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3 **STICKING TOGETHER: THE GLUE**  
5 **ROLE AND GROUP CREATIVITY**  
7

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15 **ABSTRACT**

17 *In this paper, we introduce the concept of the “glue role” in groups*  
19 *engaged in creative tasks. An individual crafts a glue role by seeking out*  
21 *and taking on otherwise neglected tasks that have the potential to*  
23 *facilitate a creative group’s performance. We adopt a negotiated order*  
25 *perspective on roles in groups to examine how a group’s emerging social*  
*structure provides opportunities for crafting the glue role. We then*  
*suggest two mechanisms through which the glue role can facilitate*  
*performance in creative groups: the coordination of group members’*  
*contributions and the management of group conflict.*

27 In a pharmaceutical research and development group, a technical analyst offers to help  
29 with an obscure statistical methodology that facilitates a breakthrough drug production  
31 process. This individual works vigorously with the scientists to interpret and write up the  
results, but is only mentioned in a small footnote when the group’s lead scientists pitch  
the innovation to the company’s top management.

33 An academic committee has a member who customarily takes assiduous notes at each  
meeting. At first, the other members of the committee think that this person is a little  
obsessive. However, as the time comes for the committee to begin to put together its final

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**Creativity in Groups**

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1 report, the other members of the committee find themselves going to this note-taker for  
specific details that they can use in their report that no one else can remember. The  
committee successfully completes and delivers its report to institutional stakeholders.

3 Collaborative creativity in work groups is increasingly acknowledged  
5 as a critical element to the success of organizations in a rapidly changing  
world (Paulus & Nijstad, 2003). However, the success of groups engaged in  
7 creative endeavors hinges, in part, on their ability to manage the paradoxes  
and dilemmas that often accompany group interactions (Smith & Berg,  
9 1987). A situation that leads to a dilemma frequently associated with  
working in creative groups is that group members may be selected primarily  
11 for their expertise in functional areas or for the specialized skills that they  
can contribute to the group rather than their knowledge and skill in enacting  
13 teamwork (Marks, Sabella, Burke, & Zaccaro, 2002). The creative group,  
then, is positioned on the horns of a dilemma. On the one hand, creative  
15 task performance is thought to benefit from selecting talented group  
members with a diverse set of skills and abilities (Milliken, Bartel, &  
17 Kurtzberg, 2003). On the other hand, even the most talented collection of  
group members requires effective means of coordinating individual  
19 efforts to ensure that the group works together in pursuit of its goals  
(Van de Ven, Delbecq, & Koenig, 1976). To the extent that group members  
21 focus on individual pursuits to the exclusion of teamwork, group members  
may encounter difficulties in working as an interdependent entity (Ellis, Bell,  
23 Ployhart, Hollenbeck, & Ilgen, 2005; Hollenbeck, DeRue, & Guzzo, 2004).

In this paper, we seek to identify and better understand the phenomenon  
25 of the glue role in small groups engaged in creative tasks. An individual  
enacts a glue role by seeking out and taking on otherwise neglected tasks  
27 that have the potential to facilitate group effectiveness, but which often do  
not receive much recognition or attention. The glue role is contextually  
29 defined, driven by individuals' ability to adapt their behaviors to meet the  
needs of the group. Individuals are able to craft the glue role through their  
31 ongoing ability to recognize "windows of opportunity" (Tyre & Orlikowski,  
1994) for adopting otherwise neglected tasks with the potential to facilitate  
33 the integration and coordination of group members' efforts. We suggest  
that this ability to take on neglected tasks that integrate group members'  
35 contributions can facilitate a creative group's performance by enabling  
better group coordination and by cultivating intragroup relationships built  
37 on trust that can facilitate the management of group conflict.

We seek to contribute to theory and research on group creativity by  
39 examining the glue role as a mechanism through which collective forms of  
creativity are accomplished in groups. We begin by introducing and defining

1 the concept of the glue role as an example of how individuals can enact  
specific roles to influence group performance (Stewart, Fulmer, & Barrick,  
3 2005). Drawing on the negotiated order of roles perspective (Bechky, 2006;  
Strauss, 1978), we then provide a theoretical account of how individuals  
5 craft the glue role in response to a group's emerging social structures. Levine  
and Moreland (1990) point out how researchers know relatively little about  
7 the ways in which individual roles form in groups and this paper begins  
to examine that question. Finally, we discuss the ways in which the glue role  
9 may facilitate coordination and conflict management in groups.

## 11 **GROUP CREATIVITY AND THE INDIVIDUAL**

13

We define group creativity as a collective process whereby the diverse skills,  
15 knowledge, and perceptions of group members are coordinated to produce  
a product or performance that is both novel and appropriate for its intended  
17 purposes. Our definition can be unpacked into two key components.  
First, we view group creativity as a collective process (Sawyer, 2003), which  
19 requires the coordination of members' diverse abilities and perceptions  
to facilitate group effectiveness (Taggar, 2002). We follow Hargadon and  
21 Bechky (2006) in suggesting that much of a collective's creative activity  
occurs in the interactions of individuals with diverse perspectives and  
23 frames of reference. A creative group can enable individuals with diverse  
perspectives to come together and to interact, but it also requires means of  
25 integrating those efforts to be successful (Van de Ven et al., 1976). Second,  
we draw on Amabile's (1996) definition of creativity as producing a product  
27 or performance that is both novel and appropriate to the purposes for which  
it is intended.

