommended by Richardson, Simmering, & Sturman (2009). According to the research conducted by Richardson and colleagues (2009), the CFA marker technique is the best of the available options in detecting the presence of CMV and any bias in results likely due to this variance, although it is still far from perfect. Nonetheless, in the research design I included a marker variable, which is a self-report scale item that is theoretically unrelated to the variables of interest in the study. The marker variable selected was record-keeping

from Bacharach, Bamberger, & Conley, 1990 which includes items such as "I keep accurate records of every situation" (full scale presented in Appendix B).

To conduct this test for CMV and related bias, I modeled multiple CFAs and compared the fit, following the guidelines presented by Richardson and colleagues (2009). The model results and chi-squared difference test results are presented in Table 8 below. Specifically, I first ran a CFA in MPlus jointly modeling latent variables for the independent variables (the four types of employee connecting behavior), the dependent variables (self-report creativity and contributes to others creativity), and the marker variable (record-keeping), allowing all latent variables to freely covary. I next ran a *baseline* model CFA which modified this first model in two ways: the marker variable was modeled as unrelated to the independent and dependent variables (correlated at 0) and the loadings of the marker variable items on the marker variable were fixed to match the factor loadings estimated in the first CFA. Next, I updated the baseline model by allowing the items from the independent and dependent variables to load onto the marker variable at an equal amount. This "method C" model tests for the presence of CMV. If the method C model fits significantly better than the baseline, there is evidence of CMV. Finally, I updated this model by also setting the correlation between the independent variables and dependent variables to be constrained to the values estimated in the baseline model. This "method R" model tests for bias due to CMV. If the method-R model fits worse than method C, there is evidence of bias due to CMV. As seen in Table 8, the results suggest that although CMV is present in this data, it is unlikely to have biased the parameter estimate results.

Table 8.
Study 2 Nested Model Comparison Tests for CMV Presence and / or Bias

Model ID	Model Name	LL	npar	Model Chi-square	df	p-value	CFI	RMSEA	SRMR	Comparison	LRTS	df	p-value
1	Method R (Bias test)	-6082.28	122	667.913	342	0	0.932	0.067	0.052				
2	Method C (CMV present?)	-6094.95	105	693.261	359	0	0.93	0.066	0.054	M2 vs. M1	25.348	17	0.087
3	Baseline Model	-6095.5	104	694.349	360	0	0.93	0.066	0.056	M3 vs. M2	1.088	1	0.297
										M3 vs. M1	26.436	18	0.090

In addition to the threat of CMV for the outcomes of employee connecting behavior, this analysis is also potentially at risk for bias due to multicollinearity between the types. To test for this, I conducted regression analyses in SPSS to calculate the VIF and Tolerance statistics which are commonly used as indicators of bias risk due to multicollinearity. I first tested the effect of the employee connecting behaviors on self-reported creativity (controlling for intrinsic motivation and creative self-efficacy) and the VIF factors for the four employee connecting behavior types ranged from 2.1 to 3.4 which is below the standard cutoff of 10 (Cohen, Cohen, West, & Aiken, 2003). I next tested the same predictors on the outcome of self-reported contributes to others creativity and the VIFs again ranged from 2.1 to 3.4. While these results suggest minimal risk due to multicollinearity, I also conducted alternative model testing constraining the highly-correlated types to have equal relationships to antecedents and consequences as a further test of this possibility. These results are described in the latter part of the next section.

4.2.9 Alternative Models

To test the robustness of the hypothesized nomological network of employee connecting behavior, I also tested a few alternative models for both the antecedents and consequences. First, I tested the alternative model that each hypothesized antecedent related to each type of employee connecting behavior, and that each type of employee connecting behavior related to each proposed outcome. I included the same control variables as above. The results from these analyses are shown in Figures 5 and 6. For the antecedents, the overall model fit was very similar to the hypothesized model. The fit statistics for both models is shown in Table 9. A chi-squared difference tests (results also shown in Table 9) shows that these models are not significantly different from each other. Therefore the more constrained model, in this case the hypothesized model, would be the preferable model in the interest of parsimony. The primary difference in significant relationships is that in the alternative model, prosocial motivation is shown to be a significant predictor of strategic connecting ($\beta = .21$, $p < .01$), and opportunity-enhancing HR practices is not positively related to strategic connecting.

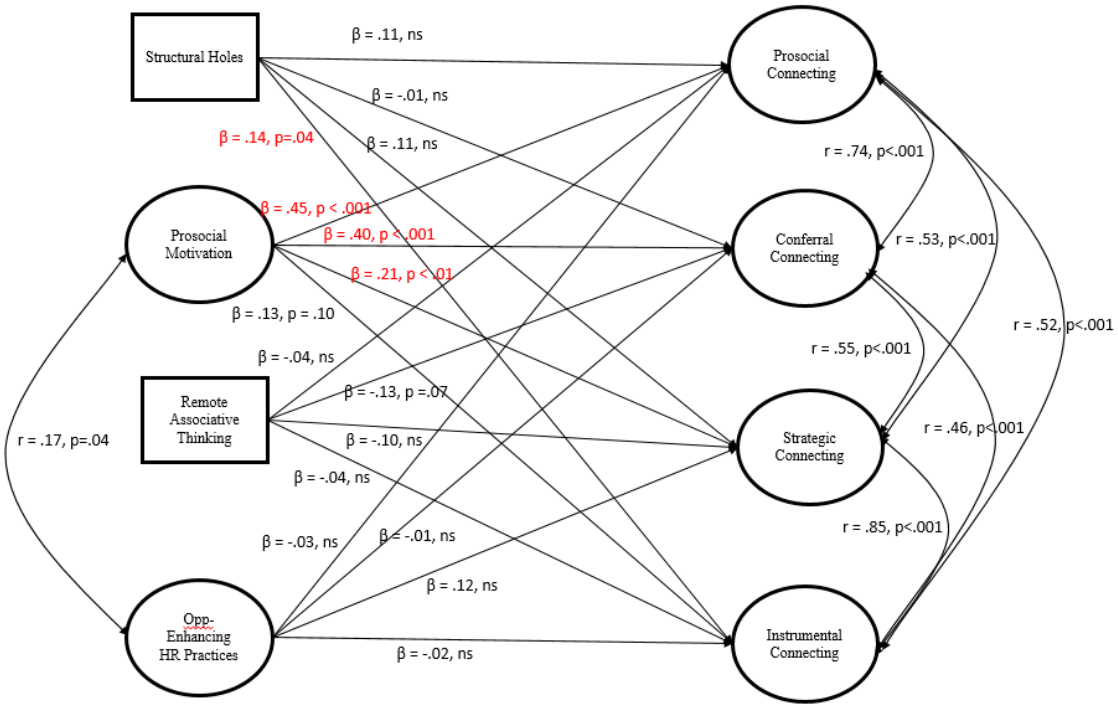

Figure 5.
Alternative Model 1a: Structural Equation Model for Antecedents of Employee Connecting Behavior (H1-4)

