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**I CAN'T WORK LIKE THIS: THE EFFECTS OF ACTION-STATE ORIENTATION
DIVERSITY ON RELATIONSHIP CONFLICT IN TEAMS**

A Thesis in

Psychology

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David J Schillinger

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The thesis of David J Schillinger was reviewed and approved by the following:

Susan Simkins (formerly Mohammed)
Professor of Psychology
Thesis Advisor

Rustin Meyer
Assistant Professor of Psychology

Richard Carlson
Professor of Psychology

Kristin Buss
Professor of Psychology
Head of the Department of Psychology

ABSTRACT

Action-state orientation (ASO) describes the degree to which individuals initiate and maintain their intentions while working toward goal achievement. While ASO is well researched at the individual level, there is little work exploring the impact of ASO on team functioning. This study explores the effects of ASO diversity on team relationship conflict, as well as the moderating effects of transition processes and interpersonal processes. Results indicate that teams with high levels of ASO diversity (i.e., having a mixture of some action-oriented and some state-oriented members) tend to report higher levels of relationship conflict. Further interpersonal processes, but not transition processes, moderate the ASO diversity-relationship conflict link. These results draw attention to a novel form of team diversity that has the potential to harm team affective outcomes as well as identify means of mitigating these effects.

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Chapter 1

Introduction

Anita is having a difficult time coordinating efforts with her teammates, Malik and Jane, as they continue to work on the group project for their Economics class. Anita started on her part of the project right away but neither Malik nor Jane had started theirs, which was irritating to Anita. When their original plan had to be scrapped for reasons outside of the team's control, Anita rebounded readily but Malik and Jane remained frustrated by the setback for a few days. Further, Anita is used to persisting when things get difficult, but Malik and Jane always seem ready to give up when obstacles present themselves. These experiences have frequently led to moments of emotional tension among Anita, Malik, and Jane.

As the above example illustrates, member differences in motivation may cause conflict in teams. One salient motivational difference is the predisposition to either maintain intentions toward goal-attainment or instead attend to some other mental activity that is incompatible with the goal (Kuhl, 1992). Action-state orientation (ASO) is a self-regulatory motivational difference focusing on the ability to maintain intentions and reflects how much an individual will initiate action, avoid distractions, and persist in the face of obstacles or failure (Kuhl, 1994b). Action-oriented individuals get started early, move forward quickly after experiencing setbacks, and persevere despite challenges (Kuhl, 1994a). On the other hand, state-oriented individuals hesitate before getting started, have a hard time returning to work following setbacks, and tend to stop one task and switch to another when the first gets hard (Kuhl, 1994a). Anita in the above vignette represents an action-oriented individual, while Malik and Jane represent state-oriented individuals.

Given the salience of effective goal striving at work (Diefendorff & Chandler, 2011), research on ASO at the individual level has demonstrated ASO's importance in work settings, influencing variables such as performance ratings (Diefendorff et al., 2000), memory (Jostmann & Koole, 2006), organizational citizenship behavior (Diefendorff et al., 2000), and creativity (Bledow et al, 2021). What is not known, however, is how differences in ASO play out in team settings when group members must work together interdependently. Having a mixture of action-oriented and state-oriented individuals on a team may lead to interpersonal conflicts. For example, having some members who get started right away and others who hesitate before beginning may lead to frustration on the part of those who want the whole team to begin their work quickly. Further, when state-oriented members frequently give up on their work, action-oriented members may end up carrying the brunt of the group responsibilities, leading to resentment over perceptions of low workload sharing. Such interpersonal tension can easily undermine team performance and reduce productivity (de Wit et al., 2012).

Therefore, the purpose of this study is to explore the effects of ASO diversity on team outcomes as well as mediators and moderators of this relationship. Specifically, we examine the effect of ASO diversity on relationship conflict (i.e., emotional tension, anger, or interpersonal friction that can arise on a team) and team performance, as moderated by transition and interpersonal processes. See Figure 1 to review the theoretical model.

Contributions

The first contribution of this study is to expand the research body of ASO by studying it at the team level of analysis. While some research examines ASO within dyads (Backes et al, 2017; Mulier, 2012), to the author's knowledge ASO has not been examined at the team level of analysis. Despite this lack of research, ASO diversity may be particularly relevant to a team

context. Having a mixture of people who want to get started right away and others who are predisposed to hesitate on the same team is likely to cause emotional tension that threatens performance when members have to work closely together. Further, uneven workload distribution and feelings of frustration or anger may be particularly salient in a team setting when task demands and team structure require high interdependence, as is the case for this study's sample.

Second, this study seeks to expand the team diversity literature by examining the effects of ASO diversity on team relationship conflict. Team diversity researchers have explored demographic and broad personality differences such as gender (Curşeu & Schreijer, 2010; Mohammed & Angell, 2004), Big Five traits (Neuman et al. 1999), temporal orientation (Mohammed & Nadkarni, 2011; Mohammed & Nadkarni, 2014), and achievement motivation (Knapp et al., 2015). ASO, however, remains an unexplored form of diversity. The omission of this type of self-regulatory motivational difference from the diversity literature is regrettable due to the potential for differences in action-orientation and state-orientation on teams to foster dysfunctional conflict which harms team performance (de Wit et al., 2012).

Finally, this study will answer a common call in the team diversity literature to explore moderators (e.g. Guillaume et al., 2017; Van Knippenberg & Schippers, 2007) by examining the conditions under which the ASO diversity-team conflict relationships are stronger or weaker. This will not only contribute to theory but also provide important guidance to practitioners, managers, and employees in work teams. By identifying factors that mitigate the interpersonal friction created by ASO diversity, this study will assist team facilitators and leaders in navigating the complex intragroup dynamics created when action-oriented and state-oriented individuals work together toward a common goal.

Chapter 2

Literature Review: Action-State Orientation

Definition

ASO is an individual difference in volitional control during goal-striving (Kuhl, 1994a). Volition “refers to a central executive function in charge of coordinating many different ‘sub-functions’ to reach a particular goal and to shield our behavior from competing external or internal action tendencies,” (Kazén & Quirin, 2018, p. 15). Volition can also be conceptualized in similar fashion to scientific notions of self-regulation (Baumeister & Vohs, 2016) or executive function (Hofmann, Schmeichel, & Baddeley, 2012). When striving toward a goal, action-oriented individuals are more likely to *initiate* action, *disengage* from thoughts about failure, and *persist* through one task rather than jumping around to different activities (Kuhl 1994a). State-oriented people, on the other hand, are more likely to *hesitate* before starting a task, become *preoccupied* with a failure, and behave with *volatility* by switching tasks before completion (Kuhl, 1994a).

Theoretical Origins

The theory of ASO is built largely upon Kuhl’s (1987) Motivational Maintenance System (MMS), which helps maintain intentions or mediate behavior changes when a goal becomes unattainable. Action-oriented individuals have a more active MMS, so they more readily maintain motivation and focus when striving toward their goals. State-oriented individuals, on the other

hand, have a more impaired MMS, so their motivation can more easily wane and their intention to achieve their initial goals shift. ASO focuses on the actual *enactment* of a goal, or goal-striving (Kuhl, 1994a) rather than traditional motivation theory which focuses on goal-*setting* (Locke & Latham, 1994; Locke & Latham, 2006). Goal-setting variables tend to focus on cognitions about achieving one's goal, whereas goal-striving is more closely related to self-regulation in task implementation (Diefendorff et al., 2000).

Dimensions

ASO is comprised of three dimensions: *hesitation versus initiative*, *preoccupation versus disengagement*, and *volatility versus persistence* (Kuhl, 1994b). The *hesitation versus initiative* or *hesitation* dimension reflects the degree to which individuals either begin their tasks right away or put off starting them (Kuhl, 1994a). Hesitation-oriented individuals tend to take longer to begin tasks than initiative-oriented individuals (Kuhl, 1994b). This dimension is also known as the decision or initiative-related dimension because it describes one's swiftness to initiate action when faced with a decision (Kazén, & Quirin, 2018; Kuhl, 1994a).

The *preoccupation versus disengagement* or *preoccupation* dimension reflects how much individuals ruminate on negative states and intrusive thoughts (Kuhl, 1994b). Action-oriented individuals tend to disengage from negative and distracting thoughts leaving more cognitive resources to focus on the task at hand (Kuhl, 1994b). State-oriented individuals, on the other hand, become preoccupied with these thoughts and ruminate over failures or other bad experiences (Kuhl, 1994b). This dimension is also referred to as failure-related, since action-oriented individuals work to either correct past failure or prevent new ones whereas state-oriented individuals find themselves getting stuck in preoccupation regarding their past or potential failures (Kazén, & Quirin, 2018; Kuhl 1994a; Kuhl & Beckman, 1985).

The *volatility versus persistence* or *volatility* dimension reflects the ability to maintain focus and resist distraction (Kuhl 1994a). Action-oriented individuals tend to persist until completing a task, whereas state-oriented individuals are prone to distraction and are more likely to quit prematurely (Kuhl 1994b). Because it measures the degree to which an individual stays with an activity that is necessary or pleasant, volatility is also known as the performance-related dimension (Kazén, & Quirin, 2018; Kuhl, 1994a). Volatility differs from hesitation or preoccupation in that volatility refers more to how long an individual can *remain in* an action-oriented mode while hesitation and preoccupation reflect an individual's ability to *escape from* a state-oriented mode (Kuhl, 1994a).