29 Although researchers have pointed out that a good deal of creative  
activity is now accomplished in groups (Sutton & Hargadon, 1996; **AU :1**  
31 Sawyer, 2003), creativity is still popularly viewed largely as an individual  
phenomenon (Paulus & Nijstad, 2003). Recognition for great innovations  
33 often accrues to individuals like Thomas Edison, even though "Edison [was]  
in reality a collective noun and refers to the work of many men" (Conot,  
35 1979, p. 469). This suggests that individuals who are able to take on visible,  
prominent group roles have the potential to receive individual recognition  
37 for some of the creative achievements of the group.

In the context of group creativity, individual group members' desire for  
39 individual recognition can play out in ways that have material consequences  
for group effectiveness. The desire of group members to seek visible,

1 prominent group roles in which they will be personally recognized for  
2 their individual performance may conflict with their willingness to take  
3 on whatever role is necessary to integrate and coordinate group  
4 members' efforts. Without individuals willing to take on a variety of roles  
5 that perform different functions, groups struggle to function optimally  
6 (Overbeck, Correll, & Park, 2005). Group members who are seeking  
7 to advance their careers may not view performing behind-the-scenes, low-  
8 visibility tasks that facilitate group coordination as being in their best  
9 personal interests.

10 The failure of the heavily favored 2004 US men's Olympic basketball  
11 team to capture the gold medal represents a classic example of the perils of  
12 not having an individual able and willing to integrate the contributions  
13 of others to facilitate the performance of the group. This team consisted of  
14 some of the best individual basketball talent in the world, including former  
15 National Basketball Association Most Valuable Players Tim Duncan and  
16 Allen Iverson and emerging stars like LeBron James and Carmelo Anthony.  
17 Unfortunately, team members were selected for their ability to shoot the  
18 basketball and score points rather than their willingness to play defense or  
19 pass the ball to open teammates (Wise, 2004). The results were very  
20 disappointing: in its first game, the heavily favored US team lost to Puerto  
21 Rico by 22 points. Kerr said that in basketball, "scoring baskets ... [is] more  
22 readily observable than feeding [passing the ball to] open teammates"  
23 (p. 780). However, without a team member willing to integrate individual  
24 contributions to the group effort, the United States finished the tournament  
25 in a stunning third place.

26 The willingness of individuals to integrate and coordinate the diverse  
27 contributions and perspectives of other group members is equally valuable  
28 in facilitating creativity in groups. Consider the example of ideational  
29 creativity in groups. A long line of research on brainstorming has sought  
30 to understand why groups suffer process losses relative to a comparable  
31 number of individuals working alone in generating ideas (for reviews, see  
32 Diehl & Stroebe, 1987; Litchfield, 2008; Mullen, Johnson, & Salas, 1991).  
33 Alex Osborn (1957), who first developed brainstorming as an intervention,  
34 suggested that the true value of generating ideas in groups comes from  
35 opportunities to build on and integrate the ideas suggested by others.  
36 However, group members are often so focused on thinking up their own  
37 ideas while waiting to speak that they fail to listen to and build on the  
38 ideas of others (Diehl & Stroebe, 1991). Without an individual who seeks  
39 opportunities to coordinate and build on the ideas of others, ideational  
40 groups are unlikely to realize their potential.

1 In this paper, we suggest that the performance of creative groups can be  
2 facilitated by an individual in the glue role. An individual enacts a glue role  
3 by seeking out and taking on coordinating tasks in the group that would  
4 otherwise be neglected. We begin by defining the glue role and distinguish-  
5 ing it from related constructs. We then examine how individuals craft and  
6 enact glue roles in creative groups. Finally, we discuss the potential effects of  
7 an individual in the glue role on the performance of creative groups.

## 9 **DEFINING THE GLUE ROLE**

11 An individual enacts a glue role by seeking out and taking on tasks that  
12 would otherwise be neglected but which have the potential to facilitate  
13 group effectiveness. Our definition of the glue role highlights two key points.  
14 On the one hand, the glue role is contextually defined. It is an adaptive  
15 individual behavior and reactive in the sense that arises in response to the  
16 specific needs of the group. On the other hand, an individual enacts the glue  
17 role by actively seeking out opportunities to coordinate the efforts of the  
18 group. This individual is likely to be especially sensitive to the coordinating  
19 needs of the group and attentive to gaps in the group's process – neglected  
20 tasks that, although not essential to group functioning, have the potential  
21 to facilitate a creative group's effectiveness through coordinating group  
22 members' contributions.

23 An individual in the glue role engages in behaviors that are valuable to  
24 creative groups but which do not receive much attention or recognition.  
25 The need for an individual to adopt the glue role arises because creative  
26 tasks require group members to engage in a variety of activities, some of  
27 which are more vivid – that is, visible and easily identifiable (Nisbett & Ross,  
28 1980) – than others. The most vivid behaviors in idea-generating groups,  
29 for example, involve coming up with novel, original ideas. As Sutton and  
30 Hargadon (1996) observed in their in-depth study of product design firm  
31 IDEO, modified brainstorming (i.e., “deep dive”) sessions serve as “status  
32 auctions,” in which individuals who come up with creative ideas gain status  
33 in the organization and prestige in the eyes of their colleagues. However,  
34 if group members focus exclusively on engaging in the vivid activity of  
35 generating their own ideas and fail to build on the ideas of others, they miss  
36 out on what Osborn (1957) believed to be the true value of working together  
37 in a group. Group members may fail to attend to the ideas of others,  
38 however, because building on the ideas of others is less vivid than getting  
39 credit for coming up with a creative idea. As a result, an individual willing to

1 build on and integrate the ideas of others can facilitate creativity in  
ideational groups.

