An examination of the relationship between conscientiousness and group performance on a creative task

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ABSTRACT
The positive relationship between conscientiousness and job performance appears to be robust for individuals and groups across most contexts. This research examined the possibility that this positive relationship might reverse in groups engaged in a creative task. In Study 1 (N = 55 four-person groups), a significant negative relationship was observed between group conscientiousness and group performance. To test our hypothesis that this effect is driven by the activation of maladaptive or adaptive behaviors for high vs. low conscientiousness groups (respectively), in Study 2 (N = 59 four-person groups), we manipulated task instructions to make the approach to the task appear more “flexible” or “structured.” Task instructions interacted with group conscientiousness, and provide support for this theoretical explanation.

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1. Introduction

Over the last two decades, research has shown conscientiousness to be a consistent predictor of individual performance across jobs (e.g., Barrick & Mount, 1991; Hertz & Donovan, 2000; Salgado, 1997). Conscientious people are high on achievement striving, dependability, volition, competence, and self-discipline (Barrick & Mount, 1991; Waung & Brice, 1998), and are organized, task-focused, and persistent (Costa & McCrae, 1992; Goldberg, 1992; Mount & Barrick, 1995). Explanations for the positive conscientiousness-performance relationship tend to highlight the intuitive relationships between these specific traits and adaptive workplace behaviors. Indeed, Barrick, Mount, and Judge (2001) note “it is hard to conceive of a job where it is beneficial to be careless, irresponsible, lazy, impulsive and low in achievement striving” (p. 11).

The extension of this robust relationship to group performance contexts appears straightforward. It has long been assumed that the performance of a group is a function of the potential productivity of individual group members, defined as the sum of initial resources individuals bring to the group task (e.g., Steiner, 1972). Because conscientious individuals bring resources such as effort and persistence to the group’s task, it is perhaps not surprising that many studies in the literature on groups (e.g., Barrick, Stewart, Neubert, & Mount, 1998; Neuman, Wagner, & Christiansen, 1999; Neuman & Wright, 1999), as well as a recent meta-analysis (Bell, 2007) have concluded that group conscientiousness is also positively related to group performance. Indeed, on the basis of her meta-analytic results, Bell (2007) recommended that practitioners consider composing groups with highly conscientious individuals to obtain high performance.

In this research, however, we test the boundaries of this recommendation. In particular, we examine the hypothesis suggested by Driskell, Hogan, and Salas (1987) that group conscientiousness will be negatively associated with performance on creative tasks. To accomplish this, we designed Study 1 to confirm that such a negative relationship could be observed, and to explore the hypothesis that high conscientiousness groups perform worse on creative tasks because they are less likely to engage in idea and information sharing, and because they utilize an excessively structured approach to the task. In Study 2, we designed an experiment to examine an alternative hypothesis that highly conscientious groups might do worse on creative tasks because such task contexts fail to activate conscientiousness-relevant traits.

1.1. The potential for negative conscientiousness–performance relationships

Despite the many studies and meta-analyses that support the existence of a robust positive conscientiousness–performance relationship, negative relationships between conscientiousness (or its facets) and performance have been observed at the individual and group levels. Tett and Burnett (2003) cite 11 published or unpublished studies in which significant and meaningful negative relationships between conscientiousness and individual perfor-
mance are reported. Included in that list is a study by Robertson, Gibbons, Baron, Maclver, and Nyfield (1999), who found that conscientiousness was negatively related to a performance factor that included creativity and innovation, personal motivation, and an action orientation.

At the group level, LePine (2003) and LePine, Colquitt, and Erez (2000) found that groups that were high on the dependability facet of conscientiousness performed worse than low dependability groups after a mid-task change in group members’ ability to communicate with each other. In addition, Waung and Brice (1998) reported that groups composed of highly conscientious individuals who caucused before performing a novel task performed worse than low conscientiousness groups and high conscientiousness groups with no opportunity to caucus.

These results are suggestive of possible negative effects of conscientiousness on group performance, although the literature offers little in the way of theoretical guidance. However, one common theme is that high conscientiousness individuals and groups will employ procedures that are inappropriate for the task at hand. For example, LePine (2003) suggested that high dependability groups performed poorly in his study because they were “less willing to abandon old patterns of behavior, even after it is apparent that the behavior is inappropriate” (p. 31). Similarly, in explaining the poor performance of high conscientiousness groups in their study, Waung and Brice (1998) suggested that highly conscientious groups with an opportunity to caucus adopted performance norms that included systematic evaluation of group members’ contributions to the group, even though a less structured approach to idea generation would have been more appropriate. Such arguments suggest that individuals and groups that are high in conscientiousness prefer to adopt systematic procedures for task completion, and become locked into their use even though such procedures are not always appropriate for the task.