ASO Empirical Support

At the individual level of analysis, action-orientation is predictive of performance in both academic (Diefendorff, 2004) and organizational (Diefendorff et al., 2000) contexts. To illustrate, in a sample of 247 student employees working across of a variety of occupations (e.g. engineering, healthcare, sales, management), those low in hesitation received higher performance ratings for both job relevant as well as voluntary duties (Diefendorff et al., 2000). While state-orientation tends to be viewed more negatively, Kuhl (1994a) argues that it can be helpful depending on the task and context. For example, complicated or risky tasks may benefit from the extra time and thought taken by state-oriented individuals (Hall, Schlauch, & Chang, 2001). Following this reasoning, Diefendorff and colleagues (2000) found that those high on preoccupation received higher job performance ratings, potentially because these individuals acted with more caution and thought in their responsibilities. Bledow et al. (2021) explored an inverted u-shaped relationship between ASO and individual creativity. In this study, both self-

reported and manager-reported creativity were highest for individuals with mid-range ASO scores when job autonomy was low, though this relationship disappeared under conditions of high job autonomy (Bledow et al., 2021).

ASO and its individual dimensions have been found to moderate a number of work-related relationships, including stress and life balance (Gröpel & Kuhl, 2009), intrinsic motivation and adaptive selling (Jaramillo et al., 2007), job-search attitude and intentions to search for jobs (Song et al., 2006), job-search intention and job-search intensity (Song et al., 2006), as well as positive affect and next-day time spent searching for jobs (Wanberg et al., 2010). Specifically, Diefendorff and colleagues (2000) found support for both state and action-orientation across different dimensions to positively predict some organizational citizenship behavior (OCB) factors. Higher preoccupation scores (though only marginally) and lower hesitation scores both independently predicted higher levels of altruism, conscientiousness, and courtesy dimensions of OCB's. Some dimensions of ASO have also been linked to academic performance and provide some evidence of contexts where state-orientation can be a benefit. For example, Diefendorff (2004) found not only lower hesitation but also higher preoccupation scores predicted better exam performance, indicating that state-oriented individuals find their high preoccupation to help during testing.

While the majority of ASO research has been conducted on individuals, there have been a handful of studies exploring ASO at the dyadic level. Mulier (2012) examined the influence of ASO on leader-member exchange (LMX) and found higher LMX scores when supervisors and subordinates were more similar on the preoccupation dimension or were more different on the hesitation dimension. Backes and colleagues (2017) explored how ASO influenced sources of stress in romantic couples, finding that the relationship satisfaction of state-oriented individuals and their partners is more dependent on external stress (i.e. stress occurring somewhere other than in the relationship, such as failing an important class at school or having a demanding client at

work) than action-oriented individuals and their partners. These studies provide some evidence of the influences of ASO similarity at the dyad-level, and the current study will contribute to and expand these explorations at the team level.

Chapter 3

Literature Review: Relationship Conflict

Relationship conflict is one of three types of intragroup conflict that have received the most attention in the team literature, the other two being task conflict and process conflict. Whereas task conflict examines disagreement over the substance or content of a task and process conflict explores disagreements over strategies for approaching a task, relationship conflict focuses on interpersonal disagreements and emotional friction that can arise between team members (Jehn & Bendersky, 2003). Relationship conflict is specifically defined as “affective components, such as feeling tension and friction ... [as well as] personal issues such as dislike among group members and feelings such as annoyance, frustration, and irritation” (Jehn & Mannix, 2001, p. 238).

A meta-analysis of 80 studies involving relationship conflict by de Wit and colleagues (2012) found relationship conflict to be negatively associated with group performance, and that this association was stronger when relationship conflict and process conflict co-occurred. Further, the negative relationship between relationship conflict and group performance persisted as marginally significant when controlling for both task and process conflict. Relationship conflict was also negatively related to more proximal outcomes such as group trust, commitment, satisfaction, cohesion, positive affect, group member identification, and organizational citizenship behavior as well as positively related to counterproductive workplace behavior (de Wit et al., 2012). Relationship conflict also moderated the relationships that task conflict had with team performance, group member satisfaction, and group member cohesion, such that these relationships were more negative when relationship conflict and task conflict co-occur.

Numerous types of team diversity have been shown to predict relationship conflict. Surface-level demographic characteristics (i.e., traits that are visible or readily apparent; Harrison et al, 2002), such as gender and race positively predicted relationship conflict (Jehn et al., 1999). Additionally, several deep-level characteristics (i.e., traits that are not typically visible such as personality or beliefs; Harrison et al., 2002), such as time urgency diversity (i.e., differences in whether members feel chronically rushed or not; Mohammed & Angell, 2004), values diversity (i.e., disagreement over the team's task and mission; Liang et al., 2012), and extraversion diversity (Tekeleab & Quigley, 2014) positively predicted relationship conflict. Under certain conditions, however, some types of diversity may help reduce relationship conflict. In a sample of 60 student teams, Alipour et al. (2017) found that when participative safety climate was high (i.e., when members felt that the team was interpersonally nonthreatening and encouraged getting involved) then power values diversity (i.e., differences in a desire to attain social status) was negatively related to relationship conflict. Further, workload sharing moderated the association between relationship conflict and team performance such that this relationship was negative when workload sharing was low but not when workload sharing was high.

Measures of personality and shared cognition have been explored as moderators and an antecedent of relationship conflict. In a sample of 53 student teams, Tekeleab and Quigley (2014) found homogeneity in agreeableness, conscientiousness, and emotional stability weakened the negative relationships between relationship conflict and both team member satisfaction and desire to remain with the team. Santos and Passos (2013) found that teams with similar mental models had reduced relationship conflict which resulted in higher team effectiveness. Additionally, in a 9-month longitudinal study, Johnson and Avolio (2019) explored the effects of relationship conflict later in a team's lifespan when it was preceded by psychological safety early on. Specifically, when team members perceived high psychological safety at team formation but then

experienced increasing levels of relationship conflict after, members tended to identify less with the team and reported lower satisfaction.

Chapter 4

Literature Review: Team Processes

In their recurring phase model of team processes, Marks and colleagues (2001) describe team performance lifespans as consisting of several input-process-output (I-P-O) episodes. These episodes differ in their goal-striving emphasis, and such differences are taxonomized by Marks and colleagues (2001) as interpersonal processes, transition processes, and action processes. Interpersonal processes represent team member relationship management and involve building confidence and regulating affect. Transition processes capture the emphasis on reflection and planning, and more specifically describe periods “when teams focus primarily on evaluation and/or planning activities to guide their accomplishment of a goal or objective” (Marks et al., 2001, pg. 364). Action processes typically follow transition processes and involve team members engaged in tasks and activities directly related to goal accomplishment, such as tracking task progress or assisting team members.

The current research will examine interpersonal processes as a moderator of the relationship between ASO diversity and relationship conflict. Teams that engage in interpersonal processes help motivate each other, which may influence state-oriented people to more readily attend to their work and so prevent action-oriented team members from feeling angry when state-oriented members repeatedly stop working. Further, interpersonal processes involve teams actively managing members’ emotions which can help calm members who feel frustrated with their teammates or others who feel overwhelmed by their work. Finally, teams high in interpersonal processes more actively talk through disagreements over plans or ideas which can prevent tensions from arising, while also actively managing personality clashes that do occur.

Marks and colleagues, (2001) also theorize interpersonal processes to occur during all phases of a team's lifespan, and so represent a constant force for preventing or reducing anger and friction among teammates.

This research also investigates transition processes as a moderator for two primary reasons. First, teams that take the time to analyze their mission and form strategies for how and when their work will get done may encourage more uniformity in when members begin their work or respond to setbacks. This uniformity could help prevent friction from arising by reducing how much state-oriented members inappropriately switch tasks or stop working entirely. Second, during discussions where team members specify their goals and develop their work plan they may gain a sense of each other's' action-state orientation. Such knowledge would allow members to assign tasks according to these individual differences such that preferences for starting quickly or taking frequent breaks would not be disruptive and lead to personality conflicts or outbursts of anger.

Action processes will not be focused on in this study because they are least relevant to the frustration and emotional friction elements that are core to relationship conflict. More specifically, action processes include activities that are more directly related to task accomplishment, whereas relationship conflict involves anger, interpersonal tension, or personality conflict (Jehn & Mannix, 2001; Marks et al., 2001). Therefore, of the three processes outlined by Marks and colleagues (2001), this study's model includes transition processes and interpersonal processes but not action processes.

Interpersonal Processes

Marks and colleagues (2001) describe interpersonal processes across three dimensions: conflict management, motivating/confidence building, and affect management. In conflict

management, team members both preemptively and reactively address team conflict that may, or did, arise. Motivating/confidence building involves team members working to form a sense of collective confidence and motivation as they strive together toward goal achievement. Finally, affect management involves members helping to regulate each other's emotions, such as reducing frustration or encouraging excitement.

In their meta-analysis using a sample of 28 studies, LePine and colleagues' (2008) found that interpersonal processes were positively related to team performance ($\rho = .29$) and team member satisfaction ($\rho = .37$). Additionally, examining team emergent states across 17 studies, LePine and colleagues (2008) found interpersonal processes to have positive relationships with team cohesion ($\rho = .53$) and team potency ($\rho = .70$). Further, interpersonal processes were found to be positively associated with team member satisfaction.

Transition Processes

Transition processes are measured across three dimensions: mission analysis, goal specification, and strategy formulation and planning (Marks et al., 2001). In mission analysis, team members identify main tasks, time frames, member abilities, and resources. Goal specification describes the identification of timeframes for task accomplishment as well as goal and subgoal prioritization. Strategy formulation and planning captures communication and planning for expected and unexpected events, discussion of expectations and task-related information, and team member role assignment (Marks et al., 2001). Taken together, transition processes mark the periods when team members assess past performance and strategize for the future (Marks et al., 2001).

