

WHEN EQUITY SEEMS UNFAIR: THE ROLE OF JUSTICE ENFORCEABILITY IN TEMPORARY TEAM COORDINATION

MELISSA VALENTINE
Stanford University

Temporary teams can accomplish tightly coupled complex work without the enabling conditions that support coordination in traditional teams. To advance understanding of this process, I conducted an inductive study of temporary teams in four hospital emergency departments (EDs), and found effective team coordination in two of the EDs, but not in the other two. To theorize an explanation, I draw on the organizational justice literature and introduce the idea of *justice enforceability*, defined as individuals' perceptions of whether authorities can act fairly, given the potential for other people to cheat. The team members' perceptions of justice enforceability were focused on whether the distribution of work within and between teams was fair or could be cheated. Justice enforceability mattered for coordination because it predicted whether teammates felt unity of commitment to their interdependent responsibilities and were therefore willing to engage in the extra-role behaviors that coordinated their efforts, or whether they felt self-protective and avoided the extra-role behaviors that would have made them suckers for working hard while others cheated. Justice enforceability thus resolves a tension for temporary teams: the potential for cheating under equitable workloads undermined extra-role behaviors and coordination, but an exactly equal distribution facilitated coordination by enforcing the view they were all "in it together."

Temporary groups are short-lived organizational systems that challenge traditional theories of organizing (Bechky, 2006; Meyerson, Weick, & Kramer, 1996). These groups of relative strangers assemble on demand for one-time engagements and coordinate tightly coupled and complex work. In recent years, temporary groups have become a common way for work to be done in many industry settings (Edmondson, 2012a; Klein, Ziegert, Knight, & Xiao, 2006). This trend has been attributed to several factors, including new internet communication technologies (ICTs) that facilitate the assembly of temporary groups, as well as new macro-employment models where many people's careers span projects, organizations, and industries (Benkler, 2017; Cappelli, 1999). Examples of temporary groups used in different industry settings include innovation project teams (Dugan & Gabriel, 2013), crowdsourced flash teams and organizations (Retelny et al., 2014; Valentine, Retelny, To, Rahmati, Doshi, & Bernstein, 2017), "tour of duty" start-up teams (Hoffman, Casnocha, & Yeh, 2013), "fluid" project teams (Staats & Upton, 2011), and ad-hoc virtual teams (Crisp & Jarvenpaa, 2013). Against this backdrop, organization scholars face the intriguing problem of explaining how temporary groups can accomplish tightly coupled complex work without many of the

"necessary or sufficient antecedents" of effective organizations, such as "normative structures, institutional safeguards, or trust-building activities" (Meyerson et al., 1996: 167).

To explain this process, scholars have vividly described the behaviors involved in temporary groups' tightly coupled coordination. These coordination behaviors are active and interactive, sometimes referred to as "continuous interrelating" or "teaming on the fly" (Edmondson, 2012b; Faraj & Xiao, 2006; Meyerson et al., 1996). They are characterized by group members looking after their own individual role responsibilities, but also closely watching for any other communication or task completion that might help the entire group to be more successful. Such activities might include proactively noticing problems and notifying others, asking or answering questions, taking time to collectively integrate perspectives or priorities, or stepping in to do each other's work (e.g., Bigley & Roberts, 2001; Klein et al., 2006; Valentine & Edmondson, 2015). Thus, a critical subset of temporary group members' coordination behaviors are focused on advancing the good of the group and are beyond any one member's specifically prescribed responsibilities. Such activities are sometimes referred to as extra-role behaviors (Podsakoff, Whiting, Podsakoff, & Blume,

2009) or backing-up behaviors (Porter, Hollenbeck, Ilgen, Ellis, West, & Moon, 2003). Extra-role behaviors¹ cannot be easily divided into individual job descriptions, but are mission-critical to effective temporary group coordination. If group members do not engage in these extra-role behaviors, then certain helpful tasks, reminders, updates, corrections, and supports fall through the cracks, and each group member can accurately say “that’s not my job.”

These descriptions have revealed the importance of extra-role behaviors for coordination in temporary groups, and yet, the known antecedent conditions of extra-role behaviors are not characteristic of temporary groups. The known conditions are instead characteristic of traditional teams and organizations. For example, in traditional groups a main predictor of extra-role behaviors is the strength or salience of an individual’s social identity based on their group membership (Blader & Tyler, 2009; Dukerich, Golden, & Shortell, 2002; Kramer, Hanna, Su, & Wei, 2001; Van der Vegt & Bunderson, 2005). Individuals with strong social identity vis-a-vis their work group “have integrated the group with their self-concept,” meaning they are inherently concerned with their group’s welfare and will act on behalf of their group’s interests because “group success is tantamount to individual success” (Blader & Tyler, 2009: 466). However, it is unclear whether and how “strong social identity” would develop and motivate extra-role behaviors in ephemeral one-off engagements that last for mere hours, days, or weeks. A second documented

antecedent of extra-role behaviors is employees’ perceptions that their supervisor or organization treats them fairly (Cohen-Charash & Spector, 2001; Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Colquitt et al., 2013). When employees are treated fairly, they feel that they are in a social exchange relationship with another who values their interests, and so generously offer their own discretionary behaviors to continue the mutually enjoyable social connection (Organ 1988, 1990). Yet such synergistic social exchange relationships develop as supervisors and employees interact and develop trust over time (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). It is unclear whether people experience developmental social exchange relationships with relative strangers on brief work engagements.

Thus, temporary teams present an intriguing problem: many descriptions of temporary groups suggest that extra-role behaviors are necessary for effective tightly coupled coordination. And yet, temporary groups assemble and work together under conditions that bear little similarity to known antecedents of extra-role behaviors. New research is needed to theorize the conditions that motivate the extra-role behaviors of temporary group members. Without ongoing social exchange or a sense of group identity, group members might be expected to do their own work, but might not necessarily look for ways to proactively help the overall group perform better. To develop theory on this process, I explore the following research question: under what conditions do members of temporary groups engage in the extra-role behaviors that are core to effective group coordination?

I addressed this research question through an inductive comparative field study of temporary teams² of doctors and nurses in four different hospital emergency departments (EDs). The four EDs were matched on several characteristics, including use of pod structures (sometimes called team scaffolds) to organize small teams of nurses and doctors (Valentine & Edmondson, 2015). The membership of the temporary teams in any given pod at any given time was fluid and random, but whatever group of doctors and nurses occupied a pod, together they had to coordinate complex patient care. In two EDs, the temporary teams engaged in effective tightly coupled coordination, in large part because of the extra-role

¹ It is useful to clarify that there are different assumptions included in the label “role” in role theory (e.g., Bechky, 2006; Goffman, 1956; Parsons, 1951), and in the label “extra-role” in theories of prosocial behaviors (e.g., Blader & Tyler, 2009). Using these two concepts together risks implying that roles are modular building blocks and anything outside of the modular task list is “extra-role.” Such an implication would erroneously suggest that roles and associated responsibilities are well-defined and immutable, rather than changeable and negotiated in context. My intent in using these two labels was to draw on the role-based coordination research that explains how relative strangers coordinate complex work (e.g., Bechky, 2006) and also to newly note that even given that these role structures are negotiated in context, it might be useful to recognize that some of these behaviors are prosocially focused on advancing the good of the group in ways theorized by Blader and Tyler (2009) and others. I thank an anonymous reviewer for encouraging me to clarify that roles should not be understood as modular, such that behaviors that are “in-role” and “extra-role” can be listed in a straightforward way.

² Many papers appropriately use “group” and “team” interchangeably. In this paper, because of the ED context, I use group to refer generally to a temporary group of any size (e.g., pods, movie crews, disaster response units) and team to refer to a small group of people (e.g., six or so).

behaviors of team members. In the other two EDs, team members focused on their individual role responsibilities, but engaged less in behaviors focused on advancing collective progress, so team coordination did not develop.

Through an inductive analysis of my data, I saw that the presence or lack of extra-role behaviors in the different EDs related to people's perceptions of fair workloads, which were focused on how work was assigned to the temporary teams. One assignment process was intended to be equitable, but people observed teammates cheat the distribution process, and suspected cheating occurred in other teams too. The other assignment process forced the number of patients assigned to each pod to be exactly equal, which was stressful but could not be cheated. To develop insight into these patterns, I combine my data with organizational justice research and introduce the idea of *justice enforceability*, which I define as an individual perception that authorities will be able to act fairly, given the possibility of others cheating. When members of the temporary teams perceived justice enforceability, they felt they all had to be "in it together" when dealing with their work—a solidarity or unity of purpose and commitment that was reinforced by virtuous cycles of felt-solidarity and collectively focused extra-role behaviors. In contrast, when team members felt fair work was not enforceable, they did not feel solidarity—they instead each felt self-protective and so focused on individual responsibilities but not extra-role behaviors, and coordination did not develop.

The idea of justice enforceability in temporary teams advances theory in two main ways. First, it identifies an undertheorized antecedent of extra-role behaviors in temporary groups. Group members were concerned with other participants cheating fair workloads, and so benefited from strongly reliable assurances that work could not be cheated, even though those binding assurances came with significant stress. When they perceived that fair work could be enforced, they felt unity of purpose, or solidarity with teammates in taking on their work, and were willing to engage in extra-role coordination behaviors that benefited their shared purpose. Cheating and opportunistic behavior may be more likely (or more suspected) in temporary groups, which suggests that the structures and processes that *enforce* fair work and rewards may be useful for facilitating temporary team coordination. Second, the notion of justice enforceability contributes to organizational justice research. Scholars have shown how workers respond when leaders adhere to or violate justice

rules (Colquitt et al., 2001, 2013). But scholars have not yet considered how workers respond when fellow workers deliberately cheat leaders' ability to adhere to justice rules. In such situations, leaders make good-faith attempts to adhere to justice rules, but team members perceive the situation as unfair. Workers may hold authorities accountable for enforcing justice in addition to adhering to other justice rules. This expectation may be especially true of temporary groups, where accountability is low and other solutions to opportunistic behavior are not possible. I developed these ideas through an inductive comparative field study, described below.

COORDINATION IN TEMPORARY GROUPS

This paper is motivated by the following research question: what conditions support the extra-role behaviors needed for effective coordination in temporary groups? A key finding in research on temporary groups is that people arrive on-scene with a shared understanding of a role structure that defines the group members' responsibilities and interdependencies (Bechky, 2006; Bigley & Roberts, 2001; Faraj & Xiao, 2006; Klein et al., 2006; Valentine & Edmondson, 2015). Working within this role structure, even people working together for the first time know immediately what they are responsible for and what actions others expect of them. For example, in their study of disaster response systems, Bigley and Roberts (2001) suggested that a well-defined role structure allowed large groups of first responders to understand without discussion who was responsible for which activities. The authors described how "the captain of the first unit that arrived" at the disaster scene became the system commander for that particular incident (Bigley & Roberts, 2001: 1287). Everyone in the larger pool understood that the first arriving captain would be responsible for certain activities and decisions, regardless of which specific individual ended up occupying the role. Relatedly, Bechky (2006) showed how role structures enabled coordination among movie crews who worked together only temporarily. When people arrived on scene, they had shared expectations about the responsibilities and interdependencies of "gofers, gaffers, and grips," some of the roles involved in movie production. The broader film industry shaped those role expectations. Temporary groups of medical personnel are also organized around well-defined role structures (Faraj & Xiao, 2006; Klein et al., 2006; Valentine & Edmondson, 2015).

A related finding among studies of temporary groups is that participants must actively engage in “teaming on the fly” or “continuous interrelating” to adapt the role structure to the changing situations they face together (Edmondson, 2012b; Meyerson et al., 1996). Frequent interpersonal exchanges update and synchronize shared understanding about changing task conditions and implications for role responsibilities. For instance, in the disaster response example, Bigley and Roberts (2001) described how the firefighters frequently engaged in what they called a “size-up” that included quickly discussing “What’s the time of day? What’s the wind like? What are the traffic conditions? What type of building are we going to?” Through these size-ups, they developed and updated shared representations of what was happening. Valentine and Edmondson (2015: 413) identified behaviors through which temporary teams of doctors and nurses coordinated complex patient care, including “updating respective progress, prioritizing mutual effort, and helping each other.” Note that many of the behaviors described in this literature are discretionary extra-role behaviors, but little research has explored the conditions under which group members engage in these kinds of extra-role behaviors.