Regarding Hypotheses 5 and 6, again, the model fit statistics show a very similar fit to the data. These statistics are shown in Table 10. The Chi-square difference test between these models does suggest that the less constrained model is a significantly better fit to the data and therefore suggests that this alternative model which allows all types to relate to both outcomes is a better fit. The primary difference in this model is that conferral connecting is a significant predictor of one's own creativity ($\beta = .37$, $p < .01$) and that prosocial connecting is now only marginally significantly related to the outcome of contributes to others' creativity ($\beta = .23$, $p = .09$).

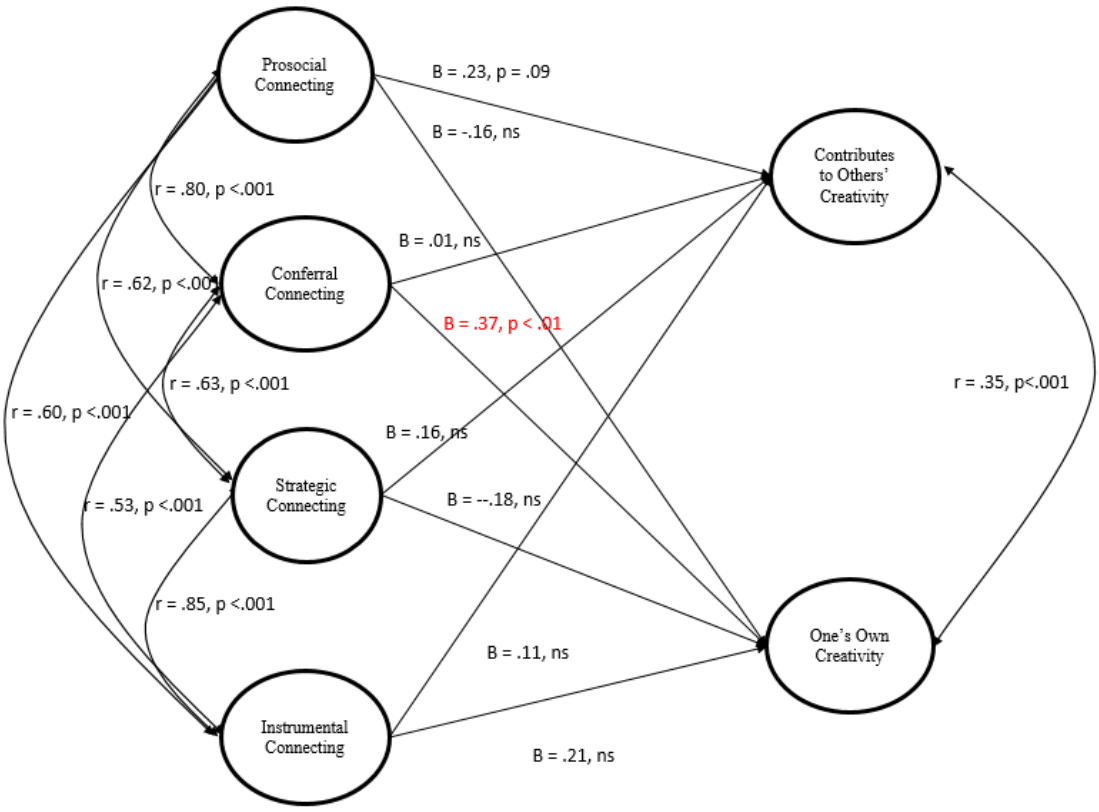

Figure 6.
Alternative Model 1b: Structural Equation Model for Consequences of Employee Connecting Behavior (H5-6)

The primary concern with the hypothesized model and first alternative model analysis is the potential for multicollinearity to be adversely affecting the results. Even though the CFA results from Study 1 and Study 2 support the existence of four distinct types of employee connecting behavior, the correlation between prosocial and conferral connecting as well as the correlation between strategic and instrumental connecting are consistently above 0.7 which suggests they might not be distinguishable by survey

respondents. Therefore, I tested an additional set of alternative models that constrain effects on and from prosocial connecting and conferral connecting to be equal, and that constrain the effects on and from strategic connecting and instrumental connecting to be equal.

For the antecedents of employee connecting behavior, I tested two alternatives here: first I estimated relationships between all IVs and all DVs similar to alternative model 1a, however I constrained the relationships between each antecedent and prosocial connecting to be equal to the relationship between that same antecedent and conferral connecting. Similarly, I constrained relationships between antecedents and strategic connecting to be equal to the relationship between the same antecedent and instrumental connecting. The overall model fit statistics for this model are shown in Table 9 as "M3," or model 3. In the second alternative, M4 in Table 9, I started with the hypothesized model, and where both creative and prosocial connecting were hypothesized to be related to that antecedent, I set the effects to be equal, and the same for strategic and instrumental connecting. Per the results in Table 9, this second approach is suggested to be a better fit to the data, which aligns with the results of the first alternative model testing. Therefore, it is this model, M4, which is presented in Figure 7.

According to these results, Hypothesis 1 is supported for strategic and instrumental connecting ($\beta = .14$, $p = .04$) but not prosocial and conferral connecting. Similar to the initial hypothesis testing results, Hypothesis 2 is not supported in that remote associative thinking is negatively, not positively, related to conferral connecting, and it is not significantly related to strategic connecting. Hypothesis 3 is still supported in this alternative analysis in that prosocial motivation is significantly, positively related to

prosocial and conferral connecting (β = .34, p < .001). And finally, in this alternative analysis, Hypothesis 4 is not supported in that opportunity-enhancing HR practices are not significantly related to any connecting behaviors.