3 In defining the glue role, we also seek to delimit the boundaries of the  
construct and our discussion of it. The concept of the glue role draws on and  
5 incorporates elements from a number of conceptual traditions in the study  
of behavior in groups. Although the glue role builds on other concepts,  
7 it describes a construct that captures a phenomenon that is distinct. We have  
also chosen to discuss the glue role in terms of the interactive phases of  
9 groups in which creative work is being accomplished. Although we  
acknowledge that many creative groups are also responsible for implement-  
11 ing the ideas that they generate – and that an individual in the glue role  
has the potential for facilitating group performance outside of creative  
13 interactive phases – the current discussion is confined to examining the glue  
role during the creative interaction phases of groups.

15 The glue role is related to concepts such as organizational citizenship  
behaviors (OCBs), which describe employee efforts that go beyond the  
17 boundaries of formal role requirements to help other group members in  
completing their tasks (Bateman & Organ, 1983; Organ, 1988). The  
19 behaviors associated with the glue role are similar to some OCBs to the  
extent that both types of behavior help others in groups. However, the glue  
21 role is distinct from OCBs in two ways. First, by definition, a role involves  
engaging in integrating behaviors repeatedly over time. Different members  
23 might engage in helping behaviors that integrate the activities of the group  
at different times, but an individual enacts the glue role only by taking on  
25 the same “glue” activities repeatedly. Second, whereas OCBs can refer to  
any one-on-one helping behaviors which may or may not directly facilitate  
27 the efforts of the group, the glue role consists of a more specific set of tasks  
that enable the coordination and integration of the diverse contributions of  
29 multiple group members.

The glue role is also related to theories of leadership that emphasize  
31 the influence of group members beyond the group’s formal leader.  
The constructs of shared (Carson, Tesluk, & Marrone, 2007), emergent  
33 (Schneier & Goktepe, 1983), and functional (Adair, 1983) leadership all  
reflect dissatisfaction with traditional views of leadership as something  
35 that inheres in a single individual with formal authority. They are similar to  
the construct of the glue role in the sense that they seek to shift the focus  
37 away from the characteristics and behaviors of a group’s formal leader to  
the activities of other members of the group. However, the activities of an  
39 individual in the glue role transcend leadership because an individual can  
facilitate group creativity without engaging in attempts to influence the

1 motives or actions (Yukl, 1989) of others. An individual in the glue role  
coordinates and integrates the efforts of others, but these activities may not  
3 necessarily be the best route toward exerting influence over others.

Finally, the glue role is related to but distinct from the construct of social  
5 roles (Eagly, 1987; Slater, 1955). According to Bales (1970), social roles  
involve behaviors focused specifically on maintaining the cohesion and  
7 solidarity of a group. A social role is distinct from a task role in that the  
behaviors an individual in a social role engages do not contribute directly  
9 to completing the group's task. Examples of social role behaviors might  
include verbally encouraging others, stepping in to mediate interpersonal  
11 conflicts, and otherwise seeking to help satisfy the emotional needs of other  
group members (Gladstein, 1984). As we will later argue, a glue role may  
13 have many of the same effects as a social role in that the willingness of an  
individual to adopt a glue role may enable intragroup trust (Jones &  
15 George, 1998) that facilitates conflict management. However, an individual  
in a glue role facilitates these effects through engaging in activities that  
17 directly contribute toward accomplishing the group's task. As a result, an  
individual who crafts a glue role engages in activities consistent with a task  
19 role, yet these activities may have many of the same effects that researchers  
have theorized should result from the adoption of social roles.

21

23

## **HOW INDIVIDUALS CRAFT AND ENACT THE GLUE ROLE**

25

27 So far we have defined the glue role, provided examples of how it manifests  
in the context of creative groups, and described its relationship to related  
29 constructs. In this section, we draw on the negotiated order perspective  
(Strauss, 1978) as a means of better understanding how the glue role is  
31 crafted and enacted by individuals in creative groups. The negotiated order  
perspective on roles suggests that roles are negotiated in and through  
33 interaction and in relation to the constraining and enabling effects of social  
structures (Bechky, 2006). The negotiated order perspective draws our  
35 attention to the ways in which individual activities are constrained  
(and enabled) by social structures such as small groups.

37 The negotiated order perspective has often been applied in the context of  
organizations with hierarchical structures and relatively rigid role definitions  
39 (Stelling & Bucher, 1972), but our interest in group creativity brings the  
negotiated order perspective into a more emergent structural environment.

1 Groups engaged in creative tasks frequently operate in an emergent social  
3 context characterized by a dynamic structure created in and through ongoing  
5 interaction (Sawyer, 2003). The negotiated order perspective of roles provides  
7 a mechanism for accounting for the ways in which the structure of a collective  
9 is constrained and enabled as well as reenacted (reproduced and altered) in  
11 and through these interactions (Bechky, 2006; Strauss, 1978).

