


Relieving the Pressure: Team Familiarity Attenuates External Conformity Pressure on Team Member Decisions

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Decisions in organizations are often made by individuals acting as members or representatives of teams, and such decisions may be unduly influenced by the preferences of people outside their teams. In these instances of external conformity pressure, we argue that the familiarity of the decision maker's team provides social belonging and affiliation that alleviates this pressure. Whereas previous research has argued that social belonging from familiarity may drive within-group conformity when pressure comes from other team members (e.g., groupthink), we highlight that familiarity can instead help team members withstand pressure to conform when this pressure comes from outsiders. Moreover, we expect team familiarity to be especially important in high-stakes conditions, in which there are significant consequences associated with decisions. We examine our predictions in an archival sample of officiating crews making decisions about penalty calls during National Collegiate Athletic Association (NCAA) American

Acknowledgements: The authors would like to acknowledge Ning Li, our Associate Editor, and two anonymous reviewers for their invaluable feedback and advice on this manuscript.

Supplemental material for this article is available with the manuscript on the JOM website.

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football games and in a laboratory experiment of team members making decisions about the quality of someone else's work product. Findings from these studies suggest that: (1) members of familiar teams are less likely to conform to the preferences of outsiders than those in unfamiliar teams; (2) team familiarity is particularly important when making high-stakes decisions; and (3) team familiarity gives team members a greater sense of belonging, which enables them to better withstand external conformity pressure.

Keywords: *team decision making; team familiarity; conformity pressure; performance pressure; belonging; home advantage*

Decision making is an ongoing challenge in organizations. Effective decisions can be derailed by circumstances such as a lack of comprehensive information, an increasing need for speed, and ambiguity over decision authority (Baym et al., 2021; Duarte, 2022; Ewell, 2022). Beyond these informational challenges, an equally concerning threat comes in the form of social pressures—specifically the pressure to conform. Conformity occurs when one's attitudes or behaviors align with the attitudes or behaviors of those around them in response to social pressure (Allen, 1965; Asch, 1956). In decision making, conformity means that people's decisions are different than they otherwise would be in the absence of social pressure (Cialdini & Goldstein, 2004; Galam & Moscovici, 1991; Lerner & Tetlock, 1999; Quinn & Schlenker, 2002).

Adding complexity to this process is the fact that decisions in organizations are often made by individuals who are members and representatives of teams that bear responsibility for the decision (Kou & Stewart, 2018). Resisting conformity pressure may be particularly important in such scenarios. Consider the following examples: A vice president of finance in a leadership team faces pressure to make financial decisions to conform to analyst expectations of quarterly earnings (e.g., Collingwood, 2001; Fuller & Jensen, 2010); a member of an auditing team faces pressure from a client to minimize a potential reporting issue or engage in aggressive reporting (e.g., Bobek, Daugherty, & Radtke, 2012; Hackenbrack & Nelson, 1996); or a member of a university curricular committee faces pressure from a specific subject area to make changes to the student catalog outside of normal procedures. In each of these cases, team members face pressure to align their decisions with the preferences of people outside the team—which we call “external conformity pressure”—and, although individuals are often responsible for making these decisions on their own, they do so as members and representatives of their teams.

How can team members withstand the pressure to conform to the preferences of outsiders when making these key decisions? To answer this question, a new way of thinking is needed regarding the role of the team as part of the social context in which decisions are made. Such a perspective would address situations where individuals make decisions as part of their unique roles on teams (e.g., based on their team-relevant functional areas, skills, or expertise) with the team as an important contextual backdrop for these decisions (Hollenbeck et al., 1995). In developing this perspective, we shift the focus away from the team's role in influencing the decision-maker's evaluation of information—in terms of information processing (Hollenbeck et al., 1995) or resisting within-group pressures (e.g., groupthink: Janis, 1982)—and toward a perspective of teams as vehicles for social affirmation that can help individuals better withstand the pressure to conform to external preferences.

When facing pressure to conform to the preferences of those outside the team, we suspect individuals who belong to familiar teams, or those with greater shared experiences (Harrison, Mohammed, McGrath, Florey, & Vanderstoep, 2003; Luciano, Bartels, D’Innocenzo, Maynard, & Mathieu, 2018; Reagans, Argote, & Brooks, 2005), will be better able to withstand pressure than those who do not have such familiarity or shared experiences. Team familiarity is a basic indicator of the strength and quality of the relationships that members have with their teammates (Killumets, D’Innocenzo, Maynard, & Mathieu, 2015; Rockett & Okhuysen, 2002), and these intragroup relationships could impact how individual team members respond to external conformity pressure.

Specifically, we propose that individuals in highly familiar teams should experience a level of social affiliation and belonging that allows them to withstand conformity pressure from outsiders (Cialdini & Goldstein, 2004; Cialdini & Trost, 1998), such that they are less likely to conform to external pressure. Conversely, individuals in teams that lack familiarity would also lack the supportive context that helps them to withstand external pressure, resulting in more conformity to outside influence. Moreover, we suspect this effect is more pronounced in decisions with significant consequences, which indicates heightened pressure to perform well (e.g., performance pressure: Baumeister, 1984; Gardner, 2012). Resisting external conformity pressure may be particularly important—and yet challenging—in these high-stakes situations.

We explore our predictions in two studies: first, in a sample of officiating team members making decisions about penalty calls on National Collegiate Athletic Association (NCAA) American football teams and, second, in a laboratory experiment of team members making decisions about the quality of someone else’s work product. Results from both studies suggest that members of familiar teams are less likely to conform to the preferences of outsiders than those in unfamiliar teams. Our first study further shows that familiarity is particularly important when team members make high-stakes decisions (i.e., the games team members officiate are closely contested and therefore each penalty decision may carry more weight in affecting game outcomes), and our second study reveals that the effects of familiarity on resistance to external conformity pressure can be explained by the greater sense of belonging team members have in highly familiar teams. Our studies thus contribute to research on team member decision making, conformity and performance pressure, and team familiarity.

Theoretical Development

Team Member Decisions and Conformity

Team member decision making can take on a variety of forms depending on the team’s context and tasks. A stereotypical picture of decision making in teams involves members discussing, debating, researching, sharing information, and finally coming to some agreed-upon decision for the team as a unit. Research on team decision making is vast, but also largely focused on teams that use this consensus approach to arrive at decisions (Humphrey, Hollenbeck, Meyer, & Ilgen, 2002; Kerr & Tindale, 2004).

In practice, however, there are many teams where members make decisions *individually* as representatives of their teams. For example, team members may make decisions based on their unique team roles (Cannon-Bowers & Salas, 1998; Cannon-Bowers, Salas, & Converse, 1993; Duarte, 2022), or team leaders may make decisions informed by input from team members (i.e., hierarchical decision making: Hollenbeck et al., 1995; Humphrey et al., 2002). Sometimes these

decisions are made in consultation with other team members, for example when others on the team “provide the decision maker with assessments and information that are crucial to the situation” (Cannon-Bowers et al., 1993: 222). In other situations, “discussion is either limited or nonexistent” (Kerr & Tindale, 2004: 635). This reflects the nature of team decision making as a multilevel process in which many decisions are made by individuals as part of interdependent teams that have a common fate (Hollenbeck et al., 1995; Humphrey et al., 2002).

Conceptualizing decision making as an individual-in-team phenomenon, rather than solely as a team-level consensus process, shifts thinking with respect to the role of teams in conformity pressure and decision making. A principal explanation for conformity involves individuals’ motivation to build and maintain social relationships with others (Cialdini & Goldstein, 2004; Cialdini & Trost, 1998). People who conform to the preferences of those who are pressuring them tend to gain social acceptance, whereas people who do not conform are typically disliked or rejected (Cialdini & Trost, 1998; Levine, 1989).

Research on consensus-based team decision making has examined groupthink, where team members face pressure to conform to others within their teams for the sake of unanimity (Janis, 1982). Groupthink is a liability to effective team decision making, as it is characterized by unreflective evaluation of alternatives and/or conformity to a majority opinion, despite sometimes strong evidence against that opinion. Such conformity pressure tends to increase with the size of the majority (Bond, 2005; Gerard, Wilhelmy, & Conolley, 1968) and when the decision involves more uncertainty, ambiguity, or subjectivity (Walther et al., 2002). Therefore, alleviating conformity pressure often involves strategies such as identifying a partner within the team who provides social support, either by affirming the individuals’ sense of belongingness or by also deviating from the majority perspective to remove the feelings of isolation that accompany resisting conformity (Allen & Levine, 1971).