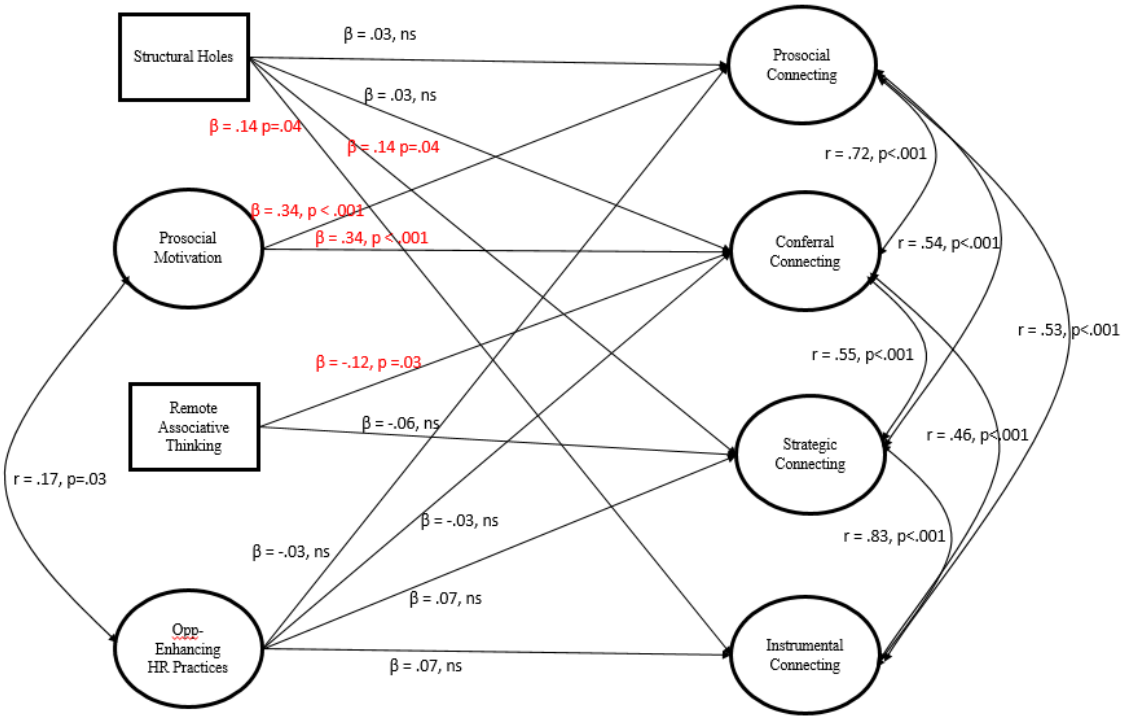

Figure 7.
Alternative Model 2a: Structural Equation Model for Antecedents of Employee Connecting Behavior (H1-4)

For the consequences of employee connecting behavior, I included all relationships rather than the hypothesized relationships, given the outcome from the test of alternative model 1b. Again, the overall fit statistics of the model are quite similar to the previous models. The results are in Table 10. The chi-square difference test is insignificant suggesting that this alternative, more constrained model is the better fit for the data given the improved parsimony. Also, the parameter estimates are more in line with the theoretical predictions which suggests that the previous models' parameter estimates may have been biased due to multicollinearity among some of the types. According to the results of this test, Hypothesis 5 is partially supported in that each connecting behavior type is positively related to contributions to others' creativity. To test the relative prediction that strategic and instrumental are more strongly related to this outcome than prosocial and conferral, I conducted a z-test of the beta coefficients, utilizing the approach recently applied in the management literature ($Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$. ; Liu, Jiang, Shalley, Keem, & Zhou, 2016; Paternoster, Brame, Mazerolle, Piquero, 1998). The resulting value comparing the β = .14, sd = .043 for strategic / instrumental connecting and β = .12, sd = .046 for prosocial / conferral connecting is z = .32 is not significant at an alpha = .05 level, and therefore the relative portion of this hypothesis is not supported.

Regarding Hypothesis 6, which proposes that only strategic and instrumental connecting are related to one's own creativity, this is not supported through this alternative model. On the contrary, this suggests that only prosocial / conferral connecting behaviors are related to one's own creativity. However, it is important to note that this analysis is utilizing self-reported creativity. This potential limitation is discussed more in-depth in the limitations section below.

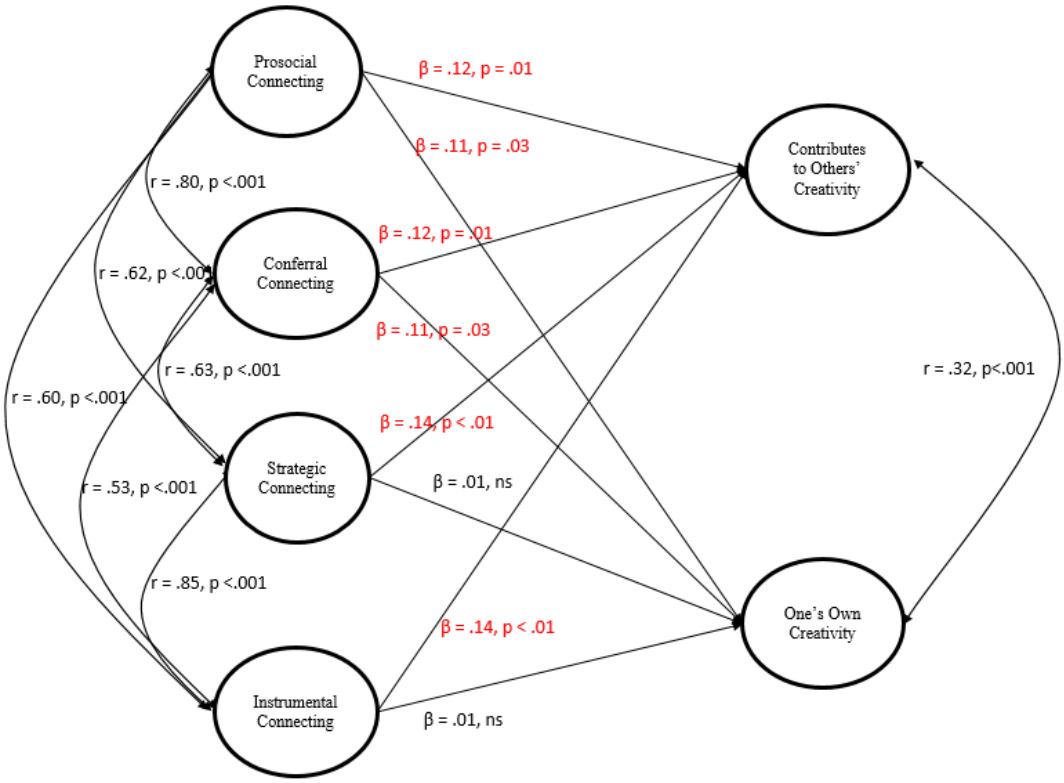

Figure 8.
Alternative Model 2b: Structural Equation Model for Consequences of Employee Connecting Behavior (H5-6)

Table 9.
Nested Model Comparisons for Hypothesized Antecedents and Alternative Models.