Research indicates that teams that engage in planning experience higher performance outcomes (Hiller et al., 2006; Lepine et al., 2008; Mathieu & Schulze, 2006; Mathieu & Rapp,

2009; Maynard et al., 2007). LePine and colleagues (2008) conducted a meta-analysis including 26 studies and found that transition processes had a positive relationship with team performance ($\rho = .29$) and an even stronger positive relationship with team member satisfaction ($\rho = .45$). Further, across 17 studies exploring team emergent states, transition processes had positive relationships with team cohesion ($\rho = .60$) and team potency ($\rho = .63$). Additionally, transition processes were not only positively related with team performance but also team member satisfaction. Another meta-analysis by DeChurch and Mesmer-Magnus (2010) found that transition processes were positively related to team cognition ($\rho = .43$) across a sample of four studies.

Chapter 5

Hypothesis Development

Hypothesis 1: Main effect of ASO diversity on Relationship Conflict

State-oriented people tend to start their work later as well as take more frequent breaks than action-oriented people (Kuhl, 1994a). If action-oriented members are beginning their work sooner and working more steadily, they may end up getting more done than their state-oriented teammates. This could lead to action-oriented members perceiving low workload sharing as they contribute more to taskwork completion than state-oriented members. Low workload sharing has been shown to exacerbate the negative impact that relationship conflict has on team performance (Alipour et al., 2017). Conditions of low workload sharing are also conceptually similar to conditions of high social loafing (Tata, 1999), and social loafing is positively correlated with relationship conflict (Singh et al., 2017). It is reasonable to expect, then, that if action-oriented members perceive state-oriented members to not fairly share the workload, they may feel irritated or angry with their state-oriented teammates. Perceptions that state-oriented members are not pulling their weight may also cause action-oriented members to consider their teammates to have less integrity. Lower levels of perceived integrity have been shown to predict lower positive interpersonal emotion (Lee et al., 2011). In such circumstances, action-oriented members are likely to feel more negatively toward state-oriented members, thereby increasing the potential for relationship conflict.

High levels of state orientation are characterized by frequently feeling overwhelmed by challenging work or ruminating on failure (Kuhl, 1994a). Therefore, state-oriented people tend to get caught up in thinking about their work rather than acting on it. Since state-oriented members experience more negative affect in response to their work (Kuhl, 1994a), they may respond poorly in response to friction with their teammates. Research shows that those with high state-orientation report lower affect after they see others with angry facial expressions, whereas action-oriented people do not experience this same emotional shift (Jostmann et al., 2005). Therefore, once action-oriented members start to feel frustrated with state-oriented members, it may cause a surge of negative emotions within state-oriented members which compounds their existing feelings of task-related stress. Additionally, given that action-state orientation is a relatively stable characteristic (Kuhl, 1994a), it is likely strongly tied to an individual's self-concept. Tension directed toward state-oriented members for not working as much may, therefore, be perceived as an ego threat (Baumeister & Boden, 1998). Such ego threats can increase feelings of hostility toward action-oriented teammates and make conflict resolution more challenging (De Dreu & van Knippenberg, 2005). Further, when action-oriented members express frustration that state-oriented members are not doing enough work, state-oriented members may view this as a failure and retreat further into rumination. Such rumination would cause them to get less work done, angering action-oriented members more and leading to a cycle of increasing relationship conflict.

In sum, when action-oriented members and state-oriented members work together on the same team, emotional friction and personality conflicts are likely to arise. Action-oriented members may perceive state-oriented members as not having the integrity to equally share the workload, leading to feelings of anger due to unfair labor distributions. State-oriented people are likely to experience worse affect and hostility in response to their teammates' anger. Further this anger may increase state-oriented members' perception of failure, leading to rumination, getting

less work done, and eventually more anger from their action-oriented teammates. Therefore, teams with high amounts of action-state orientation diversity are likely to experience higher levels of relationship conflict.

Hypothesis 1: ASO diversity will positively predict relationship conflict.

Hypothesis 2: Moderating Effect of Transition Processes

When transition processes are high, teams engage in activities to analyze their mission, specify goals, and form strategies (Marks et al., 2001). Research suggests that agreeing about plans and processes early on in a team's life predicts lower levels of relationship conflict later (Greer et al., 2008; Liang et al., 2007). Therefore, it is expected that taking the time to plan things out at the onset of the team should help circumvent the relationship conflict that would have otherwise arisen. One means that such strategy formulation can help is by collaboratively determining member roles and responsibilities. This would allow state-oriented people the opportunity to realistically discuss the type and amount of work they believe they can accomplish in a given timeframe. Establishing these expectations ahead of time, and in collaboration with the entire team, should help facilitate the work of state-oriented members.

State-oriented members may be able to volunteer for work that is less likely to cause them to feel stressed and overwhelmed, meaning they should experience less hesitation and stopping. If state-oriented members are stopping less because they strategically planned which tasks they would perform best and how they would complete their work, there should be more even workload sharing. If everyone is pulling their weight on the team, both action and state-oriented members should feel satisfied with each other's contributions to the group's goals and frustration that otherwise would have arisen from low workload sharing would be prevented. In turn, if action-oriented members are not feeling angry with state-oriented members, then state-

oriented members should similarly not feel the ego threat that would have arisen when their teammates perceive them as having low integrity or engaging in social loafing.

When teams are low in transition processes, however, they are expected to experience more relationship conflict among ASO-diverse members. Since members have not taken the time to specify their goals and form plans to accomplish these goals, they do not have the opportunity to proactively determine the best strategies based on individual members' strengths and weaknesses. This makes it more likely that state-oriented members will be assigned roles that may not be fully clear until the plan is underway and they are expected to begin working. At that point, if the task appears too daunting, they are likely to hesitate before starting, whereas their action-oriented teammates will swiftly begin their work (Kuhl, 1994a). Along the way, members may meet unexpected roadblocks that were not planned for, leading state-oriented members to feel overwhelmed and begin ruminating over the setback or challenge while action-oriented members continue working (Kuhl, 1994a). These patterns will likely result in unequal work distribution, causing anger in action-oriented individuals and reciprocated hostility in state-oriented individuals. Overall, relationship conflict is more likely to emerge in ASO-diverse teams that do not determine a plan for how they will strive toward their goals as a group.

Hypothesis 2: Transition processes will moderate the positive relationship between ASO diversity and relationship conflict, such that this relationship will be less positive when transition processes are high and/or more positive when transition processes are low.

Hypothesis 3: Moderating Effect of Interpersonal Processes

When interpersonal processes are high, teams engage in activities that can help resolve relationship conflict by regulating members' emotions, building each members' confidence and

motivation, and managing disagreements (Marks et al., 2001). State-oriented people tend to feel overwhelmed by difficult work, or ruminate on failure and setbacks (Kuhl, 1994a). If team members help regulate each other's emotions, they may be able to help calm the anger that action-oriented people feel toward state-oriented people when they perceive an unfair workload distribution. Members can help listen to each other's frustrations and calm down action-oriented members when they are feeling particularly irritated by helping them to keep the big picture in mind. In addition, members may help calm state-oriented individuals down when they feel overwhelmed by their work and help motivate them to return to their current task despite the challenge. This can help state-oriented members engage or reengage with their work more readily, quelling the anger of action-oriented members which in turn prevents hurt feelings on the part of state-oriented members and reduces the overall emotional tension on the team. Finally, teams high in interpersonal processes make conscious efforts to reduce conflict when it arises by helping to clarify disagreements on what needs to get done and how to do it, but also actively talking out any interpersonal issues that arise (Marks et al., 2001). Such behavior should help reduce relationship conflict by establishing time to actively and openly discussing interpersonal frictions and working to resolve them.

Teams low in interpersonal processes should experience higher overall levels of negative emotion and interpersonal tension between members without providing support for each other to reduce this tension (Marks et al., 2001). Individual members will largely be on their own when it comes to managing their frustration, hurt, or irritation, which is already a challenge for state-oriented people who tend to feel more easily overwhelmed by difficulty, failure (Kuhl, 1994a), or perceptions of teammates' anger (Lee et al., 2011). Without the emotional support of other team members, such interpersonal friction is likely to snowball through the cycle of state-oriented members stopping their work frequently, action-oriented members feeling angry about it, and state-oriented members becoming hostile in response. Once state-oriented members experience

heightened hostility, these negative emotions may compound with stress about their work which would cause them to stop working more frequently. Further, given that state-oriented members struggle with inhibitions in their ability to maintain motivation on their work (Kuhl, 1987), a lack of motivational support from team members may leave them struggling to engage in their responsibilities, further exacerbating their teammates' frustration. Overall, when a team high in ASO diversity does not engage in behaviors to help regulate emotion or motivate each other, they are expected to experience higher levels of relationship conflict.

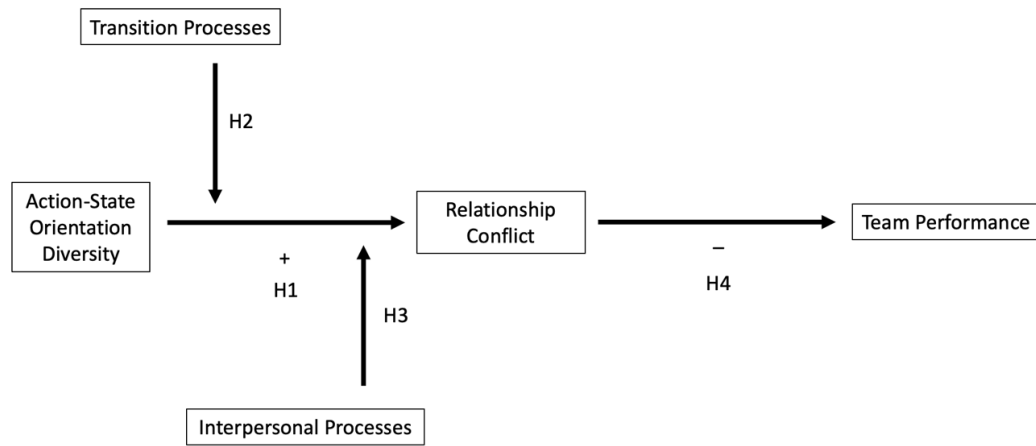
Hypothesis 3: Interpersonal processes will moderate the positive relationship between ASO diversity and relationship conflict, such that this relationship will be less positive when interpersonal processes are high and/or more positive when interpersonal processes are low.