Conformity pressures can also come from sources *outside* the team, and this external pressure may affect members differently. Along with ingroup conformity pressures, individual team members can be influenced by the preferences of external audiences with vested interests in the outcomes of their decisions (Kou & Stewart, 2018). In these situations, simply knowing the preferences of the audience places conformity pressure on the decision maker to take the preferred action (Lerner & Tetlock, 1999; Quinn & Schlenker, 2002). For example, Pennington and Schlenker (1999) found that students judging student conduct cases recommended harsher punishments when they believed they would have to justify those recommendations to the professor who initiated the case, and more lenient punishments when they thought they would have to explain their recommendations to the student accused of cheating. Acquiescence to the known preferences of an audience has also been demonstrated in decisions from investments to performance appraisals (Antonioni, 1994; Brockner, Rubin, & Lang, 1981).

With external conformity pressure, therefore, the underlying motivation to conform is the same (i.e., achieving social acceptance and avoiding social rejection) but the role of the decision maker’s team is different. Whereas a feeling of belongingness can lead to groupthink when the pressure to conform stems from other team members, that feeling of belongingness might provide support in withstanding conformity when the pressure originates from outside the team.

The Moderating Role of Team Familiarity

A fundamental way to understand the social context in which individuals make key decisions is by considering team members’ familiarity with one another (Cannon-Bowers et al., 1993;

Hollenbeck et al., 1995), which is an indicator of the strength and quality of intragroup relationships (Killumets et al., 2015; Rockett & Okhuysen, 2002). Team familiarity is the extent to which team members have shared experience with each other (Harrison et al., 2003; Luciano et al., 2018; Reagans et al., 2005) versus familiarity with particular roles (Espinosa, Slaughter, Kraut, & Herbsleb, 2007), tasks (Kim, 1997), or work environments (Goodman & Leyden, 1991).

Team familiarity has been proposed as a factor that may enhance informational processes leading to improved decisions (Hollenbeck et al., 1995). For example, familiarity with teammates may help members of teams more accurately predict how others will behave and what information they may require in making decisions (Bell & Outland, 2017; Cannon-Bowers et al., 1993; Hinds, Carley, Krackhardt, & Wholey, 2000). Indeed, research on team familiarity suggests that the shared experience of working together benefits productivity and performance (Goodman & Leyden, 1991; Harrison et al., 2003; Huckman, Staats, & Upton, 2009), primarily through increased communication and coordination (Ching, Forti, & Rawley, 2021; Espinosa et al., 2007; Gonzalez-Mulé, Cockburn, McCormick, & Zhao, 2020; Jehn & Shah, 1997).

Beyond these informational benefits, familiarity also increases team members' sense of belonging and social affiliation. Belonging and affiliation are fundamental human needs that people seek to fulfill through group memberships (Baumeister & Leary, 1995; Brewer, 1991; Hill, 1987), and research suggests that familiarity increases team members' comfort in working with one another (Gruenfeld, Mannix, Williams, & Neale, 1996) and ingroup attraction among team members (Moreland & Zajonc, 1982). Members of highly familiar teams also experience more helping behaviors than members of teams with low familiarity (Levine, Prosser, Evans, & Reicher, 2005; Smith-Jentsch, Kraiger, Cannon-Bowers, & Salas, 2009).

These social functions of familiarity should be particularly important when team members face external conformity pressure because team familiarity provides a reservoir of social affiliation. A primary motivation for conformity is to build and maintain social relationships with others (Cialdini & Goldstein, 2004; Cialdini & Trost, 1998), so team members who already have a strong sense of belonging and affiliation with their highly familiar teams may not be as motivated to conform to the preferences of outsiders to achieve social acceptance. Indeed, external threats increase the salience of intragroup relationships (Staw, Sandelands, & Dutton, 1981), which can serve as a source of emotional support that helps individuals defend against oppressive forces pressuring them (Feldman, 1981; citing Becker et al., 1961).

In contrast, members of teams with low familiarity will not be as comfortable with their teammates (Gruenfeld et al., 1996; Hinds et al., 2000), and therefore could be more susceptible to the pressure to conform to outsiders as they make key decisions in order to increase their feelings of belonging (Cialdini & Goldstein, 2004). Indeed, conformity is most likely to occur when individuals otherwise lack social acceptance (Allen & Levine, 1971; Asch, 1956; Walther et al., 2002). Thus, we expect that team members will conform to external pressure when making decisions, but that this relationship is contingent upon their team's familiarity, such that high team familiarity attenuates this conformity effect.

Hypothesis 1: Team familiarity moderates the positive relationship between external conformity pressure and team member decision-making conformity such that the relationship becomes weaker as team familiarity increases.

When Decisions Are High-Stakes

We further suggest that team familiarity should help team members resist conformity pressure to an even greater extent in high-stakes settings where their decisions result in more significant consequences. These high-stakes scenarios increase the importance of performing well (Baumeister, 1984; Gardner, 2012; Lerner & Tetlock, 1999). This performance pressure is distinct from conformity pressure: Whereas conformity pressure pushes a team member to arrive at certain preferred outcomes, performance pressure emphasizes the impact or importance of those decisions and reflects heightened stress in the process of decision making, as perceived demands exceed resources (Cannon-Bowers & Salas, 1998).

In this sense, conformity is associated with a pressure to “give in” and make a decision consistent with the desires of the external audience; and performance pressure refers to the magnitude of consequences associated with conformity (e.g., task importance; Baron, Vandello, & Brunzman, 1996). Consider two examples: In one, a team member faces pressure from an executive to lower the cost estimate for an initiative that is highly likely to be supported regardless of that estimate (e.g., an executive pet project, a project of strategic importance, or a project with enormous revenue potential). In a second example, the team member faces pressure from an executive to lower the cost estimate for an initiative when that cost estimate will be the deciding factor in whether the initiative is pursued. Although the level of conformity pressure may be the same, the stakes are substantially higher in the latter example because the outcome depends more heavily on the team member resisting conformity.

The social benefits of team familiarity should be particularly important in these high-stakes scenarios that present a more difficult environment for decisions. Where performance pressure undermines individuals' confidence, depleting self-resources and impairing cognition (Mitchell et al., 2019), familiarity provides teams with enhanced interpersonal processes related to managing stress, encouraging one another, and staying confident and motivated in the face of difficulties (Killumets et al., 2015). As such, the affiliative resources of team familiarity should help individuals to overcome the psychological threats of external conformity pressure, especially in high-stakes settings. In contrast, members of teams with low familiarity may feel even more isolated while attempting to resist conformity pressures when the stakes are high.

Hypothesis 2: Team familiarity's weakening effect on the positive relationship between external conformity pressure and team member decision-making conformity will be even stronger under high (vs. low) stakes performance conditions.

We examine these predictions in two studies. First, we analyze the effects of team familiarity on the relationship between external conformity pressure and team member decision conformity in a sample of officials making penalty decisions in NCAA American football games. This study enables us to test both Hypotheses 1 and 2 in a context in which decisions should be impartial, but where team members often face conformity pressures from external audiences (i.e., fans in the stadium). Second, we examine the underpinnings of our theory in an experiment where we can observe how familiarity affects team members' feelings of belonging.

Study 1: Archival Sample of NCAA Officiating Teams

Data and Sample

We sought to identify a sample of teams with the following criteria: (1) Team members' primary tasks are making decisions within a team context; (2) they experience external conformity pressure when making these decisions; and (3) they must resist this pressure to be accurate and impartial in their decisions. Meeting these criteria, our context is major NCAA American football officiating crews, comprised of seven individuals charged with refereeing games (i.e., Referee, Umpire, Linesman, Line Judge, Back Judge, Field Judge, and Side Judge). Officiating crew members make decisions about hundreds of plays, deciding ball spots, goals, timing, and any penalties committed. All officials have duties corresponding to their roles, specific to the area of the field and the perspective they have for making decisions for which they are primarily responsible. Although at times the crew convenes to discuss differences in perspectives, most decisions are made by individual team members with consultation from other members only as necessary. This means that crew members must recognize penalties when they occur, call them with impartiality, and rely on the crew's support.¹

NCAA officiating crews can face enormous pressure to conform to the preferences of external audiences, particularly fans attending the game. Impartiality among NCAA officiating crews is expected and highly valued (Anderson & Pierce, 2009); however, their decisions, like those of many organizational team members, are subject to social influences (Brymer, Rodenberg, Zheng, & Holcomb, 2021; Moskowitz & Wertheim, 2011). Fans may attempt to influence officials because their decisions can affect the (dis)advantages conferred to competing teams, potentially affecting the outcome of the game. However, crowd-based pressure for the home team is typically stronger than that for the visiting team, in large part due to the disproportionate number of home fans in attendance and the relative clarity of their wishes (e.g., screaming for a penalty decision against the visiting team, booing when a penalty is called against their team). This can result in the conformity-based home advantage phenomenon, in which officials conform to the preferences of the home team's fans by giving favorable decisions to the home team and/or unfavorable decisions to the visiting team (Dohmen, 2008; Moskowitz & Wertheim, 2011). The home advantage phenomenon is pervasive across sports and may be caused by several different factors, some of which relate to the playing teams and their facilities (Courneya & Carron, 1992; Jamieson, 2010); however, audience pressure on officials is also a prevalent factor in explaining this phenomenon (Greer, 1983; Page & Page, 2010).