13 From a negotiated order perspective, individual agency and emergent  
15 social structure are mutual influences in the development of roles in groups.  
17 We view the construction of roles as neither a function of the person or the  
19 situation alone, because individuals are neither completely autonomous in  
21 their ability to construct roles in groups nor completely constrained by  
23 the social structures they encounter. Instead, our purpose is to theorize how  
25 individuals seek out and craft roles in the windows of opportunity enabled by  
27 the emerging structure of the groups in which they participate. In this section,  
29 we will provide two examples of how a creative group's emerging social  
31 structure can constrain individual activity while simultaneously providing  
33 windows of opportunity for an individual to take on the glue role. In our first  
35 example, the social structure that emerges is a function of the configuration of  
37 group members' personalities. In our second example, the social structure is  
39 a function of the emerging interdependence of the creative task.

### 23 *Group Composition*

25 The composition of a group is one element of an emerging social structure  
27 that might constrain the agency of individuals in crafting roles in creative  
29 groups. One element of group composition is the configuration of personali-  
31 ties in a group, which is likely to influence a group's emerging structure  
33 through its influence on social and interaction dynamics (Moynihan &  
35 Peterson, 2001). For example, Barry and Stewart (1997) conduct an experi-  
37 mental study of self-managed groups engaged in an open-ended, creative  
39 problem-solving task to examine the influence of the configuration of group  
members' personalities on group performance. They found a curvilinear effect  
in relation to extroversion. Groups with a moderate number of extroverts  
performed best, whereas group performance tended to suffer in groups with a  
high proportion of extroverts. According to the authors, a lack of task focus  
was the underlying mechanism driving the poor performance of groups with a  
high proportion of extroverts. Perhaps, those groups lost sight of the task at  
hand as group members focused on saying their ideas out loud and neglected  
to integrate and build on the ideas that had already been suggested.

1 In Barry and Stewart's study, there were no rules dictating that every  
3 group member needed to speak their ideas, nor was a reward structure  
5 in place that would reward individual contributions to solving the problem.  
7 The social and interactional dynamics that ultimately hindered group  
9 creativity emerged from the configuration of group members' personalities.  
Furthermore, the high proportion of extroverts in this example constrained  
the development of certain roles. There would be little use in a group with  
a high proportion of extroverts for yet another group member who would  
try to dominate the conversation.

11 However, this emerging context would also provide a window of  
13 opportunity for an individual to contribute to group effectiveness through  
15 adopting a complementary glue role (Muchinsky & Monahan, 1987). In groups  
17 with a high proportion of extroverts, many members are eager to contribute  
ideas, but there may be no one to listen to and integrate the ideas being  
suggested. Such situations create a window of opportunity for an individual  
who is sensitive to the integrating needs of the group to assume a glue role.

19 What are the characteristics of individuals who choose to seek out and  
21 enact otherwise neglected coordinating and integrating tasks rather than  
23 engaging in other, more vivid behaviors? Put another way, what leads  
25 some group members to focus on the integration and coordination needs  
of the collective rather than behaviors that would seem to benefit them  
as individuals? A full account of the possible attributes characterizing  
individuals in the glue role is beyond the scope of this project; however, we  
suggest that individuals who enact the glue role can be driven by a desire to  
facilitate both collective and individual outcomes. Consider an individual  
who takes on a glue role in an idea-generating group. This individual's  
integrating activities, which are intended to facilitate group effectiveness,  
may appear to some as an exercise in irrational self-denial – taking one for  
the team, as it were. However, if the organization's compensation is at least  
partially based on group outcomes, the individual in the glue role also  
stands to benefit personally from the group's success. We will return to the  
issue later in discussing the implications of compensation systems on the  
potential for "glue" activity in groups.

35

### *Task Interdependence*

37

39 In addition to group composition, the structure of a creative group's task  
can also influence its emergent social structure. One facet of task structure is  
level of interdependence, the degree to which the task requires that multiple

1 individuals work together (Wageman, 2001). Interdependence has often  
2 been conceptualized as a property of the group's task, a structure that is  
3 imposed on the group by management or other external forces (Thompson,  
4 1967). However, work by Wageman and Gordon (2005) suggests that  
5 interdependence can also emerge as a function of group members' values  
6 and preferences. The latter view of interdependence is especially valuable  
7 to understanding the dynamic nature of many creative groups, in which  
8 structure emerges as group members interact over time (Sawyer, 2003).

9 Academic research groups are an example of creative groups in which  
10 group members' preferences may dictate the interdependence of the task.  
11 Suppose that a group of four researchers decide to work together on a  
12 research project. The task could be completed in different ways with varying  
13 levels of interdependence. The group could choose to structure the task with a  
14 high degree of interdependence by having all four participants meet together  
15 each day and sit around the computer to write the paper together. Alternately,  
16 the group could choose to structure the task by dividing the paper into four  
17 sections, having each group member write one section of the paper, and then  
18 meeting to combine the sections into a single paper at a later time. A third  
19 method for structuring the task would be to have the lead author write a first  
20 draft and then circulate that draft to each of the other three group members,  
21 who take turns providing their comments and feedback.