Model ID	Model Name	LL	npar	Model Chi-square	df	p-value	CFI	RMSEA	SRMR	Comparison	LRTS	df	p-value
M1	all relating	-6264.46	133	1087.964	632	0	0.907	0.062	0.062				
M2	as hypoth	-6268.7	129	1096.439	636	0	0.906	0.063	0.077	M2 vs. M1	8.474	4	0.076
M3	P = C	-6280.46	121	119.948	644	0	0.902	0.063	0.065	M3 vs. M2	23.51	8	0.003
	S = I									M3 vs. M1	31.984	12	0.001
	all												
M4	P = C	-6281.23	120	1121.495	645	0	0.902	0.063	0.079	M4 vs. M3	1.546	1	0.214
	S = I									M4 vs. M2	25.056	9	0.003
	as hyp									M4 vs. M1	33.53	13	0.001

Table 10.
Nested Model Comparisons for Hypothesized Consequences and Alternative Models.

Model ID	Model Name	LL	npar	Model Chi-square	df	p-value	CFI	RMSEA	SRMR	Comparison	LRTS	df	p-value
M1	all relating	-5615.16	110	640.577	324	0	0.932	0.068	0.050				
M2	as hypoth	-5619.53	108	649.318	326	0	0.931	0.069	0.055	M2 vs. M1	8.742	2	0.013
M3	P = C S = I	-5618.56	106	647.382	328	0	0.931	0.068	0.051	M3 vs. M1	6.806	4	0.147

4.2.10 Relative Weights Analysis of Hypotheses 5 and 6

While multiple regression analysis provides insight into how each predictor affects a criterion, holding all other predictors equal, the information provided by regression analysis does not provide insight into the relative importance of each predictor variable relative to the other (Tonidandel & Lebreton, 2011). Additionally, when predictors are correlated with each other, the regression weights can be especially problematic in that they do not accurately depict how well each predictor explains the variance in the outcome relative to each other (Johnson & LeBreton, 2004). Given the high correlations between the employee connecting behavior types in this study, it is likely that relative weights analysis can be an informative way to further understand the comparative relationship between each type of connecting behavior and the outcomes hypothesized in this research.

To perform this analysis, I utilized the process and tool put forth by Ronidandel and Lebreton (2015). In short, relative weights analysis translates the correlated predictor

variables in a regression into orthogonal variables which are then regressed upon the outcome(s). Then the weights of these orthogonal predictors are parsed back out to the original predictors (Tonidandel & Lebreton, 2011). This analysis can be done for one criterion variable, in the case of multiple regression, or for multiple criteria as in the case of multivariate regression. I utilized the RWAWeb tool (Tonidandel & Lebreton, 2015) to assess the relative weights of the connecting behavior types and the control variables of creative self-efficacy and intrinsic motivation, in affecting creativity and contributes to others creativity together in a multivariate analysis. I then conducted separate multiple regression tests for creativity and contributes to others creativity separately to further investigate these specific effects.

The results of these analyses are shown in Table 11. Considering the dependent variables together, only instrumental motivation has a statistically significant relative weight in explaining a portion of the variance explained by the model. However, when considering the outcomes separately, the results closely resemble the results shown above in Alternative Model 2b. Specifically, in this analysis all types carry a statistically significant relative weight in explaining the variance of contributes to others' creativity. In this analysis, only prosocial connecting has a statistically significant relative weight for one's own creativity.

Table 11.

Summary of Relative Weights Analysis[a]

Criterion = Creativity and Contributes to Others' Creativity (R^2=.233)

Predictor	Raw Relative Weight	Confidence Interval - Lower	Confidence Interval - Upper	Rescaled Relative Weight
Creative Self-efficacy	0.057*	0.023	0.091	24.32%
Intrinsic Motivation	0.059*	0.017	0.097	25.09%
Prosocial	0.029	-0.001	0.058	12.51%
Conferral	0.029	-0.001	0.062	12.55%
Strategic	0.025	-0.004	0.052	10.80%
Instrumental	0.034*	0.007	0.061	14.63%

Criterion = Creativity (R^2=.293)

Predictor	Raw Relative Weight	Confidence Interval - Lower	Confidence Interval - Upper	Rescaled Relative Weight
Creative Self-efficacy	0.098*	0.042	0.175	33.52%
Intrinsic Motivation	0.100*	0.045	0.179	34.34%
Prosocial	0.012	-0.005	0.033	4.20%
Conferral	0.054*	0.016	0.114	18.50%
Strategic	0.013	-0.003	0.045	4.60%
Instrumental	0.014	-0.003	0.049	4.80%

Criterion = Contributes to Others' Creativity (R^2=.330)

Predictor	Raw Relative Weight	Confidence Interval - Lower	Confidence Interval - Upper	Rescaled Relative Weight
Creative Self-efficacy	0.067*	0.019	0.140	20.78%
Intrinsic Motivation	0.069*	0.012	0.175	21.09%
Prosocial	0.051*	0.008	0.114	15.36%
Conferral	0.039*	0.006	0.084	11.70%
Strategic	0.056*	0.013	0.117	16.89%
Instrumental	0.049*	0.007	0.108	14.78%

[a]Raw relative weight= relative within R2; within rounding error, raw weights will sum to R^2.
Rescaled relative weight = percentage of predicted variance in the criteron variable(s) attributed to each predictor; within rounding error, will sum to 100%.
*Confidence interval excludes zero reflecting statistical significance of raw relative weight.