We use archival data from NCAA football games spanning 2012 to 2016. To manage the scope of the data, we focused on the highest-level Football Bowl Subdivision (FBS) games played by 128 constituent FBS teams (our sample also includes FBS teams playing against 22 different Football Championship Subdivision teams in one-off games). All data are from SportsSource Analytics, a college football statistics repository, unless otherwise specified. The 2016 season is our focal period in which we examine the relationship between external conformity pressure and crew decisions, contingent upon crew familiarity. We use data from football seasons in 2012 to 2015 to calculate crew familiarity as well as crew experience control variables. Four years of data was suitable to capture familiarity because the officials almost exclusively belong to the same conference employer and tend to stay with their own

sub-crew (e.g., judge sub-crews) somewhat consistently throughout any one year. However, officials also rotate roles (typically one year to the next), and officiating crews, like many organizational teams, experience turnover and other changes in composition (Filipe & Austro, 2018). This provides considerable variance in crew familiarity with four preceding years of data.

Measures

External conformity pressure. We operationalize external conformity pressure as the size of the crowd, or game attendance, in one of the two competing team's home stadiums (Page & Page, 2010). Neutral site games were omitted from the analysis because crowd advantage is less clear. Buraimo and colleagues (2012: 332) note that although the crowd may not be composed entirely of fans who support the home teams, crowd size is "a reasonable proxy for home support." As such, this variable captures increasing levels of audience pressure to favor the home team and is consistent with the conformity literature's emphasis on the size of the majority (Bond, 2005; Gerard et al., 1968). In our sample, attendance ranged from 4,442 to 111,846 ($M = 43,160.31$, $SD = 26,543.83$). For interpretability in the analysis, we scaled our attendance variable by dividing raw attendance figures by a denominator of 10,000.

Crew familiarity. We follow previous team familiarity research by calculating crew familiarity as the number of times each pair of officials had worked together prior to the focal game and summing this number across the current officiating crew (Espinosa et al., 2007; Huckman et al., 2009; Luciano et al., 2018; Reagans et al., 2005). Data for this variable are from the period 2012 to 2016 and updated for each game. The data are censored at 2012 due to the unavailability of officiating crews' full records prior to this time. While some officials would have worked together before 2012, the length of this period is somewhat longer than prior research on team familiarity, which considers familiarity over weeks (Goodman & Leyden, 1991), months (Hinds et al., 2000; Luciano et al., 2018), or between two to three years (Huckman et al., 2009). Officiating crew familiarity ranged from 0 to 816 ($M = 225.00$, $SD = 154.97$). We scaled team familiarity to facilitate interpretation of results, using 21 as the denominator as it represents the familiarity of a seven-member crew where every member had officiated one game with every other member of the crew (i.e., 21 possible dyads).

High-stakes conditions. High-stakes conditions elevate the consequences of decisions and thus apply performance pressure that can be predicted and planned for (Gardner, 2012). High-stakes conditions for the officials include games for which their penalty decisions carry more influence on the ultimate outcome of the game, for example, when games are closely contested. As such, we operationalized high-stakes conditions using a dummy variable that captured games that were both expected to be closely contested (i.e., the outcome was predicted to be within one score using the Vegas betting line available before the game; we defined one score as seven points, or a touchdown plus a successful extra point, as this is the standard goal of any drive and can be executed in one play) and were closely contested (i.e., the actual outcome was within one score; a seven point or less difference between the two teams). These conditions represent the increased performance pressure that officiating crews would have experienced in advance and throughout their task (i.e.,

greater anticipation of and consequences for a closely contested game). These games are different from games that are higher stakes for the players or coaches (e.g., rivalries, bowl, or championship games), which do not necessarily capture more significant consequences for the *officials'* decisions. This consistently high-stakes condition contrasts with relatively lower stakes conditions such as (1) games that were not anticipated to be closely contested but were; (2) games that were anticipated to be closely contested but were not; or (3) games that were not anticipated to be closely contested and were not.

Decision-making conformity. We examine decision-making conformity using the counts of penalties called on the visiting team. The home advantage phenomenon literature suggests that the number of penalties by team should not systematically differ as a result of increased audience pressure, but it often does (e.g., Buraimo, Forrest, & Simmons, 2010; Greer, 1983; Nevill, Balmer, & Williams, 2002; Reade, Schreyer, & Singleton, 2022). Despite officials' objectives to be accurate and impartial, they make difficult decisions for which heuristics such as crowd noise may have an influence (Moskowitz & Wertheim, 2011). For example, although some penalties in American football are unambiguous (e.g., false start, offsides, too many players on the field), many penalties require officials to judge the intent or severity of the penalty (e.g., holding, pass interference, unsportsmanlike conduct). Judging a player's intent on the field is admittedly subjective, and therefore different calls may be reasonable.

We expect decision-making conformity to occur when officials increase the number of penalties they call on the visiting team (e.g., Greer, 1983; Reade et al., 2022). Although decision-making conformity could also occur if officials call fewer penalties on the home team, we expect that the influence of the crowd will be more salient for visiting team penalties. For example, fans may scream at officials to call a penalty on a visiting team player; it is less common that fans scream at officials to prevent them from making a penalty call on a home player (although they may boo in protest after the fact; Greer, 1983). Thus, we examined decision-making conformity to external pressure as the count of visiting team penalties.

Control variables. We controlled for several factors that could affect crew decisions on penalties (for a full list of control variables, their descriptions, and more detailed rationale for their inclusion, please refer to Table 1). For example, we controlled for average officiating crew experience to show that any results are not due to referee tenure (Nevill et al., 2002) but, rather, to the familiarity of the crew working together. We calculated crew experience as the number of times each official had refereed a game prior to the focal game (during the period 2012–2016) and summed this across each member of the current crew.

To ensure analysis was not affected by factors related to the football teams (rather than the officiating crews), we used several variables to control for the relative matchup of the competing teams: all-time win loss percentage for both teams, Sagarin Rating ranking for each team (a rating algorithm developed by widely-known statistician Jeff Sagarin indicating the strength of each team), the Vegas betting line for the specific matchup, and whether the matchup was a rivalry for the playing teams. To measure rivalry, we used a dummy variable of whether or not there exists a specific rivalry Wikipedia page for the teams in the game matchup (data collected from Wikipedia). The existence of such a page captures the crowd-based perspective of the nature of the competition between the two teams (vs. the views of commentators or sportscasters) and is orthogonal to their relative rankings or season performance.

Table 1
Study 1: Control Variables in Models Estimating Decision-Making Conformity

Variable	Description	Rationale for Inclusion
Officiating Crew Experience	Number of times each official refereed a game prior to the focal game, summed across each member of current officiating crew	Represents effect of familiarity with the situation/task versus familiarity with crew members
Visiting Team All-Time Win –Loss Percentage	Percentage of games won across all games played for the visiting team	Represents historical strength and status of the visiting team that may influence referee perceptions
Home Team All-Time Win– Loss Percentage	Percentage of games won across all games played for the home team	Represents historical strength and status of the visiting team that may influence referee perceptions
Visiting Team Sagarin Rating Rank	Most used computer algorithm to rank all college football teams; end of year ranking used as most complete picture of team strength; lowest rank of 1 indicates strongest team	Represents the visiting team’s strength during the focal 2016 season
Home Team Sagarin Rating Rank	Most used computer algorithm to rank all college football teams; end of year ranking used as most complete picture of team strength; lowest rank of 1 indicates strongest team	Represents the home team’s strength during the focal 2016 season
Vegas Betting Line	From SportsSource Analytics, this is the median point spread of major Las Vegas casinos for the focal game	Represents both the parity of the matchup for the focal game and the (dis)advantage the visiting team has on the home team
Rivalry Between Home and Visiting Team	Dummy variable indicating the presence of a Wikipedia page for the rivalry between the home and visiting team	Captures potential heightened competitive spirit among playing teams in a game due to rivalry
Visiting Team Penalty Tendency	Mean visiting team penalties for 2016, omitting penalties incurred in the focal game	Represents the playing behavior of the visiting team (e.g., a tendency to play in such a way as to incur fouls)
Home Team Penalties	Count of the penalties on the home team in the focal game	Officials may “even out” penalties called on playing teams
Total Offensive Plays	Total number of (non-kickoff) plays in a game	Higher number of plays provides more opportunities to commit penalties by both teams
Visiting Team’s Time of Possession	Length of time the visiting team had possession of the football (in minutes)	Indicates game control that could affect number of penalties called and ultimate game outcome; also an indication of style of play (passing vs. running offense strategy)
Conference Game	Dummy variable indicating that the opponent was also within the visiting team’s conference	Conference games typically have higher stakes and the programs are more familiar with one another

Finally, we controlled for game-specific conditions, such as the total number of offensive plays, the visiting team’s time of possession, a dummy variable indicating whether the game was a conference or non-conference game, and factors capturing the penalty behaviors of the competing teams. A potential confounding factor affecting the number of penalties called on

the visiting team is whether the visiting team is playing the game in ways that incur penalties—suggesting that any evidence of home advantage might be explained by the playing behavior of the visiting team versus play calling by the officiating crew. As such, we needed to control for these tendencies without increasing endogeneity concerns. We calculated the visiting team's mean penalties across the 2016 season, omitting penalties from the focal game for which we were predicting the number of penalties called, effectively capturing the visiting team's general tendency to incur fouls due to their overall levels of discipline and aggressiveness. We also controlled for the number of home team penalties during the focal game, as officials may have the tendency to "even out" the penalties called on one team based on the number of penalties called on the opposing team (Anderson & Pierce, 2009).

