The impact of relational demography and communication apprehension on follower perceptions of leader–follower relationships in the hospitality industry

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Abstract
Purpose – The paper aims to clarify the multivariate effects of follower communication apprehension (CA) and demographic dissimilarity on follower perceptions of the leader–follower relationship quality (i.e. measured by leader–member exchange (LMX) theory). This study examined the possible mediating effects of follower CA on the relationship between demographic dissimilarity and LMX.
Design/methodology/approach – Research was collected from self-report ratings of one member of the dyad; several proactive techniques were utilized to reduce common method variance in the development and administration of the survey instrument. In total, 260 (N = 260) full-time hospitality industry employees participated in the study.
Findings – The results of this study indicate demographic dissimilarity has minimal effect on LMX and CA. However, the results indicated that follower CA was negatively related to follower perceptions of LMX quality. In addition, the results indicated that tenure working with the supervisor was negatively related to follower CA and positively related to follower perceptions of LMX quality.
Research limitations/implications – Research results may lack generalizability, and causality cannot be confirmed. Future studies utilizing longitudinal designs and/or data collected from each member of the dyad may provide support for current findings.
Practical implications – This paper includes implications for understanding how situational characteristics influence follower CA and perceptions of LMX to encourage supervisors to increase communication with new subordinates, especially during the organizational acculturation process, thus reducing turnover. Furthermore, the significant relationship between age dissimilarity and CA offers practical implications for managing and celebrating generational differences in the workplace and bridging the gap between generations by maximizing communication between supervisors and subordinates. Communication is an essential consideration in the hospitality industry linked to creativity, relationship building and enhanced service experiences. Ultimately, this paper provides guidance for leaders to build sustainable, positive relationships with subordinates through more effective communication and build more inclusive service-based organizations.
Originality/value – This paper contributes to communication and leadership management practices by addressing four major problems: (1) limited research on situational characteristics that inhibit LMX quality, (2) limited research on communication variables as antecedents to LMX, (3) minimal research on the
Leader–member exchange (LMX) theory is particularly relevant to the hospitality and tourism industry because of the industry’s labor-intensive and service-focused nature (Kim et al., 2017; Chang et al., 2020). As explained in LMX research, relationships between supervisors and subordinates are key in building strong teams and service-based organizations (Kim et al., 2017). In the past 45 years, the LMX theory (Dansereau et al., 1975) has evolved from a descriptive theory to a prescriptive theory for "generating more effective leadership through the development and maintenance of mature relationships" (Graen and Uhl-Bien, 1995, p. 220). Derived from the social exchange and role theory, LMX is defined as the "role making process between a leader and each individual subordinate and the exchange relationship that develops over time" (Yukl, 2012, p. 117).

LMX has been found to be positively related to organizational outcome variables such as organizational commitment (Seers and Graen, 1984; Kim et al., 2017), organizational citizenship and empowerment (Chang et al., 2020; Scandura et al., 1986), performance appraisal (Mitchell, 1983), career progress (Wakabayashi and Graen, 1984), turnover intentions (Kim et al., 2017) and better customer service (Wang, 2016; Jayeeta and Haque, 2017). In addition, Wang (2016) reported that high-quality LMX relationships in the hospitality industry promoted employees’ task motivation and contributed to greater profitability and organizational success. This also includes increases in employee creativity. Yet, research on the impact of LMX on outcomes in the hospitality industry is limited, and the research that has been done has produced inconsistent results (Wang, 2016; Kim et al., 2017; Chang et al., 2020).

Because of the potential rewards garnered from high-exchange relationships, Graen and Uhl-Bien (1995) and Jayeeta and Haque (2017) suggested that identifying the determinants of agreement will enable organizations to train managers to increase high-quality relationships and bolster the positive impact of agreement with all subordinates, and thereby improve employee performance. This is especially important in the field of hospitality, as motivation and creativity are directly related to better customer service and long-term relationships are advantageous to elevating the customer experience (Kim et al., 2017; Wang, 2016). Although the need for developing high-quality leader–member relationships may be clear, research identifying situational characteristics in hospitality that influence these exchanges is scarce (Phillips and Bedian, 1994; Wang, 2016).

A plethora of studies have been conducted on leader characteristics and LMX, such as influence and interaction patterns (Waldron, 1991), subordinate loyalty (Scandura and Graen, 1984), communication frequency (Baker and Ganser, 1985; Schiemann and Graen, 1984), communication style (Madlock et al., 2007) and supportive communication (Michael et al., 2005). However, there have been few studies conducted on follower characteristics as antecedents to LMX quality and the examination of follower attributes and perceptions and LMX in the field of hospitality (Day and Crain, 1992; Liden, 1985; Scandura and Graen, 1984; Wang 2016). Thus, the purpose of this study was to examine the combined effects of follower communication apprehension (CA) and leader–follower demographic dissimilarity on LMX. Specifically, this study examined the possible mediating effect of members’ self-reported CA on the relationship between demographic dissimilarity and LMX. These specific variables were selected as CA and demographic dissimilarity are frequently present in the formation of LMX relationships.
Despite the communicative nature of LMX theory, few researchers have focused on communication-related variables as antecedents to LMX quality (Baker and Ganster, 1985; Donohue-Porter et al., 2019; Kacmar et al., 2003; Madlock et al., 2007; Schiemann and Graen, 1984). Furthermore, although some studies examine communication and LMX effects on communication style (Yrle et al., 2002), communication frequency (Kacmar et al., 2003; Schiemann and Graen, 1984) and supportive communication (Michael et al., 2005), only one study exists that discussed the effects of CA on LMX quality (Madlock et al.). Madlock et al. reported that CA is significantly related to LMX quality. CA is an under-researched variable in LMX research in all fields. Furthermore, CA has not been introduced as a mediating variable. As a result, the present study focused on the partial mediating effects of CA in the relationship between demographic dissimilarity and LMX.