5 DISCUSSION

While the popular press (Gladwell, 2000; Nixon, 2015; Scott, 2013) and scholars (Bolino & Grant, 2016; Obstfeld, 2017) repeatedly highlight the importance of making introductions at work, there is surprisingly little research on the behavior of making introductions in the management literature. This is likely due, at least in part, to the relative lack of theorizing to guide the development of such research, and the lack of established behavioral measures that could be used to execute this research. Therefore, the purpose of this dissertation was to advance both the theorizing on employee introductions and to develop and validate behavioral measures to further this research domain.

Following the supposition that connecting two people in one's social network is akin to connecting two disparate ideas that were previously unlinked (Koestler, 1964; Simonton, 2003), I utilized creativity theory (Unsworth, 2001; Unsworth & Luksyte, 2015) to guide the proposed dimensionality of connecting behavior. Specifically, I theorize that employee connecting behavior may take one of four forms, and that individuals can engage in each of these forms equally or disproportionately. Employees may connect their professional peers to others they know in order to solve problems or create opportunities related to their own work, or in pursuit of the work of one of the individuals being connected. Additionally, employees may suggest simple resource exchanges, such as giving specific advice or exchanging relevant services, or they may envision a broad opportunity for two people they know to come together to merge

thoughts and efforts in pursuit of a more vague or ill-defined goal. Putting these dimensions together results in the four proposed forms of employee connecting behavior: prosocial, conferral, strategic and instrumental.

The results of this study partially support the multidimensionality of employee connecting behavior, yet future research is needed to fully vet the specific nature of these types. Some analyses reported through this study support the theoretical and empirical distinctions of the four hypothesized types, yet the high correlations between both prosocial and conferral connecting and between strategic and instrumental connecting suggest that a two factor model may be more functional, at least when investigating one's overall engagement in these different behaviors over time. Specifically, it appears that the dimension of problem source is more distinct than the dimension of problem type. It is possible that employees who connect for closed problem types are just as likely to connect for open problem types, or perhaps employees are not distinguishing clearly between these different types of connecting when responding to their aggregate behaviors. While individual episodes of introductions are likely to fit more clearly into one of the four types, at the aggregate level, future research will be required to confirm whether this distinction exists when assessing employees overall connecting behaviors.

Further, in this study, I proposed and tested a nomological network of employee connecting behavior, arguing that key antecedents and outcomes would differentially relate to these four types of employee connecting behavior, further supporting the need to consider them uniquely in future research. Again, the results are mixed, yet support the overall assertion that the different types of connecting behavior relate differently to important workplace antecedents and outcomes. Overall, prosocial motivation showed

the most consistent relationships to employee connecting behavior, significantly and positively relating to proposal and conferral connect as hypothesized. Given the extrinsic motivation that would be at play in driving one to connect others for their own work domain (Amabile, 1993), I did not hypothesize relationships from prosocial motivation to strategic and instrumental connecting. Alternative model testing suggested that while there may be a small, significantly positive relationship between prosocial motivation and strategic connecting, there was not a significant relationship to instrumental connecting. Additionally, the hypothesized model which only estimated paths from prosocial motivation to prosocial and conferral connecting was a significantly better fit to the data.

Remote associative thinking was hypothesized to be positively related to strategic and conferral connecting only, given the theoretical need to see distant potential connections for the open dimensions of connecting as opposed to the closed dimensions. Results did not support these hypotheses. Overall, the findings suggested a non-significant relationship between remote associative thinking and employee connecting behavior which could be due to multiple causes. It is possible that the measure was not a good fit for the online survey context in that it asks respondents to spend a set amount of time trying to successfully complete the task, and employees taking online surveys in their free time might not have had sufficient motivation to strive to complete the tasks. Additionally, it is possible that the activity itself, seeing common connections between words, is too theoretically distant from the act of seeing possible connections between people. Also, given the close correlation between the open and closed dimensions of employee connecting, it is possible that the triggers for making connections do not require such remote associative thought; perhaps the individuals being introduced are

often requesting the introduction themselves, or perhaps the ideas to connect are more readily presented through daily interactions in the work context.

Two opportunity-related antecedents were proposed to relate equally to all connecting behavior types: structural holes and opportunity-enhancing HR practices. While both antecedents were conceptualized as providing the opportunity for making new introductions for one's colleagues, these results suggest a more nuanced relationship with connecting types. Interestingly, structural holes were only significantly and positively related to instrumental connecting and opportunity-enhancing HR practices were only significantly and positively related to strategic connecting. It is likely that instrumental connecting opportunities are the most easily envisioned in that the problem source is one's own work and the problem type is the more clearly defined, simple closed-type. Therefore, it is theoretically plausible that this type of connecting is the most likely to occur when one has the opportunity to introduce colleagues who do not know each other, or rather, has more structural holes in their work advice network.

Considering that opportunity-enhancing HR practices include employee participation in decision making and flexible job design, it is also logical that these practices encourage employees to be proactive in their work efforts and encourage discretionary connecting between colleagues to get work done. Recent research also shows that high-involvement HR practices, which includes opportunity-enhancing HR practices (Shin, Jeong, & Bae, 2018), leads to higher employee intrinsic motivation and creativity at work; Therefore it is reasonable that theoretically, the presence of opportunity-enhancing HR practices stimulates one to envision open problem type connecting opportunities in executing one's own work which one is more intrinsically

invested in. However, since both of these explanations are post-hoc rationales, future research should further investigate these relationships.

Turning the lens to the outcomes of connecting behavior, it was proposed that the types of connecting behavior would differentially affect one's own creativity at work and the level to which one contributes to others' creativity. I argued that strategic and instrumental connecting (the problem source dimension of *self*) would enhance one's own creativity at work, more so for strategic connecting. This study suggests the opposite: that only prosocial and conferral connecting (the problem source dimension of *other*) enhances one's workplace creativity, and this held only when considering employee connecting as two dimensions: self and other problem source. One possible post-hoc rationale for this is that when people are connecting for their own work it is more geared toward efficiency and task performance, while engaging in connecting for others' work broadens one's understanding of various workplace problems and information across different parts of the workplace. This can lead to enhanced creative process engagement at work which leads to greater creative outcomes (Zhang & Bartol, 2010). It is also possible that reverse causality is at play here, especially given the self-report and same-time measures of connecting and creativity. Perhaps individuals who are more creative are more likely to talk to various people throughout their professional environment and see more opportunities to connect others. Future research which can collect connecting behavior and creative performance information across multiple time points can test these competing explanations.