The study discussed in this paper took an inductive approach to understanding temporary groups (Edmondson & McManus, 2007). During my field research, I observed people drawing on shared understanding of their roles to interact with relative strangers in ways that were consistent with prior research. But I also saw significant differences in how much people were focused on and pursued the collective progress of their group, which I labeled “extra-role behaviors.” Through inductive analysis, I understood that these differences related to variation in perceptions of fair treatment among temporary teams in different EDs. I drew on the organizational justice literature to develop insight into these patterns. A consistent result in the justice literature is that workers who feel fairly treated engage in more extra-role behaviors than those who feel unfairly treated (Bartle & Hays, 1999; Cohen-Charash & Spector, 2001; Colquitt et al., 2001). Similarly, teams whose members share perceptions of fair treatment perform better than teams whose members perceive unfair treatment (Colquitt, 2004; Colquitt, Noe, & Jackson, 2002; Roberson & Colquitt, 2005). However, this research did not easily explain my results. The differences in fairness perceptions in my study related to whether or not people could cheat the distribution of work, not on whether managers explicitly

violated justice rules, the focus of past research (e.g., Scott, Colquitt, & Paddock, 2009). Also, the perceptions of fair treatment I observed were characteristic of groups that worked together for mere hours, whereas prior research considers justice perceptions that “converge” in cohesive groups during ongoing relationships with authorities (Roberson & Colquitt, 2005: 596). New theory was needed on fairness perceptions and extra-role behaviors in temporary groups.

METHODS

This study reports one of the first comparative field studies of temporary teams. Previous studies have examined temporary teams in single organizations (Bigley & Roberts, 2001; Klein et al., 2006; Valentine & Edmondson, 2015), or articulated common processes in temporary organizing (Bechky, 2006; Faraj & Xiao, 2006; Meyerson et al., 1996), but have not identified or theorized differences between temporary teams. The study design was exploratory and involved collection and analysis of open-ended qualitative data (Edmondson & McManus, 2007; Eisenhardt, 1989). The study compared four different EDs that used structures called pods to organize extremely fluid and temporary teams of doctors and nurses.

Research Setting and Sites

Hospital emergency departments (EDs) are an opportune setting for studying temporary team coordination. EDs operate with extremely fluid staffing because they are usually open 24/7 year-round and because they staff the department using multiple staggered shifts. Work in the ED is also highly interdependent. Supervising physicians (“Attending”) and physicians in training (“Residents”) assess the condition of patients, order tests or imaging, make diagnoses, and decide the ultimate disposition of the patients (e.g., admittance to the hospital or discharge from the ED). Nurses interact more continuously with the patients, placing them on treatment beds and gathering information about their medical status that the doctors then use in their diagnosing and decision-making. Nurses also carry out many of the doctors’ medical orders, for example drawing blood from a patient and sending it to the lab.

Many EDs now organize small groups of doctors and nurses into small, sub-divided areas known as pods. Each pod is organized around a team-based role structure, usually including an Attending physician,

two to three Resident physicians, and two to three nurses. The groups that populate the pods are extremely fluid because of the ED staffing patterns. New people join the team throughout the day, which means that someone stays in the pod who knows about the pod's patients, while others finish their shifts and are replaced by new people. A previous study reported a pre-post comparison of one ED that implemented pods, and found significant performance improvements when organizing the doctors and nurses into pods (Valentine & Edmondson, 2015). The current paper compares four different EDs (Alpine, Belleview, Carter, and Dyer) that used pods to organize small temporary teams of doctors and nurses. The pods in all four EDs were bounded (by counters or walls) and had the same role structure (one Attending physician, two to three Resident physicians, and three nurses). Belleview, Carter, and Dyer had three pods; Alpine had four.

The four EDs had similar characteristics known to influence doctor–nurse relationships. First, all four were academic medical centers. This characteristic was important because the presence of Residents influences intergroup and power dynamics between doctors and nurses (Bartunek, 2011). Second, all four were urban, safety-net hospitals that served high volumes of indigent patients and provided a considerable amount of unpaid care, the majority of which was initiated in the ED. Serving indigent, uninsured patients often requires different resources that might influence how the EDs are designed and staffed. Third, all four hospitals were trauma centers. EDs accredited to treat trauma cases are laid out, staffed, and equipped differently than non-trauma EDs (Southard, 1994). Fourth, all four EDs used electronic medical records (EMRs), which significantly influences how physicians and nurses coordinate (Feufel, Robinson, & Shalin, 2011; O'Malley, Grossman, Cohen, Kemper, & Pham, 2010). Fifth, the nurses at all four EDs were unionized. Finally, all four EDs had extremely fluid staffing. Many physicians rotated among two or more EDs in the hospital systems. The nurses tended to work at one ED at a time, but there were “traveler” nurses who rotated through, as well as temporary nurse trainees.

Qualitative Data and Analysis

Fieldwork was conducted at the four EDs over a two-year period. Observations were conducted at each research site and lasted between one and three weeks at the different EDs, where the three weeks were staggered across several months. Observations

were conducted at every pod in each ED at different times of day. The observations were used for triangulation (Jick, 1979); the main source of data was interviews with the ED staff (Spradley, 1979). Interviews were conducted with nearly 170 staff members across the four different EDs. They typically lasted between 30 and 60 minutes. The interviews were conducted in private rooms in the ED before, during, or after participants' shifts and were recorded and transcribed. Participation in the interviews was voluntary, and participants were invited by email or through announcements at staff meetings. Interviews involved open-ended questions following a semi-structured protocol. Participation was solicited until interviews were not yielding new insight (Glaser & Strauss, 1967).

Level of analysis. The level of analysis for this study was emergently determined. Data collection accommodated the possibility that there would be significant variation between pods within sites—perhaps structural or physical differences. If that had been the case, then the level of analysis would have been 13 pods nested within the four research sites. Observations at all 13 pods were conducted, and interviews asked participants about any relevant differences between the pods. There were no salient differences among the pods within sites. In fact, managers attempted to control any variation as much as possible so that any staff member could work in any pod and treat any kind of patient. Instead, the variation that emerged in data collection involved how patients were assigned to pods and how the temporary groups in the pods coordinated, which varied between EDs. The level of analysis in this paper is therefore the variation in departments. The variation played out in the perceptions and coordination behaviors of the temporary teams that occupied the pods and involved members of the pods monitoring and interacting with their own team members as well as with the teams in the other pods.

Qualitative analysis. Data analysis followed an inductive theory development process. Memos describing a within-hospital analysis for each field site were written. Field notes and interview transcripts were read several times, resulting in records of high-level themes. Using these high-level memos as a broad framework, I conducted line-by-line analysis of the interview transcripts. Open-coding started with reading a thought unit and asking “what is this an example of?” This first pass produced codes related to the design of the pods, including: the composition of roles; the way that patients were assigned to the pods; and behaviors such as updating, asking

Q:8
Q:9

Q:5
Q:6

Q:7

questions, avoiding work, and working around those avoiding work. These codes were intended to be exhaustive, documenting all themes raised in the interviews. A final round of coding consisted of analyzing every piece of data related to the assignment process and focused on understanding the theoretical salience of the articulated relationships and patterns.

Quantitative Data and Analysis

Staffing data were also collected using each ED's electronic medical records. Data were downloaded that listed a de-identified unique identity (ID) number for the nurses and doctors associated with each case and each pod. We analyzed these data to assess: (1) the total number of doctors and nurses who worked in the ED over a one- to three-year period, (2) the total number of doctors and nurses who worked in each ED during a 24-hour period, and (3) the total number of doctors associated with any one pod during a 24-hour period. These metrics reflect the fluidity of the ED staffing and pod teams. The total number of nurses and doctors who worked in each ED over a one-year period was calculated by summing the unique IDs associated with patient cases starting from 7:00 am on July 1 to 7:00 am the following July 1. The average number of nurses and doctors in each ED over 24-hour period was calculated by summing unique IDs associated with patient cases from 7:00 am on one day to 7:00 am the following day and calculating the average value across a year. The average number of nurses and doctors who worked in each pod in each ED over a 24-hour period was similarly calculated. Some of the EDs closed pods at different periods of the day; empty pods were not included in the averages. The numbers for staff in each pod do not sum to the number of staff in the relevant ED for a 24-hour period because staff changed pods and helped with patients even when not working an entire shift in a pod.

FINDINGS

All four EDs organized temporary teams of doctors and nurses using structures they called pods. However, the coordination behaviors of the temporary teams varied considerably. To explain this variation, I draw on organizational justice literature and introduce the idea of *justice enforceability*, defined as individuals' perceptions of whether authorities can act fairly, given the potential for other people to cheat. The team members' perceptions of justice enforceability were focused on whether the distribution of

work within and between teams was fair or could be cheated. Justice enforceability predicted whether teammates felt unity of commitment to their interdependent responsibilities and were therefore willing to engage in the extra-role behaviors that coordinated their efforts, or whether they felt self-protective and avoided the extra-role behaviors that would have made them suckers for working hard while others cheated.

The differences in justice enforceability focused on the way that work was distributed to teams. In two EDs, Charge Nurses ensured that the distribution of work was *exactly equal*, like dealing a deck of cards. In the other two EDs, Charge Nurses monitored the teams' work and assigned a new patient when a team seemed ready. This distribution was intended to be *equitable* because team members' skills and experience, and the pods' prior work and current capacity were taken into account when patients were assigned. This process ensured that no one pod would get overloaded. Both of these processes can be considered fair in the sense that the Charge Nurses were following an idealized justice rule (equality or equity) when distributing work (Cohen-Charash & Spector, 2001). But despite the defensible rationale for either assignment process, the nurses' and doctors' fairness perceptions of the two processes differed. The exactly equal distribution was experienced as stressful but fair, because it could not be cheated. The equitable distribution was perceived as creating conditions where fairness was unenforced, because people suspected and observed cheating of the equitable decisions.

Similar Team Structures and Staffing Patterns at all Four EDs

To illustrate that a main source of variation between the four EDs was the patient assignment process and related fairness perceptions, I first describe ways in which the pods in the four different EDs were similar. At all four EDs, the pods were small areas, demarcated by counters or walls. Each pod included space and seating for a dedicated group of doctors and nurses. And, each pod included a dedicated set of beds and chairs for the patients who were assigned to the pod. Thus, the team structures identified in past research were the same at all four EDs: the team members had the same task interdependence in the Attending-Resident-nurse role structure, they worked in close proximity to one another, they could easily identify each other, and they treated the same patients and therefore had "overlapping representations" of their shared work (Bigley & Roberts, 2001; Valentine & Edmondson, 2015; Wageman, 1995; Wageman, Hackman, & Lehman, 2005).

The staffing patterns were also similar across all four EDs. Each pod bounded a small group that worked together for a few hours, but the specific composition of individuals who were working at any one time was extremely variable—many participants said “random” (see Table 2). The Charge Nurse at Alpine described the pod staffing assignment as random and said,

When you show up for your pod, you don't know who's going to be there . . . I can't even follow it. You're there, you see a new person come in, and it might be courteous to go and say, “Hey, by the way, I'm your pod nurse,” but they usually will pick that up because you're the one yelling, “Hey, we just got this ambulance” when they walk in.

An Attending described, “The place is always in flux with manpower; people coming and going.” Over the course of a year, 335 different people worked in one of the three Dyer pods, and over 600 different people worked in one of the four Alpine pods. Even though the pods only had around three nurses working at a time, over the course of a 24-hour period, on average between 13 (Alpine) and 24 (Carter) different nurses occupied the nurse roles in the pods. The role structure organized six people in the pod at a time, but over the course of a day, between 25 and 46 different people worked together in staggered shifts. The pods provided a little bit of structure to these large fluid groups, helping people recognize teammates, even if they had

never met before, and ensuring teams had the same set of patients for whom they shared responsibility.

Differences in Work Assignment Processes

The pods were structured and staffed similarly at all four EDs, but there were subtle but important differences in how patients were assigned to the pods. The assignment of patients to pods was either exactly equal (Alpine and Bellevue), or equitable based on the Charge Nurse's sense of each pod's availability to take on more work (Carter and Dyer).

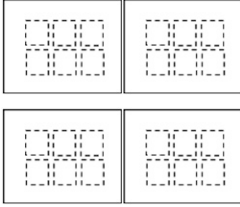
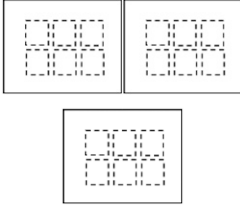
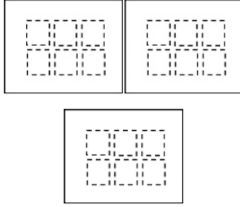
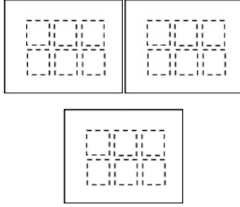
Alpine and Bellevue: Exactly Equal Work Assignments

Alpine and Bellevue EDs both set up a “round-robin” assignment process to allocate patients to their pods. At both EDs, people used the analogy of “a deck of cards” to explain this process. A Bellevue Attending said: “There is a triage nurse standing with a deck of cards saying Blue, Red, Green, Blue, Red, Green assigning patients to the pods.” People called it “round-robin” assignment because patients were distributed to pod 1, then pod 2, pod 3, and pod 4, and this pattern was repeated over and over. A Bellevue Resident said: “It is assigned by the triage nurse on a rotating basis. It does not matter what else is happening, it is just assigned in the order in which they came in.”