Results

Descriptive statistics and correlations are reported in Table 2. External conformity pressure is positively correlated with officiating crew experience ($r = .427, p < .001$) and familiarity ($r = .137, p < .001$), indicating that high external conformity pressure games are more likely to be officiated by crews with officiating experience and familiarity with one another. However, the partial correlation of familiarity and external conformity pressure, controlling for officiating crew experience, is negative ($r = -.186, p < .001$). This suggests that, after taking overall experience into account, high external conformity pressure games are less likely to be officiated by crew members who are familiar with one another. In addition, external conformity pressure is not correlated with high-stakes conditions ($r = -.052, p = .155$).

We used negative binomial regression to examine the effects of our predictor variables on decision-making conformity (i.e., visiting team penalties). To adjust for non-independence of game-level data (teams appear multiple times in the 2016 season) we employ standard errors clustered by visiting team. We also checked for multicollinearity using variance inflation factors. All variance inflation factors are below the recommended cutoffs of 10 (the average score was 1.98 and the highest score was 4.25; Hair, Anderson, Tatham, & Black, 1995; Neter, Wasserman, & Kutner, 1996), indicating that multicollinearity is not likely an issue.

Officiating crews in our sample were not randomly assigned to games. Conferences, like the Big 10 and Atlantic Coast Conference, manage various officiating crews and may vary in their retention of officials and in their practices of grouping more (or less) familiar individuals for particular games. As such, we checked for the possibility of systematic familiarity of referee teams to games based on anticipated external conformity pressure using the Durbin-Wu-Hausmann test, which reveals that team familiarity is exogenous in our sample ($p = .69$). This reduces concern that conference-level staffing procedures affect our analysis.

The base models reveal no main effects of external conformity pressure and crew familiarity on decision-making conformity (see Table 3). However, there is a significant interaction effect of external conformity pressure and officiating crew familiarity on decision-making conformity ($\beta = -.002, p = .038$). We plotted this interaction in Figure 1 and used a procedure described by Dawson (2014) to evaluate simple slopes for interactions with nonlinear models. At low values of officiating crew familiarity (-1 standard deviation from the mean) the effect of external conformity pressure on decision-making conformity was positive ($\beta = .01, p = .55$) and at high values of officiating crew familiarity ($+1$ standard deviation from the

Table 2
Study 1: Descriptive Statistics and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. Decision-Making Conformity	6.13	2.77											
2. Officiating Crew Familiarity	11.17	7.33	0.037										
3. External Conformity Pressure	4.36	2.69	-0.049	0.137									
4. High Stakes	0.17	0.37	0.020	0.029	-0.052								
5. Officiating Crew Experience	279.25	76.65	-0.032	0.628	0.427	0.004							
6. Home Sagarin Rating Rank	72.45	49.09	0.051	-0.074	-0.654	0.062	-0.316						
7. Visiting Sagarin Rating Rank	84.72	56.01	0.016	-0.243	-0.317	-0.129	-0.430	0.211					
8. Home All-Time Win-Loss Percentage	1.3	0.53	-0.038	0.042	0.708	-0.039	0.210	-0.560	-0.156				
9. Visiting All-Time Win-Loss Percentage	1.24	0.48	0.019	0.137	0.254	0.076	0.207	-0.139	-0.504	0.088			
10. Vegas Betting Line	-6.51	16.42	0.028	0.143	-0.266	0.173	0.108	0.455	-0.592	-0.356	0.403		
11. Rivalry	0.14	0.34	-0.017	0.144	0.269	0.037	0.232	-0.173	-0.249	0.150	0.225	0.092	
12. Conference Game	0.69	0.46	-0.095	0.244	-0.091	0.076	0.271	0.038	-0.298	-0.067	0.116	0.318	0.127
13. Visiting Time of Possession	1785.03	292.43	-0.017	0.019	-0.050	0.058	0.056	0.138	-0.204	-0.124	0.085	0.157	0.028
14. Visiting Mean Penalties Other Games	6.08	1.4	0.219	0.086	-0.016	-0.004	-0.038	0.007	0.042	-0.009	0.016	-0.007	-0.010
15. Home Penalties	5.96	2.91	0.200	-0.033	-0.020	-0.029	-0.039	-0.004	-0.010	-0.010	0.004	0.002	-0.062
16. Total Game Plays	143.13	14.42	0.175	0.043	-0.038	0.064	0.032	0.050	-0.046	-0.066	0.025	0.087	-0.042
Variable	12	13	14	15									
13. Visiting Time of Possession	0.016												
14. Visiting Mean Penalties Other Games	-0.065	-0.061											
15. Home Penalties	-0.098	-0.041	0.018										
16. Total Game Plays	0.028	0.034	0.120	0.211									

Notes *N* = 736 games. Decision-making conformity is the number of visiting team penalties; external conformity pressure is game attendance/10,000; officiating crew familiarity is scaled by dividing by 21; home refers to home team; visiting refers to visiting team. Correlations above |.070| are significant at $p < .05$.

Table 3
Study 1: Negative Binomial Regression Results

DV: Decision-Making Conformity	Model A	Model B	Model C	Model D
Officiating Crew Experience	.000 (.000)	-.000 (.000)	-.000 (.000)	-.000 (.000)
Home Sagarin Rating Rank	.000 (.001)	.000 (.001)	.000 (.001)	.000 (.001)
Visiting Sagarin Rating Rank	.000 (.001)	-.000 (.001)	-.000 (.001)	-.000 (.001)
Home All-Time Win-Loss Percentage	-.009 (.039)	.011 (.047)	.012 (.047)	.010 (.047)
Visiting All-Time Win-Loss Percentage	.020 (.035)	.025 (.037)	.025 (.037)	.018 (.037)
Vegas Betting Line	.000 (.002)	.000 (.002)	.000 (.002)	.000 (.002)
Rivalry	.006 (.016)	.007 (.017)	.010 (.017)	.009 (.017)
Conference Game	-.077* (.037)	-.088* (.038)	-.085* (.038)	-.080* (.038)
Visiting Time of Possession	-.000 (.000)	-.000 (.000)	-.000 (.000)	-.000 (.000)
Visiting Mean Penalties Other Games	.062*** (.014)	.060*** (.014)	.059*** (.014)	.058*** (.014)
Home Penalties	.025*** (.006)	.025*** (.006)	.024*** (.006)	.024*** (.006)
Total Plays	.003** (.001)	.003** (.001)	.004** (.001)	.004** (.001)
Officiating Crew Familiarity (F)		.003 (.003)	.011* (.005)	.008 (.005)
External Conformity Pressure (ECP)		-.009 (.011)	-.002 (.011)	-.006 (.012)
High Stakes (HS)		.019 (.041)	.016 (.041)	-.121 (.08)
F × ECP			-.002* (.001)	-.001 (.001)
F × HS				.014* (.006)
ECP × HS				.033* (.017)
F × ECP × HS				-.003* (.001)
Constant	.812** (.247)	.878*** (.263)	.858** (.263)	.909*** (.261)
Ln-alpha (overdispersion parameter)	-3.966*** (.541)	-4.002*** (.565)	-4.073*** (.592)	-4.125*** (.626)
Observations	736	736	736	736
Wald χ^2	100.83	109.01	116.09	128.77

(continued)

Table 3 (continued)

DV: Decision-Making Conformity	Model A	Model B	Model C	Model D
Degrees of Freedom	12	15	16	19
P-Value for Δ in Wald χ^2	n/a	.484	.029	.271
Pseudo R ²	.023	.024	.025	.026

Note. N = 736 games. Standard errors are in parentheses.

