LEADER-MEMBER EXCHANGE SOCIAL COMPARISONS AND LMX-RELATED EMOTIONS: EXAMINING ATTRIBUTIONS AND INTERPERSONAL JUSTICE AS MODERATORS

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ABSTRACT

LEADER-MEMBER EXCHANGE SOCIAL COMPARISONS AND LMX-RELATED EMOTIONS: EXAMINING ATTRIBUTIONS AND INTERPERSONAL JUSTICE AS MODERATORS

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Research indicates subordinates view their relationship with their supervisor in comparison to the relationships their supervisor has with other subordinates (Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010). However, the extent to which these social comparisons create different discrete LMX-related emotions is likely due to the casual attributions subordinates make regarding how their LMX quality came to be built and perceptions that the supervisor shows considerate interpersonal treatment. In this study, attribution theory was used to argue locus of causality for relationship building with one's supervisor would moderate the association between LMX social comparisons on subordinate LMX-related emotions (i.e., pride, anger, guilt, shame, and gratitude). Interpersonal justice was expected to moderate the interaction between LMXSC and supervisor-attributed locus of causality for relationship building with the supervisor in predicting LMX-related anger. In addition to drawing upon attribution theory, LMX-related emotions were framed using core affect theory (Russell, 2003), which aids in describing how these emotions are similar and different from emotions discussed elsewhere in the affect literature. Results show that while many expectations based on attribution theory were supported, self-attributed locus of causality for RBS and interpersonal justice had a surprisingly strong direct association with LMX-related emotions.

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INTRODUCTION

Introduction

Employees experience many advantages when they have high-quality exchange relationships with their supervisor. Effective leader-member exchange (LMX) relationships come with a variety of benefits, including trust, obligation, affective loyalty, professional respect, information, influence, support, voice, positive performance appraisals and career progress (Liden, Erdogan, Wayne, & Sparrowe, 2006).[1] However, effective LMX is a limited resource (Liden, Sparrow, & Wayne, 1997), and supervisors often do not have the time or emotional resources to develop high quality relationships with all subordinates.

Given effective LMX is a limited but valued asset, there is reason to assume subordinates compare their relationship with the supervisor to the relationships other subordinates have with the supervisor (Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010). Research on social comparison theory suggests that individuals regularly look at the surrounding social context, and the resulting social comparisons influence emotions and attitudes (Wood, 1989). Extending this to the workplace context, when subordinates compare their LMX quality to the LMX quality held by other peers working for the same supervisor, these social comparisons are likely to influence how subordinates feel about their LMX.

Social comparisons have a powerful capacity to influence how subordinates feel at work (Greenberg, Ashton-James, & Ashkanasy, 2007). Research has shown that when subordinates feel they have a better than relationship with the supervisor than their peers, they report higher pay satisfaction, work satisfaction, and leader satisfaction (study 2; Erdogan, 2002). When LMX

[1] Within the LMX literature, superiors, leaders, managers, and supervisors are often referred to interchangeably, as are followers, members, and subordinates. Here, I rely on the terms supervisor and subordinate to maintain consistency for the reader and to emphasize the relationship is direct. I use the terms leader and member only in situations that directly reference the LMX construct.

social comparison perceptions influence LMX-related emotions, these emotions are likely to influence subordinate attitudes and behaviors that play a role in the LMX relationship, the workgroup, and the organization. Thus, an important question is, when and how do LMX social comparisons result in different LMX-related emotions?

The relationship between these social comparisons and the way subordinates feel about their LMX likely depends on the attributions subordinates make regarding how their LMX came to be established. If subordinates perceive their LMX quality is highly influenced by their behavior, perceptions of a relatively poor quality LMX relationship could translate into LMX-related guilt or shame, whereas perceptions of a relatively high quality LMX relationship could result in feelings of LMX-related pride. Similar attributions may be made regarding the role of the supervisor in LMX relationship building. If subordinates think their LMX quality is highly influenced by supervisor behavior, perceptions of a relatively high quality LMX relationship could result in LMX-related gratitude and perceptions of a relatively low quality LMX relationship could result in LMX-related anger. Further, the extent to which supervisor interactions are characterized by dignity and respect may buffer the negative effects of anger-inducing contexts.

The purpose of this study is to understand how and when leader-member exchange social comparisons generate discrete LMX-related emotions. The focal question is: what links a subordinate's perception of having high (or low) standing with the supervisor relative to other subordinates to different LMX-related emotions? To expand our understanding of this area, I used attribution theory as a theoretical lens to suggest locus of causality for relationship building with one's supervisor moderates the influence of LMX social comparisons on LMX-related emotions. I also propose interpersonal justice moderates this interaction, such that the anger felt

by individuals who view their supervisor as driving their LMX quality and feel they have a relatively poor quality LMX will be buffered when the supervisor shows high interpersonal justice.

Contribution to scholarly research

This study makes three core contributions to the scholarly literature. First, recent research has sought to expand our understanding of how and when variance in the quality of within-group LMX relationships elicits positive (or negative) outcomes (e.g., Haynie, Cullen, Lester, Winter, & Svyantek, 2014; Li & Liao, 2014). Insight into how and when LMX social comparisons influence LMX-related emotions at work will contribute to our understanding of the psychological mechanisms that link differentiated LMX to LMX-related emotions.

Second, this study integrates attribution theory (e.g. Weiner, 1985) and LMX theory (Graen & Scandura, 1987) to examine how and when LMX-related attributions moderate the associations between LMX social comparisons and LMX-related emotions. Attribution theory is supported by extensive past research (cf. Kelley & Michela, 1980) and it suggests meaningful mechanisms that could explain how and when LMX social comparisons lead to different levels of LMX-related emotions. LMX theory is extended by attribution theory to make predictions about how and when LMX-related social comparisons elicit different emotions.

Third, the current study advances existing LMX research by using core affect theory to more narrowly define the discrete emotions of interest within a specific context. This treatment of affect advances past research in several ways. First, existing LMX research has tended to focus on positive and negative affect. Emotions differ from negative and positive affect in that emotions are formed in response to focal-targets, and can be focused internally (i.e. self-conscious emotions) or externally. In this sense, emotions carry more information about

perceptions of the social context than do positive or negative affect. Second, attribution theory's approach to emotion differs in many ways from other areas of research on affect. Core affect theory as a framework allows for a more detailed description of the affective components that likely underlie LMX-related emotions, and how these components might differ from affect as it is referred to in other affect research.

The introduction is outlined as follows. I first review how prior research has studied within-group variability in LMX relationships. I then describe how leader-member exchange social comparison (LMXSC; Vidyarthi et al., 2010), the focal LMX variability construct in this study, relates to social comparison theory. Research on attribution theory is reviewed, and a new construct, locus of causality for relationship building with one's supervisor (locus of causality for RBS), is proposed. I use core affect theory to define LMX-related emotions and then explicate how locus of causality for RBS interacts with LMXSC to elicit different levels of emotions. Research on interpersonal justice and the fair process effect is drawn upon to hypothesize a three-way interaction hypothesis between LMXSC, locus of causality for RBS, and interpersonal justice on LMX-related anger.

Review of LMX Variability Constructs and Research Findings and Integration of Social Comparison Theory

To more fully describe the construct of LMXSC and the reasoning behind its inclusion in the present study, this section proceeds as follows. First, LMX theory is briefly described. I then review the definitions and operationalizations of existing within-group LMX variability constructs (e.g., LMX differentiation, perceived LMX differentiation, relative LMX, and LMXSC). A framework is put forth than distinguishes these constructs by level of theory (i.e., individual-in-context versus group) and perceptual status (i.e., subjective vs. objective). Last, I

further discuss the current study's focus on LMXSC, how it relates to social comparison theory, and how it differs from related but separate constructs (i.e., relative deprivation).

Leader-member exchange theory

Leader-member exchange describes the dyadic process through which supervisors establish and routinize roles over time (Graen & Scandura, 1987; Graen & Uhl-Bein, 1995). Through a series of negotiations ("interacts") between the supervisor and subordinate, dyads become organized so that unstructured tasks can be effectively managed and completed. The exchange relationship transitions through three different phases: role taking, role making, and role routinization.

In the initial stage, role taking, the supervisor sends a role to the member, who receives this role. The subordinate then interprets the role and sends it back to the supervisor. This stage in the exchange is purely economic, wherein the supervisor must assess the subordinate's ability levels. Role making occurs after the initial roles have been accepted (Graen & Cashman, 1975). During role making, the supervisor and subordinate further define roles as valued resources are exchanged. As behaviors judged effective are strengthened and those deemed ineffective are weakened, the dyadic relationship stabilizes into more routine behaviors. This more stable, final stage is labeled role routinization (Graen & Scandura, 1987).

Meta-analytic research indicates high quality LMX relates to a variety of positive subordinate outcomes. Subordinates with high quality LMX tend to enjoy their work experiences more, reporting higher levels of job satisfaction (ρ=.49, k=88, N=22,520, 95% CI lower=.45, upper=.53; Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012), supervisor satisfaction (ρ=.68, k=32, N=11,195, 95% CI lower=.57, upper=.79; Dulebohn et al., 2012), and organizational commitment (ρ=.47, k=58, N=14,208, 95% CI lower=.43, upper=.51; Dulebohn et al., 2012).

Further, high quality LMX subordinates are able to more effectively engage with the work environment, showing higher job performance (ρ=.34, k=108, N=25,322, 95% CI lower=.30, upper=.37; Dulebohn et al., 2012), and increased levels of citizenship behavior (ρ=.39, k=27, N=25,322, 95% CI lower=.30, upper=.37; Dulebohn et al., 2012). Because of the benefits associated with high quality supervisor-subordinate exchanges, subordinates are likely to view high quality LMX as desirable.

Overview of constructs used to study LMX variability

One of the major contributions LMX theory has made to the leadership literature is the idea that supervisors have different types of relationships with specific subordinates (Liden et al., 2006). In other words, when supervisors focus on the needs of individual subordinates, supervisor-subordinate relationships are likely to differ in quality and nature. LMX research has looked at the array of LMX dyads that exist within teams in several different ways. To review the construct definitions and operationalizations from this subdomain of LMX research, a ProQuest database search was conducted to find scholarly articles and dissertations containing the keyword "LMX differentiation." This literature review showed LMX differentiation research currently focuses on four key constructs: LMX differentiation, perceived LMX differentiation, LMX social comparison (LMXSC), and relative LMX (RLMX). Table 1 summarizes exemplar definitions of these four constructs. Operationalizations are listed with specific articles and dissertations using each operationalization cited.[2] Both definitions and operationalizations are discussed below.

[2] Redundant definitions—particularly those found in unpublished dissertations—were excluded from the list of definitions. The list of operationalizations reflects all articles and dissertations within the search results that measured these constructs.

Definitions

Leader-member exchange differentiation. Definitions of LMX differentiation found in the current search tended to emphasize that the construct occurs at the group-level and reflects the variance of within-group LMX relationships. Liden et al.'s (2006) definition most concisely summarizes these aspects of LMX differentiation and was cited regularly by articles and dissertations focusing on LMX differentiation.

Table 1

Definitions and operationalization of LMX variability constructs

LMX Differentiation

Example definitions	Operationalizations	Citations using operationalization
Harris, Li, & Kirkman (2014) *"A group-level construct that refers to the degree of within-group; operates as a contextual construct that provides members with information that helps form justice perceptions and develop identities as group members."* Haynie, Cullen, Lester, Winter, & Svyantek (2014) *"A prevalent organizational phenomena in which supervisors form relationships of differing quality with their subordinates. Supervisors may treat their subordinates differently due to time and resource constraints, leader-member similarities, or equitable treatment based on subordinate work efforts."* Henderson, Liden, Glibkowski, & Chaudhry (2009) *"…a process by which a leader, through engaging in differing types of exchange patterns with subordinates, forms different quality exchange relationships (ranging from low to high) with them."* *"…refers to a set and outcome of dynamic and interactive exchanges that occur between leaders and members, the nature of which (transactional versus social exchange) may differ across dyads within a work group."* Liden, Erdogan, Wayne, & Sparrowe (2006) *"the degree of variability in the quality of LMX relationships formed within work groups"*	Within-group variance/ *SD*	Anand (2012)* Chen, Yu, & Son (2014) Choi (2013)* Ford & Seers (2006) (item SDs averaged together) Erdogan & Bauer (2010) George (1999)* Han & Bai (2014) Haynie, Cullen, Lester, Winter, & Svyantek (2014) Henderson, Wayne, Shore, Bommer & Tetrick (2008) Han (2014)* Kwak (2011)* Lau (2008)* Le Blanc & González-Romá (2012) Liao, Liu, & Loi (2010) Liden, Erdogan, Wayne, & Sparrowe (2006) Ma & Qu (2010) Mayer (2005)* Naidoo, Scherbaum, Goldstein, & Graen (2011) Nishii & Mayer (2009) Stewart & Johnson (2009) Willis (2014)*
	Sum of absolute differences between individual score and group mean	McClane (1991)
	R_{wg}	Boies & Howell (2006)
	Average Deviation	Tordera & González-Romá (2013)

Table 1 (cont'd)

Perceived LMX Differentiation		
Example Definitions	**Operationalizations**	**Citations using operationalization**
Hooper & Martin (2008) *"…the extent to which LMX relationships are perceived to vary within a team"*	Rate the LMX relationship quality of each of their team members (including themselves), compute mean and *SD* of these ratings	Henderson, Wayne, Shore, Bommer, & Tetrick (2008)
Relative Leader-Member Exchange (RLMX)		
Example Definitions	**Operationalizations**	**Citations using operationalization**
Henderson, Wayne, Shore, Bommer, & Tetrick (2008) *"one's LMX quality relative to the average LMX quality in a work group"* Harris, Li, & Kirkman (2014, p. 317) *"RLMX and LMXSC, on the other hand, are disparity measures of group heterogeneity because they contain meaningful information about differences in status (i.e., high RLMX or LMXSC indicates a higher quality relationship than other members)."*	Subtract the mean individual-level LMX score within a group from each group member's composite LMX score	Henderson, Wayne, Shore, Bommer, & Tetrick (2008)
Leader-Member Exchange Social Comparison (LMXSC)		
Example Definitions	**Operationalizations**	**Citations using operationalization**
Vidyarthi, Liden, Anand, Erdogan, & Ghosh (2010, p. 850) *"the comparison between one's own LMX and that of coworkers"* *"…LMXSC is based on within-group social comparison with work group members as the reference point, LMX has no social reference group."* *"…[LMXSC] is subjective assessment and is obtained directly from focal employees, and [RLMX] is actual degree to which the focal individual's LMX differs from the average leader-subordinate LMX in the work group"*	6-item social comparison measure	Vidyarthi, Liden, Anand, Erdogan, & Ghosh (2010)

Note. *indicates a dissertation.

Several researchers expanded on the potential causes of LMX differentiation. These definitions tended to focus on the supervisor as causing LMX differentiation, but further description of LMX differentiation emergence alludes to other contributing factors. For example, Henderson, Liden, Glibkowski, and Chaudhry (2009) posit LMX differentiation is caused by the supervisor, who "forms different quality exchange relationships (ranging from low to high)" (p. 519), but then expand this causation to suggest LMX differentiation results from "dynamic and interactive exchanges" (p. 519) between the supervisor and subordinate. Further, Haynie et al. (2014) suggested that LMX differentiation arises as "supervisors form relationships of differing quality with their subordinates" (p. 914). However, Haynie et al. (2014) go on to suggest that differentiated relationships could also result from contextual demands ("time and resource constraints" p. 914), a property of the dyad ("leader-member similarities" p. 914), or variance in follower effort ("equitable treatment based on subordinate work efforts" p. 914). Thus, definitions of LMX differentiation suggest there are different possible causes that could contribute to differentiated LMX relationships.

Harris, Li, and Kirkman's (2014) definition also posits potential outcomes of LMX differentiation. The researchers suggest LMX differentiation provides contextual information which "helps them form justice perceptions and develop identities as group members" (p. 316). This definition implies that within-group variance of LMX relationships should in part contribute to subordinates' perspectives on their group membership.

To summarize, LMX differentiation is typically defined as a group level construct, focusing on within-group variance in the quality of LMX relationships. Although supervisors are assumed to determine the extent to which within-group LMX relationships vary in the group, definitions allude to other important determinants, such as subordinate behavior. LMX

differentiation is also described as influencing how group members view their membership identities.

Perceptions of leader-member exchange differentiation. Perceived LMX differentiation was an infrequently examined LMX variability construct. The only definition found, from Hooper and Martin (2008), describes the construct primarily as a perception of LMX differentiation ("…the extent to which LMX relationships are perceived to vary within a team.") Thus, perceived LMX differentiation can be viewed as individual perceptions of a group descriptor (that is, differentiated LMX relationships as a quality of the group).

Relative leader-member exchange. Several studies within the search results examined relative leader-member exchange (RLMX). Henderson, Wayne, Shore, Bommer, and Tetrick (2008) describe RLMX as one's relative standing in comparison to "the average LMX quality in a work group." Henderson et al. (2008, p. 1210) later referred to RLMX as occurring at the individual-within-group level of theory (Kelley, 1968), often referred to as a frog-pond approach (Firebaugh, 1980). In comparison to group-level constructs such as LMX differentiation, individual-within-group constructs emphasize an individual's standing relative to what is normative within the group (Henderson et al., 2008). Social comparison theory, discussed later, suggests that individuals are motivated to understand their relative standing and this information influences attitudes and behaviors.

Harris et al. (2014) noted that according to Harrison and Klein's (2007) framework for different types of diversity indices, RLMX (and LMXSC, discussed next) would be considered disparity measures. Harrison and Klein (2007) describe disparity measures as reflecting differences in the concentration of valued social assets. In the LMX context, possessing a high level of LMX in comparison to one's peers, controlling for the average level of LMX, may be

viewed as having a higher concentration of a valued resource (e.g., receiving more attention, feedback, and opportunities from the supervisor) than other members of the group.

Leader-member exchange social comparison. Last, LMXSC was mentioned by several of the articles and dissertations in the search. Vidyarthi et al. (2010) defined it as a social comparison made "between one's own LMX and that of coworkers" (p. 850). Similar to the relationship between perceived LMX differentiation and LMX differentiation, Vidyarthi et al. (2010, p. 850) describes LMXSC as "subjective assessment… obtained directly from focal employees," as compared to RLMX, "the actual degree to which the focal individual's LMX differs from the average leader-subordinate LMX in the work group." That is, LMXSC focuses on subordinate's subjective assessment of the individual-in-group level RLMX.