Examining the quality of the relationship with supervisors is an important research topic because frontline employees in hospitality establishments are positioned to understand customers’ needs and wants (Cha and Borchgrevin, 2018). Furthermore, the employee–supervisor relationship has a significant influence on workforce commitment, turnover intent and creativity. Therefore, it is particularly important to understand this relationship in the context of hospitality work. In this empirical study, the research hypotheses were examined using data collected from full-time, service-based industry working adults (N = 260) in a region designated as the “Resort Capital of the East Coast.” A quantitative study was utilized to test the model of the hypothesized relationships (Figure 1). Overall, our study offers a more comprehensive understanding of the effects of follower CA and leader–follower demographic dissimilarity on LMX in the context of the hospitality, service-based industry.

**Theoretical foundation and model development**

This study contributed to communication and leadership literature by addressing four major problems: (1) limited research on situational characteristics that inhibit LMX quality, (2) limited research on communication variables as antecedents to LMX, (3) minimal research on the relationship between CA and LMX and (4) nonexistent research on CA as a mediating variable in the relationship between demographic dissimilarity and LMX. The following sections provide a brief literature review of the theoretical foundation that aided in model development.

**Formation of leader–member exchange**

LMX research has been organized into two categories: (1) studies analyzing relationships between LMX and organizational outcome variables and (2) studies evaluating antecedents to LMX formation (Graen and Uhl Bien, 1995). LMX is frequently examined as a predictor of such organizational outcome variables as career progress (Wakabayashi and Graen, 1984;

![Proposed model](image)

**Note(s):** Follower communication apprehension partially mediates the relationship between demographic dissimilarity (of leader and follower) (IV) and leader-member exchange quality (DV)
Jayeeta and Haque, 2017; Kim et al., 2017), organizational commitment (Seers and Graen, 1984; Jayeeta and Haque, 2017; Kim et al., 2017), organizational citizenship behavior (Scandura et al., 1986), performance appraisal (Mitchell, 1983), empowerment (Uhl-Bien and Graen, 1993; Chang et al., 2020), job climate (Kozlowski and Doherty, 1989) and turnover (Graen et al., 1982; Kim et al., 2017; Jayeeta and Haque, 2017). Accordingly, high-quality LMX relationships resulted in positive outcomes for leaders, followers, work units and organizations.

Liden et al. (1997) reported that three types of leader–member characteristics have been examined as antecedents to LMX: performance or competence, personality and upward influence behavior. Specifically, personality traits of both leader and follower have been investigated as possible antecedents of LMX quality, including dependability (Graen, 1989); decision-making styles (Graen); loyalty (Scandura and Graen, 1984); mutual trust, respect and obligation (Liden and Graen, 1980; Lee et al., 2019); communication frequency (Baker and Ganster, 1985; Kacmar et al., 2003; Schiemann and Graen, 1984); communication style (Madlock et al., 2007); demographics (Green et al., 1996; Lee et al., 2019; Reinwald and Kunze, 2020); educational dissimilarity (March and Simon, 1958); and sex similarity of dyad members (Fairhurst, 1993; Goertzen and Fritz, 2004; Tsui and O'Reilly, 1989; Lee et al., 2019; Reinwald and Kunze, 2020).

Furthermore, attitudinal similarity (Philips and Bedeian, 1994), demographic dissimilarity (Liden et al., 1993; Reinwald and Kunze, 2020) and perceived similarity (Murphy and Ensher, 1999) all significantly predicted high-quality LMX (Goertzen and Fritz, 2004).

Graen and Uhl-Bien (1995) suggested that the LMX theory is based on three major domains: (1) leader domain, (2) follower domain and (3) relationship domain. A great deal of research places the emphasis on leader characteristics as antecedents to LMX quality such as LMX ambivalence – the simultaneous experience of both positive and negative orientations – while ignoring follower characteristics that might influence leader–member interactions (Schyns and Wolfram, 2008; Lee et al., 2019). Although Graen and Uhl-Bien recognized the importance of looking at each domain, they indicated the need for more research from the follower perspective.

It is important for leaders to be able to identify personal attributes of followers and to investigate the impact of these attributes on workplace relationships and followers' perceptions of exchange quality (Philips and Bedeian, 1994). More research is needed on the influence of follower characteristics as antecedents to LMX quality as well as the impact of follower attributes on follower perceptions of LMX quality.

Liden et al. (1997) proposed a model of LMX development that identifies general categories of variables, including situational characteristics between the leader and follower that could affect their perceptions of one another and their communication. Expanding on the study of Liden et al., this empirical investigation examined two variables discussed by them (i.e. communication and demographic dissimilarity) in more depth to gain a better understanding of how these variables affect LMX formation. Graen and Uhl-Bien explained that, in the follower domain, the critical question is how personal characteristics of followers affect follower perceptions of LMX quality. Therefore, using subordinate self-report ratings, this study provides an in-depth examination of demographic dissimilarity and follower CA as well as the combined effects of these variables on LMX.

Although LMX research collected from self-report ratings of one member of the dyad has been criticized due to threats of common method variance (CMV), this approach was utilized in the present study because follower CA and follower perceptions could only be assessed from the perspective of the follower. To reduce the likelihood and magnitude of CMV, several proactive techniques were utilized in the development and administration of the survey instrument, including (1) protecting rater anonymity; (2) reducing rater apprehension regarding responses by communicating that there were no right or wrong answers to the survey questions; (3) providing a survey instrument that clearly defined terms, maintained
simplicity and avoided complex syntax and double-barreled questions; and (4) pretesting the survey instrument with a group of practitioners and academics to validate the instrument’s readability, clarity, length and appropriateness and making changes to the survey based on feedback (Podsakoff and Organ, 1986; Podsakoff et al., 2003).

In addition to preemptive measures taken to reduce the likelihood and magnitude of CMV, the Harman (1960) single-factor technique was used to test for CMV. This statistical technique used exploratory factor analysis where all variables were loaded onto a single factor and constrained so that there was no rotation. According to Podsakoff et al. (2003), if the newly introduced common factor explains more than 50% of the variance, then CMV may be present. However, in the present study, the single factor did not account for a majority of the variance (35%).