TABLE 1
Matched Characteristics and Data Collected by Research Site

	Alpine	Bellevue	Carter	Dyer
Hospital characteristics				
Location	Urban southwest	Urban northeast	Urban northeast	Urban northeast
Academic	Yes	Yes	Yes	Yes
Safety-net	Yes	Yes	Yes	Yes
ED characteristics				
Pod system	Yes	Yes	Yes	Yes
EMR	Yes	Yes	Yes	Yes
Data collected				
	30 interviews	43 interviews	45 interviews	54 interviews
	–7 Attendings	–11 Attendings	–14 Attendings	–11 Attendings
	–8 Residents/PAs	–13 Residents/PAs	–16 Resident /PAs	–22 Residents/PAs
	–10 nurses	–12 nurses	–11 nurses	–11 nurses
	–5 other	–7 other	–5 other	–8 other
	One year of data from electronic medical record ~100,000 patient cases	One year of data from electronic medical record ~70,000 patient cases	One year of data from electronic medical record ~80,000 patient cases	One year of data from electronic medical record ~60,000 patient cases
	Observation of all pods at different times	Observation of all pods at different times	Observation of all pods at different times	Observation of all pods at different times
	Archival materials	Archival materials	Archival materials	Archival materials
	– Floor plans,	– Floor plans,	– Floor plans,	– Floor plans,
	– workflows,	– workflows,	– workflows,	– workflows,
	– staffing plans	– staffing plans	– staffing plans	– staffing plans

TABLE 2
Similar Team Structures and Staffing Patterns at all Four EDs

Site	Alpine	Bellevue	Carter	Dyer
Number of pods				
Role structure in pods	1 Attending 2–3 Residents 3 nurses	1 Attending 2–3 Residents 3 nurses	1 Attending 2–3 Residents 3 nurses	1 Attending 2–3 Residents 3 Nurses
Total patients in one year	~ 100,000	~ 70,000	~ 80,000	~ 60,000
Total number of staff in one year				
Attendings	155	70	118	39
Residents	278	158	153	278
Nurses	194	107	137	212
Total	627	335	408	529
Average number of staff in a 24-hour period				
Attendings	15.3	9.4	9.5	9.6
Residents	23.5	20.2	22.8	22.8
Nurses	30.1	22.2	31.0	39.2
Total	68.9	51.8	63.3	71.6
Average number of staff in a pod over a 24-hour period				
Attendings	5	5 ^a	6	4
Residents	7	9 ^a	16	12
Nurses	13	16 ^a	24	16
Total	25	30 ^a	46	32

^a Estimated based on Attending; pod not recorded.

The round-robin assignment was treated as inevitable and binding. An Alpine Attending explained, “Patients are assigned directly to the pod, and you own them—no ‘ifs,’ ‘ands,’ or ‘buts’.” Over time, the triage nurses had learned that they needed two “decks of cards”—one for acute patients, one for non-acute patients—and would “deal” with those types of patients separately, but still a round-robin assignment among the pods. The round-robin assignment meant that each pod ended up with a dedicated queue of patients that grew or shrank depending, in part, on the triage nurse’s efforts.

Carter and Dyer: Equitable Work Assignments

In contrast, the Carter and Dyer pods were assigned new patients equitably based on the Charge Nurse’s perception of their capacity to handle another patient. This assignment process protected the teams: they were never going to be assigned more work than they could

handle. If they became slowed down with a complex patient, and their other beds were not clearing, they would not be assigned more patients just because someone new happened to arrive at the ED.

A Carter Attending explained, “The nurses sort of triage them [in the waiting room] and then, as space becomes available, they get them [the patients] in [to a bed in a pod].” The choice of where to send a patient was made based on the Charge Nurse’s sense of bed availability, although availability was not necessarily easily observed from their desk. A Carter nurse explained: “The Charge Nurses’ job is to sort of get up and see what’s going on from one pod to the next and see what needs to be taken care of.” A Resident described how this often involved the Charge Nurse calling the pods, “like yesterday, the nurses were calling from the waiting area to see what was taking so long on certain patients and to get them out of the room in our pod” (i.e., so that they could send another patient in). The same work assignment process was

used at Dyer ED. When a pod looked ready for a patient, a new one would be assigned, but no queues were formed at the pod level. The main benefit of having the Charge Nurses decide where the patients were assigned was described as “intelligent triage” meaning the Charge Nurse could match patient acuity to both staff ability and pod capacity. Table 3 reports additional evidence illustrating the use of an exactly equal versus an equitable assignment process in the four EDs.

Differences in Perceptions of Justice Enforceability

Nurses and doctors at Alpine and Belleview perceived the justice of the round-robin assignment to be enforceable, though they struggled with the stress of the inevitable and unavoidable work. But at Carter and Dyer they did not. Their complaints about unfair work were focused on how easy and prevalent it was to cheat the assignment process, making the Charge Nurses’ attempts at equitable distribution unfair. Although equitable distribution might be more fair in many settings (e.g., Gilliland, 1993), it became problematic in this setting because the fairness was perceived as unenforceable.

Alpine and Belleview: High Justice Enforceability with Cheating Not Possible

Nurses and doctors at both Alpine and Belleview cared about how fairly work was distributed to the pods. They perceived justice enforceability in the distribution of work because cheating was not

possible. Even when one pod had bad luck and got overwhelmed by complex patients, people still perceived that the work distribution was fair, and expected fair work rather than cheating from teammates and teams in other pods. First, they expected that teammates were not able to cheat the work assignment process. One Alpine Attending described how the system could not be cheated. He said:

The assignments just keep marching on, 1,2,3,4 ... Pod 1 is completely under water and the other pods are cranking things out. Doesn’t matter. The Charge Nurses feel that the rules of the game are you get every fourth patient and you have to deal with it. That’s how the pod system works; you just have to deal with it. If you’re having a bad day today, then someone else is having a bad day tomorrow.

A Belleview nurse explained, “Patients are assigned to the whole team, and it is assigned round-robin, so there are times like ‘It’s my turn again?’ You can complain about it, but there’s really nothing we can do.” An Alpine nurse agreed that getting more work was inevitable, but noted the trade-off: “They make it fair across the board on what the pods get. They make it even across the board. But still—on Saturday night ... I was getting back-to-back ambulances, and I’m like, ‘This is going to kill me!’” One Resident explained that with the equal assignment process “you never knew what was coming” in terms of the number of patients or the acuity of the patients that might arrive in the pod at any moment. He said “the whole team” was always looking to see if there was anything they could do to “move people out”

**TABLE 3
Evidence for Equal or Equitable Work Assignments**

Equal work assignments (Alpine/Belleview)	Equitable work assignments (Carter/Dyer)
<p>We send them patients basically <i>round-robin</i>. They come through triage or through the ambulance bay. There’s a little station where everybody stops by, either ambulance patients or triage patients, and it’s literally fairly random—1, 2, 3, 4, 1, 2, 3, 4 pods. (Alpine nurse)</p> <p>The triage is supposed to be equal. They go <i>red, green, blue, red, green, blue</i> ... like they give an equal proportion to the teams unless something is wrong with that team that day like someone didn’t show up to work. (Belleview Resident)</p> <p>Triage nurse does a quick assessment, and then they get assigned to a team immediately. In that sense, in our system team assignment occurs at the front door ... it’s <i>first, second, third, fourth, first, second, third fourth</i>. (Belleview Attending)</p>	<p>The Charge Nurse brings the patient in to the <i>right bed, the right nurse, at the right time</i> ... it is a much smoother approach. Just because you have an open room does not mean you have open resources available for that patient. (Dyer nurse)</p> <p>The Charge Nurses know <i>who is available</i>, where to get the patients in, how to get patients in ... that’s their job. (Dyer nurse)</p> <p>The Charge Nurses watch and then <i>when space becomes available</i>, they get them in. So a patient who shows up could end up in Pod A or Pod B, depending on <i>where the bed opens up first</i>. (Carter Attending)</p> <p>The Charge Nurse will say, “We have to get these people in. They’ve been waiting a long time.” <i>They look to see if that one bed is available</i>. (Carter nurse)</p>

quickly so the pod was ready for whatever happened next. An Alpine Attending said, “There’s a sense of everybody working together. I don’t see laziness.” This perception contrasts with the perception in Carter and Dyer, where people felt that if they worked hard, they were being suckers and would be penalized. A PA contrasted her experience at Belleview as having EDs more like those of Carter and Dyer, saying, “In other EDs where I work, when members of the team decide that they are being ‘supportive’ (said sarcastically) rather than proactive, it leads to a huge deficit in productivity.”

The nurses and doctors at Alpine and Belleview also perceived fair workloads *between* the different pods. For example, one of the Alpine Residents suggested that one of the most important features of the Alpine pods was “the equal distribution of patients and complaints” because it meant “distributing work evenly amongst the pods so that no one is feeling the full weight of all the complex patients while other people are cherry-picking easy patients.” A Belleview nurse said, “Nobody in this facility gets dumped on. The work is pretty evenly matched on every team.” There were still times when people questioned whether the distribution was fair. For example, an Alpine nurse explained, “Some pods end up with six dialysis patients, and another pod will have one dialysis patient—just by chance. I’m like ‘Are you serious? That is insane.’ They need to do a better job in distributing the wealth.” But, in general, the nurses and doctors at both Alpine and Belleview judged the distribution of patients to be fair.

In fact, this sense of fair and equal distribution of work meant that when people in different pods looked at each other’s queues, it was mainly with a competitive spirit. This competitive dynamic between pods is in strong contrast with the dynamic in the EDs with an equitable assignment process, where people would look at each other’s queues to make sure they were not “being dumped on.” An Alpine Resident explained, “It helps for you to compare to the other pods because it helps you improve your efficiency.” Another Resident said, “The nurses get on that, too. They compare between pods by looking at how many orders they still have to fulfill, and they can see that number.” A Belleview nurse had the same sense, she said “I think there is always an inherent competition here; it’s almost like a silent contest. . . . Everybody is always looking

at the other pods.” An Alpine nurse described a similar dynamic:

We’re looking at the numbers, like how many are to be seen versus how many have been seen; how many are getting ready to (be discharged) out of the hospital or go upstairs. We watch it, or we compare it to other pods. “Does Pod 3 have 22 and we have 19?” It always gets that way, because people are competitive by nature.

A Belleview Resident called it “friendly competition,” saying “Some of it is a friendly competition between teams. You look to see, ‘how well am I keeping my team together versus the other team?’” The contrast is notable—rather than cheating or monitoring for cheating, teams looked at each other and were motivated to work harder. The equal assignment process meant that everyone would get dealt the same amount of work, which seemed to free people from worrying about other people loafing and making them do an unfair amount of work, and focused them instead on competing over who worked the hardest.

Carter and Dyer: Low Justice Enforceability with Cheating Observed and Suspected

Carter and Dyer both used pods to organize doctors and nurses, but neither had exactly equal work distribution, and people did not trust that workloads enforced were fair: cheating was observed and suspected in both EDs. The dynamics of justice enforceability in these two EDs differed somewhat. At Carter, people from every role group observed teammates cheating the Charge Nurses’ distributions. At Dyer, people from every role group also described people cheating the distribution, but the cheating and work distribution played out around conflict between the Attendings and nurses. Thus Dyer staff perceived low justice enforceability, but also many other injustices that reinforced and exacerbated these perceptions.

People at both EDs described cheating as prevalent by both teammates and other teams. First, people observed or expected cheating from their teammates in their pod. At the Carter ED, this dynamic played out mostly around people cheating the Charge Nurse’s perception by keeping patients in the beds longer or by discharging patients but not entering updates into the electronic medical record (EMR). A Carter Attending said of his fellow Attendings: “Within a pod, if they have a manageable number of patients, they actually slow down their performance so that they don’t get more patients. There are people

here who do that on purpose, it's a purposeful act." A PA said, "I've discharged people and said, 'Let's take this person off the board' and then the nurses will say, 'No. If you take them off the board, they're going to give us another one.'" A Carter nurse explained:

There are some Attendings that won't dispo as fast (i.e., enter information into the computer about when the patient gets discharged) because they think that if they dispo, they'll get hit ... They'll get another patient. It's kind of like the faster you make dispos, the more beds you have open, and the more patients you'll have to see.