A comparison between LMXSC and LMX was also made by Vidyarthi and colleagues (2010). The researchers posited that LMXSC focuses on one's LMX relationship "based on within-group social comparison with work group members as the reference point" (p. 850). This definition is distinguished from LMX, which reflects the quality of the exchange relationship between supervisor and subordinate with no "comparative judgment or reference point" (p. 850).

Next, I discuss the operationalizations of these four constructs and propose an organizing framework for explaining their similarities and differences.

Operationalizations

Leader-member exchange differentiation. LMX differentiation was the most commonly studied construct across the search results, and perhaps for that reason, there were several different operationalizations used to measure it. The majority of the studies utilized the standard deviation or variance of LMX scores within a given work group (21 total). That is,

subordinates within a work group were assessed using an LMX measure, such as the LMX-7, and their scores were aggregated in order to obtain the variance.

Several alternative approaches were used to measure LMX differentiation. McClane (1991) summed the absolute differences between individual scores and the group mean. Boies and Howell (2006) used R_{wg} scores, arguing that these scores serve as an indicator of within-group agreement. Tordera and González-Romá (2013) similarly used a measure of agreement, Average Deviation. Despite these alternative approaches to assessing LMX differentiation, the use of standard deviation and variance was overwhelmingly normative.

Perceptions of leader-member exchange differentiation. Looking to research on perceived LMX differentiation, three studies utilized Hooper and Martin's (2006) measure. In the measure, subordinates rate the LMX quality of all subordinates of their direct supervisor on a one to five scale of LMX quality, including the quality of their own LMX relationship with their supervisor. The standard deviation of these scores are then computed for each individual and taken as an indication of perceived LMX differentiation. For example, if a person worked with five other subordinates of the same supervisor, that person might think his or her relationship is good (a rating of 4), whereas two coworkers have satisfactory ratings (ratings of 3), and three coworkers have very good ratings (ratings of 5). The standard deviation of this person's ratings would be *SD*=.98, which would then be used as an index of perceived LMX differentiation within the group.

Relative leader-member exchange. RLMX reflects an individual's LMX scores relative to others in the group. To assess this, Henderson et al. (2008) subtracted the group mean level of LMX from each subordinate's self-reported LMX score. Thus, even if LMX scores within a

group are generally low or high on average, RLMX scores still reflect whether self-reported LMX scores are higher or lower than others within the group.

Leader-member exchange social comparison. Because LMXSC is a social comparison of one's own LMX relationship with others, Vidyarthi et al. (2010) developed a six-item measure of LMXSC that asks about these perceptions more directly. Items in this measure include, "The working relationship I have with my manager is more effective than the relationships most members of my group have with my manager", "My manager is more loyal to me compared to my coworkers", and "My manager enjoys my company more than he/she enjoys the company of other group members."

Framework for differentiating LMX variability constructs

To organize these four constructs into a unified framework, I categorized each by level of theory and perceptual status. The resulting framework can be found in Table 2. Here I categorize LMX differentiation and perceived LMX differentiation as group-focused constructs, whereas RLMX and LMXSC are considered as frog-pond or individual-within-group constructs. The constructs are also organized by subjective (perceptions) and objective (using actual aggregated data to understand the influence of the group).

According to this framework, RLMX and LMXSC are related in that they both focus on the individual-within-group. Empirical research supports their linkage: Vidyarthi et al. (2010) found RLMX and LMXSC to show a strong positive relationship (γ_{30}- γ_{30}=.79, p<.01). Although both LMX differentiation and perceived LMX differentiation focus on group-level variability and thus a similar relationship would be expected, no tests of this relationship were found.

Table 2

Categorization of LMX variability constructs by theory level and subjectivity

	Frog-Pond/Individual-in-Context	Group-Level
Objective	Relative Leader-Member Exchange (RLMX)	LMX Differentiation
Subjective	Leader-Member Exchange Social Exchange (LMXSC)	Perceived LMX Distribution

Why LMXSC? A social comparison perspective

Within the current study, I use Vidyarthi et al.'s (2010) definition of LMXSC: "*the comparison between one's own LMX and that of coworkers.*" (p. 850).

Focus on LMXSC over LMX. I focus on LMX social comparisons here instead of examining LMX for two main reasons. First, within-group social comparisons are assumed to stimulate stronger emotional and attitudinal reactions from subordinates than LMX evaluations that do not explicitly incorporate a social comparison aspect. Supervisors do not have the time, socioemotional, or tangible resources to have high quality LMX relationships with all subordinates (Dansereau, Graen, & Haga, 1975; Vidyarthi et al., 2010), making high quality LMX a valued but limited resource amongst subordinates. Having access to that resource takes on a greater importance within the social context than it would in isolation. Whereas high LMX is linked to positive outcomes (Dulebohn et al., 2012), high LMXSC makes that relationship significant within the social context and interpersonally contentious. Similarly, low LMXSC is likely to incite especially strong negative affective and attitudinal outcomes. Social comparison

gives one's LMX relationship new meaning and greater significance, and thus, should be associated with stronger emotions and attitudes.

Social comparison theory further supports the notion that social comparisons are made frequently and have a strong influence on attitudes and behaviors. Social comparison theory was originally put forth by Festinger (1954), and has since been the focus of extensive research in social psychology (e.g., Wood, 1989, 1996). Wood (1996) defines social comparison as "the process of thinking about information about one or more other people in relation to the self" (pp. 520-521). Social comparison theory posits people are motivated to evaluate their opinions and abilities, to make accurate assessments of oneself (self-evaluation), and to improve (self-improvement) and enhance one's self-image (self-enhancement; Wood, 1989). When objective, non-social means of comparison are unavailable, people make social evaluations (Festinger, 1954).

Empirical studies show work-related social comparisons are linked to employee attitudes and behaviors. For example, Brown, Ferris, Heller, and Keeping (2007) observed affective commitment and job satisfaction are negatively associated with upward social comparisons (e.g., comparing oneself to colleagues who are better off) and positively related to downward comparisons (e.g., comparing oneself to colleagues who are worse off). Through the mediation of these job attitudes, employees who made upward comparisons were more likely to search out labor market alternatives to their current job, whereas employees making downward comparisons were less likely to result in job search behaviors.

Although LMX ratings may be influenced by within-group LMX social comparisons (and vice versa), LMXSC explicitly integrates one's relative social standing and LMX does not. Empirical research has also supported the notion that LMXSC perceptions are related but distinct

from LMX ratings (Vidyarthi et al., 2010). Accordingly, I expect that LMXSC would influence LMX-related emotions for reasons conceptually distinct from LMX.

A second reason for examining LMXSC above and beyond LMX is that subordinates are more likely to search for causal attributions when self-evaluations are made in a social context. Social contexts have been shown to both prompt social comparisons and influence attributions. For example, in order to appear favorably within social contexts, successes are typically attributed to internal factors and failures to external factors; however, external attributions may be made towards successes in order to appear modest (Kelley & Michela, 1980). When subordinates perceive their LMX differs substantially from the LMX held by other coworkers, they will be more motivated to seek out an explanation for their LMX quality. These attributions then also play a role in the linkages between LMXSC and LMX-related emotions.

Focus on LMXSC over RLMX. RLMX captures information about the individual-in-context, similar to LMXSC. Yet as Vidyarthi et al. (2010) note, because perceptions have a stronger influence on attitudes and behaviors than actual differentiation, LMXSC is likely to have particularly meaningful association with LMX-related emotions. Thus, I chose to focus on LMXSC perceptions instead of RLMX scores.

Focus on LMXSC over relative deprivation. Another construct similar to LMXSC is relative deprivation. Research integrating relative deprivation with LMX has attempted to explain a problem space similar to this study's model (i.e., Bolino & Turnley, 2009). Relative deprivation is defined as "a tension state that exists in someone who perceives a discrepancy between the way things are and the way things ought to be" (Crosby, 1976, p. 56). Bolino and Turnley (2009) proposed that one's LMX interacts with the social context to create relative deprivation, which then leads to attitudinal and behavioral outcomes. Both research on relative

deprivation and the present model's examination of LMXSC suggest that social comparisons could result in a "tension" that leads to further negative outcomes.

However, the present model differs from extant attempts to integrate LMX with relative deprivation (i.e., Bolino & Turnley, 2009) in several ways. First, the present model has greater construct clarity. Crosby's (1976) definition of relative deprivation does not make clear whether relative deprivation is an affect, cognition, or both. Although some research has broken down the cognitive and affective parts of the process of perceiving relative deprivation (e.g., Smith, Pettigrew, Pippin, & Bialosiewicz, 2012), Bolino and Turnley (2009) treat relative deprivation as a single construct. In contrast, this study's model explicitly breaks down the constructs in this process such that LMXSC (a cognitive comparison) interacts with the locus of causality for relationship building with one's supervisor (a cognitive attribution) to influence specific LMX-related emotions (i.e., anger, guilt, shame, pride, and gratitude). Thus, the present model breaks down potential affective "tension states", cognitive LMXSC evaluations of "what is" and how one's LMX was formed.

Another distinction is that models of relative deprivation tend to focus on upward social comparisons, but nowhere are downward comparisons addressed (Bolino & Turnley, 2009; Smith et al., 2012). Relative deprivation assesses the extent to which individuals perceive they have been disadvantaged, meaning the opposite end of the spectrum is a lack of being disadvantaged. Nowhere do these models explore the implications of feeling advantaged in comparison to others. In the present study's model, I propose LMX-related emotions as outcomes of having a relative disadvantage within the group (i.e., the upward comparison of low LMXSC) as well as the outcomes of relative advantage (i.e., the downward comparison of high LMXSC).

In the next chapter, I use attribution theory (Weiner, 1985) and research on interpersonal justice to propose moderators of LMXSC-emotion linkages.

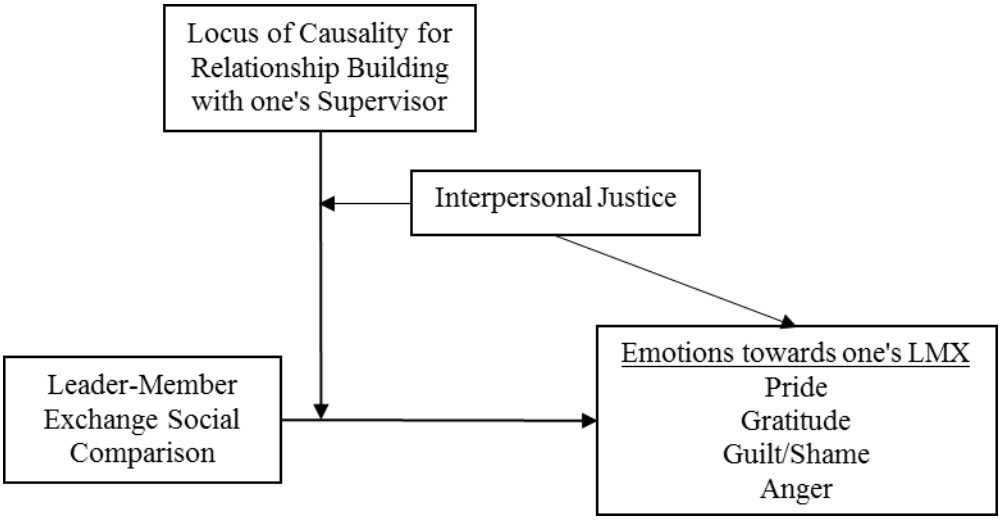
Hypotheses and Related Justifications

There is limited research on the outcomes of LMX variability constructs, and existing research is restricted to behaviors and attitudes as outcomes. Emotions have not been previously examined as outcomes of LMXSC, yet there is reason to suggest different emotions arise when social comparisons are made (Greenberg et al., 2007). I extend attribution theory to suggest LMXSC's influence on LMX-related emotions is in part determined by the perceptions and attributions made regarding one's relationship with the leader.

The section proceeds as follows. First, I briefly review existing research on causal attributions and define locus of causality for relationship building with one's supervisor (locus of causality for RBS). Core affect theory is then used to describe how emotions are conceptualized in this study. I then use attribution theory and research on fairness to describe the LMX-related emotions that would result from different combinations of LMXSC, interpersonal justice, and locus of causality for RBS. Related hypotheses are put forth. For reference, these hypotheses are modeled in Figure 1.

Figure 1

Study Model



Review of attribution theory and locus of causality

Attribution theory is often used to refer broadly to research on the causal inferences people make and how these inferences influence cognitive, affective, and behavioral outcomes. However, attribution research encompasses a variety of different theories and a range of constructs (Kelley & Michela, 1980). Underlying this stream of research is the notion that causal attributions help to develop frameworks for guiding effective adaptation to new situations and environments (Kelley & Michela, 1980; Weiner, 1985).

Attribution theory as we know it today has been elaborated in the past 50 years, starting with Heider's (1958) suggestion that causes of events can be viewed as internal or external. Rotter (1966) later posited the notion of "locus of control," suggesting that individuals vary in the extent to which they believe they can control the events occurring around them. Weiner et al. (1971) expanded this idea by suggesting that internal causes can be viewed as stable (e.g., one's level of trait ability) or fluctuating (e.g., transient emotions).

Weiner (1985) summarized causal attribution research as focusing on three core properties: locus of causality, stability, and controllability. Locus of causality attributions involve judging the cause of an outcome to be either self-induced (internal locus of causality) or caused by another person or object in the surrounding context (external locus of causality). Stability refers to whether or not the attributed cause is expected to be permanent or transient. Controllability refers to whether the attributed cause was entirely under the authority of the causal agent, or if it was performed for reasons outside of the causal agent's power. I focus here on attributions of locus of causality, which can be viewed as the first and most influential attribution made in the attribution process (Weiner, 1985).

According to Weiner's (1985) framework, locus distinguishes between internal and external attributions. If an employee receives a poor performance rating and blames him or herself, that employee makes an *internal* attribution; if the employee blames other coworkers for his or her poor performance rating, that employee makes an *external* attribution. Here I make assumptions based on the extent to which subordinates view their behavior as determining the quality of the LMX relationship, as well as the extent to which they view the supervisor's behavior as playing a causal role in LMX relationship building.

It is important to distinguish between locus of causality and locus of control. Locus of control is a stable individual difference, whereas locus of causality refers to a more proximal causal attribution made to an actor or situation "blamed" for an outcome (Weiner, 1985). Further, locus of control emphasizes whether an individual perceives he or she has internal control over his or her environment, or if instead his or her environment is controlled by external factors. As Weiner (1985) notes, locus of control conflates perceptions of locus of causality and controllability. As an example, consider a student who fails an algebra test. There is no question

as to "who" failed the test—the student did. Thus, the student would be perceived to be the casual "locus." However, other factors may determine whether the failure was under the student's control. If the student was enrolled in an algebra course and has skipped classes for the past month, we would likely perceive this failure to be controllable. If the student was in 3rd grade and was still trying to learn multiplication and division, we would likely view the failure as beyond the student's control.

Here, I focus on Weiner's (1985) locus of causality in "who" determines how relationships are built with the supervisor. Expectations regarding controllability are only indirectly made to the extent that locus attributions are made prior to attributions of controllability. That is, if a person views the supervisor as a greater causal agent in supervisor-subordinate relationship building than subordinates, the question of controllability, while not answered, would focus more narrowly on the supervisor.

Locus of causality for relationship building with one's supervisor

In this study, I propose locus of causality for relationship building with one's supervisor interacts with LMXSC to elicit various subordinate LMX-related emotions. I define locus of causality for relationship building with one's supervisor (locus of causality for RBS) as *a causal attribution concerning the extent to which a person or thing determines the quality of LMX developed within the dyad*. I focus here on self- and supervisor- attributed locus of causality for RBS.

How do these loci of causality for RBS attributions develop? A number of factors likely contribute to the formation of these attributions over time. Experiences with one's supervisor are likely the most important determinant of these attributions. If a supervisor appears to selectively pay attention to a subordinate, that subordinate may begin to perceive that supervisor behavior

tends to drive (or halt) relationship building. If a subordinate has a poor quality LMX but is able to improve this LMX quality over time, that subordinate may feel his or her own behavior is important for relationship building.

Factors that influence subordinates' perceptions of and behaviors toward the supervisor may too indirectly shape locus of causality for RBS attributions. For example, individual differences such as locus of control may influence the extent to which subordinates display proactive behaviors within their supervisory relationships and in turn may affect self-attributed locus of causality for RBS. Similarly, cultural values such as power distance (House et al., 2004) may influence perceptions of the supervisor's role in relationship building. Workgroup culture may also influence locus of causality for RBS attributions. Certain relationship building behaviors within a group are encouraged or rewarded, whereas others may be discouraged or even punished. In some groups, subordinate proactivity in seeking out more frequent and successful exchanges with the supervisor may be viewed as effective; in other groups, these behaviors may be seen as presumptuous and disrespectful.

By focusing on supervisor- and self-attributed locus of causality for RBS, the current model applies attribution theory as a framework that expands our understanding of how LMXSC influences LMX-related emotions (i.e., pride, gratitude, guilt, shame, and anger). That is, self-attributed locus of causality for RBS is expected to elicit pride when LMXSC is high and guilt and shame when LMXSC is low. Supervisor-attributed locus of causality for RBS is expected to result in gratitude when LMXSC is high and anger when LMXSC is low. However, before discussing the rationale for these expected relationships, an expanded framework for conceptualizing emotions is needed.

Bridging differing conceptualizations of emotions

Attribution theory is part of a research stream focusing on emotional appraisals and how sense-making processes result in discrete emotions (Keltner & Lerner, 2010). Weiner's (1985) attribution framework conceptualizes emotions as a consequence of attributional thinking, but this treatment of emotion does not perfectly parallel the way emotions are defined in most affect research. In an effort to meaningfully link this model's expectations based on attribution theory to the broader affect literature, I frame emotions in the current study using Russell's (2003) core affect theory. Core affect theory explicates the fundamental elements which underlie emotions, thereby providing an integrative framework that links different ways of thinking about affect. In this section, I compare and contrast how emotions are described in attribution theory with how they are described in other areas of affect research. Then, I describe core affect theory, present it as a unifying framework that bridges disparate conceptualizations of emotion, and describe how it applies to the present model's understanding of emotions towards one's LMX.

Current research on affect tends to focus on four levels of analyses: emotional traits, moods, emotions, and sensory experiences (Keltner & Lerner, 2010). Emotional traits reflect typical patterns in intraindividual affective experiences that display consistency across contexts. Moods represent diffuse positively or negatively valenced affective experiences that are without an immediate target and last for extended periods of time. Emotions, in contrast, are targeted towards an object in a given context (e.g., feeling angry at someone) and are assumed to be briefer than moods. Sensory experiences are the shortest, most immediate affective experiences, focusing on transitory pleasure and pain. In general, emotional traits are considered distal and stable, whereas moods, emotions, and sensory experiences are considered to be states that fluctuate with regularity (Keltner & Lerner, 2010).