Finally, the results of the hypothesis testing did not support the suggestion that all types of connecting behavior lead one to contribute more to others' creativity; instead

only prosocial creativity is found to positively relate to this outcome. However, the alternative model that investigated connecting as only two dimensions (self and other problem sources) shows stronger support for this relationship. When considered as two dimensions, all connecting behavior positively, significantly relates to contributes to others' creativity at approximately the same level. Overall, the results regarding the outcomes of employee connecting behavior support both the fundamental arguments that employees who connect colleagues who don't know each other become seen as individuals who help contribute to others' creativity at work, and that contributing to others' creativity is clearly distinguishable and unique from being creative oneself. The problem source dimension and how one is contributing to overall creativity in the company are supported as a critical elements to consider when trying to unpack the equivocal relationship between introductions and workplace creativity.

5.1 Theoretical Implications

This research extends the extant creativity and social network literatures in three distinct ways. First, I extend creativity research by introducing a new construct which is likely to be significantly related to creativity-relevant outcomes. Given that creativity is the first step toward organizational innovation (Liu, Gong, Zhou, & Huang, 2016), uncovering additional predictors of employee creativity is still extremely relevant and important for management scholars and business leaders. The results of this study support the supposition that these different types of employee connecting behavior impact both employee creativity and how much employees can contribute to the creativity of their colleagues. While these results may be affected by common method bias, the fact that they hold even when controlling for self-reported creative self-efficacy and intrinsic motivation provide greater support for the relationships proposed. Future research can

validate these results, and with the new survey measures presented and validated in this study, research can extend beyond these hypotheses as well.

Second, this research contributes to the social network literature which has recently made calls for scholars to look into the way individuals behave within their social network position. Specifically, scholars have identified that there are multiple ways one can engage in brokerage behaviors, including to connect individuals who are unconnected (Obstfeld et al., 2014). Yet to date, scholars have only tested this behavior with structural measures, presuming that if a tie comes into existence, the individual likely put it there (Grigoriou & Rothaermel, 2014; Quintane & Carnabuci, 2016), or with a broad, unidimensional behavioral orientation measure that conflates interest in making introductions with communication style (Obstfeld, 2005). Through the introduction of the theory and measures of multiple types of connecting behavior, this research takes the next critical step in enabling future research on when and why individuals would purposefully close an open structural hole in their social network, and what outcomes this might lead to for that individual.

Finally, this research integrates the creativity and social network literatures in a new way. By applying creativity theory to shed light on a behavior that is intended to change one's social network structure, this research presents different types of connecting behavior which are likely predicted by different antecedents and lead to different outcomes for the individual doing the connecting. Previous research has been mixed on whether open or closed structural holes lead to greater creativity (Perry-Smith & Mannucci, 2017). By establishing different types of connecting behavior, this research moves this debate forward by enabling a more refined investigation, looking at whether

certain types of connecting enhance creativity more than others. The results of this study suggest that connecting for others' work domain is actually more beneficial for one's creativity than connecting to solve one's own work tasks. However, given the limitations discussed below, this relationship needs further investigation in future research.

5.2 Practical Implications

As mentioned in the introduction, much is known about how increased collaboration and connections across an organization is good for organizational performance (Smith, Carroll, & Ashford, 1995; Wells, 2008). Additionally, research abounds showing that increasing one's social network size is good for individuals (Baer et al., 2015; Cross & Cummings, 2004). And when an employee makes a new introduction for one of his or her colleagues, he or she is sparking this organizational collaboration and increasing the network size of the people he or she is connecting. However, very little is known about why individuals would make these new introductions, especially given the amount of research that suggests it is the absence of these connections between one's contacts that is most beneficial to one's own work outcomes (Burt, 2005). Hence, the practical implications of this line of research are centered around identifying predictors and outcomes of employee connecting behavior in order to inform organizational leaders on how to encourage this behavior among employees.

Based on the results of the antecedents of employee connecting behavior, it appears that prosocial motivation is the strongest positive predictor of at least prosocial and conferral connecting. Therefore, organizations may want to include in their selection criteria indicators of prosocial motivation. According to a recent review of prosocial

motivation, trait-like determinants of this motivation include prosocial values, prosocial personality, and other-orientation (Bolino & Grant, 2016). Additionally, prosocial motivation can be triggered for existing employees through contextual factors such as reward structures based on collective outcomes and informing employees about how their actions can help others and why that matters (Bolino & Grant, 2016).

This study also suggests that the outcomes of employee connecting behavior can be beneficial to the employee. Given that engaging in this behavior is positively related to enhancing the creativity of one's colleagues, and for some types, to one's own creativity, organizations can inform their employees of these positive outcomes for themselves and their colleagues in an effort to encourage them to engage in the behavior more in the workplace.

5.3 Limitations and Future Research Directions

While this research presents many theoretical and practical contributions, it is not without limitations. These limitations, however, provide novel opportunities for future research. First, as noted in the supplemental analyses, the low rate of coworker response from the final survey in the study design left the analysis to be conducted with cross-sectional, self-report data for the outcome hypotheses. This analytic approach puts a limitation on the conclusions that can be drawn from the reported results (Ng & Feldman, 2012; Podsakoff et al., 2003). Future research will be required to retest these hypotheses in a more robust way. One interesting note is how from a self-report perspective, the employees sampled here only show a significant correlation between their own perceptions of their creativity and the frequency with which they connect for others' work. This is contrary to the proposition that only connecting in pursuit of their own work tasks would lead to increased creativity at work. As noted above, this is perhaps

theoretically explained if one's introductions related to their own work are more focused on task performance and efficiency in work than creativity. However, future research is needed to assess whether and how these relationships between connecting behaviors and creative outcomes result when measured through non self-report means. Existing research does support the idea that self-report measures of creativity correlate positively and significantly with objective measures of creativity (Park, Chun, & Lee, 2016; Wall et al., 2004), and other-report measures of creativity are not without their biases and potential errors (Mueller, Melwani, & Goncalo, 2012). However, a recent meta-analysis suggests that self and other perceptions of creativity are meaningfully different (Ng & Feldman, 2012), and this research suggests that connecting behavior's effects on self and other report creativity would be a particularly relevant area in which to investigate these differences.