A Carter Attending had a similar sense, "There are definitely specific nurses that 'do shit' or try to do as little as possible." Another Attending said, "There's no incentive to go faster ... it's not like if you do better, you get more money ... it's not like its tied to anything." A Carter PA highlighted that work avoidance was possible because the Charge Nurse could not observe it:

I'm one of the people who will say, "Well, this patient is just waiting for urine. Sit them in a chair, and we can open this bed up." From the nurses I get, "No, because then they'll just give me another patient." Recently I went to the Charge Nurse and said, "Look at that waiting room. We could take two more patients," *because she couldn't see that.*

At the Dyer ED, a similar pattern was described, but the doctors and nurses perceived it differently. Several Attendings said that the Charge Nurses assigned patients to pods in ways that "protected" the nurses in different pods from having to do work. The doctors had a sense that the system was being cheated, but they thought that the Charge Nurses were "in on it." One Attending said, "When the nurses were controlling everybody who came back, you felt like it was almost obstructive sometimes. You have four empty rooms yet no patients are coming back."

People also observed or expected cheating from the teams working in the other pods. The Carter and Dyer staff described looking at each other's workload to make sure that their own pod was not working harder than other pods that were slacking. A Carter Attending said,

Pod-level you look [at other pods' workload] just to make sure that you're not getting dumped on. That is purely on how many patients are dispositioned in each pod ... On the board, you can see the patients' time in the ED, and their dispos. So if a patient is there for 15 hours ... Sure, maybe they're waiting for a bed upstairs ... But you sort of wonder, "What are those guys doing over there?"

When he heard that pods at other EDs competed with each other on who worked the most efficiently (as at Alpine and Bellevue), another Carter Attending laughed and said, "Uh, no. There are people trying to stop seeing patients in their pod and dump them on my pod. That's usually my experience." A Carter Resident said they would look at each other's patients and if they suspected "dumping," they would protest to the Charge Nurse. She said that on a recent shift her Attending in the Blue pod noticed that Green pod seemed to be slacking and "said to the Charge Nurse 'Look. The Green trauma room is open. I'm just saying. We're going to see our patients here, but I'm just saying, the Green trauma room is open.'" She concluded the story by saying, "Is it fair? No. Is it equitable? No. But we have to do it anyway and that leads to resentment."

The Dyer Residents, PAs, and Attendings also described looking to make sure that the distribution of patients between pods was fair so they were not being "dumped on." One PA said, "I look [at the other pods] if the Charge Nurses slam us with four new patients and they are really sick. Then I look at the other pods to see why they didn't take it." A Dyer Resident said,

You can actually upgrade people (i.e., enter false information into the EMR to make the patient seem to have a more critical status than they really have) to avoid getting more patients if the other teams aren't moving.

The Dyer nurses did not describe looking at the queues of other pods; their comments were focused on the importance of the Charge Nurses' judgment in assigning patients to pods. But, in general, people at Carter and Dyer described a shared perception that the fairness of the Charge Nurses' assignments was unenforceable, and described how they watched the pods to make sure they were not "dumped on." Table 4 reports additional data on justice enforceability in the four EDs.

Differences in Extra-Role Behaviors and Team Coordination

Recall that the pod structures set up a close interdependence among temporary teams of doctors and nurses who did not know each other very well or work together regularly. This kind of team interdependence (e.g., Van De Ven, Delbecq, & Koenig, 1976) made the temporary team members deeply dependent on each other. Although there were clear

TABLE 4
Evidence for Perceptions of Justice Enforceability

	High justice enforceability (Alpine/Belleview)	Low justice enforceability (Carter/Dyer)
Justice enforceability in distribution decisions	<p>I think it's the equal distribution of complaints . . . its distributing it evenly among the pods to where you're not feeling the full weight while others aren't being proactive . . . Distributing it evenly really helps. (Alpine Resident)</p> <p>(Laughing with interviewer) Sometimes I am tempted to give one of these doctors the really crappy patients. Well, there's not crappy patients, but you know: the annoying drunks that are loud and obnoxious. And you just think for a minute—let me give (this doctor) all of these patients. But we can't do that. We have to be exactly equal and fair in allocating the patients (laughs). But the temptation is there. (Belleview Charge Nurse)</p>	<p>I go to the Charge Nurse, "Look. [The patients are] waiting four hours for me because I'm the only one working. It's your role as the charge person to acknowledge and see that. If you can't ..." (shakes head). (Carter PA)</p> <p>I go to the Charge Nurse, "It seems like I'm getting lots more patients. What's going on?" She says, "Well, the other group was so busy. So I gave you 18 of the last 20 patients to let the other group catch up." I'll roll my eyes and say, "That's not fair." (Carter Attending)</p>
Cheating or no cheating by team mates	<p>One thing about (Belleview) is you are going to be assigned patients no matter what. <i>So if you are not seeing patients it is as clear as day.</i> (Belleview nurse)</p> <p>You've got a sense of, "Hey, we're all in this together . . . it's a <i>shit-storm that's dumping patients on us, but together we're going to get through this.</i>" (Alpine nurse)</p>	<p>If the patient is stable and they don't need any more meds or labs, a lot of people will hang onto them because, once that patient goes, they're going to get somebody new. (Carter nurse)</p> <p>If you've got a nurse who moves at her own pace regardless of many patients there are, there's nothing to do. So you just get backed up. (Carter Attending)</p>
Cheating or no cheating by other teams	<p><i>Everyone has equal patients</i>, and most of us can keep our teams tight (i.e., few patients) so if one of the teams is much bigger (has a long queue), something is going wrong over there and we see if we can help. (Belleview Resident)</p> <p>You can look at the other pods and compare <i>between pods and have pod races to see who can see the most patients</i> based on how many there are left to be seen in the pod. If your pod has more to be seen, you're losing. (Alpine Resident)</p>	<p>I think we all still have the tendency to look at <i>other pods to see if you're getting dumped on</i>—that if someone is not working as efficiently as they can, if they're not moving the patients, then all of a sudden you're just having a higher volume of work . . . You feel that way—that you're being penalized for being better. (Carter Attending)</p> <p>If they slam us with four new patients. <i>I look at the other pods. Like why didn't pod 3 take it?</i> And I see that some of my colleagues are carrying two patients. And I'm like "come on. You guys need to work harder." (Dyer PA)</p>

divisions of labor and they also shared responsibility for the same set of patients, which meant they required information and effort from each other to carry out their own work effectively. High or low justice enforceability shaped how the teams experienced and enacted their team interdependence.

Alpine and Belleview: Extra-Role Behaviors and Team Coordination

With high justice enforceability, the doctors and nurses at Alpine and Belleview trusted that everyone had to do a fair amount of work. With justice enforced, these team members experienced a solidarity and a unity of commitment toward their interdependent responsibilities, and developed virtuous cycles of helping the team, seeing others doing the same, feeling like they were in it together, and doing

more to benefit the team. These dynamics were not a given—some shifts struggled with teamwork—but generally the nurses and doctors at Alpine and Belleview expected that in the pods they felt solidarity in dealing with their shared responsibilities, helped each other, and and felt part of a coordinated team.

Solidarity and unity of commitment. The doctors and nurses at both EDs said that their shared purpose was to do whatever it took to advance their team's work. An Alpine Resident said, "The doctors are focused on moving the room. Getting patients admitted or sending them home. Nurses, same thing. They want their team to be as small [i.e., as few patients in the queue] as possible. They will do whatever they can to help make that happen." A nurse said, "We will all be focused on the performance of the team." A Belleview nurse described the sense of shared responsibility in terms of everyone being

motivated to “pull their own weight.” Another nurse described it in terms of everyone’s willingness in the pods to do “anything that needed to be done” to help their pod “move” (i.e., work quickly to discharge patients). People described how everyone responded together when their queue started to get long. One Resident said, “It will be the Resident or the Attending or the nurse—whoever does it—they just verbally call everyone over and say, ‘Hey, we’ve got a lot of stuff going on. Let’s get together and go through patients to see how to fix all this.’” An Attending agreed, “You always have in your mind: try to do the best that you can to help your team mates out so it won’t get so dense (i.e., there won’t be so many patients) in the pod.”

Updating and monitoring. Team members thus felt they had equally yoked partners and that they would all benefit as they looked for how to advance the good of the team. They engaged constantly in extra-role behaviors that would advance the team and that helped them coordinate their interdependent responsibilities. These extra-role behaviors included actively updating, monitoring, and helping. Updating and monitoring referred to paying attention to, and frequently communicating about, mutual priorities, needs, and progress. These kinds of updates were informal and frequent in the Alpine and Bellevue pods. A Bellevue nurse said, “We’ll sit back-to-back, which is awesome, because all I have to do to get an order is spin around in my chair and be like, ‘So-and-So needs pain meds’ [and the doctor will respond] ‘Okay.’” A Bellevue Resident said that he appreciated the prevalence of these kinds of updating interactions, such as “asking for clarifications, making sure we have a shared mental model. . . its updating a nurse, okay, well this is going to be the plan for this patient. Then checking back.”

Giving or asking for updates often depended on monitoring the other person’s progress as well. As an example, an Alpine Resident described how he would monitor the nurses in his pod, and update them on the priority of his request:

I put in the order, and I wait a little bit. If I notice that nothing has happened, or the patient hasn’t gotten their medication, or the labs aren’t showing up as even acknowledged in the computer, I will just go to whatever nurse it is and say, “Hey, do you mind getting that done? I know it’s busy, but we’ve been waiting a little while.” So, it’s really just a subtle kind of verbal reminder. It’s not bossing them around or anything.

The nurses also monitored the doctors and gave them gentle reminders and updates about what still needed

to be done. One of the nurses said, “That’s what I think my job is—to watch those beds and be able to know who can come off. I always ask a doctor, ‘You need to decide. Somebody needs to come off a bed,’ and they’ll look and be like, ‘This one, this one, this one’ and start making decisions.” As another example, another nurse said, “You just walk up and say, ‘What do you see happening with these patients? Where is this person going?’ Because sometimes the doctor just needs that push of, ‘Oh, yeah. I need to call that person into ADT,’ or, ‘Oh, yeah. I need to consult EKGs.’” A Bellevue Resident described his interactions:

I try to make a point to touch base with the nurse often. I’ll go find them or they come find me, or we just run into each other—however it works. I find that that helps optimize it, because if I need a critical test to be done for another patient, I can just let them know. That will help get that test done faster so that we can get that patient out the door.

A Bellevue nurse said, “The nurses remind the doctors, ‘please check on this or that’. Every shift for me on a team, I try to do this. And the other nurses do also. This is a very busy emergency room. We have high volume. And we need to rely on each other to get through the day.” An Alpine Attending described:

People are sitting together, working together, literally leaning over their shoulders and talking to each other, “hey, did we get this back or I am writing the orders now” or the nurse “I wanted to tell you the blood pressure. . . .” That back and forth makes things much, much better for us as individuals, but most importantly for our teams’ patients.

An Alpine Attending described how she adapted her monitoring and updating to the experience-level of her Resident. She said, “If it’s a Resident that I know I can trust, I give them a lot of freedom; they can go see patients, and I know they’ll come to me if they need help.” In contrast, with a Resident that she didn’t know, she said, “If I haven’t heard from a Resident within ten minutes after seeing a patient, I go ask them: ‘Hey, did you see this patient? What’s going on? What are you ordering?’ I am proactive in getting the information from them.”

Helping. Another extra-role behavior that advanced team coordination was people in the pods helping each other. One of the most common ways the nurses and doctors helped each other was stepping in to do each other’s work. One of the Residents described it this way: “I mean you do little things throughout the day to help out. If I am not terribly busy, I will start an IV; I will do stuff that the nurse is supposed to do to get some patients moving.”

One Attending at Bellevue explained, “If the Residents are taking too long, I will see the patients myself.” Another Bellevue Attending agreed, “If I know that [my team’s nurses] are too busy, I will go and put the IV in myself.” Another Attending said,

In the [Bellevue] pods, it is a collective effort so all the nurses will help out the other nurses . . . If you put in an order and that nurse is doing an IV, the other nurse will go and assist the other nurse. At [a nearby hospital] that does not happen; they stick to their own patients; they do not help each other out. I think that is probably the biggest fundamental difference in our pods.

An Alpine nurse agreed that they watched out for each other by keeping track of each other’s progress and jumping in when someone needed help. She described,

The way you have the pods divided out, maybe your Resident is stuck in that booth and he’s not coming out anytime soon. But, your Attending feels free to start ordering and start seeing people, and your Interns are still seeing people and maybe they step up and take an extra patient or two. And with standing orders, your nurses can go ahead and order some of those workups, too.