22 The integrating behaviors associated with the glue role may look  
23 different, depending on the degree of interdependence embedded in the  
24 academic research group's task structure. In the most highly interdependent  
25 task structure, where all four members sit down at the computer each day to  
26 jointly compose the paper, the glue role may be adopted by the individual  
27 who interprets and paraphrases other members' ideas and who assures that  
28 every person's views are heard. If the group opts to divide the paper into  
29 sections and then combine each individual's section into a final paper at  
30 a later time, an individual may take on the glue role by taking the time to  
31 write transition paragraphs between sections that improve the paper's  
32 flow to make it sound like it was written by one person instead of four.  
33 If the group chooses to have the lead author write a draft of the paper and  
34 then circulate the draft to each of the other group members for comments,  
35 an individual may take on a glue role by clarifying the issues underlying  
36 differences in opinion and making suggestions about how conflicting  
37 suggestions for revising the paper can be reconciled. In each case,  
38 individuals who take on the glue role adapt their behaviors to the specific  
39 needs of the group that flow from the degree of task interdependence and  
emerge from the preferences of a creative group's members.

1                                    *Negotiating Other Group Members' Perceptions*

3    As the metaphor of a negotiated order implies, an individual not only acts to  
4    craft the glue role in relation to an emerging social context, but also in  
5    relation to other group members who are actively perceiving and reacting  
6    to the activities of that individual. From a negotiated order perspective,  
7    group members' perceptions of the actions of an individual in the glue role  
8    are embedded in broader macrosocial norms and assumptions about what  
9    motives govern others' behavior (Svensson, 1996). Self-interest, for example,  
10   is widely viewed as a cardinal motive for human behavior (Miller, 1999;  
11   Schwartz, 1986). By engaging in behaviors that enable the coordination of  
12   a creative group at the expense of behaviors that might facilitate recognition  
13   of individual achievement, an individual in a glue role might appear to  
14   others to be acting for reasons other than self-interest. Drawing on work by  
15   Saparito, Chen, and Sapienza (2004), we suggest that the ways in which  
16   individuals in the glue role represent their motives to other group members  
17   have implications for the negotiation of the glue role and the development  
18   of trust.

19    Saparito and his colleagues suggest that self-interest is often the default  
20    motive attributed to other parties. This assumption of self-interest arises both  
21    from macrosocial, collectively shared cultural ideologies (Miller & Ratner,  
22    1996), and from more local contextual assumptions, such as expectations that  
23    business relationships are instrumental and both parties will act in their  
24    rational self-interest (Petersen & Rajan, 1994). The macrosocial norm of self-  
25    interest is supported in creative groups by the widespread view of creativity  
26    as an individual phenomenon (Paulus & Nijstad, 2003) and reinforced  
27    by selection practices that emphasize specialized skills and knowledge rather  
28    than group members' ability to work well together (Marks et al., 2002).  
29    However, it should also be noted that group members' perceptions of task  
30    interdependence – which typically follow more interdependent structural  
31    arrangements (Wageman, 2001) – should moderate the degree of self-interest  
32    in the group. Specifically, groups whose members perceive their tasks as more  
33    interdependent may have weaker norms of self-interest, at least within the  
34    context of that group.

35    When called to account for their behaviors in the course of ongoing  
36    interactions with other group members, individuals enacting the glue role  
37    may gain credibility by framing their motives in terms that are congruent  
38    with the macrosocial norm of self-interest. For example, an individual  
39    taking assiduous notes in committee meetings may frame his actions in  
40    terms of having a poor memory and needing to take careful notes to

1 remember what was said for his portion of the committee's final report.  
2 By representing their actions in terms consistent with the norm of self-  
3 interest, individuals in the glue role provide an account that is likely to be  
4 congruent with other group members' expectations of what motivates  
5 rational behavior. This perceived congruence is likely to facilitate initial  
6 trust that, over time, may develop into a deeper level of trust built on a sense  
7 of common fate and shared values (Jones & George, 1998; Lewicki &  
8 Bunker, 1996).

9 The negotiated order perspective on the development of roles offers  
10 insight into the dynamic interplay between the structural context of a social  
11 setting and the individual's ability to seek out, craft, and enact a glue role in  
12 a creative group. It provides a framework for a more balanced examination  
13 of the mutual influence of individual agency and emergent social structure  
14 on one another as well as a mechanism for linking the negotiation of  
15 individual behaviors to broader macrosocial norms. We have presented an  
16 account of the glue role in creative groups as a situated phenomenon,  
17 negotiated in relation to a particular emergent social structure, responsive to  
18 other group members' perceptions, and embedded in macrosocial norms  
19 and assumptions. In the next section, we consider how an individual's  
20 willingness to enact a glue role may facilitate creative group effectiveness.  
21

## 22 **THE EFFECTS OF THE GLUE ROLE**

23 So far, we have defined the glue role, provided examples of its manifestation  
24 in a variety of creative group contexts, and discussed its relationship to  
25 related constructs. We have also examined how individuals seek out and  
26 craft glue roles by capitalizing on windows of opportunity that are enabled  
27 by the social structures that emerge in creative groups over time. We will  
28 now articulate and discuss potential mechanisms through which the  
29 willingness and ability of an individual to seek out and enact the glue  
30 role can facilitate the effectiveness of groups engaged in creative tasks.  
31 We suggest that the glue role is likely to facilitate group effectiveness  
32 through its influence on coordination and conflict management.  
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35