**Demographic dissimilarity and leader–member exchange**

Harrison and Klein (2007) defined demographic dissimilarity as the “extent to which a dyad is heterogeneous with respect to demographic attributes” (p. 3). Tsui and O’Reilly (1989) used the term *relational demography* “to refer to the comparative demographic characteristics of dyads who are in a position to engage in regular interaction” (p. 403). Harrison et al. (1998) reported that there are two major categories of dissimilarity: surface dissimilarity (e.g., age, race, gender, biological sex, etc.) and deep-level dissimilarity (e.g., values, motivating factors, etc.). Harrison et al. (1998) and Valenzuela (2020) suggested that initial categorizations are based on surface-level demographics, but these perceptions change over time as deep-level information is obtained. A recent study by Valenzuela et al. (2020) reported that perceived quality of relationships was positively associated with perceived dissimilarity. Accordingly, Gerstner and Day (1997) stated, “Demographic factors may not predict LMX quality but relational demography—the extent to which individuals are similar or dissimilar—may” (p. 3).

Researchers in social psychology (e.g. Harrison, 1976; Jayeeta and Haque, 2017) have reported a strong link between demographic similarity of dyad members and affective relationships. Furthermore, Bauer and Green (1996) reported that members of dyads who are similar tend to like (Tsui and O’Reilly, 1989) and trust (Mayer et al., 1995) each other more than those who are dissimilar. Similar individuals may have a higher level of attraction based on a perceived similarity in attitudes, values and experiences, as indicated in the similarity attraction paradigm (Byrne, 1971). Moreover, Graen and Cashman (1975) suggested that LMX relationships are formed somewhat by personal compatibility. Byrne, Clore and Worchel (as cited in Tsui and O’Reilly, 1989) reported that people tend to be drawn toward individuals who are similar to themselves in terms of demographic characteristics, activities and attitudes, while Jayeeta and Haque (2017) identified LMX disagreement can stem from differences between dyad members. Therefore, demographically dissimilar dyads may perceive one another as less compatible, which in turn may inhibit LMX quality (Dienesch and Liden, 1986).

By contrast, Goertzen and Fritz (2004) reported that demographic dissimilarity of dyad members has been an inconsistent predictor of LMX quality. In addition, studies concerning age dissimilarity and LMX have suggested that the relationship between age dissimilarity and LMX is insignificant (Graen and Cashman, 1975; Liden et al., 1993). However, Tsui and O’Reilly suggested that the individual effects of age dissimilarity should be examined more closely. Tsui et al. (1992) reported that individuals categorize others based on visible demographic characteristics, such as race and gender, and Tsui et al. (1995) suggested that these initial perceptions and categorizations indicate the quality of future dyadic relationships. Most recently, Reinwald and Kunze (2020) reported a significant positive relationship between having demographically different teammates and absenteeism.
Moreover, this increase in absenteeism was steepest for women and older employees. Despite extensive research regarding demographic variables and LMX, few studies have examined the impact of gender dissimilarity on the quality of LMX (Duffy and Ferrier, 2003; Goertzen and Fritz, 2004; Tsui and O’Reilly, 1989). However, several researchers have encouraged future studies investigating the relationship between demographic dissimilarity and LMX quality (Bauer and Green, 1996; Goertzen and Fritz). More specifically, Tsui and O’Reilly (1989) argued that researchers must examine the full impact of an individuals’ demographic profile rather than one or two variables. Likewise, they suggested that research should examine each variable’s influence separately because demographic variables may not have equal effects on LMX. Therefore, this present study examines the relationship between age, race and gender dissimilarity and LMX. Understanding the relationship between these factors is critically important within the hospitality industry where there is a highly diverse workforce and the product experience is often developed through understanding customers’ needs and wants (Cha and Borchgrevin, 2018).

**H1.** Age, race and gender dissimilarity between leader and follower will be negatively related to follower perceptions of LMX quality.

### Demographic dissimilarity and communication apprehension

Green *et al.* (1996) reported that relational demography may reduce communication and lead to greater social distance between dyads. Studies concerning demographic dissimilarity – such as educational dissimilarity (Tsui and O’Reilly, 1989) and cultural dissimilarity (Gudykunst and Kim, 1997; Neuliep and McCroskey, 1997; Stephan and Stephan, 1992) – have suggested that, when dyads are dissimilar, communication-related anxiety increases and LMX disagreement arises (Richmond and McCroskey, 1998; Jayeeta and Haque, 2017). Increases in communication anxiety and LMX disagreement create additional barriers within the service industry, as open and frequent communication is necessary to build relationships and personalize services to meet and exceed customer needs (Cha and Borchgrevin, 2018). Furthermore, the high availability of low-cost labor often brings language barrier challenges, which can magnify this anxiety and contribute to disagreement from lack of understanding. Building relationships between supervisors and subordinates is key in building strong teams in service-based organizations (Kim *et al.*, 2017) to mitigate such challenges. In addition, Buss (1980) suggested that there are situational elements that may cause an increase in CA, and that dissimilarity is one of these elements. Further, Devito (2015) posited that, when individuals feel they have little in common with their listeners, they are more likely to feel anxious. Although cultural dissimilarity of dyad members is identified as a predictor of higher levels of CA, no studies have been conducted examining the possible effects of age, race and gender dissimilarity on CA in dyadic interactions. Therefore, this study examines followers’ self-reported ratings of CA and demographic dissimilarity in dyadic interactions.

**H2.** Age, race and gender dissimilarity between leader and follower will be positively related to higher levels of follower communication apprehension in dyadic interactions between leader and follower.