A Resident said, “We all kind of look out for each other and anticipate if somebody is not catching up . . . we offer help as opposed to being asked for help.”

Synchrony. This unity of commitment and purpose coupled with extra-role behaviors allowed the temporary teams to develop synchronized group coordination. They developed synchrony, the “temporal coupling of behavior.” One of the Alpine Residents explained:

It’s like this orchestrated symphony . . . everything is happening at the same time, and I’m not having to control every single action. Say I have a critical patient . . . I can be at the head of the bed getting ready to intubate and I know they’re getting the meds ready . . . *It is also like that with the flow [of patients in] the pod*, with the nurses putting patients on beds or taking them off beds. Nurses do that without me having to tell them what to do.

A Resident at Bellevue described this rhythm involving brief moments together as “running the team,” which meant briefly going through the list of patients and figuring out next steps, at which point people pivoted and adjusted their priorities. She said,

Everybody is away from the desk seeing patients in a brisk manner, and nobody is at the desk at the same time for long, so we grab quick overlaps to say “hey by the way this patient refused the x-ray” That is when you find out, okay, I have to stop seeing this patient because I have to go do the blood draw on this one. Running the team helps us stay in sync.

An Attending described similar interactions in the synchrony they developed: “It’s all those interactions, it’s the asking for clarifications, asking for explanations, making sure we have a shared mental model. It’s updating ‘okay, well this is what we are doing. This is going to be the plan for this patient.’ Then a few minutes later you all check back.” People also described becoming emotionally entrained in the pods as they pulled together. Emotional entrainment is the feeling of affective attunement with others (Collins, 2004), and in the language of the ED staff, this was the “mood” of the pod. Their descriptions were reminiscent of group contagion in Barsade (2002). One Alpine Resident explained, “The pod can be in a good mood; the pod can be in a bad mood” and a Bellevue nurse said, “the workload can dramatically change the mood of the pod . . . the mood can change basically on a dime.” An Alpine Resident agreed, “It kind of gets you in a bad mood and then kind of spreads all over the pod. It puts the pod in kind of a gloomy mood and makes things a lot worse.”

Pods categorized as teams. All informants interpreted the temporary groups in the pods as teams. People said, “Yes,” “Definitely,” or “Absolutely,” and listed off all the roles that were part of the team. An Alpine Attending said, “I am part of a team usually with two (Residents), and three nurses . . . It’s very clear.” A Bellevue nurse said “Oh definitely. The teams are very well defined. When we reorganized a number of years ago, we made sure that when it was as a team—where we went to a team type of organization—that it was very clear who was on the team, what their roles were, and what they all had to do.” A Resident agreed, “Absolutely. It is clear who your three nurses are, and who your doctors are on the team.” One of the nurses elaborated:

It really is a lovely thing to watch . . . to understand the whole concept of, we are doing this as a group. It is the doctor, the Resident, the nurses working together. It really is a lovely thing. The goal here is the patients . . . And if the group is—the *team* is—doing it very cohesively, you can see the outcomes will be better right away.

Table 5 reports more data on extra-role behaviors and team coordination at Alpine and Bellevue.

Carter and Dyer: Limited Extra-Role Behaviors and Team Coordination

In contrast, with temporary team members at Carter and Dyer having low justice enforceability, team interdependence was experienced as demoralizing

TABLE 5
Evidence for Extra-Role Behaviors and Team Coordination at Alpine and Belleview

Collective focus on good of team	<p>It psychologically helps you focus on the whole and not just your piece of the pie. (Alpine nurse)</p> <p>We all kind of look out for each other and anticipate if somebody is not catching up. (Alpine Resident)</p> <p>I have a good sense where the nurses are in their work flow. They have a good sense of where I am. If I have a patient who is in pain, they know that. They will have an IV in and say this patient needs pain meds. (Alpine Attending)</p> <p>The nurses and the doctors pay attention to the team. I think the movement of the team as a whole is the priority. (Belleview Resident).</p> <p>Teamwork here means that if necessary you bring the team together and all focus on one patient. Then you split up and do your things, being able to respond to one another as help is needed. You are not focused on one task, it's about moving the broader picture. (Belleview nurse)</p>
Updating/ monitoring	<p>There is a lot of verbal communication. People are telling each other what's going on. That matters in what we do because priorities change constantly. If you can communicate that to someone directly as opposed to putting an order in the computer, it makes a huge difference. (Alpine Resident)</p> <p>The nurses remind the doctors, please check on that scan, check that lab work. Or the lab work came back, their potassium is this. (Belleview nurse)</p>
Helping	<p>When your patients are stable and there's nothing at the moment that you can do for them, you try to find a patient who you can do something for, whether it be give medications or, if they're ready to be discharged, getting their paperwork together and kind of getting them out, because that can help. (Alpine nurse)</p> <p>The first thing you do is to do your job correctly. But we also help each other out. Nurses help each other out quite a lot. I see them get IV's for each other, get medications . . . And the doctors also help nurses out if they feel like they are really overwhelmed. (Belleview Resident)</p> <p>I try to pick up where (the other pod nurse) might have a hard time. If I know that discharge is not where they are strong, I might take on that responsibility and try to help move that patient along for them. (Alpine nurse)</p>
Synchrony	<p>The orders pop up. We say to each other: "There's three of them. You take that one, I'll take this one, and he's going to take that one." (Alpine nurse)</p> <p>We have those positive feedback loops. "Okay, let's get one milligram of Epi." "Okay, we're going to give one milligram of Epi" "OK one milligram of Epi given." That's the feedback loops in the pods; you give the order, someone repeats the order, and then you confirm. (Alpine Resident)</p>

and unfair. The potential for cheating meant that team members expected their own hard work would make it easier for teammates and other teams to slack off and unfairly "dump" on them. They helped the team, saw others slacking with impunity, felt penalized for their hard work, and started focusing on their own work or the Charge Nurses' decisions, but did not engage with slacking teammates. This avoidance is a specific coordination process loss from the well documented "sucker effect" (Hutter & Diehl, 2011; Robbins, 1995; Schnake, 1991; Shepperd, 1993). Hardworking teammates put in more individual initiative—perhaps a teammate version of the "martyr effect" (Olivola & Shafir, 2013)—but avoided extra-role behaviors focused on their slacking teammates, which undermined team coordination, even as the work was done. At Dyer ED, low justice enforceability and intergroup conflict

exacerbated each other, furthering self-protective responses and undermining the potential for team coordination. Note that intergroup conflict is common between ED doctors and nurses (Bartunek, 2011; Flowerdew, Brown, Vincent, & Woloshynowych, 2012; Risser, Risser, Rice, Salisbury, Simon, Jay, & Berns, 1999) and also contributed to the difficulties with coordination in the Dyer pods described below. This section focuses on justice enforceability, but the final process model (discussed below) highlights both group dynamics.

Self-protective focus on individual responsibilities. Many descriptions of the cheating behaviors used the language of being "dumped on." Several people at Carter and Dyer also talked about being "penalized" for working hard. And many people expressed a sense of resigned personal responsibility, like the nurse at Dyer who said, "Normally I'm

the sucker who's like all right . . . I'm just doing it. And then meanwhile the other nurses are like no, I'm not having next patient." Because of the tight interdependence throughout the pod system, the cheating behaviors were experienced as a demoralizing social dilemma that made the hard-working team members feel like they were resigned to being suckers. They dealt with their problematic interdependence by focusing their personal initiative on their own areas but stopped reaching out to each other. One of the Dyer Residents explained: "If the patient needs X, Y, or Z, I just do my best to make sure the patient gets it instead of focusing on the other people and harassing them and demanding that they complete this task. It gets a little bit annoying or bothersome after a while." Note the contrast with Alpine and Belleview, where equal commitment was expected; then, updating or monitoring behaviors were seen as helpful. With unequal commitment expected, updating or monitoring behaviors played out as bothersome or as harassment. A Carter PA described a similar view, saying, "I kind of stay away from all that and just focus on the patient. And most of the time you end up doing what's right anyway." Many people described deliberately focusing on "the patient right in front of me" or on their "own area." A Dyer Attending contrasted the individual focus with other EDs where she had worked, lamenting:

It is sort of this segregation of attention and responsibilities, which is incredibly inefficient. I think that you should not individually compartmentalize care like this. I think the care needs to be like . . . when people are available to give the care . . . they need to give the care, not just focus on their own area.

Many people expressed a sense that teammates did not engage with each other, they focused on their own area. A Dyer nurse said, "It's supposed to be a team, but I don't think you're worried about the team. You're worried about your own area . . . It's unusual to be concerned about someone else's area." A Carter Attending agreed, "It's really more everyone focused on their own individual patients." A Carter nurse said she did not really track what was happening with her teammates, "I'm doing my work, I'm not really paying attention to what they're doing."

Limited updating and monitoring. This individual focus meant teammates stopped reaching out to each other and focused their personal initiative on their own areas, and so did not engage in the extra-role

behaviors needed to coordinate their team's work. They had limited interactions in the pods, and in contrast to Alpine and Belleview, there was little evidence of updating or monitoring each other. One Carter nurse described, "We're all doing our own thing. We're all running around ragged, doing our own thing. They really don't know what I'm doing, and I don't know what they're doing unless I consult with them on something." Note that the doctors and nurses were in close proximity to each other in the small pods, similar to Alpine and Belleview. But despite the proximity, as this nurse said: they really didn't know what each other were doing. Many Dyer nurses said that the physicians did not communicate patients' treatment plans to them. The nurses shared many examples of learning their patient's next step from someone besides their physician "teammate" (said sarcastically)—such as from a physician consulting from another department or from the patient themselves. One nurse told me:

"So I'm in [pod 1] today and my patient told me she is going to the [operating room] and I didn't even know it . . . which is an embarrassment."

(Interviewer: "Because you should have heard that from ...?")

She responded, "Oh, I don't know . . . any of the physicians involved? Any one of the five physicians involved in her care?"

In contrast to the virtuous teamwork cycles at Alpine and Belleview described above, these dynamics seemed like vicious cycles that undermined teamwork and coordination at Carter and Dyer. These kinds of misses made people pull back even more, when they thought the other person was not trying or did not care. A Carter nurse told a story of when she had to ask the Attending whether he wanted a certain test that he should have proactively asked for. When the Attending said "Okay" and then "just totally ignored the result," the nurse was resigned that the doctor just did not care and threw away the results, which expired after an hour. It was a huge miss because the patient was being diagnosed with diabetes for the first time, and was quite sick.

Limited team helping. People also said they only got help from the other people in their pod on a case-by-case basis, depending on the discretion of the person they were asking. One nurse described it as "depending on the kindness of strangers," which felt "problematic" to her. Another nurse said, "If you're in a trauma and nobody likes you and nobody comes

in, you will drown . . . you're at the mercy of the other nurses: 'Will you come in and help me?' That's a big downfall of this system." A Resident said:

Sometimes I feel like, if I can't find the nurse for my patient, I'd like to be able to ask the other nurse. It's strange, because they won't help because it's not their patient. So I feel like it would feel more like a team if you just kind of feel like, "Oh, well, if I can't find Nurse A, I can ask Nurse B to do something for our patient."

A Dyer Resident said, "If there is extra work to be done, and one of the nurses is having a hard time, the other nurses do not pick up that slack for them. At [a different ED], they are great. If a sick patient needs all kinds of attention, the other nurses pick up that nurse's patients. Not here."

Some people still wanted to "make things move" in the pod, but did not focus their discretionary effort on engaging with and helping their teammates; they engaged instead with the Charge Nurse. People from every role at both EDs described going to the Charge Nurse to ask for more patients when they wanted to make things move. A Carter Attending said, "Relying upon the Charge Nurse is very important because they are the ones who can really help you move. You just pick up the phone and call them, and you communicate with them." Another Attending said, "I know that if I call the Charge Nurse, they're going to do whatever they can to make it work." A PA said, "It's the Charge Nurse who divvies up the patients . . . I can go to them and say, 'Look. I'm swamped.' But it's not for me to go to the Attending or Residents and ask for help." Another nurse described how an Attending showed her how to discharge a patient without signaling to the Charge Nurse that there was an empty bed. She said that if she ever ended up working with that Attending, she approached the Charge Nurse on the side and asked for more patients for the team. Another said, "If I get frustrated, I'm going to go to the Charge Nurse. If we have ten patients admitted, but none of them is moving, I call the Charge Nurse."