Hypothesis 4: Main Effect of Relationship Conflict on Team Performance

Meta-analytic evidence supports the negative impact of relationship conflict on group performance (de Wit & Greer, 2011). Therefore, we also expect to find that teams experiencing high levels of anger and interpersonal friction will demonstrate lower group performance.

Hypothesis 4: Relationship conflict will negatively impact team performance.

Figure 5-1:



Theoretical Model

Chapter 6

Methods

Sample

Participants included 229 students enrolled in a capstone undergraduate Hotel, Restaurant, and Institutional Management (HRIM) course at Penn State University. The mean age of the students was 22.43 (SD = 2.16), 51.1% were female, and 89.3% were Caucasian. All participants were seniors, and students received extra credit for participating in the study.

Executive Team Composition and Sub-team Composition

Students were divided into 27 executive teams at the start of their 15-week course, each executive team comprising 7-9 members. Executive teams were created nearly at random, with some intervention from the course instructors to ensure even distribution of gender. Membership in executive teams remained consistent throughout the semester.

The executive teams of 7-9 were randomly divided into two sub-teams of 3-5 members, one Front of the House (FOH) sub-team and one Back of the House (BOH) sub-team.

$$\text{executive team} = \text{FOH sub-team} + \text{BOH sub-team}$$

This resulted in a sample of 54 sub-teams. FOH sub-teams were responsible for greeting, seating, and serving restaurant patrons, and included roles such as general manager, service manager, and servers. BOH sub-teams were responsible for food management and meal preparation, and included roles such as assistant general manager, food production manager, and kitchen manager.

FOH general manager and BOH assistant general manager roles were filled by volunteers, and the other roles within each sub-team were assigned at random. The general manager led the executive team as a whole and was supported by the assistant general manager. Additionally, the general manager typically took lead of the FOH sub-team while the assistant general manager took lead of the BOH sub-team. Members were held mutually accountable for outcomes by being given an executive team grade.

We will be exploring ASO diversity, relationship conflict, transition processes, and interpersonal processes at the *sub-team* level when testing Hypotheses 1-3: the main effect of ASO diversity on relationship conflict, and the moderating effects of both relationship conflict and transition conflict respectively. There are several reasons for the decision to run tests at the sub-team level. First, while FOH and BOH sub-teams collaborate with each other to complete their executive team goal, members worked more interdependently within their sub-teams during task planning and execution. On the night of the meal those working Back of the House relied on each other to stay on top of food preparation and station sanitation, whereas members in the Front of the House sub-team largely worked with each other to manage and serve customer needs. Because task demands necessitate higher within-sub-team interdependence than between-sub-team interdependence, survey items for relationship conflict, transition processes, and interpersonal processes used FOH or BOH sub-team as the referent. Second, running the analyses at the sub-team level rather than the executive team level helps to strengthen the tests' statistical power by using a sample size of $n = 54$ rather than $n = 27$ ¹.

Hypothesis 4 (relationship conflict will negatively predict team performance) will be performed using executive team level relationship conflict and performance. This is because there was not enough data on sub-team performance to appropriately test this relationship, with

¹ $n = 39$ and $n = 19$, respectively, after missing data management, which is described in more detail below under "Data Cleaning and Screening."

approximately $\frac{3}{4}$ of the sub-teams missing performance values. However, all executive level performance scores were present in the dataset, allowing for the main effect of relationship conflict to performance to be tested at the executive team level.

Team Task

Each executive team was required to plan and supervise the execution of a themed dinner, serving approximately 100-125 customers per night. Each meal was led by an executive team comprised of one FOH sub-team and one BOH sub-team. Other students (approximately 20) in the class served as staff led by the students on the executive team. Each member of the executive team was encouraged to supervise 3 students along with their other responsibilities for the evening.

The dinners were extensively planned. The executive team was required to determine a theme, develop a menu, create a mission statement, establish team goals, outline positions for their employees, as well as write plans for sales, communication, and motivation. Students also needed to meticulously outline their recipes and prepare a detailed financial plan. The FOH sub-team needed to keep an updated copy of reservations, design a detailed seating chart, establish a method for turning tables, create guest comment cards, develop and run server training, and decide on ambiance such as napkin folds and music. The BOH sub-team designed diagrams to outline workstation setup, frontline food display and location, and menu item plating. Further the BOH sub-team outlined training sessions for their employees, including methods, fire safety testing, and a sanitation plan.

Following meal execution, the executive team were graded on their performance during the meal. Class instructors determined executive team grades by evaluating their performance

using a detailed set of criteria, examples of which include table setup, workstation organization, and number of entrees served. The full list of evaluation criteria used can be referenced in the Appendix.

Procedure

Near the start of the semester, students filled out an initial survey measuring action-state orientation and demographic variables. After the executive team completed their meal, students completed surveys measuring relationship conflict, transition processes, and interpersonal processes. All surveys were administered in person and completed with pen and paper. Course instructors, who were present to observe the meal execution, provided a performance grade for each executive team.

Measures

Scale instructions, items, and point values (where applicable) are listed in the Appendix.

Action-State Orientation

The Action-Control Scale-90 (ACS-90; Kuhl, 1994a) is a revised version of the original Action Control Scale (ACS; Kuhl, 1994b) measuring ASO. The ACS-90 was used in this study to measure ASO because of its demonstrated improved convergent, discriminant, and predictive validities over the original ACS (Diefendorff et al., 2000).

The ACS-90 consists of 22 dichotomous items, 8 for preoccupation, 8 for hesitation, and 6 for volatility. This is a forced-choice measure with two dichotomous choices, one measuring

action-orientation and the other measuring state-orientation. An example of a preoccupation item is: “When something really gets me down: A. I have trouble doing anything at all B. I find it easy to distract myself by doing other things.” An example of a hesitation item is: “When I know I must finish soon: A. I have to push myself to get started B. I find it easy to get it over and done with”. An example of a volatility item is: “When I am busy working on an interesting project A. I need to take frequent breaks and work on other projects B. I can keep working on the same project for a long time.”

ASO Diversity

ASO diversity constitutes a type of diversity known as “separation”, given that it measures the dispersion of within-unit (i.e. within sub-team) individuals on a horizontal continuum (Harrison & Klein, 2007). Within-group standard deviation will be used to calculate ASO diversity because of its appropriateness with measures of separation diversity, as well as its appropriateness for use when predicting strength or interaction effects regarding dispersion (Roberson et al., 2007).

Relationship Conflict

Relationship conflict items were adapted from Jehn and Mannix (2001) and consist of four questions asking participants to rate the amount of interpersonal friction or emotional tension that was experienced in their sub-team using a 5-point Likert scale ranging from 1 (none) to 5 (a great deal). An example of an item measuring relationship conflict is “How much emotional tension was there among members of your FOH/BOH group?”

Transition Processes

At the time these data were collected, there were no established scales for measuring transition processes. Therefore, and for the purposes of this study, transition process items were adapted from Marks and colleagues' (2001) definitions of each of the three dimensions of transition processes. Five questions asked participants to rate the members of their sub-team collectively on their skills in mission analysis, goal specification, and strategy formulation. Items were scored across a 5-point Likert scale ranging from 1 (hardly any skill) to 5 (excellent skill), with an option for 0 (not applicable). An example of an item assessing transition processes is "Our FOH/BOH team assigned roles and knew who was doing what tasks."

Interpersonal Processes

At the time these data were collected there was no established scale for measuring interpersonal processes. Therefore, and for the purposes of this study, interpersonal process items adapted from Marks and colleagues' (2001) definitions of each of the three dimensions of interpersonal processes. Five questions asked participants to rate the members of their sub-team collectively on their skills in motivation and confidence building, affect management, and conflict resolution. Items were scored across a 5-point Likert scale ranging from 1 (hardly any skill) to 5 (excellent skill), with an option for 0 (not applicable). An example of an item measuring interpersonal processes is "Our FOH/BOH team regulated others' emotions by attempting to calm members down and/or provide empathy or comic relief."

Executive Team Performance

Performance was assessed by class instructor as a grade for each executive team.

Instructors scored multiple criteria across five categories: opening remarks (5 points total), back of the house (30 points total), front of the house (30 points total), management skills (25 points total), and financial (10 points total, potential for bonus). Examples of opening remarks criteria include: “meal timeline/reservation update” and “statement of goals”. Examples of back of the house criteria include: “workstation organization” and “quality check”. Examples of front of the house criteria include “lobby/decorations” and “reservation seating”. Examples of management skills criteria include “communication with employees” and “decision making timeliness”.

Executive teams earned 1 point for each entrée served, with an expectation that 100 entrees would be served earning the executive team 10 points. An additional point was given in this category for each additional set of 10 entrees served beyond 100. Neither detailed point breakdowns nor category scores were available for most of the sub-teams in our sample but all grade totals assessing performance at the executive team level were.

Control Variables

Group size was examined as a control variable because larger teams have the potential for more heterogeneity (e.g., Jackson et al., 1991), and size may influence group outcomes (e.g., Steiner, 1972). As group average scores on diversity measures can be confounded with within-group standard deviations (Bedeian & Mossholder, 2000), group mean on ASO will also be included as a control variable. For executive team performance analyses, average group GPA will be controlled for as well.