### Communication apprehension and leader–member exchange quality

CA is one of the most extensively researched variables in the field of interpersonal communication. McCroskey (1977) defined CA as “the fear or anxiety associated with either real or anticipated communication with another person or persons” (p. 78). Richmond (1984) expanded on McCroskey’s definition by stating that “high CA people experience emotional distress during or anticipating communication, prefer to avoid communication, and are perceived by others and themselves as less competent, skilled, and successful” (p. 101).
Most communication theorists agree that both personality traits and situational aspects influence CA. Originally, CA was considered a characteristically stable personality “trait” (Beatty et al., 1978). However, further research indicated that a situational or “state” CA orientation also exists. Trait apprehension “is a relatively enduring, personality type orientation toward a given mode of communication across a wide variety of contexts” (McCroskey, 1982, p. 147). By contrast, state apprehension is specific to a given communication situation and may fluctuate according to the context or communication receiver (McCroskey, 1977). In an empirical study, Rahmani and Croucher (2017), reported cultural elements influence CA and found there was a significant difference in CA levels between men and women. Within the hospitality industry, gender diversity is gaining momentum; however, there is a significant gap between the number of women in management positions as compared to their male counterparts.

Madlock et al. (2007) reported that CA is a significant predictor of LMX while noting that, despite the communicative nature of LMX, research examining communication and LMX is limited, and there are few studies dedicated to communication characteristics of leaders and members as potential antecedents to LMX quality. Dansereau et al. (1975) indicated that demographic characteristics of individuals may influence the communication exchange process between leaders and members, thus affecting the quality of the exchange process. This notion expands on Graen’s (1976) theory that LMX quality evolves through communication. The study of Madlock et al. is the only one that examines the effects of CA on LMX quality. Thus, this present study elaborated on the research of Madlock et al. by reexamining the effects of CA on LMX in supervisor–subordinate dyads.

H3. Higher levels of follower CA in dyadic interactions will be negatively related to follower perceptions of LMX quality.

Mediating effect of follower communication apprehension
Because of inconsistent results concerning dissimilarity and organizational outcomes, Harrison and Klein (2007) reported that researchers have introduced possible mediating and moderating variables. Duffy and Ferrier (2003) and Javeeta and Haque (2017) suggested that demographic dissimilarity directly affects social dynamics (e.g. communication, self-perception of value and contribution), which, in turn, influence a variety of organizational outcomes, including LMX. In earlier empirical research, McCroskey (1977) reported that frequency of communication with subordinates has a major impact on the leader’s perceived credibility, status and leadership ability. Furthermore, Green et al. (1996) suggested that relational demography may reduce communication and may lead to greater social distance between dyads. Gudykunst and Kim (1997) empirically reported that cultural dissimilarity leads to an increase in CA, resulting in less frequent communication and is linked to a person’s individual performance outcomes (Reinwald and Kunze, 2020). More specifically, studies investigating the effects of educational dissimilarity (Tsui and O’Reilly) and cultural dissimilarity (Gudykunst and Kim, 1997; Neuliep and McCroskey, 1997; Stephan and Stephan, 1992) have suggested that, when dyads are dissimilar, frequency of communication decreases (Tsui and O’Reilly) and communication-related anxiety increases (Richmond and McCroskey, 1998). Decreases in communication within service-related roles not only can affect employee retention but also the ability to provide an elevated service experience in which employees go above and beyond. High-quality LMX relationships promote employees’ task motivation (Wang, 2016) and their ability to consistently provide a positive service experience (Cha and Borchgrevink, 2018).

Graen et al. (1972) reported that the relationship quality between leader and follower could be determined through communication exchanges. Similarly, Bauer and Green (1996) stated that LMX relationships develop over time through a pattern of communication interactions.
Scandura et al. (1999) argued that discrepancies in empirical studies concerning LMX suggest that there may be other mediating variables that need to be researched further. Few researchers have focused on communication-related anxiety and LMX (Madlock et al., 2007). Furthermore, the combined effects of demographic dissimilarity and communication-related anxiety have not been fully considered. Thus, this present study examined the extent to which CA partially mediates the effect of demographic dissimilarity on LMX quality. This study not only suggested that demographic dissimilarity has a direct effect on LMX, but the model also suggested that the effect of demographic dissimilarity on LMX is partially mediated by CA. In other words, demographic dissimilarity may increase CA and that, in turn, may reduce LMX quality.

H4. CA partially mediates the effects of age, race and gender dissimilarity on follower perceptions of LMX quality.

Methods

Sample

The target population of this study included frontline staff in a dense region of hospitality establishments. The region is referred to as the “Resort Capital of the East Coast” that hosts over 27 million visitors a year, making it one of the most popular tourist destinations in the USA. This destination is known for world-renowned casinos resorts and hotels, big-name restaurants featuring famous chefs, unique attractions, headline entertainment, luxurious spas, championship golf, elite shopping and more. This study employed a criterion, convenience sample in which students on the college campus were recruited for participation during normal campus operating hours through campus signage and word of mouth. Eligible participants were employed full time in hospitality establishments, including casinos, restaurants, hotels and retail shops. Participants were not compensated for their time and participation. In total, 260 (N = 260) full-time employed workers participated in the study from the region. Participation was voluntary, and responses were anonymous and confidential. Surveys were administered face-to-face to increase the response rate. The final sample consisted of 241 useable surveys, a response rate of 93%. The sample was 62% female and 38% male. Descriptive statistics indicated that 69% of participants were Caucasian, 13% African American, 8% Hispanic, 7% Asian, 0.8% Native American and 2% other races. Further, 51% of the participants were under 21, 33% of the participants were between 21 and 29, 7% of the participants were between 30 and 39, 5% were between 40 and 50 and 3% were over 50. The demographic profile of the participants in this study is consistent with the sampling region.

Measures

Dependent variables. In this study, LMX is the criterion or dependent variable. LMX was measured using the ELMX-7 (Scandura and Graen, 1984). The ELMX-7 is the subordinate version of the LMX-7 (i.e. questions are phrased from the subordinates’ perspective). The ELMX-7 is a seven-item five-point Likert-type questionnaire. A sample question on the ELMX-7 is “I usually know how satisfied my immediate supervisor is with what I do.” Gerstner and Day (1997) reported that the LMX-7 demonstrates the highest reliability (i.e. internal consistency of 0.78) and largest correlations with other variables than any other LMX measure. In addition, Truckenbrodt (2000) reported that the ELMX-7 has good internal consistency, with Cronbach’s alpha reported at 0.88. Within the study sample, Cronbach’s alpha was 0.88.