*** $p < .001$.

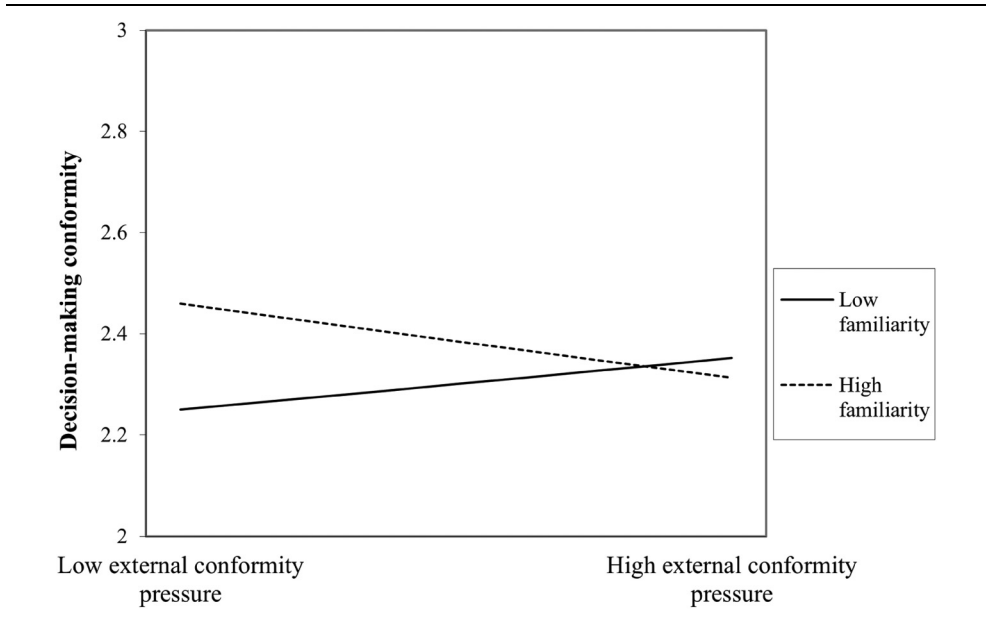
** $p < .01$.

* $p < .05$.

† $p < .10$.

Figure 1

Study 1: Interaction Between External Conformity Pressure and Crew Familiarity in Predicting Decision-Making Conformity



mean) the effect was negative ($\beta = -.01, p = .26$). The *margins* postestimation command in Stata revealed the point at which this effect becomes significant: when officiating crews have experience refereeing 20 games together, the effect of external conformity pressure on decision-making conformity is negative and significant ($\beta = -.03, p = .044$), and this significant effect continues through the highest levels of crew familiarity (e.g., $\beta = -.04, p = .017$ when crews have refereed 30 games together). As such, this contingency is primarily driven by officiating crews with relatively high familiarity—the most familiar 15% of crews in the sample.

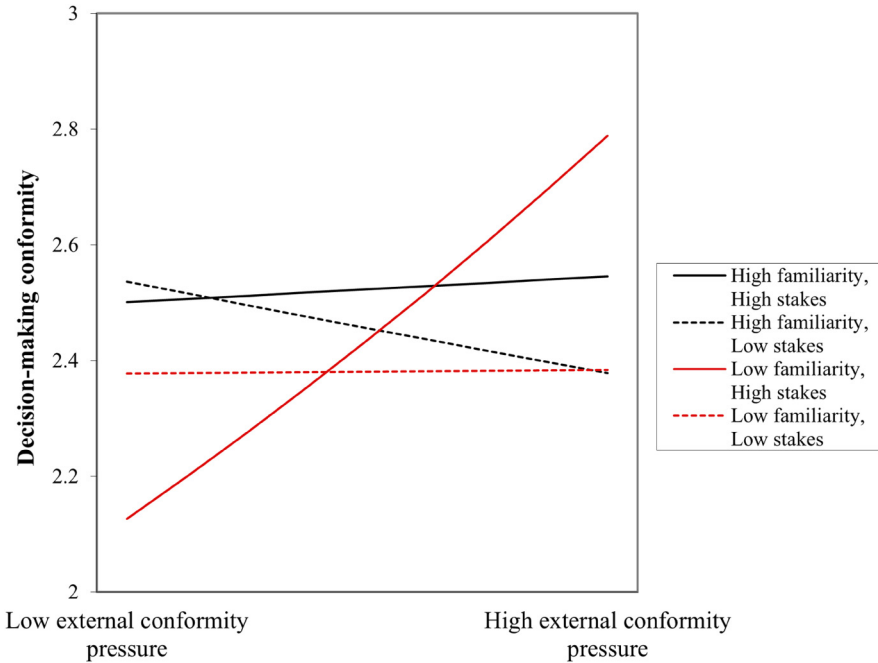
The practical relevance of this finding is demonstrated in the differences in visiting team penalties called under various conditions. At mean levels of crew familiarity, there are no differences between effects of high and low external pressure on decision-making conformity (e.g., crews call approximately six penalties per game on visiting teams regardless of pressure). However, crews with 20 games of experience working together call 0.92 fewer penalties on the visiting team when under high pressure, and crews with 30 games of experience working together call 1.56 fewer penalties on the visiting team under these conditions. Although the magnitudes of changes in penalties may seem small, they represent anywhere from a 15% to 25% difference from the average number of visiting team penalties, which is consistent with effects reported in previous studies on the influence of crowds on referee penalty calls (Nevill et al., 2002; Reade et al., 2022). Moreover, even one penalty could affect the outcome of a game.

As a supplementary analysis of the practical relevance of these effects, we examined logit models using home team win as an outcome (available on the Open Science Framework [OSF]; https://osf.io/4apny/?view_only=3eacd3b4f57a4f1ebe569b8a0ecd2de3). After controlling for the predictor variables and covariates, the number of visiting team penalties called has a positive effect on home team wins ($\beta = .094, p = .046$). The odds ratio for visiting team penalties is 1.099, meaning that for every additional visiting team penalty, the odds of the home team winning increase by 9.9%. Putting these together, a highly familiar crew officiating a game with high external pressure could reduce the chances of a home team win by 15% (1.56×9.9).

Hypothesis 2 posits that the contingency effects of external conformity pressure and officiating crew familiarity on decision-making conformity will be stronger under high (vs. low) stakes conditions. Table 3 reveals that the three-way interaction between team familiarity, external conformity pressure, and high stakes predicting decision-making conformity is negative and significant ($\beta = -.003, p = .014$). Figure 2 depicts this interaction and shows that high-stakes conditions exacerbate the effects of external conformity pressure on decision-making conformity for crews low in familiarity but not for crews high in familiarity. Again using Dawson's (2014) procedures, we find that as external conformity pressure increases in high-stakes conditions, officiating crews low in familiarity are significantly more likely to conform by calling penalties on the visiting team ($\beta = .05, p = .01$). This is not the case for crews high in familiarity in high-stakes conditions ($\beta = .003, p = .83$). There are no significant effects of external pressure and familiarity in low-stakes conditions (low familiarity: $\beta = .00, p = .97$; high familiarity: $\beta = -.01, p = .26$). These results provide support for Hypothesis 2.

We again examined the practical relevance of these effects, specifically comparing the effects of external conformity pressure on decision-making conformity at various levels of crew familiarity under high-stakes conditions (i.e., games that were anticipated to be and were closely contested). Here, crews with low familiarity call more visiting team penalties, a finding that is statistically significant to having refereed up to seven games together. For example, when the game is high stakes and external conformity pressure is two standard deviations above the mean (i.e., 96,500 attendees), crews that are completely unfamiliar with each other call 3.5 more visiting team penalties per game than crews with 3 years' experience together. Considering the 1.099 odds ratio for visiting penalties predicting a home team win (on OSF), low crew familiarity in high-stakes conditions increases the likelihood of a home win from 47% to 82%.

Figure 2
Study 1: Interaction Between External Conformity Pressure, Crew Familiarity, and High Stakes in Predicting Decision-Making Conformity



Next, we tested the robustness of our results using different operationalizations of familiarity and high stakes. To more heavily weigh recent familiarity, we recalculated officiating crew familiarity by only counting games officials worked together in the previous 2015 season and the focal 2016 season. Using this variable, the interaction between external conformity pressure and officiating crew familiarity is negatively related to decision-making conformity ($\beta = -.0026, p = .059$) as is the three-way interaction between external conformity pressure, officiating crew familiarity, and high stakes ($\beta = -.0002, p = .083$). We also checked our operationalization of high stakes by examining games that were within eight points instead of seven (i.e., a touchdown with a two-point conversion instead of a single extra point kick). With this operationalization of high stakes, the three-way interaction term is negatively related to decision-making conformity ($\beta = -.0028, p = .052$). These alternate operationalizations did not predict the outcome variables as well (e.g., recent familiarity does not account for the full range of familiarity data available representing longer working relationships); however, their effects are in the predicted directions.

Discussion

Study 1 provided support for Hypotheses 1 and 2 among officiating crews making decisions on penalty calls while refereeing NCAA football games. As external conformity pressure increased

(i.e., games were more highly attended), officials in crews with higher familiarity were less likely to conform to the preferences of the audience. Moreover, in games with significant stakes for the officials (the games were anticipated to be, and were, closely contested), familiarity attenuated the effects of external conformity pressure. Whereas officials in crews with low familiarity called more penalties on the visiting teams with increasing audience pressure and high stakes; officials in crews with high familiarity did not call more penalties on visiting teams under these conditions.