Of these four levels of analysis, attribution theory focuses on emotions, because emotions represent responses to targets and therefore are therefore inherently linked to appraisals. At first glance, research on emotion appraisals is not inherently at odds with the majority of affect research; both literatures treat emotions as non-permanent and target-focused. Yet some confusion arises regarding the role of cognition. For example, anger has been manipulated in lab research by having study participants write an essay that was graded by a confederate as "The worst essay I have ever read!" (Bushman & Baumeister, 1998; Bushman & Whitaker, 2010). In this scenario, anger towards the confederate or the situation in general is expected to have an abrupt onset with a negative neurophysiological component. By comparison, attribution theory focuses on cognitive attributions that generate anger; that is, anger should result from "…an ascription of a negative, self-related outcome or event to factors controllable by others" (Weiner, 1985, p. 562). That is, according to attribution theory, emotions directly result from cognitive sense-making, which could involve both automatic thought processes and more deliberate cognitions.

Another area of confusion involves the properties of targets of emotion. In attribution theory, emotions can be targeted towards the quality of long-standing exchanges, processes, or developments. From an attribution-based perspective, an individual may feel proud of the hard work that went into completing a project, angry towards their organization's policies, or grateful regarding his or her high quality relationship with the supervisor. These emotions are different from feelings of pride after seeing an 'A' on a test, anger after a request is rejected by one's organization, or gratitude immediately after receiving a special privilege from the supervisor. Attribution theory views emotions as having more "cool," evaluative aspects; most affect research views emotions as "hot" and immediate.

Russell's (2003) core affect theory attempts to bridge these two conceptions of emotion. Core affect theory posits that emotions are not fundamental entities, but instead, are "constellations" of various more specific fundamental entities. The most basic entities involved in emotions are core affect and affective quality. *Core affect* is a non-targeted "neurophysiological state that is consciously accessible as a simple, non-reflective feeling that is an integral blend of hedonic (pleasure-displeasure) and arousal (sleepy-activated) values" (Russell, 2003, p. 147). Core affect is a "hot" element of affect and remains in constant fluctuation. Second, the perception of *affective quality* involves the "perception of pleasant-unpleasant and activating-deactivating qualities of stimuli" (Russell, 2003, p. 148). These perceptions are "cold," but are activated by the "hot" of core affect. According to Russell (2003), core affect and affective quality are the most basic components of affect that, combined with information processing and behavioral planning, comprise the majority of what people refer to as *emotions* (p. 148).

A third entity that contributes to emotions is *attributed affect*. Attributed affect is the core affect attributed to a target; this includes feeling sympathetic to a friend's woes, feeling sad at a loss, or liking a funny person at a party. Both evaluations and liking fit within the domain of attributed affect. Russell (2003) notes that these attributions are typically quick and automatic, but can be deliberate (p. 154). Attributed affect involves labeling what emotion is felt and what target it is felt towards.

According to core affect theory, these three elements (and other less primary elements) occasionally manifest as emotional episodes. However, in emotional episodes, "each ingredient is an ongoing process, and these ingredients need not occur in the order given." An object may be perceived in terms of affective quality, which may lead to a change in core affect and

subsequently a change in attributed affect. However, affective quality, core affect, and attributed affect can occur in any order and are assumed to be constantly in flux. Furthermore, the "constellations" that make up emotional episodes do not favor any individual type of affective element, but can be formed from any combination of these elements.

Core affect theory suggests that when individuals categorize and report their emotions, they report *emotional meta-perceptions*. These perceptions are influenced by the "raw data" of core affect, perceived affective quality, and attributed affect, but they are also subject to the fallibilities of information processing and are interpreted in the context of pre-existing mental scripts. As Russell (2003) writes, "emotional meta-experience is mediated by an interpretive process, and that process might be subject to motives and biases" (p.165).

Returning to the discrepancies in how emotions are conceptualized in attribution theory as compared to existing research on emotions, core affect theory would suggest both conceptualizations result in measures that reflect emotional meta-perceptions comprised in part by affect attributions. That is, emotions in both attribution theory and research on emotions refer to a psychologically constructed experience that links core affect to a focal target. However, attribution theory and research on emotions treat cognition and time differently, because they emphasize different forms of information processing and different potential time frames of relevant "raw data." In attribution theory, emotions are emotional meta-perceptions that, to a greater extent than in research on emotions, are considered to be comprised of "cold" affect attributions and involve information processing that works to summarize affective experiences across time (e.g., feeling proud of the hard work that went into a project). Other areas of research often focus on emotional meta-perceptions that are heavily influenced by one's immediate core affect and immediate ("hot") affect attributions. Using core affect theory as an

underlying framework, in the present study I define LMX-related emotions as *emotional meta-perceptions that reflect a summary evaluation of affective elements (e.g., core affect, perceived affect quality, and affect attribution) experienced within one's LMX relationship and are most heavily influenced by affect attributions regarding one's LMX quality.*

To understand the rationale for the current study's hypotheses, it is also important to further review specific characteristics of each emotion within the model. Pride is defined as "an [emotion] generated by appraisal that one is responsible for a socially valued outcome or for being a socially-valued person" (Mascolo & Fischer, 1995, p. 66). The current study focuses on context-specific pride (i.e., "authentic pride") and not pride as a general positive view towards the self ("hubristic pride"; Williams & DeSteno, 2008). Gratitude is defined as "an emotional response to a gift" (Emmons & Crumpler, 2000, p. 56) and "a reliable response to the receipt of gifts" (McCullough, Tsang, & Emmons, 2004, p. 295). Shame and guilt are self-conscious emotions which require a self-appraisal whereas other emotions (e.g., anger) do not necessarily require the same level of self-evaluation (Tracy & Robins, 2006). Guilt is thought to occur when individuals blame themselves for a negative aspect of their behavior, whereas shame occurs when individuals blame themselves for a stable, negative aspect of themselves (Tracy & Robins, 2006, p. 1340). Last, anger is defined as "…an emotion that involves an appraisal of responsibility for wrongdoing by another person or entity and often includes the goal of correcting the perceived wrong" (Gibson & Callister, 2010, p. 67). The defining qualities of these emotions become important in understanding the predictions set forth by the model, discussed further in the following sections. It is important to note that model predictors are not expected to explain all variance in these emotions; thus, hypotheses referring to "low levels" of emotions refer to little or no affective experiences typically associated with that emotion.

LMXSC's main effect on LMX-related emotions

When subordinates make an assessment of whether their LMX is of a better or worse quality than the LMX quality of coworkers with the same supervisor, they are assessing the extent to which they have special privileges, opportunities, and resources that others do not have. Because these assets are valued but limited, social comparisons of one's LMX relative to peers should elicit an affective reaction. A social comparison- affect linkage is supported by social comparison research. Specifically, the *contrast effect* refers to the observation that upwards comparisons tend to elicit increased negative affect, whereas downwards comparisons tend to elicit increased positive affect (Greenberg et al., 2007). Research has shown regardless of one's level of self-esteem, moods are improved following a downward comparison (Gerrard, Gibbons, & Boney McCloy 1993). Furthermore, researchers have argued self-conscious emotions like shame, guilt, and pride are almost always the consequence of social comparisons (Baldwin & Baccus, 2004).

What is the mechanism underlying this effect? Buunk, Collins, Taylor, VanYperen, & Dakof (1990) suggest that when individuals make an upward comparison, they realize both that they are not as well off as others and that they could be better off than they presently are. Accordingly, those with low LMXSC should be more likely to feel shame, guilt, and anger towards their LMX, because they are likely to feel their lower levels of resources set them at a relative disadvantage. Conversely, when individuals make a downward comparison, they notice their relative advantage and observe they could be worse off than they presently are. This downward counterfactual contributes to positive emotions like gratitude and pride. Empirical research supports this notion: downward comparisons have shown associations with feelings of gratitude (Emmons & McCullough, 2003) and pride (Webster, Duvall, Gaines, & Smith, 2003).

For these reasons, LMXSC was expected to be positively associated with positive emotions (i.e., pride, gratitude) and negatively associated with negative emotions (i.e., guilt, shame, anger).

H1: LMXSC will be associated with subsequent emotions, such that

H1a: LMXSC will be positively associated with positive emotions (pride, gratitude)

H1b: LMXSC will be negatively associated with negative emotions (guilt, shame, anger).

LMXSC and Locus of causality for RBS: LMX-related emotion as an outcome

Attribution theory suggests attributions are made when outcomes are perceived to be a success or failure. For subordinates, high LMXSC is arguably a perceived success. Attribution theory also posits that when individuals experience a successful outcome and attribute the success to their own behavior, they are especially likely to experience increased self-esteem (Brown & Marshall, 2001) and positive, self-related emotions (Weiner, 1985). Regarding the interactive effect of self-focused locus of causality and successful outcomes on pride, Weiner (2000, p. 5) writes, "Pride and increments in self-esteem require internal causality for success…. all at the table can enjoy a great meal…only the cook can experience pride."

Pride is conceptualized as a positive, self-related emotion (Baldwin & Baccus, 2004). Further, as noted earlier, pride is defined as "an [emotion] generated by appraisal that one is responsible for a socially valued outcome or for being a socially-valued person" (Mascolo & Fischer, 1995, p. 66). This definition emphasizes both a) the presence of a socially valued outcome or status, and b) an attribution that this success is due to one's own actions or merits. In the present study, high LMXSC subordinates perceive they possess a socially valued status; high self-attributed locus of causality for RBS subordinates are likely to feel their LMX quality is a

consequence of their actions and merits. Accordingly, subordinates with high LMXSC and high self-attributed locus of causality for RBS would be especially likely to experience feelings of LMX-related pride.

Attribution theory contends shame and guilt will occur when individuals experience a failure they could have been avoided (Weiner, 1985). When subordinates think they have a poor quality relationship with their supervisor as compared to their peers' LMX relationships, they are likely to feel deprived of the better social standing peers possess through their relationships with the supervisor. According to Lewis (1971), guilt and shame both deal with a self-inflicted discrepancy between one's ideal and actual self. If low LMXSC subordinates believe their own behavior "caused" their LMX quality, they may view their low relative standing as due to their own behavior and consequently experience guilt. If they view their contribution to their LMX quality as stemming from their personality or ability, they are expected to experience shame. Thus, as per attribution theory, low LMXSC subordinates who believe their own behavior has determined their LMX quality are especially likely to experience LMX-related guilt and shame.

Research on the interactional approach to justice (also referred to as the two-stage model of fairness or fair-process model) has put forth and tested predictions similar to those suggested by attribution theory. As a result of the similarities, tests of the interactional approach to justice indirectly support the current study's model (Krehbiel & Cropanzano, 2000; Weiss et al., 1999). In the interactional approach to justice, emotions are assumed to emerge through the interaction of outcome favorability appraisals (*is this a good or bad outcome for me personally?*) and appraisals of processes and procedures that lead to that outcome (*why and how did the outcome come to be?*). In the current study, LMXSC could be viewed as a type of *outcome favorability*, in that high LMXSC is a desirable outcome likely to elicit positive emotions and low LMXSC is

an unattractive outcome likely to elicit negative emotions. Locus of causality for RBS could arguably contribute to subordinates' understanding of *why and how* they have their level of LMXSC. Consequently, this model's interaction focuses on *outcome favorability* (i.e., being better or worse off than peers in terms of one's LMX) and an attribution made regarding *why and how* that outcome came to be (i.e., locus of causality for RBS). This is particularly true for self-attributions: individuals with high self-attributed locus of causality for RBS are likely to feel they have some control over relationship-building with their supervisor.

It is important to note that these two frameworks do not provide an exact match; for example, locus of causality for RBS attributions is one indicator of "how" LMX comes to be and is *not* an assessment of procedural or interactional justice. However, highlighting the similarities between these two models adds further empirical support for the current models' hypotheses. Just as the current study anticipates LMX-related pride will be highest among high LMXSC and high self-attributed locus of causality for RBS subordinates, Weiss et al. (1999) found pride was highest when positive outcomes resulted from a fair procedure. Just as LMX-related guilt and shame are expected to be experienced by low LMXSC and high self-attributed locus of causality for RBS subordinates, Barclay, Skarlicki, and Pugh (2005) observed that negative inward-focused emotions (i.e., shame and guilt) were highest when individuals reported fair procedures (high procedural or high interactional justice) and unfavorable outcomes.

Expectations for the LMXSC- self-attributed locus of causality for RBS interaction are as follows. The main effect of LMXSC on LMX-related emotions, as put forth in Hypothesis 1, is expected to be observed. Attribution theory would suggest that for high LMXSC subordinates, the extent to which one's LMX quality is attributed to one's own behavior should be positively related to LMX-related pride. Further, the theory suggests subordinates with high LMXSC and

high self-attributed locus of causality for RBS should exhibit the highest level of LMX-related pride. Outcome favorability has shown a main effect on pride in previous research (Weiss et al., 1999); thus, those with high LMXSC and low self-attributed locus of causality for RBS should still exhibit reasonably high levels of LMX-related pride.

For low LMXSC subordinates, Tracy and Robins (2004, p. 113) noted people are motivated to maintain their pride and self-esteem and will modify their thinking (i.e., take credit for successes while externalizing failures) to preserve positive self-evaluations. Thus, even subordinates with low LMXSC and low self-attributed locus of causality for RBS should have moderate levels of LMX-related pride. However when a negative outcome is self-attributed (i.e., low LMXSC and high self-attributed locus of causality for RBS), subordinates will view their low LMXSC as a self-inflicted failure and will not be able to salvage their self-esteem. Consequently, these subordinates should experience the lowest levels of LMX-related pride.

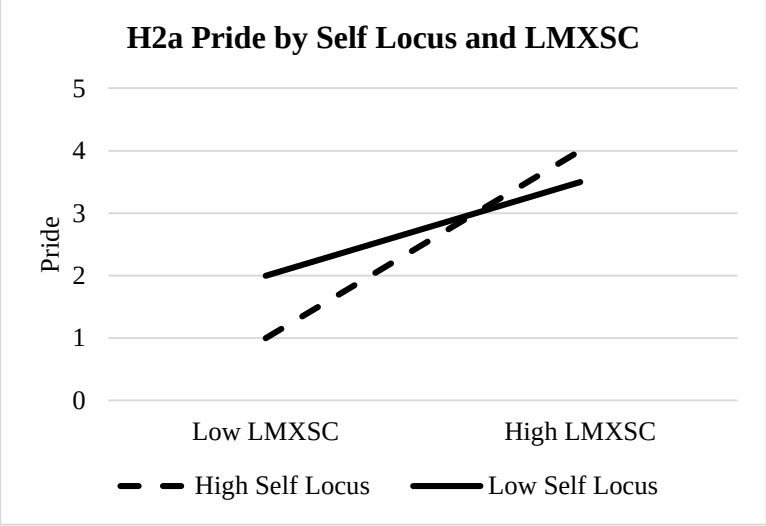
Expectations for LMX-related guilt and shame are as follows. High LMXSC subordinates hold a valued social status. Regardless of the extent to which they view their LMX as driven by their own behavior, there is little reason to expect such subordinates would experience anything more than low levels of LMX-related guilt and shame. For individuals with low LMXSC, increasing levels of self-attributed locus of causality for RBS should be positively associated with LMX-related shame and guilt. Low LMXSC subordinates who do not see their LMX as driven by their own behaviors should feel some LMX-related guilt and shame, purely based on their undesirable social status (i.e., low LMXSC). Yet as attribution theory suggests, shame and guilt should be highest when subordinates feel worse off (low LMXSC) and attribute this to their own behaviors (high self-attributed locus of causality for RBS). This hypothesis is displayed graphically in Figures 2 and 3.

H2: LMXSC will interact with self-attributed locus of causality for RBS such that:

H2a: Self-attributed locus of causality for RBS will accentuate the positive main effect of LMXSC on LMX-related pride, such that subordinates with high LMXSC and high self-attributed locus of causality for RBS will have the highest level of pride, and subordinates with low LMXSC and high self-attributed locus of causality for RBS will have the lowest level of pride. Among those with low self-attributed locus of causality for RBS, those with high LMXSC will report higher pride than those with low LMXSC.

Figure 2

Hypothesized interaction between LMXSC and Self-attributed Locus of Causality predicting LMX-related Pride



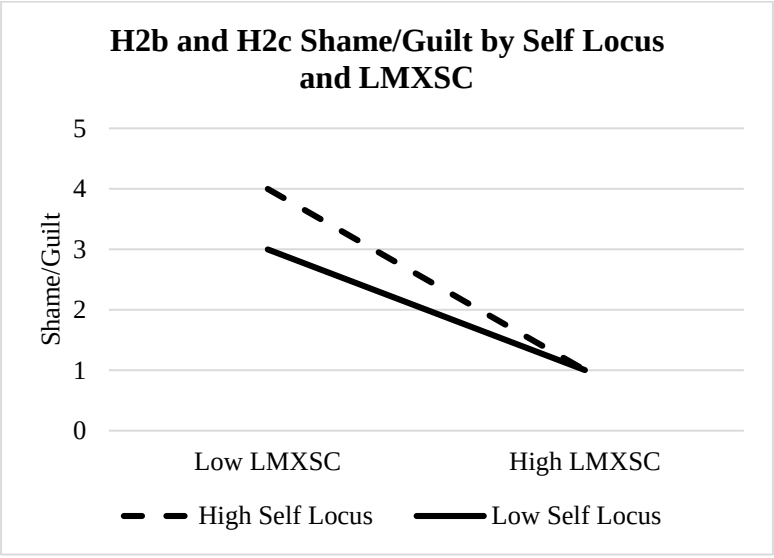
H2b: Self-attributed locus of causality for RBS will moderate the effect of LMXSC on LMX-related guilt. Subordinates with low LMXSC and high self-attributed locus of causality for RBS will have the highest level of guilt. Subordinates with low LMXSC and

low self-attributed locus of causality for RBS will have the second highest level of guilt. Those with high LMXSC will show the lowest levels of guilt, regardless their level of self-attributed locus of causality for RBS.

H2c: Self-attributed locus of causality for RBS will moderate the effect of LMXSC on LMX-related shame. Subordinates with low LMXSC and high self-attributed locus of causality for RBS will have the highest level of shame. Subordinates with low LMXSC and low self-attributed locus of causality for RBS will have the second highest level of shame. Those with high LMXSC will show low levels of shame, regardless their level of self-attributed locus of causality for RBS.