Chapter 7

Analyses and Results

Data Cleaning and Screening

Data were cleaned largely using the Tidyverse collection of packages in the statistical program R. In the case of item-level missing data (i.e., missing data for individual scale items; Newman, 2014), scale scores were calculated using the items answered. Further, approximately 39% of the 54 sub-teams contained construct-level missingness (i.e., missing data for all items on a particular construct; Newman, 2014). Options to estimate these data via multiple imputation were not feasible for two reasons. First, some of the data were missing not at random (MNAR), which violates an assumption of multiple imputation that data be missing either completely at random (MCAR) or missing at random (MAR; Newman, 2014). Such data were missing systematically due to a class instructor not handing out the post-meal survey (containing measures for relationship conflict, interpersonal processes, and transition processes) to one of their classes. Second, the remaining cases could not be imputed due to high multicollinearity among some of the predictors included in the multiple imputation model via predictive mean matching. For example, ASO was positively correlated with conscientiousness, $r(208) = 0.27, p < .005$, and agreeableness was positively correlated with extraversion, $r(208) = 0.25, p < 0.005$. Therefore, sub-teams with construct-level missingness from 50% or more of the team members on relationship conflict, interpersonal processes, or transition processes were removed. This decision was made because these group-level constructs represent shared group properties

requiring agreement among the group members (Klein & Kozlowski, 2000), and so cannot be appropriately calculated when such large percentages of the group are missing. As a result, 15 sub-teams were removed from the dataset, resulting in a sub-team n of 39.

Internal Consistency Reliability

Scale scores were calculated by mean. To determine the internal consistency of study scales, Cronbach's alpha (Cronbach, 1951) was calculated using the alpha function from the psych package in R. The Action-Control Scale-90, measuring action-state orientation, contained 22 items with an internal consistency of $\alpha = 0.71$. Relationship conflict was measured across 4 items, with an internal consistency of $\alpha = 0.94$. Transition processes were measured across 5 items ($\alpha = 0.71$) and interpersonal processes were also measured across 5 items ($\alpha = 0.83$). While there are multiple considerations to make when determining appropriate cutoff values (Lance et al., 2006; Nunnally, 1978), an alpha coefficient of at least 0.70 is typically seen as a widely accepted standard (Spector et al., 2002). According to this standard, all measures demonstrate appropriate internal consistency reliability.

Confirmatory Factor Analyses

Confirmatory factor analyses (CFAs) were conducted using the cfa function from the lavaan package in R. Results supported the distinctiveness of relationship conflict, transition processes, and interpersonal processes as separate factors, as a three-factor model had superior fit ($\chi^2 = 123.22$, [$df = 74$], $p < 0.005$, CFI = 0.95, TLI = 0.94, RMSEA = 0.07, SRMR = 0.096) compared with both a two-factor model, specifying relationship conflict and a combined transition processes with interpersonal processes ($\chi^2 = 228.50$, [$df = 76$], $p < 0.005$, CFI = 0.85,

TLI = 0.819, RMSEA = 0.122, SRMR = 0.138), as well as a one-factor model ($\chi^2 = 520.49$, [$df = 77$], $p < 0.005$, CFI = 0.562, TLI = 0.482, RMSEA = 0.207, SRMR = 0.172).

Aggregation to the Sub-Team Level

To inform whether the nesting of sub-teams within executive teams should be statistically accounted for, intraclass correlations using model 1 (ICC(1)) were calculated. Values for ICC(1) were calculated using the GmeanRel function in the multilevel package in R. Approximately 78% of the variance in sub-team interpersonal processes was accounted for by executive team-level interpersonal processes ($ICC(1) = 0.78$), while approximately 32% of the variance in sub-team level transition processes was accounted for by executive team level transition processes ($ICC(1) = 0.32$). Further, approximately half of the variance in subteam-level relationship conflict was accounted for at the executive team level ($ICC(1) = 0.53$). Per LeBreton and Senter (2008), scores of 0.05 or higher can indicate a group effect. Given that the ICC(1) scores for interpersonal processes, transition processes, and relationship conflict are all greater than 0.05, the use of multilevel modeling is justified to account for the dependence of sub-team scores on their grouping within executive teams.

Estimates of $r_{WG(j)}$ indicate the degree of interrater agreement for multi-item measures (James et al, 1984), and so are useful to determine whether aggregating a construct to the group level is justified. Calculations were completed using the rwg.j function in the multilevel package in R. Median $r_{WG(j)}$ was calculated for interpersonal processes ($r_{WG(j)} = 0.87$), transition processes ($r_{WG(j)} = 0.95$), and relationship conflict ($r_{WG(j)} = 0.75$). Because estimates of $r_{WG(j)}$ above 0.71 indicate strong agreement between raters (LeBreton & Senter, 2008), mean aggregation to the sub-team level is justified for interpersonal processes, transition processes, and relationship conflict.

Descriptive Statistics

Means, standard deviations, and correlation coefficients are provided at the sub-team level in Table 1 and the executive team level in Table 2. At the sub-team level, relationship conflict was positively correlated with ASO diversity ($r(37) = 0.36, p = 0.03$), and negatively correlated with both transition processes ($r(37) = -0.35, p = 0.03$) and interpersonal processes ($r(37) = -0.63, p < 0.005$). Sub-team ASO diversity was negatively correlated with transition processes ($r(37) = -0.49, p < 0.005$) and interpersonal processes ($r(37) = -0.49, p < 0.005$). Additionally, sub-team transition processes and interpersonal processes were correlated with each other ($r(37) = 0.48, p < 0.005$).

At the executive team level, relationship conflict was positively correlated with ASO diversity ($r(17) = 0.54, p = 0.01$) as well as interpersonal processes ($r(17) = -0.74, p < 0.005$). Executive team ASO diversity was also negatively correlated with interpersonal processes ($r(17) = -0.47, p = 0.04$). Interpersonal processes at the executive team level were positively correlated with both transition processes ($r(17) = 0.47, p = 0.04$) and performance ($r(17) = 0.56, p = 0.013$). Additionally, executive team mean GPA was positively correlated with interpersonal processes ($r(17) = 0.46, p = 0.0497$) and negatively correlated with relationship conflict ($r(17) = -0.46, p = 0.047$).

Table 7-1:

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Sub-team size	4.08	0.81					
2. Mean ASO	1.61	0.11	.01				
3. Standard deviation of ASO diversity	0.15	0.07	.29	-.24			
4. Mean transition processes	3.86	0.42	-.17	.25	-.49**		
5. Mean interpersonal processes	3.76	0.54	.06	.16	-.49**	.48**	
6. Mean relationship conflict	2.37	0.85	-.03	.09	.36*	-.35*	-.63**

Descriptive Statistics and Correlations among all Sub-team Level Variables^a

M and *SD* are mean and standard deviation, respectively.

^a*n* = 39

* indicates $p < .05$

** indicates $p < .01$

Table 7-2:

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Executive team size	8.16	0.76							
2. Mean ASO	1.61	0.08	.16						
3. Standard deviation of ASO diversity	0.17	0.04	.08	.05					
4. Mean transition processes	3.90	0.36	-.15	.19	-.32				
5. Mean interpersonal processes	3.80	0.53	.33	.04	-.47*	.47*			
6. Mean relationship conflict	2.31	0.75	-.17	.10	.54*	-.40	-.74**		
7. Mean GPA	3.00	0.19	-.20	-.45	-.34	.40	.46*	-.46*	
8. Executive Team Performance	89.69	2.14	-.10	-.02	-.37	.56*	.19	.05	.31

Descriptive Statistics and Correlations among all Executive Team Level Variables^a

M and *SD* are mean and standard deviation, respectively.

^a*n* = 19

* indicates $p < .05$

** indicates $p < .01$

Analyses

Multilevel hierarchical regression analyses were conducted to test hypotheses 1-3 (the main effect of ASO diversity on relationship conflict, as well as the moderating effects of interpersonal processes and transition processes). Stage 1 tested two control variables: sub-team size and mean-aggregated ASO. Stage 2 added ASO diversity, aggregated by standard deviation. Stage 3 added the moderators, interpersonal processes and transition processes. Stage 4 added the interactions, ASO diversity x interpersonal processes and ASO diversity x transition processes.

At each stage, three model tests were run: general least squares regression (fixed intercepts and fixed slopes), multilevel regression with random intercepts and fixed slopes, and multilevel regression with random intercepts and random slopes across ASO diversity (in stages 2-4) or mean-aggregated ASO (in stage 1). The AIC values were compared across the three models at each stage (fixed intercepts and slopes vs. random intercepts and fixed slopes vs. random intercepts and random slopes) to determine the model with the best fit, with lower AIC indicating better model fit. The comparison of models at stage 1 indicated that allowing for random intercepts and random slopes produced the best model. In stages 2-4, the best models (those with the lowest AIC) were run with general least squares regression using fixed intercepts and fixed slopes. Table 3 below reports β and p -values for the best-fitting model at each stage.

Tests of Hypotheses

Hypothesis 1 predicted that ASO diversity would positively predict relationship conflict. Controlling for sub-team size and mean-aggregated ASO, ASO diversity positively predicted relationship conflict at stage 2 ($\beta = 5.67, p < .01$), supporting Hypothesis 1. When moderators and

interactions were added, the ASO diversity-relationship conflict link became nonsignificant at stage 3 ($\beta = 1.29, p = 0.54$) and remained nonsignificant at stage 4 ($\beta = 0.81, p = 0.71$).