Independent variables. The following independent variables were identified for this study. Communication apprehension. CA was measured using the Personal Report of Communication Apprehension (PRCA-24; McCroskey, 1982). The PRCA-24 is a 24-item
five-point Likert-type scale that assesses CA in four communication contexts: public, small group, meeting and interpersonal-dyadic. Because of the study’s focus, the researcher used only the six-item interpersonal-dyadic subscale of the PRCA-24. Sample questions include “Ordinarily I am very tense and nervous in conversations with my supervisor” and “Ordinarily I am very calm and relaxed in conversations with my supervisor.”

McCroskey (1984) reported alpha reliability coefficients ranging from 0.93 to 0.94 for the 24-item scale. Pribyl et al. (1998) reported that the dyadic subscale of the PRCA-24 has good internal consistency, with Cronbach’s alpha reported at 0.85. The interpersonal-dyadic context contains six questions with scores ranging from 6 to 30. McCroskey (1982) reported that scores greater than 18 indicate high apprehension, and scores less than 11 indicate low apprehension. In the current study, the Cronbach’s alpha for the six-item dyadic subscale was 0.87.

Demographic dissimilarity. Measures of demographic variables (i.e. age, race and gender) were obtained for both supervisors and subordinates. The subordinates answered questions regarding their own demographics and then provided demographic information on their supervisors. The demographic information provided values for determining dissimilarity scores for gender, race and age. Gender was coded with 1 designating male and 2 designating female. Dichotomous difference scores were obtained for gender, with 0 indicating similar and 1 indicating dissimilar. Race was coded with 1 signifying white and 2 signifying non-white. Dichotomous difference scores were obtained for race dissimilarity, with 0 indicating that the subordinate and supervisor were racially similar and 1 indicating they were racially dissimilar. Age for both subordinates and supervisors was measured as a categorical variable, with 1 indicating under 21, 2 indicating 21–29, 3 indicating 30–39, 4 indicating 40–50 and 5 indicating over 50. For age, the dissimilarity difference score was obtained by subtracting the subordinate’s categorical number from the supervisor’s categorical number. For instance, 0 indicated that the subordinate and supervisor were in the same age category. The dissimilarity difference scores for age could range from 0 to 4.

Control variables. Measures of control variables consisted of age, race, gender, highest level of education and tenure working with the supervisor. In addition to questions on age, race and gender discussed above, the follower answered questions about highest level of education and tenure working with supervisor. Followers’ highest level of education was measured, with 1 indicating high school or GED, 2 indicating two years of college, 3 indicating graduated four-year college and 5 indicating graduate school. Tenure working with the supervisor was measured, with 1 indicating less than one year, 2 indicating 1–2 years, 3 indicating 3–5 years, 4 indicating 6–10 years and 5 indicating over ten years.

Procedures
Data were collected during 11 in-person sessions through surveys administered face-to-face. Participants entered reserved classrooms and completed the survey using paper and a pencil. Prior to taking the survey, each participant verbally confirmed he/she was employed full time in the hospitality industry defined as casinos, restaurants, hotels and retail shops. The survey included closed-ended questions with fixed responses, and responses were obtained to measure demographics of leader and follower dyads, demographic dissimilarity between leader and follower in the dyads, CA of follower and LMX quality reported by the follower. To limit self-report bias of the single-source survey, questions concerning the criterion variable were placed after questions concerning independent variables (Podsakoff and Organ, 1986). Prior to administering surveys, the researcher explained the focus of the study and provided participants with an informed consent form.
Participants were told that responses to questions would not affect their standing with their supervisor or employer.

**Results**

*Descriptive statistics and correlations*

Responses for the surveys were entered using SPSS Statistical software. Table 1 illustrates the mean and standard deviation for the control, predictor and criterion variables. Table 2 presents the results of the Pearson \( r \) correlation analysis and internal consistencies.

*Demographic dissimilarity and leader–member exchange.* The relationship between age, race and gender dissimilarity was investigated using a Pearson product-moment correlation coefficient. There was not a significant correlation between gender dissimilarity and LMX \( (r = 0.07, \text{ns}) \). There was also not a significant correlation between race dissimilarity and LMX \( (r = 0.04, \text{ns}) \) and age dissimilarity and LMX \( (r = 0.08, \text{ns}) \).

*Demographic dissimilarity and communication apprehension.* There was no relationship between gender dissimilarity and CA \( (r = 0.02, \text{ns}) \) and race dissimilarity \( (r = 0.00, \text{ns}) \) and CA. However, there was a positive correlation between age dissimilarity and CA \( (r = 0.13, p < 0.05) \).

*Communication apprehension and leader–member exchange.* There was a strong, negative correlation between CA and LMX \( (r = -0.51, p < 0.01) \).

*Other correlations.* There was a small, correlation between tenure working with the supervisor and LMX \( (r = 0.138, p < 0.05) \). There was a small, positive correlation between gender of the follower and CA \( (r = 0.14, p < 0.05) \). There was a small, negative relationship between tenure working with the supervisor and CA \( (r = -0.15, p < 0.01) \).

*Tests of hypotheses*

*Demographic dissimilarity and leader–member exchange.* Hierarchical regression analysis was used to investigate the relationship between the independent variables (age, race and gender dissimilarity) and LMX. Table 3 shows the results of regression analysis for the independent variables (i.e. race, age and gender dissimilarity).