Little evidence of synchrony. Doctors and nurses at Carter and Dyer did not actively engage with each other beyond the minimum communication required to care for patients, so there was little opportunity for a coordinated synchrony to develop, which can be a useful way to coordinate behavior (Miles, Griffiths, Richardson, & Macrae, 2010; Vacharkulksemsuk & Fredrickson, 2012). Individual responsibilities were carried out, and teamwork happened in one-off episodes, but group-level coordination

did not emerge. A Dyer Resident explained it this way: "There are different ways of thinking about teamwork. In the moment you and a certain nurse are talking, there might be an effective exchange of information, and you might both end up with an accurate picture of what is going on with that one patient. But there is no on-going shared effort to do that and no collective triage." A nurse agreed, "There is teamwork and communication, but you have to go after it." Coordination was disjoint, with people relying on their own individual initiative to get work done. With some exceptions, the nurses stood far away from the doctors in the pods and did not engage with the doctors when they were at their computers. A Dyer Attending's sentiment was widely shared. She said, "I do not think there is a sense of collectively running the pod. I do not get that sense amongst the pod as a whole. I think you have individuals who are helpful and individual interactions that might work, but it doesn't feel like there is a shared goal."

Pod not categorized as team. Almost no respondents at Carter ED categorized the pods as a team. One of the Attendings said, "The Attendings are a team, and the nurses are another team. Medicine is about decision-making, nursing is about carrying out orders. It isn't really a team if we are just telling them what to do." Another said, "I rarely pay attention to the nurses to make them go faster. I just put in the orders." A Resident gave his point of view, "I think it's mostly a collection of individuals, at least among the doctors. I feel like the nurses are maybe more of a unit because they swap and they help each other out more. They start IVs, and they cover for each other when they're on a break and things like that." The nurses gave similar descriptions. When asked if the nurses and physicians worked as a team in the pods, one nurse said, "To me, the pod system just means that there are three separate areas and everybody gets hit differently." Similarly, no one at Dyer categorized the pods as teams. One nurse said flatly, "It's not a team." One Attending said "I don't have a sense that the pods are teams. I have a sense that the traditional doctor-nursing relationship—it's the same as it ever was." Another suggested, "It is hard to keep people on the same page. If you want to have a real pod team, it has to be small, organized, everybody on the same page. As soon as you get too many people with too many different agendas, then it just breaks apart." Table 6 reports additional data on limited extra-role behaviors and team coordination at the Carter and Dyer EDs.

TABLE 6
Evidence for Limited Extra-Role Behaviors and Team Coordination at Carter and Dyer

Focus on individual responsibilities	<p>I think people <i>focus on their own individual patients</i>. I don't think they have a pod focus. I think people look to make sure they're not getting more work than other people. (Carter Attending)</p> <p>People don't focus on the pod. You're so <i>worried about your own area</i>. (Carter nurse)</p> <p>We had the old plan where a group of nurses and doctors on a team would care for one group of patients so you could make a plan team-wise . . . but no. <i>We are still focusing our attention on our individual area</i>. (Dyer Resident)</p> <p>It's very rare that a Resident takes that attitude of, "Look, I'm here to help everyone and not just taking care of my own patients." (Carter Attending)</p>
Limited updating/monitoring	<p>Those kinds of interactions like alerting each other and helping each other don't happen so much with us . . . all of us, even within the same pod, work very independently of each other. (Carter Resident)</p> <p>Physicians don't communicate with nurses—you hear it on the computer or fish it out yourself. (Dyer nurse)</p>
Limited helping teammates; helping the Charge Nurse	<p>Helping is individual. With some people, there is a lot of individual teamwork and help. But there isn't always pod-level helping. (Carter nurse)</p> <p>When I'm done with whatever I need to do and I see that you have a medications to give, I should help you. That's how a real team works. But here people . . . if they're done, then they're done, and they wait for their next patient. (Dyer nurse)</p> <p>I don't get much backup from the Attending [on the question of patient flow], which is not a great feeling, but I've learned, "You know what? The ultimate decision is on the Charge Nurse as to where the patient is going to go." <i>So I go to them</i>. (Carter PA)</p> <p>If I want things to go faster, I turn it up myself <i>but I need the Charge Nurse to stick with me</i>, bringing more patients in. I'm not sure that the nurses who are assigned to the pod will stick with me. Some do, some don't. (Carter Attending)</p> <p>I was in (pod 1) and <i>I went to the Charge Nurse</i> and I said where is this patient going to go? I said "can you move that patient to (pod 2) because they have some empty beds?" (Dyer Resident)</p>
Little synchrony	<p>For most patients, the nurses just organize themselves with very little interaction with me. (Dyer Resident)</p>

DISCUSSION

This study demonstrated that temporary teams of doctors and nurses coordinated more effectively when team members engaged in collectively focused, extra-role behaviors. Team members' willingness to engage in extra-role behaviors to benefit the whole team depended on whether they perceived that workloads were enforceably fair within and between teams. In the discussion section, I develop a process model and discuss how this study and the idea of justice enforceability contribute to role-based coordination and organizational justice research.

Process Model of Temporary Team Coordination

In this section, I combine the above findings with literature from organizational justice, role-based coordination, and team effectiveness to frame a process model of temporary team coordination. When a temporary group assembles, group members arrive with many *a priori* expectations of what they each will be responsible for during their work together (Bigley &

Roberts, 2001; Meyerson et al., 1996). These role expectations develop as people participate in the larger labor pools from which temporary groups are convened, and they help group members anticipate and enact the division of labor in the group, even without previous interactions or experience together (Bechky, 2006; Klein et al., 2006).

Scholars have also demonstrated that members of temporary teams look around the shared work environment to understand how they will work with team members who are part of a different role group (Bechky, 2006; Edmondson, 2003, 2012a; Edmondson & Nembhard, 2009; Valentine & Edmondson, 2015). For example, people notice situational factors such as proximity between different roles (e.g., do the doctors and nurses stand together?) or status differences between roles (e.g., do the UX designers get less respect than the UI designers in this group?) as they anticipate and act out their interactions with different team members (Edmondson, 2003; Klein et al., 2006; Valentine & Edmondson, 2015). Different role groups have different values, different shared language, different mental models, and varying status levels, all of

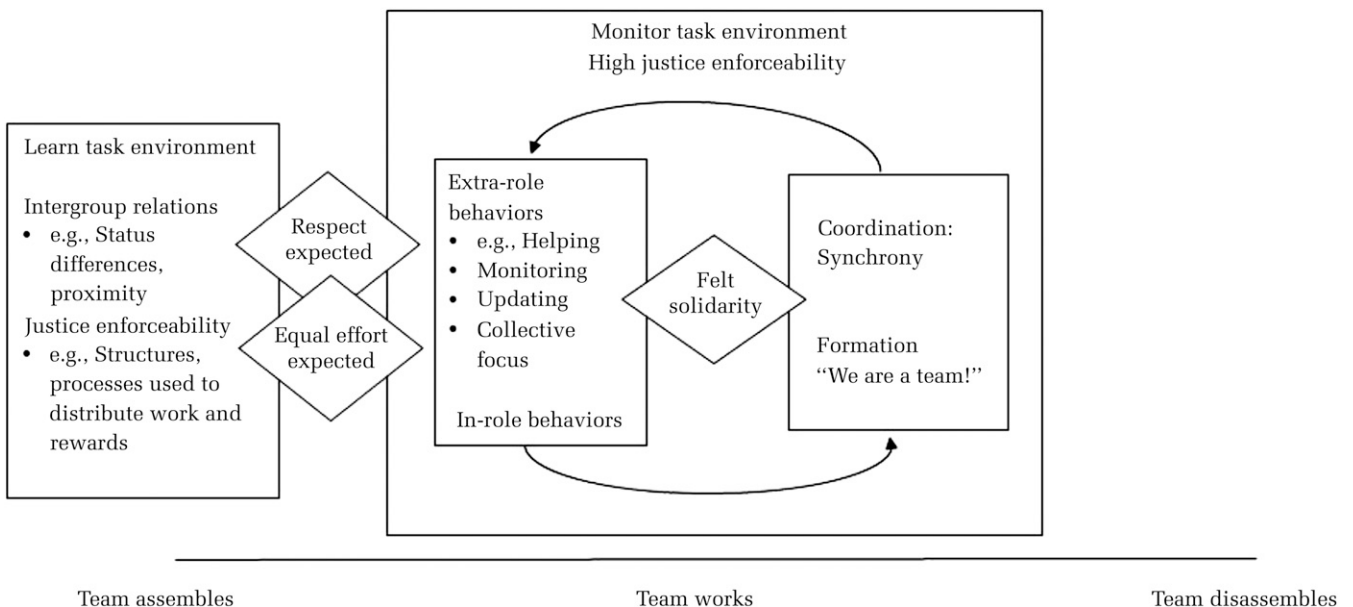
which can complicate cross-role interactions (Alderfer & Smith, 1982; DiBenigno & Kellogg, 2014). Thus factors that support cross-role interactions, for example team structures that create temporary shared in-groups and responsibilities (e.g., pods), or inclusive leader behavior, can help support expectations that cross-role interactions will be well-received and well-integrated (Edmondson, 2003, 2012a; Valentine & Edmondson, 2015). Another property of the shared work environment that members of temporary groups consider, as demonstrated by the current paper, is whether it seems likely that authorities can deliver fair work with fair rewards. Justice enforceability shapes expectations about how committed everyone is likely to be. Group members notice how work and rewards are distributed, and the justice enforceability of those procedures, which in turn shapes how they choose to engage with each other. In sum, as temporary teams assemble, team members have *a priori* expectations about roles and role structures, and also quickly develop situational expectations about likely interactions between different roles. These expectations focus on whether members anticipate respectful treatment from authorities and coworkers, and also whether they anticipate equal or unequal effort from coworkers.

Then as the group gets to work, the nature, frequency, and effectiveness of their interactions are critically important. They do not know each other well, so most things cannot be assumed or left

unsaid—updates, assumptions, new information, and quick plans are helpful when said aloud to each other (Edmondson, 2012b). Through these interactions, group members develop and maintain a shared understanding of their complex task or changing environment (Bigley & Roberts, 2001; Valentine et al., 2017; Weick & Roberts, 1993). Group members rapidly assess whether fair treatment is enforceable based on interpretations of the shared task environment. And, they continue to monitor the task environment for evidence of cheating and fair treatment during engagements.

This paper illustrates how some behaviors are of particular importance to coordination in temporary groups. These behaviors are focused on advancing the good of the whole group in real time. They emerge as group members look after their own role responsibilities, but also watch for anything that can be done or said to help the group make progress toward its goal (e.g., Bishop & Scott, 2000; Blader & Tyler, 2009). These extra-role behaviors are discretionary and are particularly fragile in temporary groups where there is limited chance for repeat interaction and correction of free-riding (Balliet & Ferris, 2013; Van Lange, Joireman, Parks, & Van Dijk, 2013). As illustrated by the cyclical arrows in Figure 1, these behaviors are likely to support virtuous cycles of teamwork: as everyone on the team engages in extra-role behaviors, their work becomes synchronized and they feel like a team, which in turn

FIGURE 1
Process Model of Temporary Team Coordination



helps everyone on the team to feel they are “in it together” and willing to engage in extra-role behaviors.

This process model thus provides insight about the research question posed in the introduction. Extra-role behaviors are key to temporary group coordination, yet temporary groups are not characterized by strong social identity or ongoing social exchange, two relational properties that predict extra-role behaviors. This process model developed in this paper proposes that extra-role behaviors in temporary groups relate to a situational solidarity (i.e., unity of purpose) toward shared responsibilities. The model suggests that temporary solidarity is an energizing and motivating state that group members enter, and in this state, they willingly and actively engage in the extra-role behaviors that advance their shared purpose. In the current study, that solidarity emerged from interdependent, meaningful work (treating patients), and justice enforceability. It was invigorated by virtuous cycles of mutual extra-role helping and felt-solidarity (see Figure 1).

Contribution to Research on Temporary Group Coordination

In this section, I note specific contributions to research on role-based coordination in temporary groups (Bechky, 2006; Bigley & Roberts, 2001; Klein et al., 2006; Valentine & Edmondson, 2015). This paper differs from that prior research because it identified and analyzed *differences* in temporary group coordination. In two EDs, team members focused on their individual role responsibilities, and there was little evidence of synchronized or synergistic team coordination. In contrast, in the other two EDs, team members focused on the collective priorities and needs of the team, and actively synchronized and coordinated their efforts. These different group behaviors are notable given that the formally defined role structure was the same in all four EDs—the in-role responsibilities of the Attendings, Residents and nurses did not differ between sites. These results advance role-based coordination research by characterizing different ways that role structures are coordinated—with a focus on individual role responsibilities or on collective performance.