### 36 *The Glue Role and Coordination*

37  
38  
39 Coordination in work groups involves aligning and integrating the activities  
and objectives of group members toward a common collective goal

1 (Arrow, McGrath, & Berdahl, 2000). Coordination is viewed as a critical  
2 process in facilitating group success, particularly the success of groups  
3 engaged in creative tasks (Brophy, 1998). Without adequate coordination, a  
4 group risks process losses (Steiner, 1972) that waste group members' efforts  
5 and other resources while jeopardizing the group's ability to meet its goals.  
6 Researchers have suggested that coordination can occur in groups through  
7 explicit coordination, in the form of intentional planning and programming  
8 (March & Simon, 1958), or through interpersonal communication (Van de  
9 Ven et al., 1976). Recently, researchers have pointed out that much of the  
10 coordination that occurs in groups is implicit, whereby group members  
11 adjust their behavior in relation to the behaviors of others in the group  
12 without formally communicating or planning in advance (Rico, Sanchez-  
13 Manzanares, Gil, & Gibson, 2008). Shared mental models (Klimoski &  
14 Mohammed, 1994), trust (Jones & George, 1998), habitual routines  
15 (Gersick & Hackman, 1990), and teamwork knowledge (Marks et al.,  
16 2002) are just a few of the proposed mechanisms through which group  
17 members are thought to implicitly coordinate their efforts.

18 The centrality of coordination to the effectiveness of creative groups is  
19 especially visible in idea-generating groups. Researchers have consistently  
20 found that face-to-face groups working together typically generate fewer  
21 ideas than nominal groups, in which individuals generate ideas on their own  
22 and later combine them (Diehl & Stroebe, 1987; McGrath, 1984; Taylor,  
23 Berry, & Block, 1958; Van de Ven & Delbecq, 1971). That is, brainstorming  
24 groups that interact with one another perform at a deficit relative to those  
25 that do not. Diehl and Stroebe (1991) suggest that a primary source of  
26 process losses in ideational groups results from deficits in coordination.  
27 Specifically, Diehl and Stroebe identify production blocking, whereby  
28 group members are so focused on trying to generate their own ideas while  
29 waiting for their turn to speak that they miss out on opportunities to build  
30 on existing ideas suggested by other group members. To the extent that  
31 groups can coordinate the diverse contributions of multiple members to  
32 build on suggested ideas rather than generating each new idea from scratch,  
33 they should be able to generate a higher quantity and quality of ideas and  
34 engage in a more efficient process.

35 Although it could be useful for a group engaged in a creative task to  
36 coordinate its efforts through distributed mechanisms like generic group  
37 member teamwork skills (Ellis et al., 2005), the reality is that these forms  
38 of coordination may not always work well for creative groups. As a result,  
39 members of these types of groups are often selected primarily for their  
specialized knowledge and abilities rather than for their skill at working well

1 in a group (Marks et al., 2002). The result is that members may be very  
3 good at what they do individually but, absent some other mechanism for  
coordinating each member's individual inputs, the group's performance as a  
collective suffers (Hollenbeck et al., 2004).

5 An alternative possibility for integrating creative group members' efforts  
is illustrated by the notion of coordination through roles (Bechky, 2006).  
7 A role is a set of behaviors that characterize a particular group member in a  
particular setting in relation to the activities of other group members  
9 (Biddle, 1979; Katz & Kahn, 1978). An individual who seeks out and enacts  
a glue role may facilitate group effectiveness by sensing what group-oriented  
11 coordinating tasks are being neglected and taking them on. This individual  
can become a focus point for coordinating the efforts of other group  
13 members, allowing other members to do what they do best. The technical  
analyst who helps the lead scientists in a research and development group by  
15 providing interpretation and support of an obscure statistical process frees  
the lead scientists to focus on their presentation to top management. The  
17 "assiduous note taker" enables the other members of the committee to focus  
on contributing ideas and debating issues. In both cases, the other members  
19 of the group have greater freedom to focus on their own contributions  
because the individual in the glue role repeatedly engages in integrating  
21 behaviors. Over time, group members come to recognize that the individual  
has adopted the glue role through consistently taking on tasks that  
23 coordinate their efforts and facilitate the group's performance. As other  
group members recognize the coordinating activities of the individual in the  
25 glue role over time, this results in the development of trust that facilitates  
group effectiveness.

27 **Proposition 1.** Individuals facilitate coordination in creative groups by  
29 enacting the glue role.

31 **Proposition 2.** The coordinating behaviors of individuals in the glue role  
facilitate the effectiveness of creative groups.

33

### 35 *The Glue Role and Conflict Management*

37 In addition to facilitating creative group performance through the  
coordination of diverse group members' efforts, an individual in the glue  
39 role can also facilitate group creativity through conflict management.  
Effective conflict management works parallel to coordination in that it has

1 the potential to remove barriers to the integration of group members'  
2 efforts. In this section, we follow the distinction in the literature  
3 between conflict that is task based and relationship based (Guetzkow &  
4 Gyr, 1954; Pinkley, 1990; Jehn, 1995; Jehn & Mannix, 2001) and discuss  
5 how an individual in the glue role can facilitate conflict management that  
6 encourages a moderate level of task conflict but prevents task conflict from  
7 degenerating into relationship conflict.