Figure 3

Hypothesized interaction between LMXSC and Self-attributed Locus of Causality predicting LMX-related Guilt/Shame



Attribution theory holds different expectations when success is attributed to external forces. When an outside person or situation is viewed as causing a positive, self-relevant

outcome, individuals are expected to feel gratitude towards that person or situation (Weiner, 1985). As discussed earlier, gratitude is defined as a positive emotion in response to a gift. In the context of LMXSC, subordinates who perceive they have high LMXSC and believe the supervisor determines their LMX quality are likely to feel their supervisor has over time "given" them a higher quality relationship relative to other subordinates. Therefore, high LMXSC subordinates who believe their supervisor has determined their LMX quality should be particularly likely to experience LMX-related gratitude.

As noted earlier, anger is defined as "…an emotion that involves an appraisal of responsibility for wrongdoing by another person or entity and often includes the goal of correcting the perceived wrong" (Gibson & Callister, 2010, p. 67). Key to this definition is that another individual or entity is appraised as being accountable for a wrongdoing. When a subordinate perceives supervisor behavior has strongly influenced the LMX quality and thinks his or her LMX is worse than others' LMX quality, that subordinate is likely to feel displeased by this social comparison and blame the supervisor for these feelings. Attribution theory posits that when outcomes have a negative impact on the self and are viewed as resulting from arbitrary and unjustified behavior of others, anger is likely to result (Weiner, 1985). As such, employees who perceive lower LMXSC and think their supervisor's behavior has driven the quality of their LMX are particularly likely to feel LMX-related anger.

Some empirical research on the interactional approach to justice support these expectations for LMX-related anger. Both Weiss et al. (1999) and Krehbiel and Cropanzano (2000) observed anger was highest when negative outcomes resulted from an unfavorably biased (Weiss et. al., 1999) or unfair procedure (Krehbiel & Cropanzano, 2000). Barclay, Skarlicki, and Pugh (2005) observed negative outward-focused emotions such as anger to be highest when

outcomes were unfavorable and procedurally unfair. It is, however, important to note that inferences derived from the interactional approach to justice are only weakly applicable to supervisor-attributed locus of causality for RBS. Supervisor-attributed locus of causality for RBS may be viewed as unfair to the extent that it *prohibits* subordinates from influencing the quality of their LMX. For example, if a supervisor is rarely in communication with a subordinate, the subordinate may view the supervisor's control over their LMX quality as unfair. However, supervisor behavior may influence LMX quality in ways that do not leave subordinates powerless to change their LMX. Thus, inferences from studies testing the interactional approach to justice are considered here with caution.

The specific expectations for the LMXSC-supervisor-attributed locus of causality for RBS interaction are as follows. For LMX-related gratitude, LMXSC-emotions main effect is anticipated as per Hypothesis 1. Attribution theory would indicate that LMX-related gratitude is highest when one experiences high LMXSC (a positive outcome) and perceives one's LMX as driven by one's supervisor (caused by an external force). In considering subordinates with high LMXSC who do not view the supervisor as strongly influencing their LMX, outcome favorability has shown a positive main effect on happiness (Weiss et al., 1999). Thus, there is reason to expect LMX-related gratitude will still be moderately high for high LMXSC, low supervisor-attributed locus of causality for RBS subordinates.

Looking next to low LMXSC subordinates, those who think supervisor behavior has little to do with their LMX quality likely attribute their LMX to factors beyond the supervisor's purview (e.g., task demands). For this reason, subordinates with low LMXSC and low supervisor-attributed locus of causality for RBS are expected to have low, but not the lowest, levels of gratitude. Attribution theory suggests those who perceive supervisor behavior to be a

strong determinant of LMX quality and low LMXSC will likely feel wronged by their supervisor, and thus, should exhibit the lowest levels of gratitude.

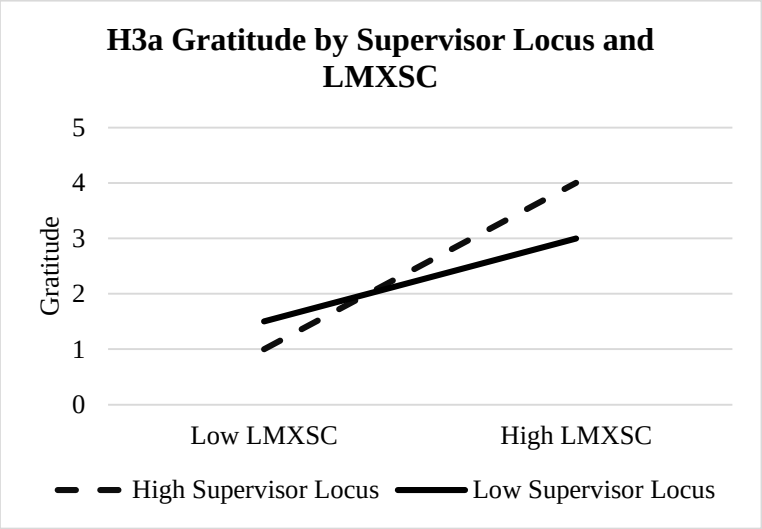
Turning next to LMX-related anger, again an LMXSC-emotion main effect is anticipated. Because subordinates with high LMXSC have a privileged status and are less likely to feel deprived, they are anticipated to show low levels of LMX-related anger irrespective of their level of supervisor-attributed locus of causality for RBS. Supervisor-attributed locus of causality for RBS is expected to show a positive relationship with anger for low LMXSC. Subordinates with low LMXSC and low supervisor-attributed locus of causality for RBS are less likely to blame their supervisor for their LMX quality, but may still perceive a deficit in the LMX quality that they consider to be "wrong" and in need of correction. Despite the lack of insight into "who" caused a subordinate's LMX quality, the experience of a deficit should still be associated with moderate levels of LMX-related anger. When the cause of one's LMX quality is attributed to the supervisor and LMXSC is low, attribution theory suggests LMX-related anger should be highest. This hypothesis is displayed graphically in Figure 4 and 5.

H3: LMXSC will interact with supervisor-attributed locus of causality for RBS such that:

H3a: Supervisor-attributed locus of causality for RBS will accentuate the positive main effect of LMXSC on LMX-related gratitude, such that subordinates with high LMXSC and high supervisor-attributed locus of causality for RBS will have the highest level of gratitude, and subordinates with low LMXSC and high supervisor-attributed locus of causality for RBS will have the lowest level of gratitude. Among those with low supervisor-attributed locus of causality for RBS, those with high LMXSC will report higher gratitude than those with low LMXSC.

Figure 4

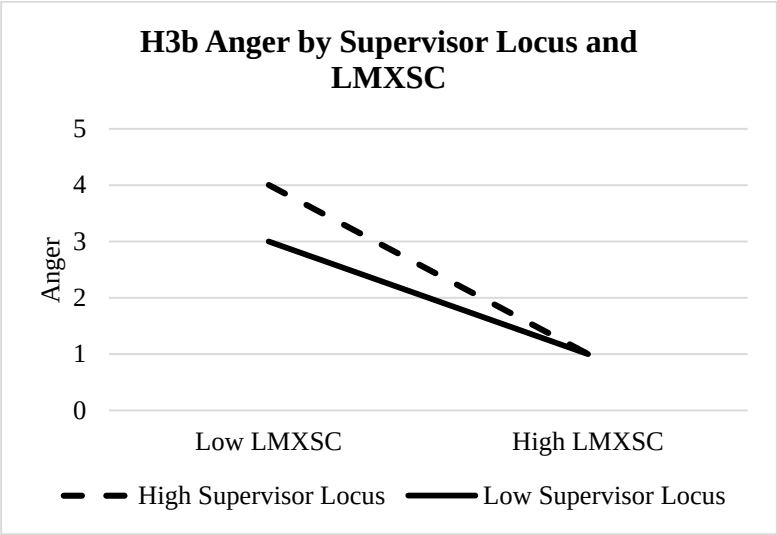
Hypothesized interaction between LMXSC and Supervisor-attributed Locus of Causality predicting LMX-related Gratitude



H3b: Supervisor-attributed locus of causality for RBS will accentuate the negative main effect of LMXSC on LMX-related anger for individuals with low LMXSC, such that subordinates with low LMXSC and high supervisor-attributed locus of causality for RBS will have the highest level of anger. Low LMXSC subordinates with low supervisor-attributed locus of causality for RBS will report less anger. Subordinates with high LMXSC will report low anger, regardless of their level of supervisor-attributed locus of causality for RBS.

Figure 5

Hypothesized interaction between LMXSC and Supervisor-attributed Locus of Causality predicting LMX-related Anger



Interpersonal justice and group values model

Anger is frequently the focal emotion in justice theories when injustices are at their highest. Thus far, anger has been discussed as most likely when subordinates experience low LMXSC and perceive high supervisor-attributed locus of causality for RBS. Yet LMX-related anger could be attenuated by respectful and polite interpersonal treatment from the supervisor (Lind & Tyler, 1988). Here, I describe why interpersonal justice is expected to show a three-way interaction with LMXSC and locus of causality for RBS in predicting levels of LMX-related anger.

Interpersonal justice is a dimension of interactional justice, which was first referred to in a chapter by Bies and Moag (1986). In their study, Bies and Moag asked job applicants how company recruiters should act, and several themes emerged: open and candid communication about decision-making (truthfulness), sufficient explanations of decision-making outcomes

(justification), polite and considerate interpersonal behavior (respect), and a lack of biased or prejudicial statements (propriety). Greenberg (1993) later expanded this research by suggesting interactional justice is comprised of two factors, informational justice and interpersonal justice. *Informational justice* was intended to describe justification and truthfulness, whereas *interpersonal justice* was intended to describe respect and propriety rules. Note that interpersonal justice is the focus here because it fits best with past research on the buffering effect of fairness (Brockner & Wiesenfeld, 1996); informational justice will also be collected for supplementary analyses.

The group values model provides some support for the importance of interpersonal justice in how subordinates think and feel. Although Lind and Tyler's (1988) group values model is explained in terms of procedural justice, the model highlights the importance of both procedural and interpersonal justice. The group values model posits individuals value group membership because it fulfills the psychological need for identity and self-esteem. Procedures and interactions are perceived fair to the extent that they uphold shared values, such as treating members with dignity and respect. Individuals are in fact expected to care about receiving polite interpersonal treatment "above and beyond having immediate, instrumental control over their environment" (Lind & Tyler, 1988, p. 238) According to the model, disrespectful interpersonal behavior is noteworthy to individuals because it violates a shared value for treating members respectfully, and denies target individuals the esteem otherwise associated with full group membership.

Brockner and Wiesenfeld (1996) suggest that within the group values model, fair treatment reassures individuals their identity and esteem needs will be met in the future. From this perspective, fair treatment may "buffer" the psychological consequences of negative

outcomes, in that respectful treatment provides an indication that the underlying relationship has a relational (versus transactional) quality and esteem and identity needs will be fulfilled in the future (Brockner & Wiesenfeld, 1996). In this study's model, the extent to which the supervisor displays polite, considerate treatment may buffer levels of LMX-related anger, particularly amongst individuals with both low LMXSC and high supervisor-attributed locus of causality for RBS. That is, individuals with low LMXSC and a high supervisor attributed locus of causality for RBS are likely to feel disappointed in their LMX quality; however, respectful treatment from one's supervisor may satisfy subordinates' need for esteem as a group member and thus may weaken the amount of LMX-related anger felt.

Given interpersonal justice is implied here as playing a role in determining the level of LMX-related anger felt, a pertinent question is: what role does interpersonal justice play in the model's other LMX-related emotions, if any? Interpersonal justice is not expected to determine levels of self-conscious LMX-related emotions (pride, guilt, and shame), because the self-conscious emotions are expected to emerge insofar as successes and failures are *self-attributed*. Subordinates' social comparisons (i.e., LMXSC) and the extent to which their behavior is attributed to determining LMX quality (i.e., locus of causality for RBS) focus on perceptions of one's status and personal culpability in relationship building. These characteristics correspond to the defining characteristics of self-conscious emotions. Interpersonal justice, by comparison, is a perception of the supervisor's behavior and treatment, which is externally-focused and likely not relevant for LMX-related pride, guilt, or shame. For these reasons, interpersonal justice is also not expected to interact with LMXSC's main effect on self-conscious emotions, nor is it expected to moderate the interaction of self-attributed locus of causality for RBS and LMXSC on

self-conscious emotions. Simply put, respectful treatment from one's supervisor does not add relevant information to expected relationships with self-conscious emotions.

Polite and considerate treatment should however should play a role in the extent to which *externally-focused* emotions are experienced. Gratitude and anger are emotions that are felt in relation to a person or thing assumed to cause a self-relevant outcome; in the current study, the focus is on emotion felt specifically regarding one's LMX quality. Because interpersonal justice focuses on the perception of respectful and considerate treatment from the supervisor, there is reason to assume interpersonal justice would be important factor in determining the level of LMX-related anger and gratitude.

Interpersonal justice has been linked to anger in past research (Rupp, McCance, Spencer, & Sonnentag, 2008). Thus, when inconsiderate and rude treatment is displayed by the supervisor, subordinates are anticipated to feel greater LMX-related anger. Although there is limited research on gratitude and interpersonal justice, reason would suggest that when subordinates feel their supervisor shows considerate and polite treatment, they will feel more LMX-related gratitude. Accordingly, interpersonal justice is expected to show a main effect on LMX-related gratitude and anger.

H4: Interpersonal justice will be associated with emotions, such that

a) interpersonal justice will be positively associated with LMX-related gratitude

b) interpersonal justice will be negatively associated with LMX-related anger

Interpersonal justice is also expected to moderate the relationship between LMXSC and externally-focused emotions. It is important to note that interpersonal justice and LMXSC are expected to show a slight positive association, given they both revolve around positive treatment experienced by one's supervisor. Yet interpersonal justice and LMXSC are conceptually

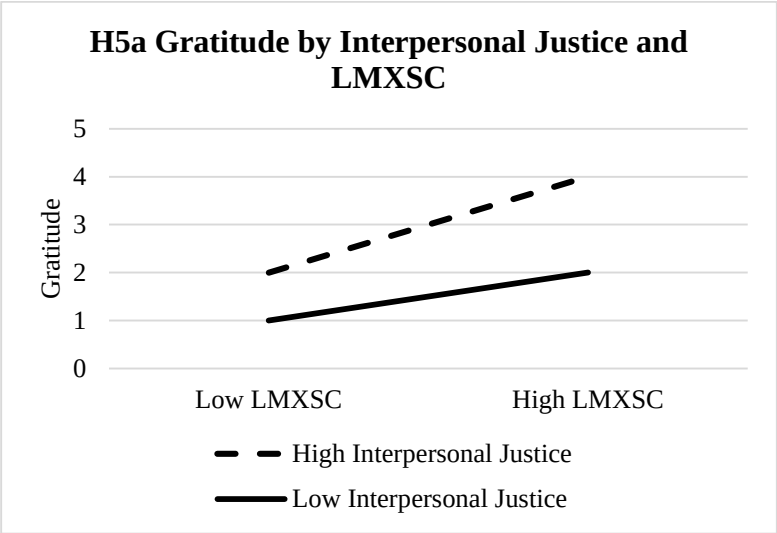
different in several ways. LMXSC reflects individuals' perceptions of their LMX quality *within the context of the LMX relationship held by their peers*. LMXSC is explicitly a perceived social comparison. Interpersonal justice may be influenced by perceptions of peers' relationships with the supervisor, but the construct's focus is on the treatment the subordinate experiences from the supervisor within a dyad. It is also important to note that LMX focuses broadly on the quality of social exchanges between the supervisor and subordinate (i.e., the extent to which expectations are met), but interpersonal justice focuses on one specific aspect of that social exchange: the extent to which the subordinate experiences respect and propriety from the supervisor. The group values model would argue polite and considerate treatment represents an especially potent characteristic of social exchange quality (Lind & Tyler, 1988), and should be especially important in determining outcomes. This hypothesis is displayed graphically in Figures 6 and 7.

H5: The effect of LMXSC on externally-focused LMX-related emotions will be moderated by interpersonal justice, such that

H5a: LMXSC will exhibit a main effect on gratitude, with high LMXSC subordinates experiencing higher levels of gratitude than low LMXSC subordinates. Interpersonal justice will be positively associated with gratitude, and this positive relationship will be higher for high LMXSC.

Figure 6

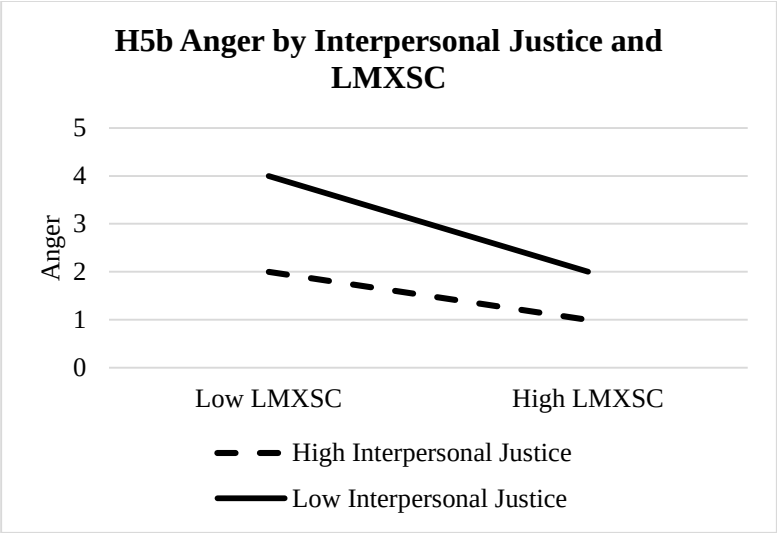
Hypothesized interaction between LMX-related Gratitude and Interpersonal Justice predicting LMX-related Gratitude



H5b: LMXSC will exhibit a main effect on anger, with low LMXSC subordinates experiencing higher levels of anger than high LMXSC subordinates. Interpersonal justice will exhibit a negative main effect on anger, and this negative relationship will be strongest for low LMXSC subordinates.

Figure 7

Hypothesized interaction between LMXSC and Interpersonal Justice predicting LMX-related Anger



Attribution theory posits that when outcomes have a negative impact on the self and are viewed as resulting from arbitrary and unjustified behavior of others, anger is likely to result (Weiner, 1985). I expect that when interpersonal justice is high, there will be less of a main effect of LMXSC on anger than when interpersonal justice is low. I also expect that when interpersonal justice is low, the effect of a supervisor locus of control will have a steeper positive slope. That is, seeing the supervisor as causing one's LMX quality will be more strongly associated with anger when LMXSC is low and interpersonal justice is low. When interpersonal justice is high, the effect of a supervisor-locus on anger for low LMXSC individuals will be weaker.