In addition, the results show consistently high correlations between types, and the results from different analyses presented above are equivocal regarding the dimensionality of the employee connecting behavior construct. While other constructs within the management literature similarly showcase high correlations yet articulate a clear case for conceptual and empirical distinction, these same constructs can lead to biased effects due to multicollinearity (e.g., procedural and distributive justice, informational and interpersonal justice; Colquitt, Conlon, Wesson, Porter, & Ng, 2001). According to the alternative model analyses presented in this research it appears that a two-factor model distinguished by problem source of self and other may be superior, at least with the current measures and method. However, future research is required to further vet this dimensionality.

Additionally, I propose that when investigating the act of connecting at the individual episode level, each instance of making a new introduction could be clearly classified into one of these four types. So the theoretical foundation laid out here may provide a strong theoretical framework to guide future research on connecting at the episodic level. While there is scant research on the behavior of making introductions at the individual level (i.e., frequency of making introductions or behavioral orientation toward bringing people together), there is even less on individual episodes of making introductions. However, since successful introductions are the initial building block for new collaborations or expanded social networks for employees, understanding what makes for a successful introduction (i.e., one that turns into a new relationship or collaboration) could be valuable to scholars and managers.

In addition to applying the framework and hypotheses within this study to the episodic level, there may be other dimensions or considerations that can add nuance understanding to what makes a new introduction translate into a new relationship. At this level, researchers can investigate whether the status differences or employment relationship between the person making the introduction and the people being introduced affects the willingness of others to follow through on the introduction. The results of this study show that when an employee is in a management position, he or she is more likely to engage in all types of connecting behavior. Future research can investigate why managers are more likely to engage in making introductions and whether introductions made my managers are notably different in success rate or type. One potential explanation is that managers have responsibility for the work of many individuals and therefore have more opportunities to encounter problems that could be solved by bringing

people together as it relates to their own work. Alternatively, individual contributors will encounter fewer problems, relative to their managers, and have fewer opportunities to bring people together to address something related to their own work. Or perhaps managers are sought out more for referrals given that their social networks are more likely to include higher status individuals who are more spread out within the company. Lastly, it is possible that reverse causality is responsible for this outcome; individuals who engage in connecting behaviors could be more likely to get promoted to manager status over time. Future longitudinal research is required to tease apart these competing hypotheses.

Secondly, while employee connecting behavior as conceptualized here is discretionary by definition, these introductions may be initially conceptualized by the connector or may be requested by a colleague being connected. Research investigating episodes of connecting behavior may add this dimension to the framework noted above to study whether and how other-initiated introductions play out versus self-initiated introductions. What are the major influences that affect whether the broker will make a requested introduction? What are the major influences that affect whether the colleague will follow through on the introduction? The advice literature may guide future research in this area. Advice seeking research shows that even if individuals seek out advice, they may or may not follow through on that advice (Bonaccio & Dalal, 2006). Additionally, if individuals do not follow through, they are likely to harm their future relationship with the advice giver (Blunden, Logg, Brooks, John, & Gino, 2009). Relatedly, research can investigate whether individuals who request a referral to someone new, but who do not

follow through to meet the person, harm their relationship with the broker making the referral more so than individuals who were offered the referral without solicitation.

Finally, additional outcomes of connecting behavior can be investigated in future research to more thoroughly assess the relative importance of this workplace behavior to managers and organizational leaders. Future research can investigate whether engaging in connecting with others impacts employees in domains beyond creativity. For example, again building on the advice literature (Bonaccio & Dalal, 2006), and integrating research on employee reputation (Kilduff & Krackhardt, 1994), researchers can investigate whether making new introductions is likely to impact employee status through being seen as one who is well-connected and has access to many valuable contacts. In this situation, offering to make a connection for one individual may provide a reputation through the broader social network through building a reputation as being able to provide access to resources and new contacts (Kilduff & Krackhardt, 1994).

5.4 Conclusion

This study presents a new workplace-relevant construct, employee connecting behavior, defined as discretionary acts of introducing a professional contact (A) to a new person (B). Furthermore, this behavior is shown to be multidimensional and predictive of critical workplace outcomes such as contributing to one's own and others' creativity in the workplace. Valid, reliable survey measures have been generated and presented, which will enable future research. Future research is needed to further confirm the specific dimensionality of this workplace behavior, and where it fits within the broader nomological network of management research.

APPENDIX A: New construct items

Employee Connecting Behavior:

Instrumental Connecting:	
Definition:	Discretionary acts of introducing a professional contact (A) to a new person (B) to exchange a specific resource primarily needed to attain the connector's goals
Lead-in Question	**How frequently do you do each of the following AS A PART OF DOING WORK YOU ARE RESPONSIBLE OR ACCOUNTABLE FOR?** **I choose to introduce a professional contact to someone they do not know.....**
Item 1	…to exchange specific information
Item 2	…to get a specific resource
Item 3	…as a referral for a needed service
Item 4	…to give advice on a specific topic
Item 5	…who had information the other person needed
Strategic Connecting:	
Definition:	Discretionary acts of introducing a professional contact (A) to a new person (B) for the creation of a new relationship, new ideas, or a new collaboration primarily needed to attain the connector's goals
Lead-in Question	**How frequently do you do each of the following AS A PART OF DOING WORK YOU ARE RESPONSIBLE OR ACCOUNTABLE FOR?** **I choose to introduce a professional contact to someone they do not know.....**
Item 1	…to form a new working relationship
Item 2	…to work together to generate new ideas
Item 3	…to form a new collaboration
Item 4	…to work together on a new task
Item 5	…to develop a new relationship that would advance our work
Prosocial Connecting:	
Definition:	Discretionary acts of introducing a professional contact (A) to a new person (B) to exchange a specific resource primarily needed to attain A and / or B's goals
Lead in Q:	**How frequently do you do each of the following OUTSIDE THE SCOPE OF YOUR OWN WORK (i.e., for the others' work or personal goals)**