The control variables were entered in Step 1, explaining 6.3% of the variance. Tenure working with the supervisor and age of the follower were the only control variables that made

<table>
<thead>
<tr>
<th>Variable</th>
<th>( M )</th>
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<td>1. LMX</td>
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<tr>
<td>2. Gender dissimilarity</td>
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<td>3. Race dissimilarity</td>
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<td>4. Age dissimilarity</td>
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<td>5. Dyadic CA</td>
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<td>6. Gender of follower(^a)</td>
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<tr>
<td>7. Race of follower(^b)</td>
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<td>0.46</td>
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<td>8. Age of follower(^c)</td>
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<td>1.01</td>
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<td>9. Highest level of education(^d)</td>
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<tr>
<td>10. Tenure working with supervisor(^e)</td>
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</tbody>
</table>

**Note(s):** \(^a\) Gender coded 1 for male and 2 for female; \(^b\) Race coded 1 for white, 2 for non-white; \(^c\) Age coded 1 for under 21, 2 for 21–29, 3 for 30–39, 4 for 40–49, 5 for over 50; \(^d\) Education coded 1 for high school/GED, 2 for two years of college, 3 for graduated four-year college, 5 for graduate school; \(^e\) Tenure working with supervisor coded 1 for less than a year, 2 for 1–2 years, 3 for 3–5 years, 4 for 6–10 years and 5 for over ten years

Table 1.

Descriptive statistics \((N = 241)\)
significant unique contributions to the prediction of the dependent variable \( (p < 0.01) \). Model 1 made a significant contribution to the prediction of the dependent variable. However, after age, race and gender dissimilarity were entered into the model in Step 2, the total variance explained was 6.6\% \( (F(8, 230) = 5.20, ns) \). Model 2 was not significant. Furthermore, there was only a 3\% change in the model after entering the demographic dissimilarity variables (age, race, gender) when controlling for potential confounding variables \( (R^2 \text{ change} = 0.003) \). Model 2 summary indicated that, after entering age, race and gender dissimilarity, the only variables that were significant were tenure working with the supervisor and age of the follower.

Demographic dissimilarity and communication apprehension. To examine the relationship between CA and demographic dissimilarity, similar hierarchical regression procedures were followed. These results are shown in Table 4. The control variables (age, race, gender, education and tenure working with the supervisor) were entered in Step 1, explaining 6.1\% of the variance. None of the control variables made a significant unique contribution to the
prediction of CA. However, Model 1 was significantly related to CA ($p < 0.05$). After age, race and gender dissimilarity were entered into the model in Step 2, the total variance explained was 7.7%, $F(8, 230) = 2.408$ (ns). In Model 2, the only variables that made a unique significant contribution to the prediction of the dependent variable were race of the follower and tenure working with the supervisor ($p < 0.05$). There was a 1.6% change ($R^2$ change = 0.016) in the model after entering demographic dissimilarity variables when controlling for potential confounding variables.

**Communication apprehension and leader–member exchange.** Hierarchical regression procedures were followed to examine the relationship between CA and LMX. In this step, CA was entered as the independent variable, and LMX was entered as the dependent variable. To control for possible confounding influences of extraneous variables, follower age, gender, race, highest level of education and tenure working with the supervisor were controlled for in this procedure. Table 5 shows the results of regression analysis. The control variables were entered in Step 1, explaining 6.3% of the variance. Age of the follower and tenure working with the supervisor both offered unique contributions to the prediction of the dependent variable. After CA was entered into the model in Step 2, the total variance explained was 30.4%, $F(6, 233) = 16.95$, ($p < 0.01$). Age of the follower and tenure working with the supervisor continued to make significant unique contributions to the prediction of LMX. There was a 24.1% change ($R^2 = 0.241$) in the model after entering CA when controlling for potential confounding variables.

**Results of hypothesis testing**

A relationship was not found between gender dissimilarity and LMX ($r = 0.01$, ns). Neither was a relationship found between race dissimilarity and LMX ($r = 0.04$, ns) nor age dissimilarity and LMX ($r = 0.08$, ns); therefore, $H_1$ is not supported. Age, race and gender dissimilarity between leader and follower are not negatively related to LMX. Furthermore, this analysis illustrates that $H_4$ is not supported. Due to the nonexistent relationship between demographic dissimilarity and LMX, CA cannot mediate the relationship between the independent and dependent variable. When examining the multivariate relationship between demographic dissimilarity and LMX after controlling for follower age, race, gender, education and tenure working with supervisor, the only variables that made a significant unique

<table>
<thead>
<tr>
<th>Variables</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Gender of follower</td>
<td>1.4</td>
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<td>0.13</td>
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<tr>
<td>Race of follower</td>
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<td>0.77</td>
<td>−0.12</td>
</tr>
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<td>Age of follower</td>
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<td>−0.03</td>
</tr>
<tr>
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<td>−0.50</td>
<td>0.62</td>
<td>−0.10</td>
</tr>
<tr>
<td>Tenure with supervisor</td>
<td>−0.70</td>
<td>0.40</td>
<td>−0.14</td>
</tr>
<tr>
<td>$\Delta R^2 = 0.06$</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender of follower</td>
<td>1.3</td>
<td>0.76</td>
<td>0.11</td>
</tr>
<tr>
<td>Race of follower</td>
<td>−2.4</td>
<td>1.0</td>
<td>−0.20*</td>
</tr>
<tr>
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<td>0.50</td>
<td>0.05</td>
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<tr>
<td>Education of follower</td>
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<td>0.61</td>
<td>−0.05</td>
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<tr>
<td>Tenure with supervisor</td>
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<td>−0.15*</td>
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<tr>
<td>Gender dissimilarity</td>
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<td>Race dissimilarity</td>
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<td>1.0</td>
<td>0.13</td>
</tr>
<tr>
<td>Age dissimilarity</td>
<td>0.58</td>
<td>0.40</td>
<td>0.12</td>
</tr>
<tr>
<td>$R^2 = 0.08$, $\Delta R^2 = 0.02$</td>
<td></td>
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</table>

**Table 4.** Summary of hierarchical regression analysis for variables predicting CA ($N = 241$)

**Note(s):** CA is the dependent variable. CA is measured using the PRCA-24. *$p < 0.05$; **$p < 0.01$
contribution to the prediction of LMX were follower age ($\beta = -0.20$, $t = -2.1$, $p = 0.035$) and tenure working with supervisor ($\beta = 0.15$, $t = 2.4$, $p = 0.02$).