Expectations for this three-way interaction are as follows. First, **high LMXSC, high interpersonal justice** subordinates have a relative advantage in comparison to peers' LMX, and perceive they are treated with respect and dignity by the supervisor. That is, this condition represents a combination of the most positive perceptions that could be held by subordinates.

Because these two perceptions provide a strong positive reinforcement, the extent to which supervisor behavior determines LMX quality is not expected to exert influence on the low levels of anger experienced by these subordinates. Thus, high LMXSC, high interpersonal justice subordinates should experience the lowest levels of LMX-related anger, irrespective of their level of supervisor-attributed locus of causality for RBS.

High LMXSC, low interpersonal justice subordinates perceive the supervisor does not show them respect and consideration, but also perceive they have a relatively higher quality LMX than their peers possess. These subordinates are expected to exhibit a low level of LMX-related anger, because even though these subordinates experience poor interpersonal treatment, their LMXSC would indicate that they are still able to maintain a more effective relationship with the supervisor than other peers. However, these subordinates will experience higher levels of LMX-related anger than subordinates with high LMXSC and high interpersonal justice perceptions, given high LMXSC- high interpersonal justice subordinates exhibit the *most* positive combination of perceptions. Also, for high LMXSC, low interpersonal justice subordinates, their interpersonal treatment and relative social standing in terms of LMX will likely have a stronger influence on their levels of LMX-related anger than their level of supervisor-attributed locus of causality for RBS.

Low LMXSC, low interpersonal justice subordinates will experience the highest levels of LMX-related anger, because these subordinates have a comparatively worse relationship with the supervisor relative their peers and perceive the supervisor is impolite and disrespectful towards them. The LMX-related anger that is experienced in this scenario is exacerbated by the extent to which the supervisor is viewed to be culpable in determining the LMX quality that has been developed over time. If a rude supervisor who favors other peers is not viewed as

determining the LMX quality that emerges, the subordinate may instead be making other causal locus attributions. In such a scenario, the subordinate may blame a lack of resources in the task environment or an unsupportive environment (Shoss, Eisenberger, Restubog, & Zagenczyk, 2013) as interfering with the dyad's ability to develop a more effective LMX quality. Or, the subordinate may blame him or herself for the quality of the relationship that has developed over time. Whatever the alternative causal locus, the effect of low LMXSC and low interpersonal justice on LMX-related anger should be less strong when supervisor-attributed locus of causality for RBS is low.

When supervisor-attributed locus of causality for RBS is high amongst low LMXSC, low interpersonal justice subordinates, attribution theory would suggest LMX-related anger should be especially high. As was discussed previously, attribution theory would suggest that when a negative outcome (low LMXSC) is attributed to an external force (high supervisor-attributed locus of causality for RBS), LMX-related anger should be highest (Weiner, 1985). The group values model would suggest breaches in respectful interpersonal treatment deny individuals the esteem associated with full group membership. Accordingly, LMX-related anger will be higher for subordinates with low LMXSC, high supervisor-attributed locus of causality for RBS, and low interpersonal justice, in comparison to low LMXSC, high supervisor-attributed locus of causality for RBS subordinates who experience high interpersonal justice.

When subordinates experience **low LMXSC and high interpersonal justice**, their relatively lower standing in LMX quality suggests they should experience higher levels of LMX-related anger than high LMXSC subordinates. However among low LMXSC-high interpersonal justice subordinates, the extent to which supervisor-attributed locus of causality for RBS is

positively associated with LMX-related anger will be lessened given the presence of respectful, considerate supervisory treatment. This hypothesis is displayed graphically in Figures 8 and 9.

H6: Interpersonal justice will display a three-way interaction with LMXSC and locus of causality for RBS on LMX-related anger, such that…

- **LMXSC will exhibit a main effect on LMX-related anger, with low LMXSC subordinates reporting more anger than high LMXSC subordinates.**
- **Interpersonal justice will have a main effect on LMX-related anger, such that all combinations of the LMXSC-supervisor locus of control will exhibit higher anger scores when interpersonal justice is high as compared to when interpersonal justice is low.**
- **When interpersonal justice is high, the slope of anger is less steep for low LMXSC individuals as supervisor causal locus attributions increase; when interpersonal justice is low, the slope of anger for low LMXSC is steeper as supervisor causal locus attributions increase.**
- **The level of anger experienced by high LMXSC subordinates will be unaffected by supervisor-attributed locus of causality for RBS.**

Figure 8

Hypothesized interaction between LMXSC, Supervisor-attributed Locus of Causality, and Interpersonal Justice predicting LMX-related Anger: High interpersonal justice

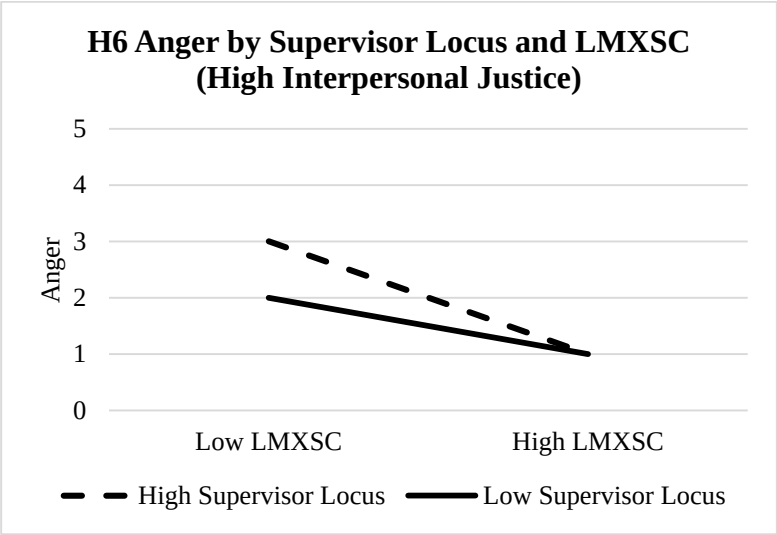
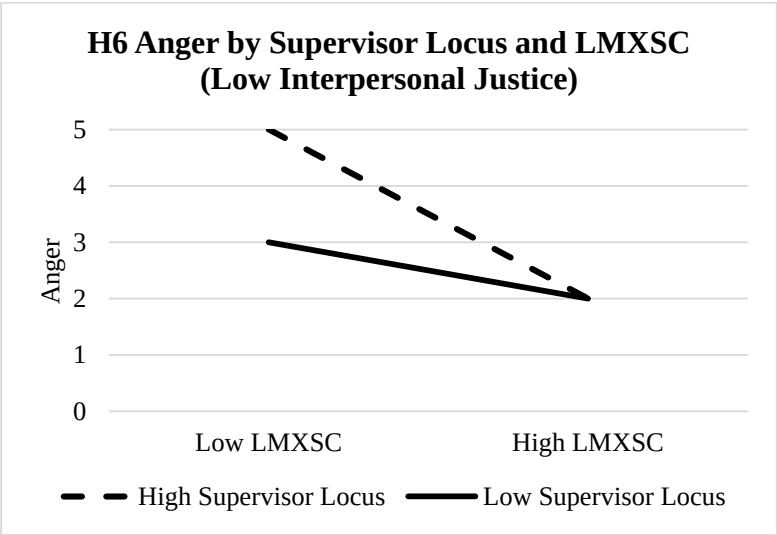


Figure 9

Hypothesized interaction between LMXSC, Supervisor-attributed Locus of Causality, and Interpersonal Justice predicting LMX-related Anger: Low interpersonal justice



To summarize, the present study's model uses attribution theory and interpersonal justice to explore when and how LMXSC links to different LMX-related emotions. Further, core affect

theory provides a theoretical lens for conceptualizing LMX-related emotions. In this model, LMXSC was expected to show a main effect on each emotion, but based on attribution theory, this main effect was expected to be moderated by levels of self- and supervisor-attributed locus of causality for RBS. Interpersonal justice was also expected to play a role in LMX-related emotions. The current study anticipated interpersonal justice moderates the LMXSC- supervisor-attributed locus of causality interaction on LMX-related anger. For externally-focused emotions (gratitude and anger) interpersonal justice is also expected to exhibit a main effect and moderate the LMXSC-emotion linkage.

METHOD

Pilot study to validate locus of causality for RBS measure

Locus of causality for RBS is a new construct put forth in this dissertation, and for this reason, I reviewed measures to determine how similar attributional constructs are measured and created a measure based on the review (see the measure section below for further description.) The pilot study assessed the validity of the new locus of causality for RBS measure by comparing it to other measures of locus of causality (i.e., evidence of convergent validity) and measures of related but distinct constructs like cause globality (i.e., evidence of discriminant validity).

Pilot study sample

The study was posted on Mechanical Turk with a recruitment description looking for 'individuals who work 20 hours or more per week" to take a one-time $1 survey. Only Mechanical Turk workers with a 99% task approval rate and 5000 previously approved tasks were allowed to see the recruitment posting and participate in the study.

Data was initially collected from 12 participants to ensure the survey and Mechanical Turk were both set up correctly. An error was found in the CDSII responses options, and consequently, CDSII data from these 12 participants are not included in the overall pilot study findings. All other data from these participants was included in the overall pilot results. The full pilot consisted of 374 MTurk participants.

Several "flags" were used to mark careless responses. Two attention checks were included in the survey (i.e. "Please respond disagree to this item"); individuals who did not respond correctly to either of these attention checks were flagged. Individuals who showed no variance in their either responses to all CDSII items or all locus of causality for RBS items were

also flagged. 54 respondents were flagged one or more times. Because respondents could have been flagged once but otherwise responded attentively (e.g. showed no variance on the CDSII items, but varied in responses to the locus of causality for RBS items and passed both attention checks), only the 20 respondents who were flagged two or more times were removed from the overall data.

77 responses with duplicate IP addresses were also removed from the data. Although there are potentially legitimate reasons for duplicate IP addresses (e.g. a husband and wife who complete surveys on the same computer), a conservative approach was taken to ensure high quality data. By removing these 77 responses and the 20 careless responses, a total of 95 responses were removed from the data leaving data from 279 participants.

The survey consent form can be found in Appendix A.

Measures

Locus of Causality for Relationship Building with one's Supervisor. Below I critique available attribution measures (found in Appendix B) and discuss how I went about creating a new measure of locus of causality for RBS.

First, Dykema, Bergbower, Doctora, and Peterson's (1996) Attributional Style Questionnaire (ASQ) measures respondents' explanatory style. Respondents are given a set of hypothetical problematic events (e.g., "you have a serious injury", "you get fired from your job", "you have a serious argument with someone in your family") and asked to estimate what they think would likely be the main cause of that event. Respondents are then asked about the perceived stability of the cause (i.e., "…how likely is it that the main cause you gave will continue to affect you?), and perceived globality versus specificity of the cause ("…is the main

cause that you gave something that affects just this situation, or does it affect other areas of your life?").

The ASQ does not fit this study's needs for several reasons. First, this measure does not assess *locus* attributions, but instead focuses on the *stability* and *globality* of attributions. Even if this measure were to be modified to capture locus attributions, the layout would be most conducive to a categorical "what was the main cause?" response, and not a more ideal continuous measurement of the self and supervisor as causes. Second, the ASQ takes an *event-based approach* to measuring attributional style, using specific hypothetical incidents. The construct I aim to measure here, locus of causality for RBS, is not framed as an event-based construct, but rather is assumed to be attributions regarding the behaviors that contributed to relationship building within the LMX dyad. Specific interactions with the supervisor may influence these attributions, but these attributions are made towards *relationship building in general*. Third, the Dykema et al. (1996) assesses attributional style as an *individual difference*. In this study, I focus on attributions regarding *how one's LMX quality was developed*. Although these perceptions could be linked to individual differences, I frame locus of causality for RBS as a more proximal context-specific attribution, and not an individual difference.

Second, McAuley, Duncan, and Russell (1992) Revised Causal Dimension Scale (CDSII) requires individuals to provide an open-ended response describing their causal attributions to a situation. Respondents then rate several properties of the attributed cause, including the locus of causality, stability, and controllability (internal and external) of the cause. This measure has been used to study locus of causality elsewhere in the organizational sciences (Tay, Ang, & Van Dyne, 2006).

The CDSII's rating bipolar scale does not match the current study's conceptualization of locus of causality for RBS as existing on unipolar dimensions (i.e., the self and the supervisor as existing on independent dimensions). However, the locus of causality items provided useful content for scale construction. Items 1 (the cause is "reflects an aspect of yourself vs. reflects an aspect of the situation") and 9 (the cause is "something about you vs. something about others") provide relevant item content. Item 6 (the cause is "inside of you vs. outside of you") is vague and idiomatic, and for these reasons, a poor quality item.

Third, Burton, Taylor, and Barber's (2014) attribution measure assesses attributions made by subordinates regarding abusive supervision displayed by their supervisor. This measure divides attributions into three subdimensions: internal attributions, external attributions, and relational attributions.

Burton et al.'s (2014) measure does not meet the current study's needs for two reasons. First, the items focus on *abusive supervision* as the target, whereas the current study looks at *relationship building* as the target. This becomes especially problematic given the relational attribution items refer to the relationship as a potential *cause* of abusive supervision instead of using the relationship as the *target* (e.g., the relational attribution item, "My supervisor's behavior toward me is due, in part, to the relationship we have.") This target discrepancy is also true for internal and external attributions items. Second, the items focus on controllability ("The cause of the supervisor's behavior is something controllable by the supervisor"), which is beyond the scope of locus of causality.

Despite the focus on abusive supervision as a target and the items addressing controllability, useful content was retained from several of the items for new measure construction (e.g., synonyms like "provoked", "fault", "due to something about…").

Fourth, Pretzer, Epstein, and Fleming's (1991) measure comes from marital research. The measure assesses respondents' perceptions of what factors determine the success of a marriage. Of specific interest here were the subscales focused on locus of causality towards behaviors: Attribution of Causality to Own Behavior, Attribution of Causality to Own Personality, Attribution of Causality to Spouse's Behavior, and Attribution of Causality to Spouse's Personality.[3] Because locus of causality for RBS is based on how LMX quality is developed and thus is focused on social exchanges, *behavioral* attributions towards relationship building were deemed more appropriate than *personality* attributions. So, I focus more specifically on Attribution of Causality to Own Behavior and Attribution of Causality to Spouse's Behavior. Although only two items were available, they provide content useful for the current context ("…caused by the things I said and do"; "If my partner did something differently we'd get along better").

After reviewing these measures, I created the measure found in Appendix C. Similar to the ASQ and CDSII, I instruct participants to consider what causes determine relationship building within their workgroup:

> "Often in workgroups, some subordinates have better relationships with their supervisor in comparison to the relationships other coworkers have with the supervisor. Other subordinates may have worse relationships with their supervisor in comparison to the relationships other coworkers have with the supervisor. Think about the reason or reasons for why this might be.
>
> The items below concern your impressions or opinions of what causes effective relationship building with your supervisor. Rate the extent to which you agree with these items."

To create item content, I modified items from these established measures. For example, item 6 ("tends to be determined by the things subordinates say or do vs. tends to be determined

[3] I was unable to reach the researchers to gain access to the full measure, so I chose to review the published example items.

by the things the supervisor says or does") borrows from Pretzer et al.'s (1991) item "My problems with my partner caused by the things I say and do." Item 3 ("provoked mostly by subordinate behaviors vs. provoked mostly by the supervisor's behaviors") borrows from Burton et al.'s (2014) internal attribution item "I probably provoked my supervisor to act the way he or she does."

In the pilot study, I included this newly constructed measure and the two most commonly used attribution measures: the ASQ and CDSII. To assure all three measures focus on the same target (relationship building with one's supervisor), several revisions were made to the ASQ and CDSII instructions and items. The revised measure can be found in Appendix D. Removed text is marked in strikeout, and added text is indicated with boldface.

Table 3 shows a summary of pilot study expectations and findings, which are discussed further in the presented order.

Because pilot items represented distinct but related constructs (e.g. self-attributed locus of causality for RBS and personal controllability), the first expectation was that the different causal attributions measured would load onto separate but related factors when entered into an exploratory factor analysis (EFA). A maximum likelihood estimation EFA with an oblique promax rotation was used to test this expectation. The pattern matrix can be found in Table 4. Although six factors met the Kaiser criterion cut-off (i.e., eigenvalues > 1), the sixth factor contained only one item loading over .3 (CDSII Item 4). Because this sixth factor explained the least amount of variance and did not contribute substantially to interpretation of the items, a 5-factor solution was instead adopted.

Table 3

Summary of Pilot Expectations and Findings

Expectation	Convergent or Discriminant?	Supported?
1. Different scale constructs will map onto separate, related EFA factors.	Discriminant	Yes
2. Self- and supervisor-attributed locus of causality for RBS will show a weak to moderate negative relationship with one another.	Discriminant	Yes (*r*=-.37)
3. Self-attributed locus of causality for RBS will show…		
a) weak to moderate size positive relationship with CDSII locus	a: Convergent	a: Yes (*r*=.39*)
b) null to weak size relationship with CDSII external control	b: Discriminant	b: Yes (*r*=-.07)
c) null to weak size relationship with CDSII stability	c: Discriminant	c: Yes (*r*=.13*)
d) weak to moderate size positive relationship with CDSII personal control	d: Convergent	d: Yes (*r*=.38*)
e) null to weak size relationship with ASQ stability	e: Discriminant	e: Yes (*r*=14*)
f) null to weak size relationship with ASQ globality	f: Discriminant	f: No (*r*=33*)
4. Supervisor-attributed locus of causality for RBS will show…		
a) null to weak size negative relationship with CDSII locus	a: Discriminant	a: Yes (*r*=-12)
b) weak to moderate size positive relationship with CDSII external control	b: Convergent	b: Yes (*r*=.13*)
c) null to weak size relationship with CDSII stability	c: Discriminant	c: Yes (*r*=-.06)
d) null to weak size relationship with CDSII personal control	d: Discriminant	d: Yes (*r*=-.08)
e) null to weak size relationship with ASQ stability	e: Discriminant	e: Yes (*r*=10)
f) null to weak size relationship with ASQ globality	f: Discriminant	f: Yes (*r*=-.16*)
5. ASQ open-text comments coded as self attributions will show higher levels of self-attributed locus of causality for RBS than all other comment categories	Convergent	Yes
6. ASQ open-text comments coded as supervisor attributions will show higher levels of supervisor-attributed locus of causality for RBS than all other comment categories.	Convergent	Yes

Note. As per Dancy and Reidy's (2004) rules of thumb, relationship sizes were interpreted as follows: null=0, weak=0.1-0.3, moderate=0.4-0.6, strong=0.7-0.9, perfect=1.