An important elaboration on this basic idea is that task contexts in which creativity is a key feature might be problematic for high conscientiousness groups and individuals. Driskell et al. (1987) were perhaps the first to hypothesize that because conscientious people “perform well on tasks requiring routine, systematic, or rule-guided performance” (p. 105) high conscientiousness groups will perform poorly on tasks requiring creativity. Similarly, George and Zhou (2001) and Tett (1998) suggest that highly conscientious people have tendencies toward conformity and control that are incompatible with performance on creative tasks, because creativity requires that people embrace flexibility, ignore rules, and reject the status quo. These assertions are consistent with Barry and Stewart’s (1997) suggestion that group conscientiousness might be more clearly linked to performance on “planning” tasks (McGrath, 1984), for which it is easy to identify clear procedures for completion.

The literature on creativity highlights the incompatibility between systematic and structured approaches to creative tasks and creative output. For example, Taggar (2002) maintains that creative tasks require a more nimble thought process, the ability to take new perspectives, and flexibility in the approach to problem solving “carried out via discovery rather than via a predetermined step-by-step procedure” (p. 315). Similarly, Simonton (2003) notes that creative outcomes are more likely to occur when a certain amount of chance, randomness, or unpredictability are infused in the process. Low conscientiousness individuals and groups might adopt less planful and systematic approaches to creative tasks, which, ironically, might result in better task performance.

In combination, the tendency for the highly conscientious to apply systematic task performance processes across tasks, and the incompatibility of these task processes with the requirements of creative tasks, would suggest that high conscientiousness will result in low performance on creative tasks because of an excessive focus on applying systematic procedures to task completion.

### 1.2. Conscientiousness, groups, and creative task performance

Although the incompatibility between conscientiousness and creative tasks is likely relevant at both the individual and group levels, we believe that it will be particularly pronounced when groups are asked to complete creative tasks. Information sharing and communication are thought to be key elements in group performance (Bunderson & Sutcliffe, 2002). Group performance on creative tasks requires that group members adopt processes that facilitate cross-fertilization, whereby group members’ contributions are combined and elaborated upon in unique ways (McGrath, 1984). Idea sharing has been shown to be an important factor in enhancing creativity and innovation in groups (Paulus & Yang, 2000). It tends to stimulate group members’ generation of more ideas (Dugosh, Paulus, Rolan, & Yang, 2000) and results in the synergistic effects for which groups are touted. In other words, groups that fail to engage in idea and information sharing on tasks requiring creative solutions are likely to exhibit poor performance relative to groups that share ideas and information.

When a group is comprised of high conscientiousness individuals, that group might engage in less idea and information sharing for two reasons. First, idea expression in creative group contexts involves a degree of risk (e.g., criticism from others) that might be inconsistent with the “cautiousness” and “conformity” characteristics of conscientiousness (Tegano & Moran, 1989). Waung and Brice (1998) found that members of high conscientiousness groups who had an opportunity to develop performance norms were more likely to inhibit the expression of ideas during a creative task requiring groups to generate ideas for novel uses of objects. The authors suggested that individuals feared their ideas were either too impractical, or too similar to ideas that were already expressed, and therefore feared being criticized by other group members. Second, although people who are high on conscientiousness are believed to be able to stay on task, and to march steadily toward task completion, the unstructured nature of idea and information sharing might be perceived as counterproductive. Rather, high conscientiousness group members might have a preference for directing their effort toward activities that are clearly “on-task” (e.g., writing down or elaborating on ideas that have already been proposed) and regulating themselves from engaging in “off-task” activities (Kanfer, Ackerman, Murtha, Dugdale, & Nelson, 1994). Thus, we predict that high conscientiousness groups might not actively participate in idea and information sharing processes, which are thought to lead to good performance in creative settings.

In summary, we predict a negative relationship between group conscientiousness and performance on a creative task, and that this relationship will be mediated by a tendency to adopt a more systematic and planful approach to creative tasks, coupled with a tendency to engage in less idea and information sharing within the group. Formally:

**Hypothesis 1.** Group conscientiousness will be negatively associated with group performance on a creative task.

**Hypothesis 2a.** Idea and information sharing will mediate the relationship between group conscientiousness and group performance on a creative task, such that group conscientiousness will be negatively associated with idea and information sharing, which, in turn, will be positively associated with performance.

**Hypothesis 2b.** Use of systematic task processes will mediate the relationship between group conscientiousness and group performance on a creative task, such that conscientiousness will be positively associated with systematic task processes, which, in turn, will be negatively associated with group performance.
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