Hypothesis 2 predicted that transition processes would moderate the relationship between ASO diversity and relationship conflict. The interaction between ASO diversity and transition processes was not significant ($\beta = 4.85, p = 0.44$), failing to support Hypothesis 2. In contrast, results indicated support for Hypothesis 3, that interpersonal processes would moderate the ASO diversity-relationship conflict link, with a marginally significant interaction between ASO diversity and interpersonal processes ($\beta = -6.16, p = 0.06$). Hypothesis 3 also predicted that the ASO diversity-relationship conflict association would be stronger under conditions of low interpersonal processes and weaker under conditions of high interpersonal processes. The form of the interaction, plotted in Figure 1 below, further supports this hypothesis. Simple slopes tests revealed a negative, marginally significant link between ASO diversity and relationship conflict when interpersonal processes were high ($\beta = -5.43, p = 0.099$) and a positive, marginally significant relationship when interpersonal processes were low ($\beta = 6.43, p = 0.096$)².

Hypothesis 4 predicted that relationship conflict would negatively predict performance. Because approximately $\frac{3}{4}$ of the sub-teams were missing sub-team level performance data but no executive teams were missing data on executive team performance, Hypothesis 4 was tested at the executive team level. Results from general least squares regression and controlling for executive team level mean GPA indicated a nonsignificant relationship, ($\beta = 0.69, p = 0.37$), failing to support Hypothesis 4.

² Simple slopes tests did not indicate significance at one standard deviation above or below the mean so floodlight analysis was used to determine the point at which the slopes became marginally significant. Results of the floodlight revealed p -values to be trending in the direction of significance as interpersonal processes increased/decreased. High levels of interpersonal processes became marginally significant at 1.8 standard deviations above the mean and low levels of interpersonal processes became marginally significant at 2.5 standard deviations below the mean.

Table 7-3:

Independent Variables	Stage 1	Stage 2	Stage 3	Stage 4
<i>Control Variables</i>				
Sub-team size	0.07	-0.18	-0.05	-0.08
Mean-aggregated ASO	0.95	1.60	1.80	1.89
ASO diversity		5.67**	1.29	0.81
<i>Moderators</i>				
Transition processes			-0.18	-0.19
Interpersonal processes			-0.89**	-0.93**
<i>Interactions</i>				
ASO diversity x transition processes				4.85
ASO diversity x interpersonal processes				-6.16 [†]

Results of Sub-team Multilevel Hierarchical Regression Analyses for Moderation of the Relationship between Action-State Orientation (ASO) Diversity and Relationship Conflict by Interpersonal Processes and Transition Processes

Stage 1 model used multilevel regression with random intercepts and random slopes. Models for stages 2-4 used general least squares regression with fixed intercepts and fixed slopes. Scores above represent β values from mean-centered relationship conflict, ASO diversity, interpersonal processes, and transition processes; interactions were calculated using mean-centered terms.

[†] indicates $p < 0.10$

* indicates $p < 0.05$

** indicates $p < 0.01$

Table 7-4:

Independent Variables	Stage 1	Stage 2	Stage 3	Stage 4
<i>Control Variables</i>				
Executive team size	-0.18	-0.23	-0.02	-0.11
Mean-aggregated ASO	1.22	1.01	1.22	2.32
ASO diversity		10.54*	4.32	4.25
<i>Moderators</i>				
Transition processes			-0.15	0.05
Interpersonal processes			-0.86*	-0.83*
<i>Interactions</i>				
ASO diversity x transition processes				20.49
ASO diversity x interpersonal processes				-14.06 [†]

Results of Executive Team General Least Squares Regression Analyses for Moderation of the Relationship between Action-State Orientation (ASO) Diversity and Relationship Conflict by Interpersonal Processes and Transition Processes

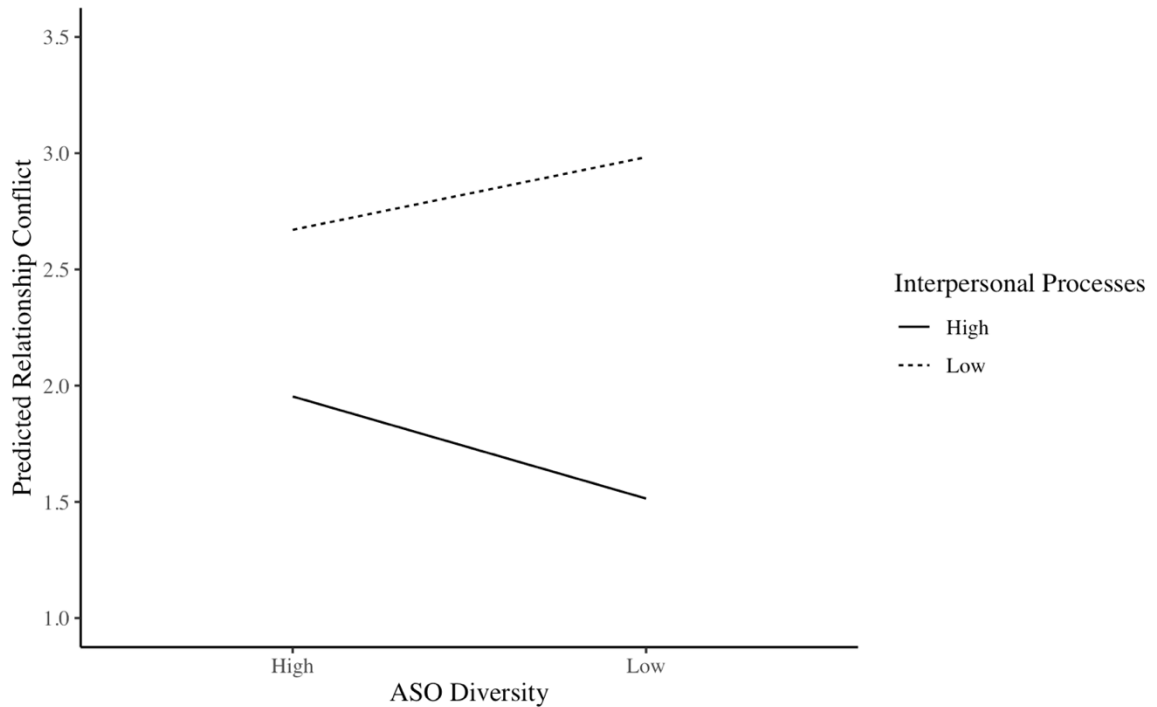
Scores above represent β values from mean-centered relationship conflict, ASO diversity, interpersonal processes, and transition processes; interactions were calculated using mean-centered terms.

[†] indicates $p < 0.10$

* indicates $p < 0.05$

** indicates $p < 0.01$

Figure 7-1:



Effect of the Interaction Between Action-State Orientation (ASO) Diversity and Interpersonal Processes on Relationship Conflict

Sub-Team Ancillary Analyses

Model Testing Without Control Variables

Becker and colleagues (2015) recommend that models including control variables should also be run without controls to further elucidate the effects of the primary predictor(s) on the dependent variable. Therefore, multilevel hierarchical regressions were also run testing the model without control variables. In a model that only included ASO diversity as the predictor of

relationship conflict, a model comparison indicated that multilevel regression with random intercepts and fixed slopes (AIC = 96.66) provided a slightly better fit than both the general least squares regression with both fixed intercepts and slopes (AIC = 97.15) and the multilevel regression with random intercepts and random slopes (AIC = 98.66). This is in contrast to the Stage 2 model that included controls, given the general least squares regression with fixed intercepts and fixed slopes had the better fit. Given the very small difference in AIC between model with both fixed intercepts and slopes and the model with random intercepts and fixed slopes, both were tested. The model with only ASO diversity as a predictor, fixed intercepts and fixed slopes indicated a significant relationship ($\beta = 4.46, p = 0.03$), but the model with slightly better fit (random intercepts and fixed slopes) did not, with $\beta = 2.46$ and $p = 0.20$. In the model with controls, the general least squares with fixed intercepts and slopes had the best fit and also had a statistically significant main effect of ASO diversity on relationship conflict (review Table 3 or the Tests of Hypotheses for the values). To further compare results to the best fit model without controls, a model with controls was also tested with random intercepts and fixed slopes, demonstrating a marginally significant main effect of ASO diversity on relationship conflict ($\beta = 4.06, p = 0.07$). Given that of these four discussed models, three demonstrated significant or marginally significant relationships, and the small (0.49) difference in AIC between the two models without controls, we interpret these results to also support Hypothesis 1, that ASO diversity negatively predicts relationship conflict.

There were no notable differences between models with and without controls after moderators and interactions were added. Similar to tests using a model with control variables, Hypothesis 2 was not supported, with a nonsignificant interaction between ASO diversity and transition processes ($\beta = 2.91, p = 0.61$). Also paralleling tests using a model with controls, Hypothesis 3 was supported, with a marginally significant interaction between ASO diversity and interpersonal processes ($\beta = -5.60, p = 0.09$).

Model Testing Separately for Each Moderator: Transition Processes

High transition processes may make the need for interpersonal processes less salient and vice versa, so interactions were tested one at a time. Testing a model that omitted interpersonal processes and included control variables, ASO diversity, transition processes, and the ASO diversity x transition processes interaction also failed to support Hypothesis 2. Model comparison indicated that using random intercepts and fixed slopes provides the best fit. This differs from the primary analyses at this stage (i.e., in a model that included controls, ASO diversity, both moderators, and both interaction terms) where a model comparison indicated that fixed intercepts and slopes provided the best fit. This model also presented a nonsignificant interaction ($\beta = -1.28$, $p = 0.81$), but results differed from those reported in Table 3 by finding a marginally significant main effect of transition processes on relationship conflict ($\beta = -0.70$, $p = 0.07$). These results do not alter interpretation of initial model tests indicating that Hypothesis 2 was unsupported.

Model Testing Separately for Each Moderator: Interpersonal Processes

Neither model comparison nor significance testing indicated differences in a model excluding the transition processes interaction compared to a model that included both interpersonal and transition process interactions. Using general least squares regression with fixed intercepts and fixed slopes to test a model including controls, ASO diversity, interpersonal processes, and the ASO diversity x interpersonal processes interaction indicated a marginally significant interaction effect ($\beta = -4.50$, $p = 0.08$).

