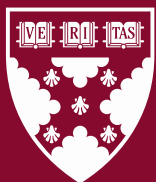


Working Paper 22-055

# Exploring the Relationship between Team Diversity, Psychological Safety and Team Performance: Evidence from Pharmaceutical Drug Development

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Funding for this research was provided in part by Harvard Business School.

**EXPLORING THE RELATIONSHIP BETWEEN TEAM DIVERSITY,  
PSYCHOLOGICAL SAFETY AND TEAM PERFORMANCE:  
EVIDENCE FROM PHARMACEUTICAL DRUG DEVELOPMENT**

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February 8, 2022

**Abstract:** Breakthrough performance in teams requires pooling diverse perspectives and expertise. To realize the potential of diversity, communicating and translating across differences is essential. However, left to their own devices, diverse teams tend to underperform, in part because team members avoid interpersonal risks. We propose a model in which a negative relationship between team member diversity and team performance is moderated by psychological safety. We argue that when team members with diverse backgrounds must work together to accomplish challenging goals, psychological safety may help them overcome barriers to communication created by their differences. Although psychological safety has intrinsic value for all employees because it allows them to voice ideas, concerns, and questions at work, it may be especially valuable for diverse teams. We report on a study in which we find support for our model and conclude that psychological safety can help to unlock the potential of diverse teams. We also describe two tactics for building psychological safety in diverse teams: framing and inquiry.

## **INTRODUCTION**

Conventional wisdom suggests that greater diversity in teams leads to better performance. In reality, however, diverse teams face unique communication challenges often causing them to underperform. We were interested in how teams can succeed in capturing the promise of diversity while overcoming its challenges?

We conducted research in an important innovation-driven setting: the pharmaceutical drug development industry. Our results suggest that team psychological safety acts as a moderator, positively shaping the relationship between team diversity and team innovation performance. Specifically, psychological safety, defined as a shared belief that team members will not be punished or humiliated for speaking up with ideas, questions, or concerns – may help unlock the potential of diversity, resulting in breakthrough innovation.

Our data support the role of psychological safety in creating value based on diversity. We also offer suggestions for team leaders, and other team members, for how to nurture psychological safety in diverse teams. We believe that these tactics can help orchestrate not only breakthrough performance but well-being too.

### **THE RELATIONSHIP BETWEEN DIVERSITY AND PERFORMANCE IN TEAMS**

Teaching executives, we often ask them about the effect of diversity on team performance. They're convinced that team diversity drives better performance, particularly for innovation, with few exceptions. Our experience with dozens of audiences has produced a consistent pattern: a near unanimous vote for diverse teams outperforming homogenous teams, with one or two hands going up against the trend. When those voting for diverse teams are asked for their reasoning, the argument is familiar: diverse team members bring the different perspectives, ideas, and opinions needed for breakthrough performance in competitive

environments. The outliers, pressed to explain their strange vote respond: it's more difficult to work in diverse teams. They have a point.

### **An Uncomfortable Truth**

Research on diversity has surfaced an uncomfortable truth: Bringing people together from different groups to compose diverse teams does not lead to better performance automatically. Indeed, research suggests that, on average, diversity has a negative effect on desired outcomes (Horwitz & Horwitz, 2007; Williams & O'Reilly, 1998). While at first glance not what we expect (or want) to hear, deeper reflection helps explain this result. Diversity, we maintain, gives rise to the *potential* for better performance – for generating more interesting, unusual, or better-informed solutions to complex problems. At the same time, diverse teams face greater coordination and communication challenges than homogenous teams. With both expertise and identity come taken-for-granted assumptions that inhibit communication and get in the way of *realizing* the potential synergy team diversity offers.

These challenges are particularly acute in the face of uncertainty. When people disagree in uncertain contexts, it's not easy to resolve differences by examining facts or indisputable evidence of which view is right. In general, uncertainty can make it more natural to take the path of reduced interpersonal resistance – by not sharing dissenting views, concerns, or mistakes. Silence, along with the incomplete thoughts that lie behind the silence, inhibits team learning and innovation. Effective communication across disciplinary, status, geographic, or other boundaries, is thus particularly challenging under conditions of uncertainty.

In short, despite our best intentions, diversity does not always work the way we wish it would. Working against the potential benefits, diversity brings challenges created by assumptions about values, time-frames, risk-tolerance, and more. Without deliberate

strategies for building mutual understanding about other team members' backgrounds and perspectives, the anticipated benefits of synergy remain elusive.