	I choose to introduce a professional contact to someone they do not know.....
Item 1	…to exchange specific information
Item 2	…to provide a specific resource
Item 3	…to give advice
Item 4	…to get help with something specific
Item 5	…to refer someone for a job
Conferral Connecting:	
Definition:	Discretionary acts of introducing a professional contact (A) to a new person (B) for the creation of a new relationship, new ideas, or a new collaboration primarily needed to attain A and / or B's goals.
Lead in Q:	**How frequently do you do each of the following OUTSIDE THE SCOPE OF YOUR OWN WORK (i.e., for the others' work or personal goals)** **I choose to introduce a professional contact to someone they do not know.....**
Item 1	…who has common interests
Item 2	…to work together to generate new ideas
Item 3	…to form a new collaboration
Item 4	…to form a new relationship
Item 5	…to develop new relationship that would advance their goals

Contributes to others' creativity:

Contributes to others' creativity (supervisor-rated)	
Definition:	stimulating and enhancing the development of new and useful ideas by one's coworkers and being seen as a key contributor to one's colleagues' creativity
Lead in Q:	**Mark the extent to which the following items describe your coworker.**
Item 1	Stimulates creativity for those he/she works with
Item 2	Is seen as someone who helps others be more creative
Item 3	Supports his/her coworkers in ways that allow them to generate new and appropriate solutions
Item 4	His/her colleagues credit him/her for assisting them in creating new and useful solutions
Item 5	Enhances the creativity of his/her colleagues
Item 6	Stimulates thinking that leads to new and useful ideas among their coworkers
Item 7	Enables other employees to generate new and useful outputs
Item 8	His/her colleagues often approach him/her for assistance in creative work

APPENDIX B: Detailed Inventory of Measures

Emotional Stability from Goldberg, 1992

1. I seldom feel blue.
2. I panic easily. R
3. I have frequent mood swings. R
4. I am often down in the dumps. R
5. I rarely get irritated.
6. I am not easily bothered by things.
7. I am very pleased with myself.
8. I dislike myself. R
9. I feel comfortable with myself.
10. I often feel blue. R

Conscientiousness from Goldberg, 1992

1. I shirk my duties. R
2. I don't see things through. R
3. I get chores done right away.
4. I waste my time. R
5. I do just enough work to get by. R
6. I carry out my plans.
7. I find it difficult to get down to work. R
8. I make plans and stick to them.
9. I pay attention to details.
10. I am always prepared.

Extraversion from Goldberg, 1992

1. I am the life of the party.
2. I know how to captivate people.
3. I would describe my experiences as somewhat dull. R
4. I feel comfortable around people.
5. I make friends easily.
6. I don't like to draw attention to myself. R
7. I have little to say. R
8. I don't talk a lot. R
9. I keep in the background. R
10. I am skilled in handling social situations.

Tertius Iungens Behavioral Orientation from Obstfeld, 2005

1. I introduce people to each other who might have a common strategic work interest
2. I will try to describe an issue in a way that will appeal to a diverse set of interests
3. I see opportunities for collaboration between people
4. I point out the common ground shared by people who have different perspectives on an issue
5. I introduce two people when I think they might benefit from becoming acquainted
6. I forge connections between different people dealing with a particular issue

Social desirability from Reynolds, 1982 (short form of Crowne & Marlowe, 1960)

1. It is sometimes hard for me to go on with my work if I am not encouraged. R
2. I sometimes feel resentful when I don't get my way. R
3. On a few occasions, I have given up doing something because I thought too little of my ability. R
4. There have been times when I felt like rebelling against people in authority even though I know they were right. R
5. No matter who I'm talking to, I'm always a good listener.
6. There have been occasions when I took advantage of someone. R
7. I'm always willing to admit it when I make a mistake.
8. I sometimes try to get even rather than forgive and forget. R
9. I am always courteous, even to people who are disagreeable.
10. I have never been irked when people expressed ideas very different from my own.
11. There have been times when I was quite jealous of the good fortune of others. R
12. I am sometimes irritated by people who ask favors of me. R
13. I have never deliberately said something that hurt someone's feelings.

Record-keeping from Bacharach, Bamberger, & Conley, 1990

1. In case of a crisis, I always refer to written records for accountability.
2. I keep accurate records of every situation.
3. I frequently use the records to check for information on an issue.

Associative Thinking from Lee, Huggins, & Therriault, 2014

1. Piece/mind/dating Game

2. Hound/pressure/shot Blood
3. Basket/eight/snow Ball
4. Show/life/row Boat
5. Food/forward/break Fast
6. River/note/account Bank
7. Sense/courtesy/place Common
8. Dew/comb/bee Honey
9. Fish/mine/rush Gold
10. Print/berry/bird Blue

Prosocial Motivation from Grant & Sumanth, 2009

1. I get energized by working on tasks that have the potential to benefit others
2. It is important to me to have the opportunity to use my abilities to benefit others
3. I prefer to work on tasks that allow me to have a positive impact on others
4. I do my best when I'm working on a task that contributes to the well=being of others
5. I like to work on tasks that have the potential to benefit others

Opportunity-Enhancing HR Practices from Prieto & Pérez-Santana, 2014

1. Our company emphasizes employees' job rotation and flexible work assignments in different work areas
2. Our company transfers extensively different tasks and responsibilities to employees
3. Our company emphasizes employees' team work and network collaboration

4. Employees in this organization have broadly designed jobs requiring a variety of skills
5. Employees in this company are allowed to make decisions
6. Employees are provided the opportunity to suggest improvements in the way things are done
7. Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc
8. Employees are invited to participate in problem solving and decisions
9. Employees receive information on the relevant concerns of the company (goals, performance, etc)
10. Supervisors keep open communications in this company

Creative self-efficacy from Tierney & Farmer, 2002

1. I have confidence in my ability to solve problems creatively.
2. I feel that I am good at generating novel ideas.
3. I am good at finding creative ways to solve problems.

Intrinsic motivation from Hackman & Lawler, 1971

1. I feel a great sense of personal satisfaction when I do my job well.
2. Doing my job well increases my feelings of self-esteem.
3. I feel bad when I do my job poorly.

Employee creativity, other-report from Farmer, Tierney, & Kung-McIntyre, 2003

1. Tries new ideas or methods first
2. Seeks new ideas and ways to solve problems
3. Generates ground-breaking ideas related to the field

4. Is a good role model for creativity

Employee creativity self-report from Shalley, Gilson, & Blum, 2009

1. The work I produce is creative
2. The work I produce is original
3. The work I produce is novel

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