8 Task conflict refers to differing viewpoints, ideas, and opinions related to  
9 the group's task, whereas relationship conflict refers to disagreements  
10 over interpersonal issues and other concerns not directly related to the task  
11 (Jehn, 1995, 1997; Jehn & Bendersky, 2003). Moderate levels of task conflict  
12 have been found to benefit group performance by encouraging discussion  
13 and debate that enables a better understanding of the issues at hand  
14 (Fiol, 1994; Janssen, Van de Vliert, & Veenstra, 1999) and provide group  
15 members the opportunity to voice their ideas and perspectives (Amason,  
16 1996; Peterson, 1997). Relationship conflict, on the other hand, has been  
17 consistently associated with negative group outcomes (Gladstein, 1984;  
18 Jehn & Bendersky, 2003) that are driven, in part, by less information sharing  
19 and perceptions that other group members are not supportive (Shalley,  
20 Zhou, & Oldham, 2004).

21 Creative groups walk a tightrope in managing conflict. On the one hand,  
22 some degree of task conflict is likely to benefit group creativity because it  
23 encourages a more robust debate that involves hearing minority viewpoints  
24 and ideas, which should ultimately lead to better idea generation and more  
25 creative solutions (Nemeth & Nemeth-Brown, 2003; Nemeth, Personnaz,  
26 Personnaz, & Goncalo, 2004). On the other hand, high levels of task conflict  
27 can easily turn into relationship conflict, which has the potential to reduce  
28 information sharing and limit group members' cognitive functioning (Jehn &  
29 Mannix, 2001).

30 We suggest that an individual in the glue role can enable group creativity  
31 by (1) encouraging a moderate level of task conflict and (2) facilitating  
32 conflict management that prevents task conflict from escalating into  
33 relationship conflict. First, an individual in the glue role may engage in  
34 behaviors that encourage and integrate the contributions of every group  
35 member, including those whose voices may not otherwise be heard. Group  
36 members whose points of view are very different from the perspectives of  
37 the rest of the group can be valuable to creative groups by encouraging  
38 further discussion (Fiol, 1994) and by introducing unique frames of  
39 reference that spark creative insights for recombining existing ideas in  
40 a new way (Hargadon & Bechky, 2006). However, groups may fail to utilize

1 the contributions of some group members by discounting certain members'  
2 expertise based on social role expectations (Thomas-Hunt & Phillips, 2004)  
3 or by over weighting the contributions of individuals who are extroverted  
4 (Bonner, 2000) or whose ideas are more consistent with the majority  
5 of group members' perspectives (Bonner, Gonzalez, & Sommer, 2004). An  
6 individual in the glue role can ensure that potentially marginalized ideas  
7 are heard by reminding group members that they have not heard from  
8 certain individuals for a while. An individual in the glue role can then return  
9 to minority ideas, paraphrase them, and link them in a way that interfaces  
10 with the group's discussion. For example, in an architectural design group  
11 charged with designing an environmentally sustainable housing complex, an  
12 individual in the glue role might say, "I remember that Tony said something  
13 about designing low-wattage light fixtures in his last job. Tony, do you mind  
14 telling us more about what you did before?"

15 **Proposition 3.** Individuals in the glue role facilitate group creativity by  
16 enabling the group to incorporate and capitalize on the diverse  
17 perspectives of multiple group members.

18 Second, an individual in a glue role can facilitate conflict management  
19 that prevents task conflict from evolving into relationship conflict through  
20 the development of intragroup trust. Managers are seeking ways to promote  
21 trust as a means for facilitating collective performance (Kramer & Tyler,  
22 1996) and trust is especially important in groups that ask their members to  
23 take creative risks to come up with innovative solutions (Edmondson, 1999).  
24 The ability of an individual in the glue role to foster trust is valuable  
25 to conflict management because researchers have found that intragroup  
26 trust moderates the relationship between task and relationship conflict by  
27 preventing task conflict from turning into relationship conflict (Peterson &  
28 Behfar, 2003; Simons & Peterson, 2000).

29 Trust is negotiated in and through ongoing interactions among group  
30 members (Jones & George, 1998) and develops over time when individuals  
31 demonstrate consistent, trustworthy behaviors (Kelley, 1967). By consis-  
32 tently taking on tasks that integrate group members' efforts, an individual  
33 in the glue role demonstrates a commitment to facilitating the goals of the  
34 group. This demonstration of commitment to the group objective has the  
35 potential to foster broader intragroup trust over time that enables group  
36 members to give one another the benefit of the doubt in conflict situations  
37 (Zaheer, McEvily, & Perrone, 1998). Simons and Peterson (2000) find  
38 that task conflict can evolve into relationship conflict through a process  
39 of misattribution, whereby individuals make antagonistic or sinister

1 attributions for other group members' behavior. The presence of  
2 intragroup trust can prevent task conflict from escalating into relationship  
3 conflict by increasing the likelihood that group members will attribute  
4 conflict to a simple misunderstanding (Jehn & Mannix, 2001) or to other  
5 group members' sincere desire to push for a more creative product or  
6 performance. By taking the initiative to act consistently in terms of group-  
7 focused objectives, individuals in the glue role can enable trust built on  
8 shared values and interests (Lewicki & Bunker, 1996) that facilitates group  
9 conflict management.