### **Is Psychological Safety a Key to Realizing the Potential of Diversity?**

Scholars have suggested psychological safety as a key to realizing the potential of diversity in teams (Edmondson & Roloff, 2009; Scott & Edmondson, 2021). Although this argument has been made before, relying largely on its face validity, data to test it has been lacking.

The idea is that diversity is a necessary condition for breakthrough performance, especially in innovation-driven settings, but not sufficient. What's needed is a way to ensure that diversity is well used. In knowledge-intensive work, interpersonal risks are significant; people naturally shy away from the risk of looking incompetent from admitting failure or of looking stupid for asking a question or sharing a wild idea. For this reason, we propose that psychological safety, which describes an environment where candor is welcome, will help teams put diversity to good use. When psychological safety is high, candor no longer feels risky. Offering ideas, sharing doubts, asking questions all become easier.

Extensive research shows an association between psychological safety and learning behavior, which is precisely what is needed to leverage and combine diverse perspectives to achieve new results (Edmondson & Lei, 2014). The consequences of psychological safety discussed in past work have included: help-seeking, feedback-seeking, speaking up about errors and concerns, innovative behavior and innovation, and team boundary spanning (Edmondson, 1999b, 2004; Baer & Frese, 2003). The relationships between psychological safety and speaking up, learning behavior, boundary spanning, and innovation are particularly well established (Edmondson, 1996; 1999a; 1999b; 2003a; 2003b).

Relatedly psychological safety helps team members cope with the stress and

embarrassment of failure (Cannon & Edmondson, 2001). Especially for innovation teams, failure is an essential part of coming up with new solutions; when failures cannot be easily reported or discussed, innovation is likely to be inhibited. We thus propose that psychological safety will enable team performance in diverse innovation teams.

### **SUGGESTIVE EVIDENCE WITH HOPEFUL IMPLICATIONS**

We sought to test the idea of psychological safety as a ‘lubricant’ in diverse teams empirically, using data from a sample of 62 pharmaceutical drug development teams in six large pharmaceutical firms in a high-pressure environment. The diverse teams’ work involved external partners, tight deadlines, and high expectations regarding safety and efficacy from regulatory authorities.

We measured diversity using a composite index (including gender, age, tenure, and functional expertise) and psychological safety using an established survey measure. We collected team performance ratings from senior leaders in the companies, who were unaware of the teams’ values on our other measures.

Our results, depicted in Figure 1, reveal, as predicted, that team diversity had a slightly negative effect on performance on average. However, diversity was positively associated with performance in those teams with high psychological safety (one standard deviation above the mean). By contrast, diversity was even more negatively associated with performance in teams with lower psychological safety (one standard deviation below the mean than the average).

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The data are drawn from a modest sample of teams in a specific setting. Some important variables were not included, notably racial and cognitive diversity. Therefore, the findings should be seen as a promising start and an inspiration for further research rather than definitive evidence.

These caveats notwithstanding, our data are consistent with compelling arguments about relationships among diversity, psychological safety, and team performance. Moreover, psychological safety had other benefits as well. In addition to psychological safety's enabling role in team performance, members of teams with high psychological safety reported greater satisfaction working in those teams. We found the same pattern for satisfaction as for performance: on average, more diverse teams reported lower satisfaction, but when psychological safety was high, diversity was associated with higher satisfaction. These results support the proposition that psychological safety helps teams realize the potential of diversity – both for performance and well-being. The importance of diversity, in other words, goes well beyond the limited business case (Ely & Thomas, 2020).

## **DISCUSSION**

The central implication for theory and practice of our data is that it is crucial to nurture psychological safety to get the most out of diversity. Team diversity poses barriers to collaboration in teams, largely though impeding effective communication. At the same time, effective collaboration among diverse individuals – integration of differences toward shared goals – is essential for team learning and team performance in complex and uncertain contexts. Superficial or ingenuous conversation may soothe in the short run, but will block progress in the longer run. This is especially true for teams engaged in innovation, and other work activities that call for behavioral and organizational change.

The implications of this finding for practice are worth considering. Drawing from



prior work (e.g., Edmondson, 2019), we suggest two ways to build psychological safety in diverse teams: framing and inquiry.