The study further examined the relationship between demographic dissimilarity and CA. There was not a significant relationship between This study was the first to examine the potential mediating effects of CA on the relationship between demographic dissimilarity and LMX in the service-based hospitality field. The results of this analysis indicated that follower CA does not partially mediate the relationship between demographic dissimilarity and LMX. In fact, the results of this analysis indicated that demographic dissimilarity has very little effect on LMX. However, studies on demographic dissimilarity and LMX have produced inconsistent and inconclusive results (Goertzen and Fritz, 2004; Wang, 2016; Kim et al., 2017; Chang et al., 2020) gender dissimilarity and CA ($r = 0.13$, ns) or race dissimilarity and CA ($r = 0.00$, ns). However, there was a small significant relationship between age dissimilarity and CA ($r = 0.13$, $p < 0.05$). Race of the follower ($\beta = -0.20$, $t = -2.3$, $p = 0.02$) and tenure working with the supervisor ($\beta = -0.15$, $t = -2.0$, $p = 0.04$) were the only variables that made a significant contribution to the prediction of CA after controlling for follower age, race, gender, education and tenure working with the supervisor. Therefore, H2 was not supported. That is, demographic dissimilarity was not positively related to higher levels of follower CA in dyadic interactions between leader and follower. However, as with the prediction of LMX, there was a significant relationship between tenure working with the supervisor and CA.

Finally, the study examined the relationship between CA and LMX. As hypothesized, after controlling for follower age, race, gender, education and tenure working with the supervisor, there was a significant negative relationship between CA and LMX ($r = -0.57$, $\beta = -0.51$, $t = -9.0$, $p = 0.00$). Therefore, H3 was supported. Follower CA was negatively related to follower perceptions of LMX quality.

**Discussion**

This study was the first to examine the potential mediating effects of CA on the relationship between demographic dissimilarity and LMX in the service-based hospitality field. The results of this analysis indicated that follower CA does not partially mediate the relationship between demographic dissimilarity and LMX. In fact, the results of this analysis indicated that demographic dissimilarity has very little effect on LMX. However, studies on

<table>
<thead>
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<th>Variables</th>
<th>$B$</th>
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<tr>
<td>Gender of follower</td>
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<td>-0.20**</td>
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<td>Education of follower</td>
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<td>Tenure with supervisor</td>
<td>1.2</td>
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<td>0.22**</td>
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</table>

$\Delta R^2 = 0.06$

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<th>Variables</th>
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<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender of follower</td>
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<td>0.71</td>
<td>-0.03</td>
</tr>
<tr>
<td>Race of follower</td>
<td>-0.02</td>
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<td>0.00</td>
</tr>
<tr>
<td>Age of follower</td>
<td>-1.3</td>
<td>0.40</td>
<td>-0.22**</td>
</tr>
<tr>
<td>Education of follower</td>
<td>0.10</td>
<td>0.60</td>
<td>0.01</td>
</tr>
<tr>
<td>Tenure with supervisor</td>
<td>0.84</td>
<td>0.40</td>
<td>0.15*</td>
</tr>
<tr>
<td>Communication apprehension</td>
<td>0.57</td>
<td>0.06</td>
<td>0.51**</td>
</tr>
</tbody>
</table>

$R^2 = 0.30; \Delta R^2 = 0.24$

*$p < 0.05; **p < 0.01, CA measured by the six-item dyadic subscale of the PRCA-24, LMX measured by the LMX-7

Table 5. Summary of hierarchical regression analysis for CA and LMX ($N = 241$)
The results of this analysis also indicated that follower CA was negatively related to LMX. This finding was consistent with results in the only other study conducted on CA and LMX (Madlock et al., 2007). Furthermore, this finding expanded on Graen’s (1976) theory that LMX evolves through communication exchanges. Despite the communicative nature of the LMX theory, few researchers have focused on communication-related variables as antecedents to LMX quality. CA is also an under-researched variable in leadership and management studies. Therefore, future research should examine the effects of CA on organizational outcome variables.

**Theoretical implications**

In the present study, tenure working with the supervisor was significantly related to LMX. Harrison et al. (1998) concluded that length of time working together weakens the effects of surface level dissimilarity. Harrison et al. reported that there are two major categories of dissimilarity demographics; surface dissimilarity and deep-level or perceived dissimilarity. Harrison et al. suggested that initial categorizations are based on surface-level demographics, but these perceptions change over time as deep-level information is obtained. Thus, Harrison et al. argued that deep-level dissimilarity has a greater effect on relationships than surface-level dissimilarity. Although the results of this study indicate that there was not a significant relationship between surface-level or demographic dissimilarity and LMX, future research should examine the relationship between deep-level dissimilarity and LMX. In addition, future research should examine how race and privilege impact dyadic communication. For instance, researchers should examine whether CA is weaker when a black employee is working for a white supervisor (i.e. because this may be common practice for the employee) than when a white employee is working for a black supervisor (i.e. this may not be expected because of privilege).

This study was also the first to examine the effects of age, race and gender dissimilarity on follower CA. The results of this analysis indicated that demographic dissimilarity has very little effect on follower CA. Age dissimilarity was the only dissimilarity variable significantly correlated with CA. The significant relationship between age dissimilarity and CA is relevant to discussions on managing and celebrating generational differences in the workplace and bridging the gap between generations to maximize communication and productivity in organization. This is especially important in the field of hospitality, as better communication is directly linked to customer service and long-term retention (Kim et al., 2017; Wang, 2016). With attention given to generational and race differences, supervisors can reduce communication anxiety and LMX disagreement. This promotes deeper personal connection that may improve employee creativity, turnover and service experiences.