Table 4

Promax Rotated Maximum Likelihood Extraction Pattern Matrix for Pilot Items

	Factor				
	1	2	3	4	5
Locus of causality RBS Self 1	.92				
Locus of causality RBS Self 2	.68				
Locus of causality RBS Self 3	.78				
Locus of causality RBS Self 4	.84				
Locus of causality RBS Self 5	.83				
Locus of causality RBS Self 6	.79				
Locus of causality RBS Supervisor 1			.69		
Locus of causality RBS Supervisor 2			.66		
Locus of causality RBS Supervisor 3			.82		
Locus of causality RBS Supervisor 4			.79		
Locus of causality RBS Supervisor 5			.66		
Locus of causality RBS Supervisor 6			.83		
CDSII Locus 1		.49			
CDSII Locus 6		.71			
CDSII Locus 9		.74			
CDSII External Control 5				.72	
CDSII External Control 8				.71	
CDSII External Control 12				.70	
CDSII Stability 3					.66
CDSII Stability 7		.35			.49
CDSII Stability 11					.58
CDSII Personal Control 2		.68			
CDSII Personal Control 4		.70			
CDSII Personal Control 10		.90			
ASQ Stability					
ASQ Globality					
Eigenvalue	6.94	3.56	2.21	1.98	1.45
Variance explained	26.67%	13.70%	8.48%	7.61%	5.58%

Note. Loadings under .30 are suppressed. Pairwise deletion was used, item *Ns* ranged from 265 to 278.

The five-factor solution accounted for 62.07% of the overall variance in items. Factor 1 was interpreted as the *self-attributed locus of causality for RBS* factor. This factor explained 26.99% of the overall variance, was driven by self-attributed locus of causality for RBS items with loadings ranging from .68 to .92. No other items loaded on this factor above .3.

The second factor explained 13.70% of the overall item variance, and was driven by items from the CDSII locus of causality and personal control items. The CDSII personal control item 10 showed the highest loading ("over which you [high] have power/ [low] have no power"). CDSII locus of causality items 6 ("[high] inside of you/ [low] outside of you") and 9 ("something [high] about you/ [low] about others") also showed high item loadings on the second factor. Interestingly, the CDSII stability item 7 ("[high] stable over time/ [low] variable over time") also loaded .35 on this factor. The item loadings suggest this second factor can be interpreted as the *locus of control* factor, emphasizing a self-attributed locus of causality and a perception of stable, personal control.

The third factor was interpreted as the *supervisor-attributed locus of causality for RBS*. This factor explained 8.48% of the total variance in the items, and was driven by the six supervisor-attributed locus of causality for RBS items, with item loadings ranging from .63 to .83. The fourth factor was interpreted as the *external control* factor, which accounted for 7.61% of the total item variance. All three CDSII external control items loaded on this factor, with loadings ranging from .69 to .73. Last, the fifth factor was interpreted as the *perceived causal stability factor*. This factor explained 5.58% of the total item variance, and was driven by CDSII stability items (e.g. "[high] permanent/ [low] temporary"). Interestingly, ASQ stability and globality items did not exhibit loadings over .3 on any of the five factors.

The rotated factor correlations can be found in Table 5. The self-attributed locus of causality for RBS and locus of control (i.e. first and second) factors showed the highest positive correlation (r=.47); this was not unexpected given attribution theory suggests controllability attributions are temporally dependent on locus attributions.

Table 5

Factor Correlation Matrix Based on Promax Rotated Maximum Likelihood Extraction Factor Analysis of Pilot Items

	Factor				
Factor	1	2	3	4	5
1	-				
2	.47	-			
3	-.40	-.16	-		
4	-.12	-.19	.17	-	
5	.06	.28	-.03	.07	-

Note. Pairwise deletion was used, *N* ranged from 265 to 278.

The *self-attributed locus of causality for RBS* factor exhibited a moderate negative relationship with the *supervisor-attributed locus of causality for RBS* factor (i.e., factors 1 and 3, r=-.40), suggesting some individuals were high (or low) on both types of attributions. The *locus of control* and *causal stability* factors also showed a weak positive relationship (i.e., factors 2 and 5, r=.28), which is somewhat unsurprising given items loading highly on the locus of control factor suggest personal control is somewhat permanent and trait-like. For example, the CDSII item 10 states the main cause is something "over which you [high] have power/ [low] have no power." The *supervisor-attributed locus of causality for RBS* and *external control* factors showed a weak positive relationship (i.e., factors 3 and 4, r=.17). This positive relationship was expected, given these factors were driven by specific (supervisor-attributed) and global (external), non-self causal attributions.

The factor structure was as expected and factors showed appropriate relationships with other measures of related but distinct factors. The fact that factor structure of the CDSII and

ASQ items did not perfectly reflect their hypothesized structure (e.g. CDSII personal control, stability, and locus items all loaded highly on factor 2; ASQ stability did not load on a factor with the CDSII stability items) indicates that these measures are less than ideal for measuring causal attributions. Despite this fact, scale scores, reliabilities, and intercorrelations for the CDSII and ASQ were generated using the original scale items in order to better compare findings to existing research using these measures.

Table 6 shows measure descriptive statistics, intercorrelations, and scale reliabilities. Self- and supervisor- attributed locus of causality for RBS were further shown to have good internal consistency (respectively, α=.92; α=88). CDSII subdimensions exhibited weaker levels of internal consistency (locus, α=.67; external control, α=.73; stability, α=.61; personal control, α=.85). However, it is important to note that the CDSII subdimensions have a lower number of items than the locus of causality for RBS scales (respectively, 3 and 6 items), and scale reliabilities can be artificially inflated by the number of items. Also, these reliabilities are similar to those found in the original measurement paper (locus, α=.67; external control, α=.82; stability, α=.67; personal control, α=.79; McAuley, Duncan, & Russell, 1992).

As can be seen in the correlations, the pilot data supported almost all expectations. Self- and supervisor-attributed locus of causality for RBS exhibited a moderately size negative relationship with one another (r=-.37, p<.05). Self-attributed locus of causality for RBS showed moderate sized relationships with the CDSII locus and personal control scales (respectively, r=.39, p<.05; r=.38, p<.05), and had weak relationships with CDSII external control and stability (respectively, r=.07, n.s.; r=.13, p<.05) and ASQ stability (r=.14, p<.05). Supervisor-attributed locus of causality for RBS exhibited a weak positive relationship with CDSII external control (r=.13, p<.05), and weak to null relationships with CDSII locus, stability, and personal control

(respectively, r=.12, n.s.; r=-.06, n.s.; r=-.08, p<.05) and ASQ stability and globality (respectively r=.10, n.s.; r=.16, p<.05).

Only one expectation was not met: the ASQ globality subscale showed an unexpectedly high relationship with self-attributed locus of causality for RBS (r=.33, p<.05).

Table 6

Pilot measures descriptive statistics and intercorrelations

	Items	*N*	*M*	*SD*	1	2	3	4	5	6	7	8
Locus of Causality for RBS												
1. Self-Attributed	6	278	3.52	.91	(.92)							
2. Supervisor-Attributed	6	278	3.48	.76	-.37*	(.88)						
ASQ												
3. Stability	1	278	5.86	1.29	.14*	-.10	(-)					
4. Globality	1	277	4.51	2.20	.33*	-.16*	.31*	(-)				
CDSII												
5. Locus	3	268	4.89	1.55	.39*	-.12	.08	.34*	(.67)			
6. External Control	3	268	4.84	1.57	-.07	.13*	.01	-.13*	-.11	(.73)		
7. Stability	3	268	5.26	1.53	.13*	-.06	.09	.10	.30*	.03	(.61)	
8. Personal Control	3	268	5.83	1.71	.38*	-.08	.04	.27*	.71*	>-.01	.33*	(.85)

Note. *p<.05. Locus of causality for RBS items were rated on a 5-point Likert scale, ASQ items were rated on a 7-point Likert scale, and CDSII were rated on a 9-point Likert scale.

As part of the ASQ, participants wrote in an open text the main cause of the relationship quality they have with their supervisor. I coded responses into different categories based on content, and examples of coded responses are displayed in Table 7. 58 responses were coded as self-focused attributions. Responses coded as self-focused attributions emphasized the subordinate's personality traits and/or behavior[4], such as "my ability to do my work well," "my hard work," and being "really funny." 54 responses were coded as supervisor-focused attributions. Responses coded as supervisor-focused attributions emphasized the supervisor's personality traits and/or behavior. For example, one respondent said the main cause of his or her supervisory relationship quality is that the supervisor "genuinely cares as a person about employees [sic] well being."

26 responses were coded as focusing on an external cause. External causes included characteristics of the relationship that are beyond the control of the supervisor or subordinate (e.g. the supervisor is a relative), characteristics of the work environment (e.g. working at a desk next to the boss), and the hierarchical nature of the supervisor-subordinate relationship (e.g. the supervisor has formal authority in ways the subordinate does not). 128 responses were coded as an attribution towards the interaction of the supervisor and respondent. Many of these responses reflected characteristics of the relationship exchanges with the supervisor. For example, 14 respondents simply reported "mutual respect" as the main cause of their relationship quality they hold with their supervisor. Also coded as an interaction between the supervisor and subordinate were responses referring to traits and behaviors displayed by both the supervisor and the subordinate ("We both try to be understanding and open minded of each other's situations and

[4] Although the definition of locus of causality for RBS focuses on behavior, it was often not possible to differentiate between behavior and trait attributions in the short, open-text responses. For this reason, both behaviors and traits were coded into the self and supervisor attributions.

deal accordingly"). Last, 10 responses were coded as not applicable (NA). These responses did not directly address the question (e.g. answering "yes" or "nice").

Table 7

Example responses to ASQ main cause open text

Self	One's own personality and/or behavior
	"My ability to do my work well and keep clients happy is the clear basis for my relationship with my supervisor. He is clearly happy and treats me well because of it."
	"I'm really funny and make people laugh. My boss looks for me just for a laugh, it helps him make the day pass more smoothly I think it will continue to affect me because my boss needs that. He is always stressful and when he laughs, he forgets for a miute the overflow of work he has and it puts him in a better mood. It doesn't just affect my supervisor, it affect anyone that works with me because seriously, who doesn't like a good laugh every now and then."
	"My hard work is what determines the relationship with my supervisor."
Supervisor	Personality traits and/or behaviors exhibited by the supervisor
	"To be honest at the start we didn't have a good work relationship, Things were a bit sour at the start as he tried to maintain his ego over his position to others. After quite some time he realized the importance he could obtain through me and made steadyprogress healing the relationship by recommending me for a promotion."
	"The main cause for the quality of our relationship is my bosses personality."
	"One of the main causes for the quality of our relationship is that she genuinely cares as a person about employees well being. She likes to include them in fun and having a relationship more than just supervisor and employee."
	"The main cause of the relationship is his particular aversion to feeling disrespected, and the fact that one has to walk on eggshells to communicate effectively without setting him off."
External Causes	Characteristics of the relationship that are beyond the control of the supervisor or subordinate
	"He is my father. I work at his law firm to help with filing and deliveries. I will be attending law school soon."
	Characteristics of the work environment (e.g. task procedures, spatial proximity)
	"The overall environment, customs and rules that are found in the industry as a whole (in my local area)."
	Hierarchical nature of the relationship
	"He is the BOSS and I am not. That is the only cause of any relationship we have."
Interaction	Characteristics of the relationship exchanges
	"Mutual respect for each other"
	Behaviors displayed by both the supervisor and the subordinate
	"He is reasonable and kind and I am reasonable and kind."
	"We both try to be understanding and open minded of each other's situations and deal accordingly."

Table 8 shows descriptive statistics for other pilot scales by the five ASQ open-text categories. As is marked in bold, the average level of self- attributed locus of causality for RBS items was highest amongst respondents who wrote a self-focused attribution in the ASQ open-text (M=4.12), in comparison to other open-text attributions categories. A one-way ANOVA showed significant mean differences in self-attributed locus of causality for RBS across ASQ open-text categories with a large effect size, $F(4,273)=45.24$, $p<.01$, $\eta^2=.39$. A post-hoc Bonferroni revealed participants reporting ASQ self-focused attributions had on average significantly higher levels of self-attributed locus of causality for RBS in comparison to all other open-text categories, with the exception of the NA responses.

Table 8

Descriptive Statistics and Mean Differences of Pilot Scale Measures by ASQ Main Cause Comment Coding

		Self	Supervisor	External	Interaction	NA	Total
Locus of Causality for RBS							
Self	*N*	60	54	27	128	9	278
	M	**4.12**	2.52	2.98	3.77	3.57	3.52
	SD	.52	1.08	.88	.51	.97	.91
				$F(4,273)=45.24$, $p<.01$, $\eta^2=.39$			
Supervisor	*N*	60	54	27	128	9	278
	M	2.93	**4.12**	3.35	3.48	3.72	3.48
	SD	.80	.63	.76	.57	.86	.76
				$F(4,273)=23.28$, $p<.0$, $\eta^2=.25$			
ASQ							
Stability	*N*	60	54	27	128	9	278
	M	6.22	5.74	5.78	5.87	4.44	5.86
	SD	1.20	1.09	1.05	1.29	2.35	1.29
				$F(4,273)=4.20$, $p<.01$, $\eta^2=.06$			
Globality	*N*	60	54	27	127	9	277
	M	5.05	3.31	3.41	4.98	4.67	4.51
	SD	2.10	2.26	2.34	1.91	2.29	2.20
				$F(4,272)=9.06$, $p<.01$, $\eta^2=.12$			

Note. Locus of causality for RBS items were rated on a 5-point Likert scale, ASQ items were rated on a 7-point Likert scale, and CDSII were rated on a 9-point Likert scale.

Table 8 (cont'd)

		Self	Supervisor	External	Interaction	NA	Total
CDSII							
Locus	*N*	58	51	26	123	10	268
	M	4.66	4.21	4.42	5.37	5.07	4.89
	SD	1.41	1.61	1.47	1.47	1.36	1.55
			$F(4,263)=6.91$, $p<.01$, $\eta^2=.10$				
External Control	*N*	58	51	26	123	10	268
	M	4.96	4.94	4.59	4.77	5.00	4.84
	SD	1.44	1.77	1.65	1.55	1.41	1.57
			$F(4,263)=.38$, $p=.82$, $\eta^2=.01$				
Stability	*N*	58	51	26	123	10	268
	M	5.14	5.02	5.27	5.49	4.50	5.26
	SD	1.42	1.80	1.25	1.49	1.51	1.53
			$F(4,263)=1.72$, $p=.15$, $\eta^2=.03$				
Personal Control	*N*	58	51	26	123	10	268
	M	5.63	5.05	5.45	6.37	5.20	5.83
	SD	1.59	2.03	1.84	1.43	1.61	1.71
			$F(4,263)=7.20$, $p<.01$, $\eta^2=.10$				

Also of interest, the average level of supervisor-attributed locus of causality for RBS items was expected to be highest amongst respondents who wrote a supervisor-focused attribution in the ASQ open-text. This expectation was supported by the data, with ASQ supervisor attributions having the highest levels of supervisor-attributed locus of causality for RBS (M=4.12). A one-way ANOVA showed ASQ categories differed significantly in their levels of supervisor-attributed locus of causality with a large effect size, $F(4,273)=23.28$, $p<.01$, $\eta^2=.25$. Similar to the self-attribution analyses, a post-hoc Bonferroni revealed participants reporting ASQ supervisor-focused attributions had on average significantly higher levels of supervisor-attributed locus of causality for RBS in comparison to all other open-text categories, with the exception of the NA responses.

The lack of a significant difference between focal ASQ categories and NA responses on levels of self- and supervisor-attributed locus of causality for RBS was surprising; however, this

finding may be influenced by the low number of NA responses (i.e., *n*=9). In general, comparing mean levels of both self- and supervisor- attributed locus of causality for RBS by coded ASQ responses provided support for the construct validity of the locus of causality for RBS measure.

Overall, as can be seen in Table 3, the locus of causality for RBS measures were shown to be psychometrically sound in comparison to other similar measures. Consequently, the developed scale was used in the main study.

Main Study

Sample and procedures

Data were collected from Amazon's Mechanical Turk using two surveys with a one week separation between the surveys. Research indicates data collected through Mechanic Turk to meet psychometric standards (e.g., high internal consistencies within measures and high test-retest reliabilities when tested with a 3-week gap), even when low compensation amounts (e.g., $.10) are used (Buhrmester, Kwang, & Gosling, 2011). Recent reviews suggest MTurk provides more diverse samples than the WEIRD (Western, Educated, Industrialized, Rich, and Democratic) participant data typically collected in organizational and student samples used in organizational psychology (Landers & Behrend, 2014). Convenience samples of this type are only problematic when the sample creates range restriction or when key variables that differentiate the sample are not measured or controlled (Landers & Behrend, 2014). In this study, MTurk workers are *not* assumed to differ in the key variables from a student or organizational sample, nor are any "third variables" expected to influence the model's relationships. For example, there is no reason to anticipate LMXSC levels would differ across Mechanical Turk, working student, or employee samples. Several filters recommended by Amazon were used to ensure high data quality, which are described further below.

When cross-sectional survey designs are used, common method variance (CMV) is a potential concern. Podsakoff, MacKenzie, Lee, & Podsakoff (2003) recommend creating temporal, proximal, psychological, or methodological separation of measurement. Here, temporal separation between three of the independent variables (LMXSC, locus of causality for RBS) and the dependent variables (emotions) was created by collecting that data on occasions separated by one week.[5] I methodologically separated the constructs measured by varying response formats and scale endpoints across the measure.

Filters were set so that MTurk workers who have a 99% or higher approval rate on their tasks, and who have been approved on 5,000 tasks previously could see the study and participate. Participants were paid $1 for the first survey and $3 for the second survey. The first survey consent form is found in Appendix E, the second consent form is found in Appendix F, and the end of survey message for this sample can be found in Appendix G.

Sample size

In the main study's model, four main effects, four two-way interactions, and one three-way interaction would be required as predictors. A multiple regression power analysis with an anticipated effect size of .05, a desire statistical power level of .80, 9 predictors, and a probability level of .05 indicated a minimum sample of 321 participants was required to detect an effect (Soper, 2015). Initial survey data was collected from 500 participants, and all 500 participants were invited to participate in the second survey. The first and second survey data were linked by MTurk worker ID numbers that participants provided. After removing 50 duplicate responses (i.e. individuals who filled out the first and/or second survey multiple times using the same ID/IP address), 396 responses were successfully linked across the two surveys, 66 responses consisted

[5] For survey length purposes, interpersonal justice was measured at time 2.

of only the first survey, and 12 responses consisted of only the second survey. Unlinked responses to the first survey were assumed to be largely due to study attrition; unlinked responses to the second survey were individuals who reported the study ID instead of their worker ID, or did not report an ID number.