11 **Proposition 4.** Individuals in the glue role should enable conflict  
12 management through the facilitation of intragroup trust.

13

15

## 16 DISCUSSION AND FUTURE DIRECTIONS

17

18 Creative groups have the potential to benefit from the unique insights and  
19 contributions of specialists with different skills and expertise. As research-  
20 ers, we still have much to learn about how creative groups can effectively  
21 integrate specialists' diverse efforts into a single creative performance or  
22 product. Understanding how specialist contributions are integrated is  
23 especially difficult in cognitive tasks in which there is little visible evidence  
24 of the coordination of diverse efforts. In examining the glue role, we hope to  
25 shed light on a mechanism through which diverse efforts are integrated in  
26 creative groups.

27 In this paper, we offer three primary contributions to research on group  
28 creativity. First, we introduce and define the concept of the glue role as  
29 an example of how individuals can enact specific roles to influence group  
30 performance (Stewart et al., 2005). This addresses a call that researchers  
31 more carefully consider how individuals impact group effectiveness through  
32 characteristic behaviors and the adoption of roles (Levine & Moreland,  
33 1990).

34 Second, this research applies the negotiated order perspective on roles  
35 to examine how individuals can craft and enact specific roles in creative  
36 groups, embedded in dynamic social contexts, whose task structures are  
37 emergent rather than externally imposed. This perspective provides an  
38 account of the interplay between a group's emerging social structure in  
39 conjunction with the activities of individual group members. The negotiated  
order perspective also offers a process-based account of individual role

1 crafting as a situated and negotiated phenomenon in the context of  
2 creative groups.

3 Finally, this project suggests a different approach to facilitating the  
4 effectiveness of creative groups, of which ideational groups are an example.  
5 Beginning with Osborn (1957), researchers have examined brainstorming as  
6 an intervention for reducing process losses and enabling productivity gains  
7 in idea-generating groups. Brainstorming is an example of a group-level,  
8 instructions-based intervention – that is, every member of the group receives  
9 the same written and verbal instructions. The glue role, however, suggests a  
10 possible intervention that is different in kind from brainstorming. Managers  
11 could assign an individual to the glue role in an idea-generating group  
12 by instructing only that individual to seek out opportunities to build on and  
13 integrate the ideas of others. Such individuals would not be responsible for  
14 coming up with new ideas from scratch; rather, they would be evaluated  
15 only on the degree to which they facilitated the group’s ability to integrate  
16 the contributions of multiple members by building on the ideas of others.

17 Examining the glue role as an individual-level, role-based intervention for  
18 facilitating group creativity is an important direction for future research that  
19 would enable researchers to examine the nature and properties of the glue  
20 role in a more concrete way. Experimentally assigning individuals to the  
21 glue role in both lab and field studies should enable researchers to explore  
22 the potential efficacy of the glue role as an intervention for creative groups.  
23 It would also provide further insight into the degree to which potential  
24 moderating variables, such as individual differences in characteristics, may  
25 affect the effectiveness of an individual in the glue role. Ideally, this research  
26 would initially be grounded in a specific creative context, such as ideational  
27 groups, and then expanded to examine other types of creative groups.

28 Research on the glue role may also offer insights into strategies for  
29 compensation practices that facilitate the performance of creative groups.  
30 Although organizations often pay lip service to the importance of teamwork  
31 in groups, they frequently compensate individual performance using  
32 metrics that only end up measuring individual performance (Fletcher,  
33 1999). Wageman (1995) found that this type of compensation system –  
34 offering independent (i.e., individually-based) rewards to groups engaged  
35 structurally interdependent tasks – undermines teamwork and diminishes  
36 group effectiveness. Even more damaging, a compensation system that only  
37 rewards individuals who engage in behaviors more vivid than integrating  
38 and coordinating the contributions of group members may discourage  
39 individuals from taking on the glue role. To the extent that an individual in  
40 the glue role can facilitate group creativity, poorly designed compensation

1 systems that discourage “glue” behaviors may create yet another barrier to  
2 creative group effectiveness.

3 Finally, future research should also examine the extent to which the  
4 benefits associated with the glue role may extend beyond the context of  
5 creative groups. In fact, we would suggest that an individual in the glue role  
6 can emerge and potentially benefit almost any group in which (a) group  
7 members are selected primarily for their skills and expertise; (b) coordinat-  
8 ing and integrating activities have the potential to facilitate group  
9 effectiveness; and (c) certain activities and behaviors in the group are more  
10 vivid and likely to be rewarded than others, leading to the neglect of other,  
11 less vivid activities. As Kerr (1975) argued, many groups and organizations  
12 in contexts ranging from business to the military, to sports, and to politics,  
13 fail to perform to their potential because members attend to vivid,  
14 individual activities and fail to attend to activities that would integrate the  
15 contributions of others and enable the group to work well together.

16 It is our sincere desire that this line of research will encourage further  
17 examination of how individuals adopt roles in creative groups and how  
18 those roles can influence group creativity. Researchers know a good deal  
19 about both the formal and informal roles of leadership, but relatively little  
20 about the enactment of other roles in small groups (Levine & Moreland,  
21 1990). We hope that this project will facilitate further inquiry into the  
22 individual activities that can influence group creativity.

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