Despite initial support for our hypotheses, Study 1 is not without limitations. First, we could not directly examine counterfactuals in the number of penalties that would have been called in any given game had the familiarity and external pressure been different. The analyses control for a number of relevant variables and, in this way, compare games with more external pressure to games with less external pressure holding all else equal. However, our results do not directly demonstrate that officials made different calls than they “should” have given game rules. For this reason, it remains plausible that differences in penalties could be a function not of officials’ conformity but of other factors (e.g., players’ on-field behavior).

Second, although we followed previous research in using game attendance as a proxy for home team support (Buraimo et al., 2012), we do not have more proximal measures of audience pressure (e.g., proportion of home team fans in attendance; audience behavior in terms of shouting or booing). Relatedly, we did not find a main effect of audience pressure on visiting team penalties. One reason may be that audience effects on officials’ behaviors are less pronounced in American football versus sports such as European soccer or hockey (Jamieson, 2010). Nevertheless, the significant interaction effects indicate that visiting penalties are influenced by audiences when officiating team familiarity is considered, increasing our confidence that penalty decisions are at least in part based on the officials’ response to the audience (see Page & Page, 2010). Finally, the archival nature of Study 1 prevented us from examining the mechanisms underlying these effects, such as crew member perceptions of social affirmation or belonging. We designed an experimental study to address these concerns.

Study 2: Laboratory Sample of Team Member Decisions

Study 2 was designed with two primary objectives. First, an experimental design enables greater precision of the operationalization of study variables. Thus, we could ensure that the stimuli being judged are identical across conditions, where differences between conditions can be attributed to a decision maker’s processes rather than ambiguity of the stimuli (i.e., on-field playing team behaviors in Study 1). This also enables examination of counterfactuals that could not be examined in Study 1 (i.e., what a decision would have been without any pressure or familiarity effects). Second, we sought to directly measure the mediating process leading to decision-making conformity. Study 1 contained no data about officials’ perceptions of belonging, although our theory implies that familiarity induces belonging, which protects team members from external conformity pressure. To better examine this mechanism, we measured participants’ perceptions of belongingness in Study 2.

Participants and Procedures

Undergraduate business students at a large southern university in the United States ($N=263$) participated in exchange for extra (voluntary) course credit. Participant ages ranged from 18 to 54 ($M=21.21$, $SD=4.23$); 50% were female and 78% were white.

We conducted the study over Zoom with the number of participants in each Zoom session ranging from a low of six to a high of 21 ($M = 12.32$). Participants were told that they would be participating in teams of three to complete a team decision-making and creativity study in which some teams would create advertisements and other teams would rate those advertisements. We adapted a task used by Downes, Crawford, Seibert, Stoverink, and Campbell (2021), telling participants that “creator” teams would create advertisements to promote socks in a world in which socks do not yet exist. Participants were told they had been randomly assigned to the role of advertisement “raters,” and that there were students still in the Zoom waiting room who would later be admitted to the study to be advertisement creators. In reality, no participants were assigned to be creators and all participants rated the same three sock advertisements.

The experimenter then told participants they would be given some questions to discuss as a team while the “creators” were making advertisements. Participants were then randomly assigned to teams of three in Zoom breakout rooms and given 30 minutes to answer three sets of 12 different discussion questions. These discussion questions served as our manipulation of familiarity (details below). After completing the final set of discussion questions, participants were instructed to leave their Zoom breakout rooms and return to the main Zoom room where they would be shown three advertisements to be rated. Upon finishing their individual ratings, participants returned to their Zoom breakout rooms and completed the same rating decisions as a team. Participants then completed measures of belonging and manipulation check items.

Manipulations and Measures

Team familiarity manipulation. Team familiarity is difficult to manipulate directly in a laboratory setting given that it stems from members’ shared experiences with one another. To simulate the idea of sharedness inherent in the literature on team familiarity, we used a self-disclosure task developed by Aron and colleagues (1997), which were the basis of the three sets of 12 questions given to teams prior to the advertisement ratings. We randomly assigned teams to one of two conditions: high team familiarity ($N = 114$ individuals) or low team familiarity ($N = 120$ individuals). Those in the low team familiarity condition were given discussion questions that generated surface-level discussions (e.g., “What are the advantages and disadvantages of artificial Christmas trees?”). Those in the high team familiarity condition were given questions that generated deeper, more personal discussions (e.g., “For what in your life do you feel most grateful?”). We assessed the success of this manipulation using five items from Wheelless (1978) measuring the extent of personal disclosure (e.g., “I disclosed intimate, personal things about myself”; $\alpha = .89$). Although these prompts yielded less and more personal disclosure on average ($\bar{X}_{high} = 5.22$, $X_{high} = 4.41$, $t = 4.67$, $p < .01$), $t = 4.67$, $p < .01$), we excluded 14 people from our analysis who indicated that they did not follow these instructions.

External conformity pressure manipulation. In addition to randomly assigning teams to a high or low familiarity condition, we also randomly assigned participants to a high ($N = 93$) or low ($N = 141$) external conformity pressure condition. We told participants in the low-pressure condition that only the researcher would know their ratings and that none of the creator teams

would see them. We told participants in the high-pressure condition that after rating the advertisements, their ratings would be sent to one of the teams they rated, who would then join them in their Zoom breakout room to discuss their ratings. Participants were told they would have to explain their individual ratings to the advertisement's creators but that they would be with their teammates in the breakout room for this meeting. However, after the participants had provided their ratings and responses to the manipulation check items, we told the teams in the high-pressure condition that the creator team they were supposed to meet with accidentally left the Zoom meeting early so they would no longer need to explain their ratings. We checked this manipulation using two approaches. First, we used a reading comprehension check to ensure participants understood they would explain their ratings to one of the teams that created the advertisements they rated. Fifteen participants failed this comprehension check and were removed from further analysis. Second, a single-item manipulation check ("Will any of the three teams you rated know how you rated them?") revealed the manipulation was successful ($\bar{X}_{high} = 1.95$, $\bar{X}_{low} = 1.05$, $t = 30.05 = 191.56$, $p < .01$).

Decision-making conformity. Decision-making conformity was assessed using participants' ratings of the advertisements in this study. Participants rated three advertisements in total, designed to vary in their level of quality. Two advertisements were relatively low quality (Advertisements 1 and 2), and one advertisement was relatively high quality (Advertisement 3).² Participants rated each advertisement on five criteria: (a) eye-catching, (b) creative, (c) persuasive, (d), overall quality, and (e) likelihood of making a sale. Each criterion was rated on a scale from 1 = *terrible* to 5 = *excellent*, and the average across the five items was computed for each individual rater ($\alpha = .88$).

The outcome of interest was the individual ratings of the second low quality advertisement (Advertisement 2) because participants in the high-pressure condition were told they would meet with the creators of Advertisement 2 to explain their ratings. Research on decision-making conformity suggests that when people expect to discuss their views with an audience whose preferences are known, their decisions are more consistent with the preferences of that audience (Lerner & Tetlock, 1999). Therefore, we anticipated that participants who expected that they would have to discuss their ratings of the advertisements to the team that created Advertisement 2 would rate this advertisement more highly than they would otherwise (e.g., when they did not expect to discuss their ratings with this audience).

Belonging. We measured individual-level belonging using five items from Jamieson and colleagues (2010; example item: "I feel that I belong with this team"), assessed on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* ($\alpha = .74$).

Team familiarity ratings. One concern with our familiarity manipulation is that participants in the same experimental condition may not have received identical treatments because some team members may have been more or less forthcoming in their personal disclosure. Although we tried to take this into account with the personal disclosure manipulation check, we also measured team familiarity directly by asking participants, "After completing the 'get to know you' activity and the team ratings, how familiar are you with your team members (the two who are currently in the room with you)?" assessed on a scale from 1 = "I do not know them at all" to 7 = "I know them very well." These familiarity ratings significantly differed by assigned

familiarity condition ($\bar{X}_{high} = 4.73, \bar{X}_{low} = 4.27, t = 3.83, p < .01$), so we use this rating as a robustness check for our experimental condition dummy variables in our analysis.

Control variables. Although the random assignment procedure should negate the need for additional control variables, we wanted to ensure we differentiated conformity to external pressure from individuals' general leniency in rating advertisements. For this reason, we used individuals' average ratings of the other two advertisements rated (Advertisements 1 and 3) as a covariate ($M = 3.43, SD = .56$).

Results

Table 4 reports the descriptive statistics and correlations of Study 2 variables. As expected, external conformity pressure was positively correlated with decision-making conformity ($r =$

Table 4
Study 2: Descriptive Statistics and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Decision-Making Conformity ^a	2.32	.74					
2. Rater Leniency ^b	3.43	.56	.36*				
3. Belonging	6.24	.69	-.05	.07			
4. Pressure Condition ^c	.40	.49	.32*	.18*	-.03		
5. Familiarity Condition ^d	.50	.50	-.17*	-.13*	.14*	-.11	
6. Familiarity Rating	4.50	.95	-.03	.01	.32*	.00	.24*

Note. $N = 234$ individuals. ^aRating of Advertisement 2. ^bAverage rating of other advertisements (Advertisements 1 and 3). ^c0 = low pressure, 1 = high pressure. ^d0 = low familiarity, 1 = high familiarity.
* $p < .05$.