## **Framing**

Framing is about helping team members reach a common understanding of the work to be done and the context in which it will be done. Two frames that are particularly relevant for diverse teams are related to meeting goals and expertise value.

***Frame meetings as opportunities for information-sharing.*** In many team meetings, the objective is framed – explicitly or implicitly – as making decisions. For many, this framing is implicitly associated with judgment, giving rise to an evaluative context where people worry about being judged. This makes them less forthcoming with questions, concerns, or novel ideas – especially in more diverse teams where boundaries are salient and impression management instincts are stronger, compared to those with whom we have common expertise and experience.

To short circuit this dynamic, start a meeting with an explicit goal of information sharing rather than evaluation and decision-making. This helps people focus on what ideas and information they can share, rather than being “right.” This framing encourages people to start with sharing information from their different vantage points before moving on to judgment and decision-making.

***Frame differences as a source of value.*** Differences (in opinion or perspective) are spontaneously viewed as a source of frustration. Thoughtful adults learn to recognize differences as sources of potential value and opportunities for learning, but doing so requires overcoming instincts. To help this happen, be explicit in framing differences as a source of value. For instance, try saying: “Each of us is likely to have different perspectives going into

this meeting, and this will help us arrive at a fuller understanding of the issues at stake in this decision (or project).”

## **Inquiry**

The best way to make it easy for people to contribute their thoughts is to ask them to do so. It's that simple. When team leaders – and others - practice genuine inquiry that draws out others' ideas, listening thoughtfully to what they hear in response, psychological safety in the team grows. The need for inquiry is heightened in diverse teams because of the number and variety of perspectives represented. What makes this simple point not easy is that inquiry is rarely spontaneous; all of us bring blind spots (Edmondson & Dimmock, 2020) to our teams – gaps in knowledge or understanding of which we are unaware – and we usually fail to ask questions about things we don't know we don't know.

As noted by Brene Brown (2021), empathy often takes more than walking in someone's shoes; it takes the willingness to listen (*really* listen) to the story about what it is like to walk in those shoes. This is particularly true in teams characterized by diversity. The goal is to build an understanding of differences to facilitate the effective *use* of those differences.

Here are three lines of inquiry we have found effective in uncovering subtle differences in diverse teams that may be valuable but nonobvious.

- Hopes and goals. *What do you want to accomplish?*
- Concerns and obstacles. *What are you up against? What are you worried about?*
- Resources and skills. *What do you bring to the table?*

***Open versus closed questions.*** The best questions are often open (those with no predetermined answers) and asked by an open mind curious to follow wherever the answers

may lead (Bresman, 2010; Edmondson, Jang, & Casciaro, 2019). *Example: What do you see in your community? Or, What are you hearing from customers?* Of course, there are times when closed questions are useful. For example, a team leader can help create psychological safety for candor during episodes of heightened stress by asking closed questions that remind members of their capabilities. *Example: How did we turn things around when we faced this challenge a year ago?*

***Questions that recognize shared ownership and causality versus those that don't.***

Diverse teams are complex systems, and each member is an interdependent part of the system. Better questions take this into account. *Examples: What did we (or I) do to put you in a challenging position? Or, How can we help?* This contrasts with the type of question that does not implicate the questioner. *Examples: What did you do that created this situation? What do you think you can do about it?*

While closed questions can be helpful in diverse teams to create focus, questions that do not implicate us by acknowledging that we live in a relational, systemic context are rarely beneficial.

## **CONCLUSION**

While the dominant narrative in many organizations suggests that team diversity enhances team performance, diverse teams often underperform. Why? They face communication challenges that get in the way of their undeniable potential. Coming from different backgrounds, members of diverse teams are vulnerable to inadvertent violations of assumptions and norms that lead to misunderstanding and frustration. Therefore, rather than performing better than homogenous teams, diverse teams are at risk of *failing* to deliver the anticipated breakthrough performance. Indeed, past research suggests that, on average,

demographic diversity has a negative effect on team outcomes (e.g., Williams & O'Reilly, 1998).

However, what we conclude in this paper is that average results in research can encompass interesting differences. By shifting the question from “do diverse teams outperform homogenous teams?” to “Under what conditions does this occur?” Specifically, our data suggest that diverse teams may perform better under conditions of high psychological safety than their homogeneous counterparts.

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**FIGURE 1**  
**Interaction Effect of Diversity and Psychological Safety on Team Performance**