Careless response identification

Similar to the pilot study, six explicit attention checks (e.g. “please mark agree”) and a lack of variance in study measures were used to flag careless responses. Two explicit attention checks and one measure variance check were used in the first survey; one explicit attention check and two measure variance checks were used in the second survey. Nine participants who failed two or more checks were flagged as careless respondents, and excluded from analyses. After the nine careless responses and 50 duplicate responses were excluded from the data, 465 cases remained with 389 linked responses, 64 unlinked responses to the first survey, and 12 unlinked responses to the second survey.

To see if survey response time had an influence on the way participants responded, three graduate students were asked to take both surveys at a normal pace and their response times were recorded. On average, the first survey took these students ~6 minutes, and the second survey took ~5 minutes. Respondents who took more than 60% less than these times on either survey were flagged (i.e., <2.4 minutes for the first survey, <2 minutes on the second survey). 26 participants were flagged for their times on the first survey; 25 participants were flagged for their times on the second survey. The average scale scores for flagged respondents were compared to the averages for other respondents using independent samples t-tests; no significant differences were found between these groups. Consequently, no respondents were excluded based on the amount of time spent on the survey.

Sample characteristics

Survey recruitment was restricted to the U.S. MTurk workers only (based on IP addresses), as per MTurk's default setting. Among the final sample, the average respondent age was 33.2 years, with a 9.92 year standard deviation. Of those who completed the first survey, 340 respondents identified as White/Caucasian (76%), 30 identified as Black (7%), 38 identified as Asian/Pacific Islander (8%), 16 identified as Multiracial (4%), and 25 identified as Hispanic (6%).

Because employment status was not formally verified in MTurk (i.e., MTurk workers were invited to opt-in to the survey if they worked 20 hours or more per week), work experience was assessed both to further understand characteristics of the sample and to verify work experience variables displayed patterns that real workers would likely self-report. Supervisor tenure and number of peers working for one's supervisor were viewed as conceptually related to this study's problem space, and were included with the intention of running ancillary exploratory analyses.

As might be expected in a working sample, reported work experience was longest on average (M=12.6 years, SD=8.63) followed by organization tenure (M=4.93 years, SD=4.36), job tenure (M=3.98 years, SD=3.53), and supervisor tenure (M=3.37 years, SD=3.02). Also as per expectations, experience variables were highly correlated, with the lowest correlation emerging between work experience and supervisor tenure (r=.45, p<.05), and the largest correlation emerging between job tenure and organization tenure (r=.78, p<.05). Respondents reported having 14.5 peers working for the sample supervisor on average; however, the standard deviation indicated this number varied widely (SD=14.17).

Although no data was collected on the types of jobs these respondents held, additional evidence supporting their employment status was found in open text responses to the prompt, "[Optional] Please feel free to provide any other thoughts on your relationship with your supervisor." 129 respondents provided comments to the prompt, often detailing specific characteristics they (dis)like about their supervisors, and incidents that have transpired within the LMX relationship. Many of these comments possess a level of detail that would indicate respondents were reflecting on their actual day-to-day experiences, including the manager's relationship with "corporate," feuds over scheduled surgeries at a hospital, language barriers, and the way decision making styles influence team dynamics. Generally speaking, the comments provided indicated respondents had jobs that played a role in their emotions and stress levels on a regular basis.

Survey 1 measures

The first survey measured LMXSC (Appendix H), locus of causality for RBS (Appendix C), LMX (Appendix I), and demographics (Appendix J).

LMXSC. The 6-item LMXSC comparison measure used here was developed by Erdogan (2002). The items can be found in Appendix H. Past measure validation efforts described here are paraphrased from Vidyarthi et al. (2010). Erdogan (2002) originally created an 8-item measure, attempting to parallel the items of the LMX-MDM measure. The researcher tested the psychometric properties of the measure using data from 261 undergraduate students. A principal components analysis with an oblique rotation was conducted on the 8 LMXSC items, LMX items from Liden and Maslyn (1998), and interactional justice items from Niehoff and Moorman (1993). The results showed two LMXSC items loaded on the same components as LMX, and for this reason, those two items were excluded from analyses. The LMXSC factor had no cross-

loadings on the LMX or interactional justice components over .20, and these three factors explained 71.93% of the variance.

As Vidyarthi et al. (2010) describe, the measure was further validated using a field sample of 205 employees at a manufacturing company. LMXSC and LMX were positively but moderately correlated (r=.39, p<.01). LMXSC and LMX quality fit well on two separate factors in a confirmatory factor analysis (χ^2 (131)= 313.12, CFI=.93, RMSEA=.08), and an alternative model specifying a correlation between LMXSC and LMX created a significantly worse fitting model ($\Delta\chi^2$ (1) =48.53, p<.01). LMXSC was significantly related to interactional justice when LMX was controlled for in a random coefficient regression model (γ= .12, SE=.06, p<.05). In all studies measuring LMXSC, reliability was high (Erdogan, 2002, undergraduate sample, α= .86, field sample, α= .84; Vidyarthi et al., 2010, α= .86).

Respondents rated items using a 7-point Likert scale of agreement.

Locus of Causality for Relationship Building with one's Supervisor. Based on its favorable psychometric properties observed in the pilot study, the measure in Appendix C was used to assess self- and supervisor-attributed locus of causality for RBS.

Leader-Member Exchange. LMX was measured using a seven-item measure (revised LMX-7) created by Graen and Uhl-Bien (1995). This measure can be found in Appendix I. The LMX-7 is the most commonly used LMX measure (Dulebohn et al., 2012). In their meta-analysis, Gerstner and Day (1997) recommend using the LMX-7 measure for overall exchange quality due to its higher than average reliability and stronger correlations with outcomes. In a more recent meta-analysis, Dulebohn et al. (2012) found the scale used to measure LMX did not moderate any of LMX's relationships with other constructs.

As per Graen and Uhl-Bien's (1995) instructions, each item used a different rating scale.

Demographics. Demographic information were collected using the measure in Appendix J. Work experience variables were collected to better understand characteristics of the sample and assess the extent to which participants showed "normal" work experience patterns (e.g. different forms of tenure should be correlated) to further verify responses were from working adults. Workgroup size and tenure were included for supplemental analyses.

Survey 2 measures

The second survey measured interactional justice (Appendix K), LMX-related emotions (Appendix L), and positive and negative affect (Appendix M).

Interpersonal justice. To measure interpersonal justice, I used Colquitt's (2001) supervisor-focused measure of interactional justice. Only interpersonal justice items were used in hypothesis tests. Informational justice items were collected for ancillary analyses. Past research has shown this measure to have sound psychometric properties. In a sample of 301 university students, Colquitt (2001) found that when distributive, procedural, informational, and interpersonal justice subscale items were included in the same model, a four factor model exhibited superior fit (χ^2= 769.50, *df*=406, CFI=.92, RMSEA=.055) in comparison to a three factor model that collapsed interpersonal justice and informational justice into a more general interactional justice factor (χ^2= 965.40, *df*=413, CFI=.88, RMSEA=.067) and a one factor model summarizing all the justice items (χ^2= 2,057.28, *df*=424, CFI=.65, RMSEA=.113). This four factor model also exhibited superior fit in a field sample of 337 employees at an automobile manufacturing company (χ^2= 845.52, *df*=406, CFI=.94, RMSEA=.057) in comparison to the three factor model (χ^2= 1,776.75, *df*=413, CFI=.81, RMSEA=.099) and the one factor model (χ^2= 3,235.90, *df*=424, CFI=.61, RMSEA=.140). These scales show good internal consistency (university sample, interpersonal justice, α=.79; field sample, interpersonal justice, α=.92).

These interactional justice items combined have shown to be highly correlated with perceived organizational support (r=.41, p<.01) and supervisory trust (r=.66, p<.01; Ambrose & Schminke, 2003).

This measure can be found in Appendix K. Items were rated using a 1-5 frequency scale (1= Never to 5= A great deal).

LMX-related Emotions. Because emotions are measured in a variety of ways, I chose to review extant research measuring pride, gratitude, guilt, and/or shame. The measures referred to here can be found in Appendix L. I first review single item measures, qualitative measures, and last, multiple item measures.

Most articles I reviewed from the field of organizational psychology measure emotions using single item measures rated on Likert scales. Barclay, Skarlicki, and Pugh (2005) used single items to ask laid-off employees the extent to which they felt guilt, shame, and anger regarding their company's layoff. Weiss et al. (1999), Rupp and Spencer (2006), and Coulter and Pinto (1995) also used Likert ratings of emotion adjectives for their measures. Otterbacher and Munz's (1973) Perceived Guilt Index asks respondents to select an adjective from 11 guilt-relevant adjectives; however many of the PGI adjectives are not at a basic reading level (e.g., chagrined). I decided against the use of single items to measure pride, gratitude, guilt, and shame, because multiple-item measures tend to exhibit better psychometric properties than single item measures and emotions are a focal dependent variable of the model.

Qualitative approaches have also been used to measure emotions. Friedman et al. (2004) used Pennebaker, Francis, and Booth's Linguistic Inquiry Word Count to assess the level of anger in communications sent to an online dispute negotiation service. In the current study, participants are not focusing on a specific, emotionally laden situation, but instead are reflecting

on their relationship with their supervisor. For this reason, a qualitative assessment of emotions was not deemed a viable option for the current study.

I next reviewed multiple item measures of pride, gratitude, guilt, shame, and anger; I describe and comment on them in that order. As noted previously, pride is defined as "an [emotion] generated by appraisal that one is responsible for a socially valued outcome or for being a socially-valued person" (Mascolo & Fischer, 1995, p. 66). Measures of pride in organizational psychology often look at pride as it relates to organizational membership. For example, Tyler and Blader (2003) assessed pride using items that focus on positive impressions of one's company ("My company is one of the best companies in its field", "My company is well respected in its field"), and how membership reflects positively on oneself ("People are impressed when I tell them where I work"). These items focus on feelings towards the organization and not towards one's relationship with the immediate supervisor, indicating these items would need to be modified to be applicable to the current study.

The State Shame and Guilt Scale (SSGI; Marschall, Sanfter, & Tagney, 1994) includes a generalized pride subscale. As per Mascolo and Fischer's (1995) definition of shame, the SSGI pride items focus on feeling valued ("I feel worthwhile, valuable") and feeling like one has created something valuable ("I feel pleased about what I have done"). This subscale has shown high internal consistency in past research (α = .93; Stoeber, Hutchfield, & Wood, 2008).

For the current study, I used the pride subscale from the SSGI, with instructions that ask the respondent to rate how they feel about the relationship they have with their supervisor. This measure can be found in Appendix N. Several "double-barrel" items which force respondents to reply simultaneously to two descriptors (e.g., "I feel worthwhile, valuable.") were broken down

into two items (e.g., valuable as one item, worthwhile as another) to clarify the meaning of each item.

Several multiple item gratitude measures are frequently used in research today; I considered four in my review. Both McCullough, Emmons, and Tsang (2002) and Adler and Eagly (2005) measure gratitude as a disposition, making their measure a poor fit for the current study. Watkins, Woodward, Stone and Kolts' (2003) Gratitude, Appreciation, and Resentment (GRAT) measure assesses respondents' sense of abundance, appreciation of simple pleasures, and appreciation of others. The items probe respondent beliefs (e.g., "I believe that I am a very fortunate person"), and not the emotions of interest in this study. Gordon, Impett, Kogan, Oveis, and Keltner's (2012) measure assesses the extent to which respondents act appreciatively and the extent to which they feel appreciated by their relationship partner. Although the relationship focus fits with the current study's framework, these items largely reflect observed behaviors ("I often tell my partner how much I appreciate her/him") and not emotions. Further, the measure was originally crafted for research on romantic relationships, and several items have content that would perhaps not be appropriate for workplace relationships (e.g., "I am sometimes struck with a sense of awe and wonder when I think about my partner being in my life").

Given none of these measures fit perfectly with the current study's measurement needs, I used item content (e.g., "fortunate", "appreciative") to generate a set of new items that are framed similarly to the SSGI items. Respondents responded to these items in relation to how they feel about their relationship with their supervisor. These items can be found in Appendix N.

Looking next to guilt and shame, recall that guilt is assumed to occur when individuals blame negative aspects of their behavior on themselves, and shame is assumed to occur when individuals blame negative aspects of their ability or character on themselves (Tracy & Robins,

2006, p. 1340). A review of existing measures showed many focus on chronic guilt (e.g., Buss & Durkee, 1957; Klass, 1987; Kugler & Jones, 1992; Mosher, 1966) or chronic shame (e.g., Cook, 1989), and thus do not fit with the present study's conceptualization of emotions. As with pride, Marschall et al.'s (1994) SSGI's guilt and shame subscales provide relatively straightforward items that focus on generalized feelings of guilt (e.g., "I feel bad about what I have done") and shame (e.g., "I feel that I am a bad person"). These subscales have shown favorable internal consistency in past research (guilt, α=.89; shame, α=.88, Stoeber et al., 2008). For the present study, I reframe Marschall et al.'s (1994) SSGI guilt and shame subscales so that respondents answer regarding how they feel about their relationship with their supervisor. Again, double-barreled items were broken into separate items for added item content clarity. The item "feel I need to confess" was removed, as it is likely not suitable for a workplace survey. The resulting items can be found in Appendix N.

Lastly, only one multiple item measure of state anger was found. Spielberger's (1988) State Trait Anger Expression Inventory (STAXI) has a state-anger subscale which consists of a number of adjectives respondents use to report their current emotional state. In a principal axis factor analysis, these items loaded on a factor (i.e., all loadings were >.43) separate from other subscales reflecting anger coping techniques and trait anger (Fuqua et al., 1991). For this study, I chose to use several of these adjectives in a similar format as was used for pride, guilt, shame, and gratitude (see Appendix L). I dropped adjectives that were strongly worded and did not seem appropriate for a workplace survey (i.e., feel like hitting).

These items were rated on a 5-point Likert scale ranging from 1=not at all to 5= extremely.

Positive and negative affect. Much of the existing LMX research uses positive and negative affect (PANA) framework of affect (e.g., Aquino, Lewis, & Bradfield, 1999). As a point of comparison with my model's emotion measure, I measured positive and negative affect towards one's relationship. To do this, I used Watson, Clark, and Tellegen's (1993) 20-item Positive and Negative Affect Schedule (PANAS) measure.

Watson et al. (1993) describe the measure as assessing positive and negative moods, with positive affect defined as "the extent to which a person feels enthusiastic, active, and alert," and negative affect defined as "a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness, with low NA being a state of calmness and serenity." The scale consists of 10 adjective items measuring positive affect (e.g., enthusiastic) and 10 adjective items negative affect (e.g., nervous), rated on a 5-point Likert scale (i.e., *very slightly or not at all*, *a little*, *moderately*, *quite a bit*, and *extremely*). Watson et al. (1993) showed PA and NA scales that assess how participants felt in the past several weeks showed reasonable internal consistency (n=586, α=.87 and α=.87, respectively) and were correlated in the expected direction with the Beck Depression Inventory (NA, r=.58; PA, r=-.36) and STAI State Anxiety Scale (NA, r=.51; PA, r=-.35).

I modified the PANAS instructions to fit the current study's emphasis on subordinates' feelings regarding their relationships with their supervisor. The instructions read: "Read each item and then, using the scale below, mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way about your relationship with your manager/immediate supervisor." This measure can be found in Appendix M.

RESULTS

The plan of analysis was as follows. First, the psychometric rigor of all study measures was assessed. Based on the observation that measures met psychometric standards, I next conducted study hypotheses tests using bivariate correlations (i.e., H1 and H4) and hierarchical regressions (i.e., H2, H3, H5, and H6.) Then, I conducted ancillary analyses wherein I analyzed data from measures of constructs that were conceptually similar to study constructs (i.e., LMXSC and LMX, interpersonal and informal justice, and emotions and PANA). Although these supplemental measures afforded the possibility of conducting a range of ancillary analyses, the most intuitive and interesting research questions focused on a) the extent to which these supplemental measures were related to/distinct from focal study measures, and b) if and how the results of the hypothesis tests would have changed had these "alternative" measures been used in place of a given study measure. Thus, these two questions largely guided the ancillary analyses using LMX, informational justice, and positive/negative affect.

Next, I looked at whether study measures showed significant differences based on race/ethnicity. These analyses were considered ancillary, as there was no theoretical reason to expect differences based on race/ethnicity. Last, I ran ancillary analyses on workgroup size and the length of relationship with one's supervisor (i.e., LMX tenure). Workgroup size and LMX tenure were considered closely tied to this study's problem space, but no explicit hypotheses were made regarding when and how they would influence key study constructs and their relationships with one another. Thus, I explored the main effect of workgroup size and LMX tenure on study variables, as well as if/how they moderated study hypotheses. I also ran several alternative models to see if they presented plausible alternative frameworks for understanding the data. These models included testing whether a LMXSC-interpersonal justice interaction

predicted supervisor-attributed locus of causality for RBS, as well as testing hypothesis models with alternative categories of emotions (self-conscious vs. externally-focused) and alternative locus of causality for RBS attributions (self- vs. supervisor-) entered as controls. Findings based on this analysis plan are reported in the sections that follow.

To assess the psychometric rigor of the study measures, EFAs were conducted to examine the emergent factor structure among items.[6] First, I ran a maximum likelihood extraction EFA on all study items. (In-depth comparisons of study items with LMX and PANA items are discussed in later sections.) Because study measures were assumed to be related, factors were allowed to correlate using an oblique Promax rotation. The resulting factor structure is shown in Table 9. An eight-factor solution was extracted using the Kaiser criterion of eigenvalues over 1.

[6] Item descriptive statistics and intercorrelations for all study measures can be found in Appendix O.