Table 5
Study 2: Ordinary Least Squares Regression Results

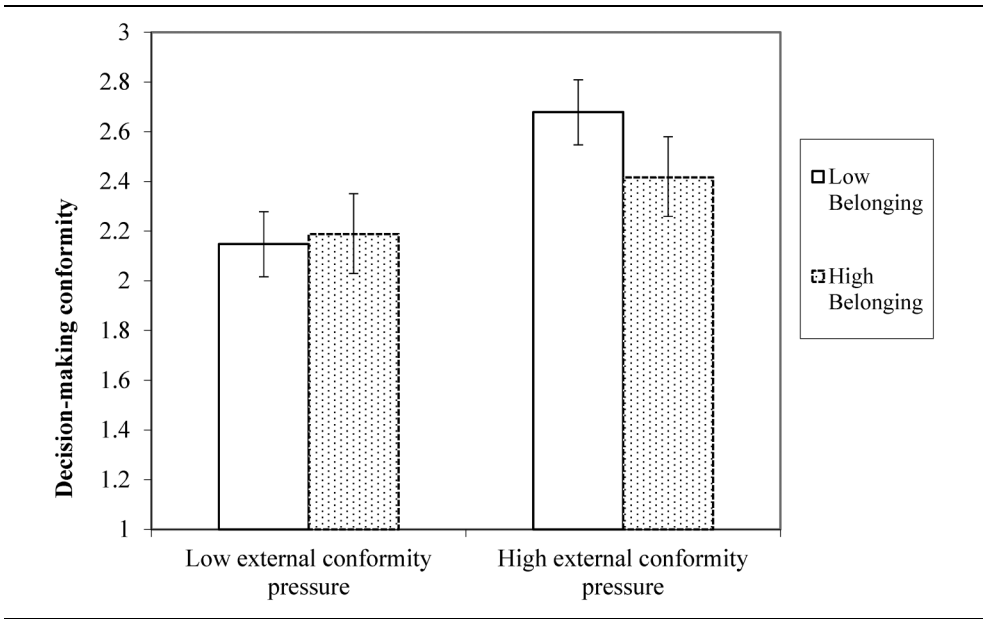
	DV: Belonging		DV: Decision-Making Conformity ^d			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	5.76* (.29)	5.83* (.30)	.78* (.29)	1.09* (.47)	.63 (.58)	.59 (.58)
Leniency ^a	.11 (.08)	.10 (.08)	.41* (.08)	.42* (.08)	.41* (.08)	.42* (.08)
Pressure ^b	-.04 (.09)	-.12 (.13)	.51* (.12)	.50* (.12)	1.74* (.80)	1.69* (.80)
Familiarity ^c	.20* (.09)	.14 (.12)	-.05 (.11)	-.04 (.11)	-.13 (.09)	-.05 (.11)
Pressure × Familiarity		.17 (.19)	-.27† (.18)	-.26† (.18)		-.21 (.18)
Belonging				-.05 (.06)	.03 (.08)	.02 (.08)
Pressure × Belonging					-.22* (.13)	-.19† (.13)
R^2	.028	.031	.214	.217	.220	.224
ΔR^2		.003		.003	.099†	.005

Note. $N = 234$ individuals. ^aAverage rating of other advertisements (Advertisements 1 and 3). ^b0 = low pressure condition, 1 = high pressure condition. ^c0 = low familiarity condition, 1 = high familiarity condition. ^dRating of Advertisement 2.

* $p < .05$.

† $p < .10$ (one-tailed tests).

Figure 3
Study 2: Interaction of External Conformity Pressure and Belonging in Predicting Decision-Making Conformity



.32, $p < .01$). Table 4 also reveals individuals' general leniency given that ratings of Advertisement 2 were correlated with individuals' average ratings of the other two advertisements ($r = .36$, $p < .01$).

We use ordinary least squares regression with one-tailed tests of our directional predictions in Table 5.³ In these analyses, we examined the role of individuals' sense of belonging in resisting external conformity pressure. Our theory implies that members of high familiarity teams will experience greater levels of social comfort when they feel they belong in their teams. Because team members of highly familiar teams already feel like they belong, they are less susceptible to external pressure that may sway their decision making. Our theory thus posits that familiarity has a positive effect on belonging and belonging then interacts with external conformity pressure to influence decision-making conformity.

As demonstrated in Table 5, familiarity was positively related to belonging (Model 1 $\beta = .20$, $p = .013$), and belonging interacted with external conformity pressure to predict decision-making conformity (Model 5 $\beta = -.22$, $p = .045$). We depict this interaction in Figure 3, with the belonging moderator variable estimated at one standard deviation above and below the mean. The figure shows the main effect of external conformity pressure on decision-making conformity ($\beta = .51$, $p < .001$), as well as the interactive effect of belonging, where participants who experienced low belonging were more likely to conform by rating Advertisement 2 higher when they experienced high external conformity pressure ($M = 2.68$, $SE = 0.10$, 90% CI [2.52, 2.84]) versus low external conformity pressure ($M = 2.15$, $SE = 0.08$, 90% CI [2.01, 2.28]). Participants who experienced high belonging did not

conform, in that they did not rate Advertisement 2 significantly higher when they experienced high external conformity pressure ($M=2.42$, $SE=0.10$, 90% CI [2.25, 2.58]) versus low external conformity pressure ($M=2.19$, $SE=0.08$, 90% CI [2.06, 2.32]). These results provide additional support for Hypothesis 1 and further explanation for this effect: the social belonging provided by team familiarity.

As a robustness check, we used participants' ratings of familiarity with their team (rather than the condition dummy code) as a predictor variable. In these analyses, our study represents a quasi-experiment more than a fully randomized experiment because they use individuals' perceptions of familiarity rather than their assigned study condition. However, the advantage of such analyses is greater control in measurement—we can be more certain that these ratings represent perceptions of familiarity rather than potential contaminants from intrateam interactions that varied in adherence to the experimental protocol. Results (on OSF) reveal that familiarity ratings positively predicted individuals' sense of belonging ($\beta = .23$, $p < .001$), which again moderated the effect of pressure on conformity ($\beta = -.23$, $p = .037$).

Discussion

Study 2 provides greater clarity to our theoretical predictions and findings. In a controlled setting in which we could manipulate both external conformity pressure and team familiarity as well as measure individuals' decision-making conformity, we found that the belonging experienced by members of highly familiar teams helped them withstand pressure to inflate their ratings of another team's work product. The study design addressed limitations in Study 1 and provided a finer grained examination of how familiarity elevates belongingness, which attenuates the effects of external conformity pressure on decision-making conformity. Moreover, the operationalizations of the constructs were also different, allowing for a "constructive replication" (Colquitt & Zapata-Phelan, 2007) that demonstrates the phenomenon as being robust beyond the particular measures used in Study 1. A primary limitation of Study 2 is a lack of external validity, as this was an experimental task using a short-term ad-hoc team to rate fictitious advertisements. This meant team familiarity was based on personal disclosure during deep discussions versus shared experiences working on a task that accumulate over time. These limitations are offset to a degree by Study 1, which employed a more traditional operationalization of familiarity in a more ecologically valid setting.

General Discussion

People are often called upon to make decisions within the context of organizational teams. In this role, team members can face pressure to conform to the preferences of an outsider with a vested interest in their decisions (Kou & Stewart, 2018). We call this "external conformity pressure," because, unlike within-group conformity pressure (e.g., groupthink; Janis, 1982), this pressure comes from knowing the preferences of those outside the decision maker's team. Because conformity involves decisions that align with those applying social pressure (Asch, 1956; Cialdini & Goldstein, 2004; Lerner & Tetlock, 1999), our key research question was how team members can resist conformity to this particular source of pressure.

To answer this question, we turned to the social context of these decisions, represented by the familiarity of the decision maker's team. Drawing on team decision-making research (Cannon-Bowers et al., 1993; Hollenbeck et al., 1995), and teams research more generally (Gruenfeld et al., 1996; Killumets et al., 2015; Rockett & Okhuysen, 2002), we reasoned that familiarity with one's team provides a level of social affiliation and belonging that buttresses team members against external conformity pressure. Because people conform to achieve social acceptance and avoid social rejection (Allen & Levine, 1971; Cialdini & Trost, 1998; Walther et al., 2002), we expected that those who already enjoy those social benefits from their teams would be less susceptible to conformity pressures from external audiences. We also expected team familiarity to be even more crucial when a team member makes high-stakes decisions, or decisions with significant performance consequences (Baumeister, 1984; Gardner, 2012).