Model Testing: Interpersonal Processes Without Conflict Resolution Items

Three of the five items of our interpersonal processes measure described conflict resolution, while the other two asked about emotion regulation and confidence building / motivation respectively. We were curious whether the conflict resolution items were largely driving the interaction that interpersonal processes had on the main effect of ASO diversity on relationship conflict, so we ran models using a score of interpersonal processes that did not include the conflict resolution items. General least squares regression indicated a significant moderating effect of this reduced measure of interpersonal processes ($\beta = -8.54, p = 0.03$). These results bolster support for Hypothesis 3 and indicate that group affect regulation as well as confidence and motivation building play a strong role in helping reduce relationship conflict on teams high in ASO diversity.

Executive Team Ancillary Analyses

Given the ICC(1) results indicating that substantial variance was accounted for by executive team-level for interpersonal processes, transition processes, and relationship conflict, the study model was tested at the executive team-level. These analyses should be interpreted with caution given a sample size of 19. Similar to the steps reflected for the sub-team analyses, Hypotheses 1-3 were tested at the executive team level using general least squares regression. Results are summarized in Table 4 above.

Tests at the executive team level supported Hypothesis 1. While controlling for executive team size and mean ASO, ASO diversity positively predicted relationship conflict at Stage 2 ($\beta = 10.54, p = 0.02$), though the effect was nonsignificant after moderators were added in Stage 3 ($\beta =$

4.32, $p = 0.29$) and after interactions were added in Stage 4 ($\beta = 4.25, p = 0.35$). Hypothesis 2 remained unsupported at the executive team level, with a nonsignificant main effect of transition processes on relationship conflict ($\beta = 0.05, p = 0.92$) as well as a nonsignificant interaction between ASO diversity and transition processes ($\beta = 20.49, p = 0.18$). Just as Hypothesis 3 was supported by tests at the sub-team level, it was supported at the executive team level.

Interpersonal processes significantly predicted relationship conflict ($\beta = -0.86, p = 0.03$) and there was a marginally significant relationship between ASO diversity and interpersonal processes ($\beta = -14.06, p = 0.099$).

There are no major differences that influence interpretation of results between tests run at the sub-team versus executive team level. All statistically significant relationships remained significant, non-significant relationships remained so, and the ASO diversity by interpersonal processes interaction is marginally significant at both levels. One difference to note is that all of the β -values for statistically and marginally significant relationships were higher at the executive team level compared to the sub-team level.

Chapter 8

Discussion

Our study demonstrates that teams with high levels of ASO diversity are more likely to experience higher levels of relationship conflict than teams more homogenous in ASO. That is, teams with a mixture of action- and state-oriented members tend to experience more anger, emotional tension, and interpersonal friction than teams composed of individuals who are more similar in their action-state orientations. Further, interpersonal processes moderate the link between ASO diversity and relationship conflict. The positive relationship between ASO diversity and relationship conflict is stronger under conditions of low interpersonal processes and weaker under conditions of high interpersonal processes. These findings indicate that teams composed of both action- and state-oriented members experience less relationship conflict if members help regulate each other's emotions, provide motivational support, and settle disagreements.

Theoretical Implications

While ASO has been well researched at the individual level, we have filled a gap in the literature by exploring the effect of this motivational individual difference at the group level. Conceptually, ASO is especially relevant for work teams because differences in starting and stopping during group goal striving may cause members to conflict with each other. Differences in ASO are likely to manifest in teams when members must work together interdependently. When teammates must rely on each other to accomplish team goals, frustrations over unfair work

distributions or perceptions of low teammate integrity are likely to bolster the salience of ASO diversity. Indeed, our study has demonstrated that diversity of action-state orientation has clear implications for how team members get along.

We explored ASO as a novel form of team diversity, and results from our study indicate that composition matters when it comes to action- and state-oriented individuals working on the same team. ASO diversity was a statistically significant predictor of relationship conflict while controlling for mean levels of ASO, which did not predict relationship conflict. This suggests that teams composed of either mostly action-oriented members or state-oriented members are not likely to experience the same degree of personality conflict and emotional tension that teams with a combination of both action- and state-oriented members do. Our results add to the growing list of antecedents of relationship conflict, which has been shown to negatively impact numerous team outcomes (de Wit et al., 2012).

This study responds to a common call in the team diversity literature to explore moderators (e.g., Guillaume et al., 2017, Van Knippenberg & Schippers, 2007) by elucidating the role that interpersonal processes can play in mitigating relationship conflict on teams with high ASO diversity. Teams that had a combination of action- and state-oriented members experienced less relationship conflict if they had high levels of interpersonal processes compared with low levels of interpersonal processes. These findings indicate the impact that members helping to regulate each other's emotions, motivate each other, and resolve disagreements can have in reducing tension and anger on teams with some action- and some state-oriented members.

Non-Supported Hypotheses

Although transition processes were hypothesized to reduce the interpersonal friction that arises when a mixture of action-oriented and state-oriented people work together on the same

team, this moderated effect was not supported. There are some potential reasons to explain why our results indicated a nonsignificant interaction between ASO diversity and transition processes. First, while the measure of interpersonal processes assessed whether teams took the time to analyze their goals, specify their mission, and formulate strategies, it did not determine whether the strategies had buy-in from all members. It is possible that some plans suited action-oriented members but not state-oriented members, who then could have felt overwhelmed by their work. Or perhaps plans were drawn to give state-oriented members easier or less time-consuming work, which might have exacerbated action-oriented members' perceptions of unfair work distribution. Second, the measure for transition processes assessed whether plans were created but not *how effective* those plans were. Ineffective strategies may not have provided state-oriented members with the scaffolding they would need to remain calm and better stick to their work, but this was not measured.

Although hypothesized, higher relationship conflict did not lower executive team performance. We see multiple potential reasons to explain why relationship conflict did not statistically predict performance in our sample. First, the low sample size (executive team $n = 19$) may not provide sufficient power to detect effects. Additionally, this advanced course is challenging but also extremely valuable to students planning to make a career in the hotel and restaurant management industry given it provides practical experience planning and executing a meal for real patrons. Therefore, enrolled students may have been particularly dedicated to performing well despite experiencing high levels of relationship conflict in their teams. Participants may have been highly motivated to exert the effort needed to prevent relationship conflict from damaging their meal performance. Students may also have viewed the classroom context as a learning environment where they give others the benefit of the doubt and can be more forgiving toward errors so as not to harm individual (or collective) grades. Such perspective

could reduce the tendency for relationship conflict to measure team performance as measured by task grade.

Recent work indicates that team conflict tends to exist largely at the dyadic level (Humphrey et al., 2017; Shah et al., 2021). Our conflict measures used the sub-team as the referent, so may not have been nuanced enough to explore whether the conflict largely existed between two members. Further, in a qualitative study on emergency room teams, where team composition changes every few months, members expressed that it was easier to work with difficult people knowing that it was only a temporary experience (Klein et al., 2006). Given that our sample's student teams understood that they would only have to work together for a semester, it may have been easier for them to power through despite any conflict between members. Finally, given kitchen culture in restaurant settings (Murray-Gibbons, 2007), kitchen culture may have been more salient in BOH than FOH teams and combining both may have washed out significant findings. However, such sub-team differences could not be distinguished in our study since the conflict-team performance main effect could only be tested at the executive team level.

Practical Implications

Managers must be aware of how motivational differences in team members' starting work, continuing through challenge, and returning to work after setback or failure can create dysfunctional conflict on their teams. Though ASO is not a personality trait that team members often discuss with each other, our research shows that it impacts a key team process variable: relationship conflict. Practitioners and team facilitators should encourage open discussion about members' action-state orientations to help bring more insight to their thoughts and behaviors.

While teams may not always have a choice regarding their composition, we have identified one means of reducing the detrimental effects that ASO diversity can have on teams.

For teams with high ASO diversity that are also experiencing personality conflicts between members, members can support each other and improve the overall health of the team by thoughtfully developing and employing strategies to regulate each other's emotions, motivate each other, and manage disagreements. Such interpersonal processes should help teams to get engaged with their work faster and stay engaged longer. For example, adopting communal coping strategies may lay the groundwork for members to help each other manage their emotions. Lyons et al. (1998) describes communal coping as a means of managing stressful situations in interpersonal group contexts. These scholars outline three key elements: 1) that at least one person on the team believe in the benefits of joining together to deal with an issue, 2) communicating what happened and how it affects the team members, and 3) collaborating to determine how to reduce the impact of the stressor on the team members (Lyons et al., 1998). In these discussions, framing the stressor in terms of problems with "processes" and "tasks" rather than problems with "people" can help the tension feel less personal and direct efforts toward actions to manage the problem (Tannenbaum & Salas, 2020). Further, relationship conflict resulting from violations of fairness is theorized be helped by team members identifying where the fairness violation is coming from, collectively brainstorming how they can address the root of the issue, and then implementing their proposed change (Ren & Gray, 2009). This strategy may be especially helpful when relationship conflict arises on teams diverse in ASO, as it allows action-oriented members to address issues of low workload sharing so that the team as a whole can better support both action- and state-oriented members in establishing fair work distributions.