This paper also contributes to role-based coordination research by analyzing conditions under which groups engaged in these different ways of enacting the same role structure. The main difference was in how work was distributed among the teams, and related fairness perceptions. As such, this study is a first to theorize how organizational justice

rules and fairness perceptions develop and shape behaviors in temporary groups. This particular research context thus provided an extreme case to understand justice perceptions in high-turnover, gameable situations. Prior research has noted other challenges in role-based coordination, including intergroup conflict between role groups, barriers to overlapping representations of work, and conditions of high uncertainty (Bigley & Roberts, 2001; Faraj & Xiao, 2006; Valentine & Edmondson, 2015). This paper used an inductive approach and discovered an emergent difference around perceptions of justice enforceability. Future research can explore the department culture or change processes that help develop justice enforceability.

The emergent difference in justice perceptions also revealed a tension in how work and rewards are distributed in temporary groups. One process was equitable so that people got the work they could handle; the other process was exactly equal. Neither process was a perfect solution, and equal versus equitable distribution is a fundamental tension in many settings (e.g., Gilliland, 1993). The ruthlessly equal distribution of work was overwhelming and stressful. The equitable distribution allowed for help, but also for cheating. In temporary groups where members have little familiarity and trust, where the accuracy of information is likely suspect, and where opportunities to correct opportunistic behavior are limited, group members might prefer the procedure with justice enforceability, even above the chance to get help when they need it.

The Justice Enforceability Concept

The concept of justice enforceability contributes to organizational justice research (Cohen-Charash & Spector, 2001; Colquitt et al., 2001, 2013). Scholars conceptualize organizational justice in terms of justice “rules” that authorities adhere to or violate in their decisions, actions, or interactions with employees (Scott et al., 2009). Categories of justice rules include distributive, procedural, interpersonal, and informational rules (Adams, 1963; Greenberg & Cropanzano, 1993; Leventhal, 1980). Employees perceive justice based on their own experienced treatment by authorities, and also on their observations of how others are treated (Colquitt, 2004; Lind, Kanfer, & Earley, 1990; Roberson & Colquitt, 2005; Rodell & Colquitt, 2009). Perceptions of fair treatment are consistently linked with positive outcomes such as individual performance, commitment, and organizational citizenship behaviors (Bartle & Hays, 1999; Cohen-Charash & Spector, 2001; Colquitt et al., 2001).

The idea of justice enforceability relates to, but is different from these previous concepts and studies. Previous justice constructs refer to employees' perceptions of whether authorities' decisions and actions are fair or unfair. In contrast, this concept refers to people's perceptions of whether authorities will be able to act fairly, given that others might cheat, thereby affecting the authorities' information, actions, and decisions. Scholars have not yet theorized how employees react to situations where other workers' cheating affects authorities' ability to act fairly. This study offers a vivid example of such a situation. The Carter and Dyer Charge Nurses attempted to make equitable distribution decisions. But people working in the pods observed their teammates actively cheating those decisions, and suspected cheating in other pods too. Distribution decisions happened quickly, emergent situations often arose, and the people involved changed constantly. Amid all of this flux, cheating the distribution decisions seemed easy, and when justice enforceability was so low, people felt self-protective rather than focused on the good of the group. These kinds of situations can arise in many workplaces. For example, a department chair may assign committee work equitably, but justice enforceability might be low if department members suspect other members cheating that assignment. People might prefer a procedure with more enforceability.

In proposing a new construct, especially in a mature research area, it is important to explore how the construct relates to and differs from other constructs. Table 7 lists related justice constructs and definitions. Two clarifications are useful. First, justice enforceability is similar to justice variability, in the sense that "enforceability" can modify any justice type (e.g., distributive justice enforceability or procedural justice enforceability). Justice enforceability is different from justice variability because it refers to perceptions that authorities can act fairly, given the potential for cheating, whereas justice variability considers experienced variation in justice over time. Second, this study follows the advice of Matta, Scott, Colquitt, Koopman, and Passantino (2017: 7) who argued that when studies introduce justice constructs, it is helpful to explore general perceptions of justice before "moving on to more specific, dimensional levels" (e.g., distributive vs. procedural vs. interpersonal). Accordingly, this study does not make claims about specific justice rules, it explores how people experience justice enforceability generally.

The idea of justice enforceability also relates to, but is different from, one of the criterion that comprises procedural justice. Leventhal (1980) defined procedural justice as including an "accuracy rule," which refers to people's perceptions that authorities' decisions were based on accurate information.

TABLE 7
Organizational Justice Constructs

	Construct	Definition	Sample citations
Q:21	Overall fairness perceptions	"Global impressions of fair treatment, rather than on one or another of the traditional modalities of fairness."	(Lind & Van den Bos, 2002: 196)
Q:22, 23	Distributive justice	Fairness perceptions of decision outcomes, determined by comparing one's output-input ratio with output-input ratio of a comparison other.	(Adams, 1965; Leventhal, 1976)
Q:24	Procedural justice	Fairness perceptions of decision procedures, determined by whether procedures are consistent, bias-free, accurate, correctable, and amenable to input.	(Leventhal, 1980; Thibaut & Walker, 1975)
Q:25, 26	Interpersonal justice	Perceptions of the extent to which supervisors show respect when communicating with employees.	(Bies & Moag, 1986; Greenberg, 1993)
Q:27, 28	Informational justice	Perceptions of the extent to which supervisors provide honest justification when implementing procedures.	(Bies & Moag, 1986; Greenberg, 1993)
	Anticipatory justice, justice expectations	"Expectations regarding whether one will or will not experience justice in the context of some future event."	(Rodell & Colquitt, 2009: 989)
	Justice variability	"Between-person differences in the stability of fairness over time."	(Matta et al., 2017: 2)
Q:29	Justice enforceability	Perceptions of whether authorities can act fairly given potential for others to cheat decisions or procedures.	

Leventhal (1980: 20) argued that the criterion that information be accurate means that some procedures require “justice safeguards.” He offered courts of law as an example because courts include safeguard procedures that prohibit the use of unreliable evidence. The idea of justice enforceability relates to the accuracy rules and “justice safeguards” because it refers to participants’ perceptions that the procedures and safeguards will actually enable authorities to act fairly, given the potential for cheating. Many factors likely enhance or undermine justice enforceability, such as insider perspective on co-workers’ motives and commitment, perceptions of authorities’ gameable biases, perceptions of limited visibility, status or power differences, or extremely fluid groups where consequences or corrections seem unlikely even if intended. Note that group members may perceive low justice enforceability for reasons that extend beyond information accuracy, meaning justice enforceability is more general than the accuracy rule. For example, female entrepreneurs may perceive low justice enforceability in investment decisions. Justice enforceability will be low when people feel that decisions are biased against them in ways that competitors exploit.

Future Research

My study design matched EDs based on their use of pod structures and many other characteristics. The salient variation between EDs also matched, with two EDs using a round-robin patient distribution and two other EDs using a pooled patient distribution. This paper focused on analyzing the temporary team behaviors related to this variation. Of course, emergency departments are complex dynamic social systems and future research could explore other important issues relevant to temporary team coordination. One issue that came up in most of my conversations with ED personnel was how the groups in the ED pods interfaced with the rest of the hospital. Ancona and Caldwell (1992) demonstrated the importance of team boundary bridging activities for understanding the performance of traditional teams. Future research could fruitfully explore how temporary teams interface with the larger systems in which they are embedded. Another open question in temporary team research is whether and how the change processes that impact the work of temporary teams differ from those understood in the organizational change or learning literature. On the one hand, team familiarity and cohesion can be useful in some change processes (Edmondson, Bohmer, & Pisano, 2001;

Okhuysen, 2001; Tucker, Nembhard, & Edmondson, 2007). On the other hand, constant membership change might weaken expectations about “the way it’s done here,” thus making room for change. Future research could explore the dynamics of organizational change and learning in the context of temporary teams. Finally, future research could valuably consider how the justice and coordination dynamics presented in this paper change across different situations. The ED is unique because the amount of work (i.e., patients to be treated) is easily counted, and the physician and nurse roles are clearly defined (Bartunek, 2011). Future research could explore how temporary team members perceive justice enforceability when tasks are less divisible and the roles are more ambiguous.

Practical Implications

This research has practical implications for organizations that draw together temporary teams for accomplishing complex work. First, these results suggest that organizational leaders can usefully attend to whether they are actually holding team members accountable for their work. Team members are typically more proximate to each other than are leaders or managers so can observe how much and how well they are each contributing. The idea of justice enforceability suggests that people watch and see if others are able to cheat with impunity, and if so, they may withhold their own efforts, and in particular the extra-role behaviors that weave together the team’s work. These results also suggest that organizational leaders can valuably explore work assignment processes that provide “justice safeguards.” In this case, exactly equal assignments functioned as those safeguards. Other such assurances might depend on the task type and worker preferences. Organizational leaders might also note that these team members were willing to take on considerable stress for the assurance that no one could cheat.

In this age of specialized knowledge, work teams perform some of the most critical work of organizations and societies (Hackman & Katz, 2010). Yet the nature of teams is changing. Work teams are now less bounded, stable, and exclusive (Cummings & Haas, 2012; Edmondson & Nembhard, 2009; Huckman & Staats, 2011). Scholars are working to extend existing team theories to explain the behavior of these “messy” temporary work groups (Tannenbaum, Mathieu, Salas, & Cohen, 2011; Wageman, Gardner, & Mortensen, 2012). The present study shows how differently temporary groups coordinate depending on members’ willingness to engage in extra-role

Q:16

Q:17

Q:18

behaviors and theorizes how justice enforceability can support extra-role behaviors and effective team coordination.

REFERENCES

- Adams, J. S. 1963. Towards an understanding of inequity. *Journal of Abnormal and Social Psychology*, 67: 422–436.
- Alderfer, C. P., & Smith, K. K. 1982. Studying intergroup relations embedded in organizations. *Administrative Science Quarterly*, 27: 35–65.
- Ancona, D. G., & Caldwell, D. F. 1992. Bridging the boundary—External activity and performance in organizational teams. *Administrative Science Quarterly*, 37: 634–665.
- Balliet, D., & Ferris, D. L. 2013. Ostracism and prosocial behavior: A social dilemma perspective. *Organizational Behavior and Human Decision Processes*, 120: 298–308.
- Barsade, S. G. 2002. The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47: 644–675.
- Bartunek, J. M. 2011. Intergroup relationships and quality improvement in healthcare. *BMJ Quality & Safety*, 20: I62–I66.
- Bechky, B. A. 2006. Gaffers, gofers, and grips: Role-based coordination in temporary organizations. *Organization Science*, 17: 3–21.
- Benkler, Y. 2017. Peer production, the commons, and the future of the firm. *Strategic Organization*, 15: 264–274.
- Bigley, G. A., & Roberts, K. H. 2001. The incident command system: High-reliability organizing for complex and volatile task environments. *Academy of Management Journal*, 44: 1281–1299.
- Bishop, J. W., & Scott, K. D. 2000. An examination of organizational and team commitment in a self-directed team environment. *Journal of Applied Psychology*, 85: 439–450.
- Blader, S. L., & Tyler, T. R. 2009. Testing and extending the group engagement model: Linkages between social identity, procedural justice, economic outcomes, and extrarole behavior. *Journal of Applied Psychology*, 94: 445–464.
- Cappelli, P. 1999. Career jobs are dead. *California Management Review*, 42: 146–167.
- Cohen-Charash, Y., & Spector, P. E. 2001. The role of justice in organizations: A meta-analysis. *Organizational Behavior and Human Decision Processes*, 86: 278–321.
- Collins, R. 2004. *Interaction ritual chains*. Princeton, NJ: Princeton University Press.
- Colquitt, J. A. 2004. Does the justice of the one interact with the justice of the many? Reactions to procedural justice in teams. *Journal of Applied Psychology*, 89: 633.
- Colquitt, J. A., Conlon, D. E., Wesson, M. J., Porter, C. O., & Ng, K. Y. 2001. *Justice at the millennium: A meta-analytic review of 25 years of organizational justice research*. American Psychological Association.
- Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. 2012. Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer? *Journal of Applied Psychology*, 97: 1–15.
- Colquitt, J. A., Noe, R. A., & Jackson, C. L. 2002. Justice in teams: Antecedents and consequences of procedural justice climate. *Personnel Psychology*, 55: 83–109.
- Colquitt, J. A., Scott, B. A., Rodell, J. B., Long, D. M., Zapata, C. P., Conlon, D. E., & Wesson, M. J. 2013. *Justice at the millennium, a decade later: A meta-analytic test of social exchange and affect-based perspectives*. Washington, DC: American Psychological Association.
- Crisp, C. B., & Jarvenpaa, S. L. 2013. Swift trust in global virtual teams. *Journal of Personnel Psychology*, 12: 45–56.
- DiBenigno, J., & Kellogg, K. C. 2014. Beyond occupational differences: The importance of crosscutting demographics and dyadic toolkits for collaboration in a US hospital. *Administrative Science Quarterly*, 59: 375–408.
- Dugan, R. E., & Gabriel, K. J. 2013. “Special forces” innovation: How DARPA attacks problems. *Harvard Business Review*, 91: 74–84.
- Dukerich, J. M., Golden, B. R., & Shortell, S. M. 2002. Beauty is in the eye of the beholder: The impact of organizational identification, identity, and image on the cooperative behaviors of physicians. *Administrative Science Quarterly*, 47: 507–533.
- Edmondson, A. 2012a. *Teaming: How organizations learn, innovate, and compete in the knowledge economy*. San Francisco, CA: Jossey-Bass.
- Edmondson, A. C. 2003. Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams. *Journal of Management Studies*, 40: 1419–1452.
- Edmondson, A. C. 2012b. Teamwork on the fly. *Harvard Business Review*, 90: 72–80.
- Edmondson, A. C., Bohmer, R. M., & Pisano, G. P. 2001. Disrupted routines: Team learning and new technology implementation in hospitals. *Administrative Science Quarterly*, 46: 685–716.
- Edmondson, A. C., & McManus, S. E. 2007. Methodological fit in management field research. *Academy of Management Review*, 32: 1155–1179.