Furthermore, this can help combat language and skill barriers that exist in the hospitality industry related to the high availability of low-cost, often unskilled labor.

Although the results of the analysis indicated that other demographic dissimilarity variables are not significant predictors of CA, this is still an important finding. In addition to
dissimilarity, McCroskey and colleagues identified other antecedents to higher levels of situational CA, including (1) degree of evaluation, (2) subordinate status, (3) degree of conspicuousness, (4) prior success and failures (turn over intention), (5) lack of communication skills and experience, (6) degree of unfamiliarity with the receiver or context, (7) self-perception of behavior and contribution (McCroskey and Daly, 1987; Beatty, 1988; Richmond and McCroskey, 1998; Jayeeta and Haque, 2017; Kim et al., 2017). The relationship between the degree of unfamiliarity and CA was illustrated in the significant relationship between tenure working with supervisor and CA. As tenure working with supervisor increased, CA decreased. Therefore, the results of this analysis indicate that familiarity with the leader may have a more significant effect on follower CA than dissimilarity between the leader and follower. Future research should examine additional situational antecedents to CA (e.g. communication skills and experience or subordinate status), as this may have strong influence in the hospitality industry due to the high availability of low-cost, often unskilled, labor and to further evaluate the relationship with job security and work engagement.

Practical implications
This paper provides practical implications to help leaders build sustainable, positive relationships with subordinates through more effective communication and to build more inclusive service-based organizations. The goal of the hospitality industry is to meet the expectations of customers, and high-quality services are more likely to be delivered if employees have highly reciprocal relationships with their leaders (Wang, 2016). The frontline employees who take the extra mile by going beyond their service role prescriptions in helping coworkers and delighting customers are especially valued by management (Cha and Borchgrevink, 2018). Therefore, results of this study indicate hospitality leaders must communicate more and regularly with their staff. Supervisors should have greater measures as part of performance appraisals that hold them accountable for building sustainable, positive relationships with subordinates. It further indicates the need to offer more 360-degree survey feedback opportunities to directly validate perceived effectiveness of management’s ability to build positive relationships and their frontline staff’s ability contribute.

Furthermore, this research indicated that organizations may need to train employees, as well as leaders, on how to recognize and combat CA. The results of this study can be used to enhance management’s ability to plan training sessions for supervisors and subordinates that focus on improving supervisors subordinate relationships through better communication and feedback. Regular feedback is critical in an industry that is high paced and often meets with customer challenges. The ability of a leader to effectively communicate can influence the intent to commit to the organization as well as the level of service proficiency delivered. Understanding how to recognize and combat CA can, therefore, mitigate attrition and poorer performance. Understanding how situational characteristics influence follower CA and perceptions of LMX may encourage supervisors to increase communication and have better relationships with new subordinates, especially during the organizational acculturation process to promote greater organizational commitment and service capability. Future research should examine situational factors that may increase CA in leader–member dyads. In addition, future research should examine CA as an antecedent to other organizational outcome variables.

Limitations
One limitation of this study was the use of single-source ratings and the single focus on individual outcomes of the follower. Although Graen and Uhl-Bien (1995) suggested that
more research should be conducted on the follower domain of LMX relationships, Graen and Uhl-Bien also stressed the importance of leader–member compatibility. Data collected from a single source raise concerns for CMV. Furthermore, Schwab (1999) reported that threats to internal validity are introduced by single-source bias. Although LMX research collected from self-report ratings of one member of the dyad has been criticized due to threats of CMV and internal validity, this approach was utilized in the present study because follower CA and follower perceptions could only be assessed from the perspective of the follower. As stated previously, to reduce the likelihood and magnitude of CMV and threats to internal validity, several proactive techniques were utilized in the development and administration of the survey instrument. Furthermore, although single-source ratings are a limitation of this study, results of the Harman (1960) single-factor technique indicated that CMV was not an issue in this study (i.e. the single factor did not account for a majority of the variance).

Another limitation of this study related to the research design. The sampling procedure involved convenience sampling from a targeted region, in-person on a college campus. Although eligible participants were employed within the hospitality industry (casinos, restaurants, hotels and retail shops), specific job title and employer data was not captured. Additional data should be collected targeting each specific segment of the hospitality industry, as differences may exist due to the uniqueness of each service/experience product. Creswell (2003) explained that convenience sampling can limit the generalizability of a study’s findings. Furthermore, conducting a non-random sample may have introduced potential threats to internal validity. Future research should be conducted using random sampling in organizational settings.

Another limitation in this study was that participants might have been given too much information about the study, resulting in selection of socially desirable responses. The institutional review board required that all participants be informed of the purpose of this study. The informed consent form explained that the study’s purpose was to examine the effects of communication apprehension on the relationships between age, race and gender dissimilarity and LMX. Although the survey responses remained confidential and anonymous, the information provided on the study may have resulted in a Hawthorne effect. In other words, participants may have found it socially undesirable to admit communication-related anxiety or low-quality LMX with a supervisor of a different age, race or gender. Thus, the survey should have included a measure of social desirability, such as the Social Desirability Response Scale (Crowne and Marlowe, 1960), and controlled for social desirability during analysis.

A final limitation in this study was that because the data were cross sectional and collected at one point in time, causality cannot be confirmed. Future studies utilizing longitudinal designs may provide support for current findings.

Conclusion
This study revealed that communication-related anxiety negatively affects LMX relationships. The results of the analyses supported the findings by Madlock et al. (2007) that CA is negatively related to LMX. Likewise, this study’s findings indicated that tenure working with the supervisor is significantly related to follower CA and LMX. Therefore, although demographic dissimilarity appears to have a meager effect on CA, the subordinate’s familiarity with the leader may be a significant predictor of CA. Organizations cannot afford to allow low-quality LMX relationships to permeate their workforce because the impact of these relationships may be seen in the bottom line (Scandura and Graen, 1984; Kim et al., 2017; Jayeeta and Haque, 2017; Lee et al., 2019; Reinwald and Kunze, 2020; Valenzuela et al., 2020).
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