Limitations and Future Directions

Future studies should replicate our work and address several limitations. First, our analyses had low power due to low sample sizes at both the sub-team ($n = 39$) and executive team

levels ($n = 19$). While significant findings under such conditions may indicate robust relationships, they also dictate caution in interpretation. Nevertheless, the stability in results across the sub-team and executive-team levels, with and without control variables, and in combined moderator versus single moderator regressions increases confidence in study findings. Second, at the time these data were collected, there were no validated measures for interpersonal or transition processes, and so items were adapted from Marks et al.'s (2001) definitions. Future research should employ the use of Mathieu et al.'s (2020) validated scales for these processes. Third, while our results demonstrate an association between ASO diversity and relationship conflict, they do not test the mechanisms by which ASO diversity may impact relationship conflict. Our rationale relied on workload sharing and integrity to connect ASO diversity to relationship conflict, but neither was measured. Existing research supports the moderating role that low workload sharing can have on relationship conflict (Alipour et al., 2017), and future research should explore workload sharing as a potential mediator between ASO diversity and relationship conflict.

Our study tended to focus on the negative aspects of state-orientation as represented in most of the literature. However, some theorizing and empirical work (e.g., Diefendorff, 2000; Hall et al., 2001; Kuhl, 1994a) suggests that the increased time and thought taken by state-oriented people can be beneficial to individual performance. Given this thinking, when and how state-orientation can be a benefit to team functioning is worth exploring.

While relationship conflict and process conflict were the main mediators examined in our study, future work should explore additional mediators to explain the ASO diversity-team performance relationship. For example, team coordination may be a more proximal mechanism than process conflict to explain how differences in members' starting and persisting on work can impede team performance. If members are starting their work their work at different times or distributing their attention differently across multiple tasks, it may be more difficult to coordinate

tasks that require high interdependence or sequencing. Additionally, team cohesion is worth exploring as a mediator due to the potential for differences in members' action-state orientations to negatively impact interpersonal team dynamics.

Future work should also continue exploring other factors that may impact means of reducing relationship conflict in teams high in ASO diversity. For example, personality strength, which measures the degree that one is likely to change their behavior based on the context (Dalal et al., 2015), is worth exploration. It may be that state-oriented individuals who also have weak personalities (i.e., low personality strength) may benefit more from effective and well-structured plans or teammates' motivational support given their ability to change their behavior more readily in response to contextual cues. Further, situational strength (Meyer et al., 2010; Meyer et al., 2014) may be a useful means of quantifying the effectiveness of plans that arise from transition processes and may inform outcomes of transition processes that successfully moderate the ASO diversity-relationship conflict linkage. Team plans may create a strong situation if they devise strategies that improve clarity and consistency while establishing helpful restraints and consequences. It is possible that such a strong situation may be more helpful in influencing state-oriented people to stick to their work.

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Appendix: Scale Items

Action-State Orientation Scale Items

Listed below are scenarios that occur in everyday life. Please circle the letter that corresponds with the way in which you are likely to react to each scenario

- 1) When I know I must finish soon: (*Hesitation*)
 - a. I have to push myself to get started
 - b. I find it easy to get it done and over with
- 2) When I have learned a new and interesting game: (*Volatility*)
 - a. I quickly get tired of it and do something else
 - b. I can really get into it for a long time
- 3) If I've worked for weeks on one project and then everything goes completely wrong with the project: (*Preoccupation*)
 - a. It takes me a long time to adjust myself to it
 - b. It bothers me for a while, but then I don't think about it anymore
- 4) When I don't have anything in particular to do and I am getting bored: (*Hesitation*)
 - a. I have trouble getting up enough energy to do anything at all
 - b. I quickly find something to do
- 5) When I am getting ready to tackle a difficult problem: (*Hesitation*)
 - a. It feels like I am facing a big mountain that I don't think I can climb
 - b. I look for a way that the problem can be approached in a suitable manner
- 6) If I had just bought a new piece of equipment (for example a cd player) and it accidentally fell on the floor and was damaged beyond repair: (*Preoccupation*)
 - a. I would manage to get over it quickly
 - b. It would take me a long time to get over it
- 7) When I have to solve a difficult problem: (*Hesitation*)
 - a. I usually don't have a problem getting started on it
 - b. I have trouble sorting things out in my head so that I can get down to working on the problem
- 8) If I have to talk to someone about something important and, repeatedly, can't find him or her at home: (*Preoccupation*)
 - a. I can't stop thinking about it, even while I'm doing something else
 - b. I easily forget about it until I see the person.
- 9) When I read an article in the newspaper that interests me: (*Volatility*)
 - a. I usually remain so interested in the article that I read the entire article
 - b. I still often skip to another article before I've finished the first one
- 10) When I am told that my work is completely unsatisfactory (*Preoccupation*)
 - a. I don't let it bother me for too long
 - b. I feel paralyzed
- 11) When I have a lot of important things to do and they must all be done soon: (*Hesitation*)
 - a. I often don't know where to begin
 - b. I find it easy to make a plan and stick with it
- 12) When one of my co-workers brings up an interesting topic for discussion: (*Volatility*)
 - a. It can easily develop into a long conversation
 - b. I soon lose interest and want to go do something else

- 13) If I'm stuck in traffic and miss an important appointment: (*Preoccupation*)
 - a. At first, it's difficult for me to start to do something else
 - b. I quickly forget about it and do something else
- 14) When I am busy working on an interesting project: (*Volatility*)
 - a. I need to take frequent breaks and work on other projects
 - b. I can keep working on the same project for a long time
- 15) When I have to take care of something important which is also unpleasant: (*Volatility*)
 - a. I do it and get it over with
 - b. It can take me a while before I can bring myself to do it
- 16) When something really gets me down: (*Preoccupation*)
 - a. I have trouble doing anything at all
 - b. I find it easy to distract myself by doing other things
- 17) When I am facing a big project that has to be done: (*Hesitation*)
 - a. I often spend too long thinking about where I should begin
 - b. I don't have any problems getting started
- 18) When several things go wrong on the same day: (*Preoccupation*)
 - a. I usually don't know how to deal with it
 - b. I just keep on going as though nothing had happened
- 19) When I read something I find interesting: (*Volatility*)
 - a. I sometimes still want to put the article down and do something else
 - b. I will sit and read the article for a long time
- 20) When I have put all my effort into doing a really good job on something and the whole thing doesn't work out: (*Preoccupation*)
 - a. I don't have too much difficulty starting something else
 - b. I have trouble doing anything else at all
- 21) When I have an obligation to do something that is boring and uninteresting: (*Hesitation*)
 - a. I do it and get it over with
 - b. It can take a while before I can bring myself to do it
- 22) When I am trying to learn something new that I want to learn: (*Volatility*)
 - a. I'll keep at it for a long time
 - b. I often feel like I need to take a break and go do something else for a while

Relationship Conflict Items

Thinking about all the interactions that you had with your FOH/BOH team members (before, during, and after meal 1/2), please answer the following questions on the following scale:

1 – None, 2, 3 – Moderate Amount, 4, 5 – A Great Deal

- 1) How much emotional tension was there among members of your FOH/BOH group?
- 2) How much anger was there among members in your FOH/BOH group?
- 3) How much interpersonal friction was there among members in your FOH/BOH group?
- 4) How much were personality conflicts evident in your FOH/BOH group?

Transition Processes Items

Please rate your assessment of the skill level that **FOH/BOH team members** demonstrated on each of the following behaviors on the following scale: 0 = not applicable, 1 = hardly any skill, 2 = minimum skill, 3 = average skill, 4 = good skill, 5 = excellent skill

- 1) Our FOH/BOH team identified the main tasks to be performed in light of member abilities, resources, and time constraints.
- 2) Our FOH/BOH team specified the time frame by which tasks should be accomplished.
- 3) Our FOH/BOH team prioritized goals and sub-goals for the meal.
- 4) Our FOH/BOH team assigned roles and knew who was doing what tasks.
- 5) Our FOH/BOH team planned ahead for unexpected events.

Interpersonal Processes Items

Please rate your assessment of the skill level that **FOH/BOH team members** demonstrated on each of the following behaviors on the following scale: 0 = not applicable, 1 = hardly any skill, 2 = minimum skill, 3 = average skill, 4 = good skill, 5 = excellent skill

- 1) Our FOH/BOH team motivated and built the confidence of team members (e.g., pep talks).
- 2) Our FOH/BOH team regulated others' emotions by attempting to calm members down and/or provide empathy or comic relief.

Interpersonal Processes – Conflict Resolution Items

Thinking about all the interactions that you had with your FOH/BOH team members (before, during, and after meal 1/2), please answer the following questions on the following scale: 1 – None, 2, 3 – Moderate Amount, 4, 5 – A Great Deal

- 1) We were able to effectively talk through disagreements about ideas/opinions in my FOH/BOH group.
- 2) We were able to effectively talk through disagreements about procedures (the way we get work done) in my FOH/BOH group.
- 3) We were able to effectively deal with interpersonal friction/personality clashes in my FOH/BOH group.

Performance Categories and Point Values

	POINT VALUE
OPENING REMARKS	
statement of goals	1
meal timeline/reservation update	1
menu/recipe discussion	1
critical points of information	1
motivation/incentives	1
TOTAL	<i>(0-5)</i>
FRONT OF THE HOUSE	
equipment removal/storage	2
seating chart	2
reservation sheet	2
table set-up	2
server set-up/checklist	2
lobby/decorations	2
set-up deadlines	2
supervision: set-up/training	3
opening deadline	2
supervision: service	3
customer service	3
attention to detail	2
sanitation-set-up	1
sanitation-closing	2
TOTAL	<i>(0-30)</i>
BACK OF THE HOUSE	
food check-in	2
workstation organization	2
recipe supervision	3
production deadlines	2
quantity check	2
quantity check (continuous)	3
cook's line/server set-up	2
service-training supervision	3
opening deadline	2
attention to detail	2
employee meal	2
sanitation-production	2
sanitation-closing	3
TOTAL	<i>(0-30)</i>
MANAGEMENT SKILLS	
preparation	4
communication with employees	4
communication with managers	4
decision making timeliness	4
decision making effectiveness	4
employee assessment	5