- Edmondson, A. C., & Nembhard, I. A. 2009. Product development and learning in project teams: The challenges are the benefits. *Journal of Product Innovation Management*, 26: 123–138.
- Faraj, S., & Xiao, Y. 2006. Coordination in fast-response organizations. *Management Science*, 52: 1155–1169.
- Flowerdew, L., Brown, R., Vincent, C., & Woloshynowych, M. 2012. Development and validation of a tool to assess emergency physicians' nontechnical skills. *Annals of Emergency Medicine*, 59: 376–385.
- Gilliland, S. W. 1993. The perceived fairness of selection systems: An organizational justice perspective. *Academy of Management Review*, 18: 694–734.
- Glaser, B., & Strauss, A. 1967. *The discovery of grounded theory: Strategies for qualitative research*. New York, NY: Aldine de Gruyter.
- Greenberg, J., & Cropanzano, R. 1993. *The social side of fairness: Interpersonal and informational classes of organizational justice. Justice in the workplace: Approaching fairness in human resource management*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Hoffman, R., Casnocha, B., & Yeh, C. 2013. Tours of duty: The new employer-employee contract. *Harvard Business Review*, 91: 49–56.
- Hutter, M., & Diehl, M. 2011. Motivation losses in teamwork: The effects of team diversity and equity sensitivity on reactions to free-riding. *Group Processes & Intergroup Relations*, 14: 845–856.
- Jick, T. D. 1979. Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24: 602–611.
- Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. 2006. Dynamic delegation: Hierarchical, shared and deindividualized leadership in extreme action teams. *Administrative Science Quarterly*, 51: 590–621.
- Kramer, R. M., Hanna, B. A., Su, S., & Wei, J. 2001. Collective identity, collective trust, and social capital: Linking group identification and group cooperation. In M. E. Turner (Ed.), *Applied social research. Groups at work: Theory and research*: 173–196. Mahwah, NJ: Lawrence Erlbaum.
- Leventhal, G. S. 1980. *What should be done with equity theory? Social exchange*: 27–55. New York, NY: Springer.
- Lind, E. A., Kanfer, R., & Earley, P. C. 1990. Voice, control, and procedural justice: Instrumental and non-instrumental concerns in fairness judgements. *Journal of Personality and Social Psychology*, 59: 952–959.
- Matta, F. K., Scott, B. A., Colquitt, J. A., Koopman, J., & Passantino, L. G. 2017. Is consistently unfair better than sporadically fair? An investigation of justice variability and stress. *Academy of Management Journal*, 60: 743–770.
- Meyerson, D., Weick, K. E., & Kramer, R. M. 1996. Swift trust and temporary groups. In R. M. Kramer & T. E. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research*. Thousand Oaks, CA: Sage.
- Miles, L. K., Griffiths, J. L., Richardson, M. J., & Macrae, C. N. 2010. Too late to coordinate: Contextual influences on behavioral synchrony. *European Journal of Social Psychology*, 40: 52–60.
- Okhuysen, G. A. 2001. Structuring change: Familiarity and formal interventions in problem-solving groups. *Academy of Management Journal*, 44: 794–808.
- Olivola, C. Y., & Shafir, E. 2013. The martyrdom effect: When pain and effort increase prosocial contributions. *Journal of Behavioral Decision Making*, 26: 91–105.
- Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., & Blume, B. D. 2009. Individual- and organizational-level consequences of organizational citizenship behaviors: A meta-analysis. *Journal of Applied Psychology*, 94: 122–141.
- Porter, C. O., Hollenbeck, J. R., Ilgen, D. R., Ellis, A. P., West, B. J., & Moon, H. 2003. Backing up behaviors in teams: The role of personality and legitimacy of need. *Journal of Applied Psychology*, 88: 391–403.
- Retelny, D., Robaszkiewicz, B., To, A., Lasecki, W. S., Patel, J., Rahmati, N., Doshi, T., Valentine, M., & Bernstein, M. S. 2014. Expert crowdsourcing with flash teams. *Proceedings of the 27th annual ACM symposium on user interface software and technology*: 75–85. Honolulu, HI: ACM.
- Risser, D. T., Rice, M. M., Salisbury, M. L., Simon, R., Jay, G. D., & Berns, S. D. 1999. The potential for improved teamwork to reduce medical errors in the emergency department. *Annals of Emergency Medicine*, 34: 373–383.
- Robbins, T. L. 1995. Social loafing on cognitive tasks: An examination of the sucker effect. *Journal of Business and Psychology*, 9: 337–342.
- Roberson, Q. M., & Colquitt, J. A. 2005. Shared and configural justice: A social network model of justice in teams. *Academy of Management Review*, 30: 595–607.
- Rodell, J. B., & Colquitt, J. A. 2009. Looking ahead in times of uncertainty: The role of anticipatory justice in an organizational change context. *Journal of Applied Psychology*, 94: 989–1002.
- Schnake, M. E. 1991. Equity in effort: The sucker effect in co-acting groups. *Journal of Management*, 17: 41–55.
- Scott, B. A., Colquitt, J. A., & Paddock, E. L. 2009. An actor-focused model of justice rule adherence and violation: The role of managerial motives and discretion. *Journal of Applied Psychology*, 94: 756–769.
- Shepperd, J. A. 1993. Productivity loss in performance groups: A motivation analysis. *Psychological Bulletin*, 113: 67–81.

- Southard, P. A. 1994. Trauma economics: Realities and strategies. *Critical Care Nursing Clinics of North America*, 6: 435–440.
- Spradley, J. P. 1979. *The ethnographic interview*. New York, NY: Holt, Rinehart, & Winston.
- Staats, B. R., & Upton, D. M. 2011. Lean knowledge work. *Harvard Business Review*, 89: 100–110.
- Tannenbaum, S. I., Mathieu, J. E., Salas, E., & Cohen, D. 2011. Teams are changing: Are research and practice keeping pace? *Industrial and Organizational Psychology: Perspectives on Science and Practice*, 5: 2–24.
- Tucker, A. L., Nembhard, I. M., & Edmondson, A. C. 2007. Implementing new practices: An empirical study of organizational learning in hospital intensive care units. *Management Science*, 53: 894–907.
- Vacharkulksemsuk, T., & Fredrickson, B. L. 2012. Strangers in sync: Achieving embodied rapport through shared movements. *Journal of Experimental Social Psychology*, 48: 399–402.
- Valentine, M. A., & Edmondson, A. C. 2015. Team scaffolds: How mesolevel structures enable role-based coordination in temporary groups. *Organization Science*, 26: 405–422.
- Valentine, M. A., Retelny, D., To, A., Rahmati, N., Doshi, T., & Bernstein, M. S. 2017. *Flash organizations: Crowdsourcing complex work by structuring crowds as organizations*. Paper presented at the Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems.
- Van De Ven, A. H., Delbecq, A. L., & Koenig, R. 1976. Determinants of coordination modes within organizations. *American Sociological Review*, 41: 322–338.
- Van der Vegt, G. S., & Bunderson, J. S. 2005. Learning and performance in multidisciplinary teams: The importance of collective team identification. *Academy of Management Journal*, 48: 532–547.
- Van Lange, P. A. M., Joireman, J., Parks, C. D., & Van Dijk, E. 2013. The psychology of social dilemmas: A review. *Organizational Behavior and Human Decision Processes*, 120: 125–141.
- Wageman, R. 1995. Interdependence and group effectiveness. *Administrative Science Quarterly*, 40: 145–180.
- Wageman, R., Gardner, H., & Mortensen, M. 2012. The changing ecology of teams: New directions for teams research. *Journal of Organizational Behavior*, 33: 301–315.
- Wageman, R., Hackman, J. R., & Lehman, E. 2005. Team diagnostic survey: Development of an instrument. *Journal of Applied Behavioral Science*, 41: 373–398.
- Weick, K. E., & Roberts, K. H. 1993. Collective mind in organizations: Heedful interrelating on flight decks. *Administrative Science Quarterly*, 38: 357–381.



Melissa Valentine is assistant professor at Stanford University in the department of Management Science and Engineering and a core faculty member at the Center for Work, Technology, and Organizations. She received her PhD from Harvard University. She conducts field research studies to develop theory about teams and coordination. She is currently conducting a study of crowdsourced flash teams.



AUTHOR QUERIES

PLEASE ANSWER ALL QUERIES

1

- Q:1_The in-text citation "Organ 1988, 1990" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:2_Re: 'four different hospital emergency departments' – should this read 'emergency departments in four different hospitals' to ensure clarity? Below we have 'all four were urban, safety-net hospitals', so I assume such an adjustment would be correct.
- Q:3_The in-text citation "Bartle &Hays, 1999" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:4_The in-text citation "Eisenhardt, 1989" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:5_The in-text citation "Feufel, Robinson, & Shalin, 2011" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:6_The in-text citation "O'Malley, Grossman, Cohen, Kemper, & Pham, 2010" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:7_Re: 'but there were "traveler" nurses who rotated through' – 'rotated through' what? Please check clarity.
- Q:8_Re: 'perhaps structural or physical differences' – I suggest providing further clarification of what is meant here or deleting.
- Q:9_Re: 'If that had been the case, then the level of analysis ...' – this sentence is confusing at present. It has been confirmed above that there are 13 pods so why the 'If'? I suggest deleting.
- Q:10_Re: 'Attending–Resident–nurse' – should 'nurse' here read 'Charge Nurse'? Please note that to impose consistency 'Attending' has been capitalized throughout as has Resident and Charge Nurse. If referring to doctor(s) or nurse(s) in general I have kept lower case.
- Q:11_Re: 'A PA contrasted her experience at Belleview' – please define PA on first use.
- Q:12_Re: 'Team members thus felt they had equally yoked partners ...' please check clarity of this sentence – e.g. what is meant by 'yoked'?
- Q:13_Re: 'I will start an IV' – 'IV' has not been given in full – please supply.
- Q:14_Re: 'but avoided extra-role behaviors focused on their slacking teammates' – please check clarity.
- Q:15_The in-text citation "Bartle &Hays, 1999" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.

AUTHOR QUERIES

PLEASE ANSWER ALL QUERIES

2

- Q:16_The in-text citation "Hackman & Katz, 2010" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:17_The in-text citation "Cummings & Haas, 2012" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:18_The in-text citation "Huckman & Staats, 2011" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:19_Please provide publisher location for Colquitt et al. 2001.
- Q:20_Please provide page range for Meyerson et al. 1996.
- Q:21_The in-text citation "Bos, 2002" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:22_The in-text citation "Adams, 1965" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:23_The in-text citation "Leventhal, 1976" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:24_The in-text citation "Thibaut & Walker, 1975" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:25_The in-text citation "Bies & Moag, 1986" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:26_The in-text citation "Greenberg, 1993" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:27_The in-text citation "Bies & Moag, 1986" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:28_The in-text citation "Greenberg, 1993" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:29_In Table 7, final row, the sample citation is not given? Please check.
- Q:30_The in-text citation "Goffman 1956" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.
- Q:31_The in-text citation "Parsons 1951" is not in the reference list. Please correct the citation, add the reference to the list, or delete the citation.