Our findings from two complementary studies provide support for these ideas. First, a sample of NCAA American football officiating crews reveals different effects of external conformity pressure on decision-making conformity based on the familiarity of the crew. With increasing audience attendance, officials in familiar crews are less likely to call penalties on the visiting team—decisions that are not favored by crowds of home-team supporters. Moreover, familiarity is particularly critical when the stakes for each officiating decision are high (i.e., closely contested games). Officials working under high-stakes conditions with low familiarity were more likely to give in to conformity pressure by calling penalties on the visiting team.

Second, an experiment of team members making decisions about others' work products reveals that external conformity pressure (i.e., the belief that one would have to justify their ratings to the producer of the work) increases conformity (i.e., higher ratings of the work product). Yet, the perceived belonging that members of more familiar teams experienced attenuated this effect, providing evidence that team familiarity's social benefits play an important role in supporting team members when making decisions. Overall, these findings provide evidence that team familiarity can attenuate the effects of external conformity pressure, offering both theoretical and practical implications for decision making in organizational contexts.

Theoretical and Practical Implications

The results of this study contribute to several distinct streams of research. First, this study contributes to team decision making research. Most of this research tends to focus on consensus-based decisions, overlooking decisions that individuals make as members or representatives of their teams (Humphrey et al., 2002; Kerr & Tindale, 2004). Moreover, research that does inform our understanding of individual-in-team decisions emphasizes intrateam factors useful for information-processing (e.g., Cannon-Bowers et al., 1993; Hollenbeck et al., 1995). We extend this research by elevating relationships with the external environment as an important consideration in individual-in-team decision making, and by examining the social effects of intrateam factors that support team members when they face external conformity pressure.

Second, this study contributes to literature on conformity. Decades of research illuminate the antecedents and consequences of individual conformity in intragroup contexts (e.g., Asch,

1956; Cialdini & Trost, 1998). Our study highlights the conformity pressure team members face from outside the team (e.g., external audiences; Kou & Stewart, 2018; Lerner & Tetlock, 1999) and thus describes the decision maker's team as a vehicle for social affirmation and belonging. Whereas feelings of belonging can lead to groupthink when team members face pressure for unanimity within their groups (Janis, 1982), belonging buffers team members against conformity pressure from those outside of their groups. Overall, this broadens the lens of conformity beyond intra-group relationships to also account for pressure from external audiences.

Third, these results inform literature on performance pressure (e.g., high stakes). Performance pressure research typically emphasizes well-learned behaviors in coordination or skill-based tasks (e.g., sports; Baumeister, 1984), where decision making is typically not of interest. It has also been studied among professional service teams (Gardner, 2012), where delivering outputs that best meet the expectations of clients is considered to be critical for team effectiveness and thus conformity pressure is not of interest. This study extends performance pressure to situations in which external audiences have clear preferences, but where effective performance is dependent on impartial decision making. In these situations, familiarity provides the social resources that attenuate pressures to conform, which may better enable teams to plan for and execute sound decisions under these high-stakes conditions.

Next, these findings contribute to literature on team familiarity. Teams research has broadly shown that familiarity can improve coordination and communication among team members and lead to enhanced team performance (Espinosa et al., 2007; Gonzalez-Mulé et al., 2020; Jehn & Shah, 1997; Reagans et al., 2005). In focusing on the coordination and informational benefits of team familiarity, however, this research has perhaps understated the affiliative benefits of familiarity. Without negating familiarity's informational benefits—such as the ability to more accurately predict how teammates will behave and what information they may require in making decisions (Hinds et al., 2000; Hollenbeck et al., 1995)—we emphasized team familiarity's social benefits (Gruenfeld et al., 1996; Killumets et al., 2015; Moreland & Zajonc, 1982) to argue for their importance in reducing decision-making conformity.

Finally, the results of this study inform research on the home advantage phenomenon, where extant explanations include the self-confidence teams experience when playing at home (Bray, Jones, & Owen, 2002), their familiarity with their physical environment at home (Pollard, 2008), and officiating decisions (Moskowitz & Wertheim, 2011). In the latter instance, studies range from suggesting officials can be corrupt (Garicano, Palacios-Huerta, & Prendergast, 2005) to suggesting that officials are greatly concerned about officiating fairly (Anderson & Pierce, 2009) but that, despite these intentions, the crowd generates an atmosphere that pressures officials to align their decisions with the crowd's preferences (Dohmen, 2008; Dohmen & Saueremann, 2016; Page & Page, 2010). Our findings support the notion that this phenomenon is in part due to crowd effects on officials. This also offers a practical implication for the composition of officiating crews, which are prone to changes because officials are often part-time workers (Dellenger, 2019) and leagues try to mix crews in terms of individual performance and experience, particularly in the playoffs (Seifert, 2019). Our research suggests that home advantage may be less prevalent if officiating crews are composed such that they work together frequently, particularly when officiating high-stakes games.

Limitations and Future Directions

Despite these contributions, our study is not without limitations. First, Study 1 traded relatively strong external validity for weaker internal validity as it lacked fine-grained measures of audience pressure, officials' perceptions of pressure or familiarity, and the accuracy of officials' individual decisions with respect to penalties. These weaknesses are to a degree mitigated by past research on audience pressure (Buraimo et al., 2012; Greer, 1983), familiarity (Luciano et al., 2018; Reagans et al., 2005), and penalties as evidence of the effects of crowds on officials' decisions (Moskowitz & Wertheim, 2011; Reade et al., 2022). Yet, there was no main effect of external conformity pressure on decision-making conformity, and we cannot entirely rule out alternative explanations despite numerous controls and robustness checks. Study 2 makes the opposite concession, trading relatively strong internal validity with tighter control and more precise measures for weaker external validity. For example, the short duration of these teams and the virtual nature of their interactions limited the ways in which we could manipulate familiarity, which was based on shared experiences of deep versus surface-level personal discussions. Moreover, due to the complexity of team-level experimental designs, we were unable to test Hypothesis 2, our three-way interaction hypothesis, in this study.

Although the limitations of each study to a degree offset one another, future research is needed to replicate our findings and to tease apart potential boundary conditions that may be a function of our study designs. For example, our robustness checks in Study 1 did not meet the $p < .05$ criteria and we used one-tailed tests in Study 2 to examine our full moderated mediation model. We would welcome additional research that replicates these effects to add to our confidence in the robustness of the findings and to discover relevant boundary conditions.

For future research, there may be situations in which it is functional to conform to the preferences of external audiences. Cultivating relationships with clients, customers, and others within and outside of their organizations helps team members know what is expected of them as they make decisions related to their work products (Ancona & Caldwell, 1992). This perspective positions audiences as crucial providers of new information as opposed to those who pressure team members to acquiesce to their desires. In practice, it is likely that there are situations where audiences provide helpful information only, pressure only, or some combination of information and pressure. Future research could also examine the effect of power imbalances between an external audience and a decision maker. We suspect that team members would experience more conformity pressure as the external audience has greater power; however, studies could examine the influence of external audiences with more, less, or similar power to the focal decision maker.



Further investigation of the effects we found using different types of team familiarity may also be fruitful. In Study 1, team familiarity was based on shared experiences working together, whereas in Study 2, team familiarity was based on shared experiences of developing personal knowledge of one another. Literature on team familiarity has operationalized familiarity in both ways, sometimes using personal friendships as the basis for familiarity (e.g., Gruenfeld et al., 1996; Jehn & Shah, 1997) and at other times using shared experiences in a professional or task-based setting (e.g., Dalal, Nolan, & Gannon, 2017; Luciano et al., 2018). It is possible that personal or professional familiarity has different effects on perceptions of social acceptance or belonging, although we suspect either is better than no familiarity with respect to these motivational-affective states (Gonzalez-Mulé et al., 2020). We also

note that team familiarity does not always have linear effects on team outcomes, where its initial benefits could become less relevant over time (Harrison et al., 2003) or cause teams to become less communicative and more complacent (Katz, 1982; Luciano et al., 2018; Sieweke & Zhao, 2015). As such, future research could examine over-time effects of team familiarity on the relationship between conformity pressure and decision-making conformity.

Conclusion

In the face of external conformity pressure, how can team members make impartial decisions on behalf of their teams? Our studies reveal that their team's familiarity can attenuate external conformity pressure, particularly when the stakes of their decisions are high. The shared experiences of team familiarity provide members with the sense of belonging they need to withstand pressure from outsiders.

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Notes

1. In informal interviews with officials to better understand the context, we learned that many officiating teams have hand signals demonstrating support or effectively communicating "good call."
2. A separate pilot test conducted with 122 undergraduates at a different institution verified the quality of the advertisements ($M_{Ad1} = 1.87$; $M_{Ad2} = 1.91$, $M_{Ad3} = 3.47$); these ratings were comparable to those in the experimental study. Further, the pilot test revealed no order effects (e.g., Advertisement 2 rated first, second, or third; $F = 1.88$, $d.f. = 3, p = .14$).
3. We also ran these analyses using a multilevel approach accounting for the nesting of participants in teams; substantive conclusions did not differ.

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