Table 9

Promax Rotated Maximum Likelihood Extraction Pattern Matrix for All Main Study Items

	Factor							
	1	2	3	4	5	6	7	8
LMXSC1			.72					
LMXSC2			.60					
LMXSC3			.82					
LMXSC4			.83					
LMXSC5			.93					
LMXSC6			.92					
LoCRBS Self 1				.82				
LoCRBS Self 2				.64				
LoCRBS Self 3				.73				
LoCRBS Self 4				.73				
LoCRBS Self 5				.71				
LoCRBS Self 6				.65				
LoCRBS Supervisor 1					.76			
LoCRBS Supervisor 2					.58			
LoCRBS Supervisor 3					.71			
LoCRBS Supervisor 4					.70			
LoCRBS Supervisor 5					.71			
LoCRBS Supervisor 6					.75			
Interpersonal Justice 1								.63
Interpersonal Justice 2								.72
Interpersonal Justice 3		.31						.65
Interpersonal Justice 4								.45
Informational Justice 1						.31		
Informational Justice 2						.70		
Informational Justice 3						.67		
Informational Justice 4						.67		
Informational Justice 5						.44		
Pride 1		.91						
Pride 2		.91						
Pride 3		.89						
Pride 4		.84						
Pride 5		.79						
Pride 6		.88						
Pride 7		.83						
Guilt 1	.69							
Guilt 2	.55							
Eigenvalue	20.00	5.53	3.48	2.61	1.77	1.35	1.28	1.15
Variance explained	37.04%	10.24%	6.44%	4.83%	3.27%	2.49%	2.38%	2.13%

Table 9 (cont'd)

Guilt 3	.62							
Guilt 4	.76							
Guilt 5	.76							
Shame 1	.84							
Shame 2	.71							
Shame 3	.92							
Shame 4	.81							
Shame 5	.79							
Shame 6	.72							
Shame 7	.55							
Gratitude 1		.48						
Gratitude 2		.51						
Gratitude 3		.83						
Gratitude 4		.68						
Anger 1							.66	
Anger 2							.78	
Anger 3							.79	
Anger 4							.80	
Eigenvalue	20.00	5.53	3.48	2.61	1.77	1.35	1.28	1.15
Variance explained	37.04%	10.24%	6.44%	4.83%	3.27%	2.49%	2.38%	2.13%

Note. Loadings under .30 are suppressed. Pairwise deletion was used, item *Ns*=395-453.

Overall, items tended to load on factors with other items from the same measure. The first factor, which accounted for 37.04% of the variance, was driven by self-conscious negative emotion items (i.e., guilt and shame). The second factor accounted for 10.24% of the total variance and was driven by positive emotions (i.e., gratitude and pride) and one interpersonal justice item ("Has [your supervisor] treated you with respect?"). The third factor explained 6.44% of the total variance and was driven by LMXSC items. The fourth factor was largely driven by self-attributed locus of causality for RBS, and the fifth was largely driven by supervisor-attributed locus of causality for RBS (respectively explaining 4.83% and 3.27% of the total variance). Informational justice items loaded highly on the sixth factor, which explained 2.49% of the total variance. The seventh factor explained 2.38% of the total variance, and was driven by the anger items. Finally, the eighth factor explained 2.13% of the total variance, and

was driven by interpersonal justice, with the third interpersonal justice item cross-loading with the second factor. The factor correlation matrix can be found in Appendix P.

Hypothesis 5's expected relationship between interpersonal justice and positive emotions may have contributed to the interpersonal justice cross-loading. To avoid cross-loadings based on the hypothesized relationships between IVs and DVs and to assess whether predictor items in isolation emerged on their respective factors, I ran a second factor analysis using only predictor items. As can be seen in Table 10, items loaded cleanly on their respective factors with no cross-loadings. The factor correlation matrix is featured in Appendix Q.

Table 10

Promax Rotated Maximum Likelihood Extraction Pattern Matrix for Main Study Predictors

	Factor			
	1	2	3	4
LMXSC 1	.75			
LMXSC 2	.62			
LMXSC 3	.83			
LMXSC 4	.85			
LMXSC 5	.95			
LMXSC 6	.90			
Locus of causality RBS Self 1		.86		
Locus of causality RBS Self 2		.68		
Locus of causality RBS Self 3		.75		
Locus of causality RBS Self 4		.71		
Locus of causality RBS Self 5		.73		
Locus of causality RBS Self 6		.69		
Locus of causality RBS Supervisor 1			.75	
Locus of causality RBS Supervisor 2			.57	
Locus of causality RBS Supervisor 3			.70	
Locus of causality RBS Supervisor 4			.72	
Locus of causality RBS Supervisor 5			.70	
Locus of causality RBS Supervisor 6			.77	
Interpersonal Justice 1				.85
Interpersonal Justice 2				.94
Interpersonal Justice 3				.91
Interpersonal Justice 4				.62
Eigenvalue	7.39	3.37	2.28	1.65
Variance explained	33.59%	15.32%	10.36%	7.51%

Note. Loadings under .30 are suppressed. Pairwise deletion was applied, item *Ns*=399-453.

Psychometric properties of the measures used in the study were also examined using confirmatory factor analyses (CFA). The current sample was of ~400 cases did not meet the 10 cases per parameter rule of thumb (Kline, 2004). However, item parceling is not desirable for multidimensional CFAs (Bandalos, 2002). Thus, item parceling was not used, and the smaller sampled size must be taken into account when interpreting results presented here.

First, a nine factor model was run with LMXSC, self-attributed locus of causality for RBS, supervisor-attributed locus of causality for RBS, interpersonal justice, pride, guilt, shame, gratitude, and anger scale items loading on their own respective factors and all factors correlating to one another. The model yielded acceptable fit, $\chi^2(1091) = 3257.80$, CFI = .87, RMSEA = .07, SRMR = .08. Second, based on the close relationship between shame and guilt—both conceptually and in the EFA results—shame and guilt were collapsed into a single factor. The resulting eight factor model showed significantly more misfit than the nine factor model, $\Delta\chi^2(8) = 210.55$, $p<.01$, CFI = .85, RMSEA = .07, SRMR = .08. Third, positive and negative emotions were collapsed on their own factors, creating a six-factor model. This six factor model also showed significantly more misfit than the nine factor model, $\Delta\chi^2(21) = 610.139$, $p<.01$; CFI = .83, RMSEA = .07, SRMR = .08. Last, a two factor model was tested, with all predictor items loading on one factor and all emotions loading on a second factor. This model exhibited by far the worst fit, and showed significantly worse fit than the nine factor model, $\Delta\chi^2(35) = 4663.05$, $p<.01$; CFI = .58, RMSEA = .11, SRMR = .15. Thus, the nine factor model proved to be the best fitting model, and measure items were used to generate each respective scale score.

Next, I ran scale descriptive statistics, correlations, and internal consistencies for all measures, which are displayed in Table 11. Note that LMXSC's descriptive statistics, internal consistency, and correlations with other variables are discussed in depth in a supplementary

section. In general, all multiple item scales showed acceptable reliabilities, ranging from α=.85 (supervisor-attributed locus of causality for RBS) to α=.95 (pride).

Because locus of causality for RBS was viewed as a moderating variable within the current study's framework, it was not expected to show particularly strong relationships with other study variables. Surprisingly, self-attributed locus of control for RBS exhibited significant relationships with most study variables and showed stronger associations with emotions than hypothesized LMXSC-emotion relationships. This difference was particularly large for negative emotions, where self-attributed locus of causality for RBS showed negative relationships that were close to twice as strong as those with LMXSC. In general, supervisor-attributions were negatively linked to positive perceptions, like interpersonal justice (r=-.20, p<.05) and pride (r=-.22, p<.05), and positively related to negative perceptions like shame (r=.22, p<.05) and anger (r=.26, p<.05). The weak negative relationship between gratitude and supervisor-attributed locus of causality for RBS (r=-.15, p<.05) was counter to expectations, given gratitude is assumed to involve external causal attributions.

Table 11

Descriptive Statistics, Reliabilities, and Correlations for Main Study Measures

	Items	M	SD	N	1	2	3	4	5	6	7	8	9
1. LMXSC	6	4.12	1.35	452	(.92)								
2. LoCRBS Self	6	3.49	.76	453	**.56**	(.88)							
3. LoCRBS Sup.	6	3.41	.69	453	**-.10**	**-.26**	(.85)						
4. LMX	7	3.57	.83	453	**.58**	**.51**	**-.21**	(.92)					
5. Inter. J.	4	4.33	.74	401	**.31**	**.36**	**-.20**	**.58**	(.88)				
6. Inform. J.	4	3.88	.78	401	**.29**	**.38**	**-.14**	**.63**	**.69**	(.87)			
7. Pride	7	4.01	1.00	401	**.46**	**.47**	**-.22**	**.68**	**.72**	**.68**	(.95)		
8. Guilt	5	1.5	.80	400	**-.11**	**-.28**	**.19**	**-.42**	**-.53**	**-.50**	**-.55**	(.88)	
9. Shame	6	1.38	.75	401	**-.16**	**-.33**	**.22**	**-.43**	**-.60**	**-.52**	**-.63**	**.79**	(.92)
10. Gratitude	4	3.41	1.17	401	**.42**	**.46**	**-.15**	**.61**	**.62**	**.63**	**.74**	**-.41**	**-.47**
11. Anger	4	1.48	.94	401	**-.22**	**-.40**	**.26**	**-.48**	**-.59**	**-.52**	**-.59**	**.67**	**.73**
12. P. Affect	10	3.02	.93	401	**.53**	**.48**	-.02	**.59**	**.43**	**.54**	**.63**	**-.25**	**-.28**
13. N. Affect	10	1.41	.63	401	**-.15**	**-.28**	**.21**	**-.46**	**-.66**	**-.55**	**-.62**	**.73**	**.77**
14. Work Exp.	1	12.6	8.63	402	.01	.03	-.03	**.10**	.03	.02	.02	.03	.04
15. Job Tenure	1	3.98	3.53	422	<.01	<.01	.04	**.11**	.03	-.01	.05	>-.01	<.01
16. Org. Tenure	1	4.93	4.36	420	<.01	>-.01	.01	**.13**	.05	>-0.01	.04	-.02	>-.01
17. Sup. Tenure	1	3.37	3.02	421	**.14**	.05	.01	**.19**	.04	.04	.06	-.01	.02
18. N Peers	1	14.5	14.17	453	-.06	-.06	.02	-.09	-.02	-.06	-.06	.12*	.02
19. Age	1	33.2	9.92	452	-.05	-.01	>-.01	.08	.07	.04	.06	-.01	-.03

Note. All correlations in bold were significant, $p<.05$. Reliability coefficients are in parentheses on the diagonal. LoC for RBS-Self= self-attributed locus of causality for relationship building with one's supervisor. LoC for RBS-Supervisor= supervisor-attributed locus of causality for relationship building with one's supervisor. Workgroup size=number of peers who share the same supervisor. LMXSC was rated on a 7-point Likert scale; all other scales were rated on a 5-point Likert scale. All workgroups "over 60" were entered as 61.

Table 11 (cont'd)

	10	11	12	13	14	15	16	17	18	19
10. Gratitude	(.87)									
11. Anger	**-.50**	(.94)								
12. Positive Affect	**.62**	**-.33**	(.93)							
13. Negative Affect	**-.47**	**.74**	**-.28**	(.92)						
14. Years of work experience	.05	.04	.05	.05	(-)					
15. Years in current position	**.12**	.02	.05	-.01	**.50**	(-)				
16. Years at organization	**.12**	-.01	.06	.01	**.54**	**.78**	(-)			
17. Years working for supervisor	**.10**	.01	**.09**	-.01	**.45**	**.72**	**.71**	(-)		
18. N Peers	-.09	.07	-.04	<.01	.01	.07	<.01	-.01	(-)	
19. Age	.03	.03	.01	-.02	**.78**	**.52**	**.55**	**.45**	.03	(-)

LMX showed a higher internal consistency alpha (α=.92) than others have observed using the LMX-7 (average internal consistency across meta-analysis, α=.89, Gerstner & Day, 1997). The mean and standard deviation were relatively similar to the descriptive statistics found in other samples (e.g. current study, *M*=3.57, *SD*=.83; Maslyn & Uhl-Bien, 2001, *M*=3.77, *SD*=78). LMX showed moderately size relationships with all study IVs and DVs, with the exception of supervisor-attributed locus of causality for RBS (*r*=-.21). LMX showed particularly strong relationships with pride (*r*=.68, *p*<.05), informational justice (*r*=.63, *p*<.05), and gratitude (*r*=.61, *p*<.05). LMX exhibited weak but significant positive relationships with years of work experience, years in one's current position, years working within one's organization, and years working for one's supervisor.

Interpersonal and informational justice showed acceptable internal consistency (respectively, α=.88, and α=.87), despite being slightly lower than alphas previously observed in field samples (interpersonal, α=.92; informational, α=.90; Colquitt, 2001). Though standard deviations were of a similar size for both dimensions of justice, interpersonal justice was higher on average (*M*=4.33) than informational justice (*M*=3.88). As will be discussed further in the sections that follow, both subscales showed moderate to strong relationships with different

emotions. These relationships were stronger than LMXSC-emotions linkages; the strongest linkage was r=-.50, p<.05 (i.e., guilt and informational justice), whereas the weakest LMXSC-emotion linkage was r=-11, p<.05 (i.e., guilt and LMXSC). The relationships with interactional justice dimensions and emotions are likely inflated due to common method variance.

Negative affect from the PANA scale showed the lowest mean (1.41) and the lowest standard deviation (.64) of all scales.

The highest correlation to emerge was that between guilt and shame (r=.79, p<.05).

Workplace experience variables largely did not correlate with study measures. Positive affect showed a weak positive relationship with years working with one's supervisor (r=.11, p<.05). As described in the sample description, all workplace experience variables showed moderately sized positive correlations with one another.

For reference, the findings from all hypothesis tests and additional analyses that paralleled hypothesis tests are in Table 12. Note that columns 3, 4, and 5 are ancillary analyses wherein one of the variables the current study's hypotheses were replaced with another variable. Because these analyses were examined in an exploratory manner and are not a test of a priori expectations, "supported" and "not supported" refer to the extent to which the results match what was hypothesized using the study's focal variables and is not meant to indicate a hypothesis test was conducted.

Table 12

Summary of Hypothesis Findings and Ancillary Analyses

Hypotheses	LMXSC Supported?	PANA Supported?	LMX Supported?	Informational Justice Supported?
Hypothesis 1				
H1a: LMXSC+→Positive Emotions	Supported	Supported	Supported	-
H1b: LMXSC - →Negative Emotions	Supported	Supported	Supported	-
Hypothesis 2				
H2a: LocRBS x LMXSC→ Pride	Partially supported	Not supported	Not supported	-
H2b: LoCRBS x LMXSC→Guilt	Not supported	Not supported	Not supported	-
H2c: LoCRBS x LMXSC→ Shame	Not supported	Not supported	Not supported	-
Hypothesis 3				
H3a: LoCRBS x LMXSC→Gratitude	Supported	Not supported	Supported	-
H3b: LoCRBS x LMXSC→ Anger	Partially supported	Not supported	Supported	-
Hypothesis 4				
H4a: IJ +→Gratitude	Supported	Supported	-	Supported
H4b: IJ - →Anger	Supported	Supported	-	Supported
Hypothesis 5				
H5a: IJ x LMXSC→Gratitude	Not supported	Not supported	Not supported	Not supported
H5b: IJ x LMXSC→Anger	Partially supported	Not supported	Supported	Partially supported
Hypothesis 6				
H6: IJ x LMXSC x LoCRBS→Anger	Not supported	Not supported	Not supported	Not supported

Hypothesis tests

Hypothesis 1a predicted LMXSC would be positively associated with positive emotions. Pride and gratitude showed moderate positive correlations with LMXSC (Table 11; respectively, r=.46, p<.05; r=.42, p<.05). Table 13 shows that in second step of the hierarchical regression used to test hypotheses 2 and 3, LMXSC exhibited a significant main effect on pride (β=.30, p<.05), and gratitude (β=.35, p<.05). LMXSC also showed a significant positive main effect on gratitude in the second step of the hypothesis 5 regression found in Table 11 (β=.25, p<.05). Thus, H1a was supported.

Hypothesis 1b predicted LMXSC would be negatively associated with negative emotions. Guilt, shame, and anger showed weak negative correlations with LMXSC (Table 11; respectively, r=-.11, p<.05; r=-.16, p<.05; r=-.22, p<.05). The hierarchical regressions in Table 13 indicate LMXSC had a significant main effect on anger (step 2; β=-.13, p<.05); but no significant main effect on guilt (step 2; β=.07, *n.s.*) or shame (step 2; β=-.02, *n.s.*). Interestingly, when interpersonal justice was included in a regression (see Table 14), LMXSC showed no main effect on anger (β=-.03, n.s.). Although regressions did not show consistent significant main effects of LMXSC on negative emotions, the hypotheses focused on the bivariate relationships (i.e. correlations) and did not explicitly indicate other variables as controls (as occurs in the regressions). Thus, based on the significance of the bivariate correlations, H1b was supported.

Hypothesis 2a predicted LMXSC would interact with self-attributed locus of causality for RBS in predicting pride. As part of this interaction, LMXSC was expected to show a positive main effect. Those high on both predictors were expected to report the highest level of pride. Those with low LMXSC and high self-attributed locus of causality for RBS were expected to

have the lowest level of pride. Individuals with low self-attributed locus of causality for RBS and high LMXSC were expected to report higher pride than those low on both predictors.

Table 13

Tests of Hypothesis 2 and 3 with Emotions Regressed on LMXSC, Locus of Causality for RBS, and an LMXSC x Locus of Causality Interaction

	Self-attributed Locus of Causality for RBS											
	Pride				Guilt				Shame			
Predictors variables	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.27*				.09*				.12*
Locus of causality for RBS	.07	.41	.31*		.06	-.34	-.33*		.06	-.36	-.37*	
LMXSC	.04	.21	.28*		.03	.04	.07		.03	.02	.04	
Step 2				.01*				<.01				.02*
Locus of causality for RBS	.08	.31	.24*		.07	-.33	-.31*		.07	-.26	-.27*	
LMXSC	.04	.22	.30*		.03	.04	.07		.03	.01	.02	
LoC for RBS x LMXSC	.04	-.09	-.12*		.04	.01	.02		.03	.09	.16*	
	Supervisor-attributed Locus of Causality for RBS											
	Gratitude				Anger							
	SE	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*				
Step 1				.18*				.10*				
Locus of causality for RBS	.08	-.17	-.10*		.06	.31	.24*					
LMXSC	.04	.34	.40*		.03	-.13	-.19*					
Step 2				.02*				.03*				
Locus of causality for RBS	.08	-.13	-.08		.06	.28	.21*					
LMXSC	.04	.30	.35*		.03	-.09	-.13*					
LoC for RBS x LMXSC	.05	.17	.16*		.04	-.14	-.17*					

Note. *p<.05. *Ns* ranged 387-388.

Table 14

Tests of Hypothesis 5, with Gratitude and Anger Regressed on Interpersonal Justice, LMXSC, and an Interactional Justice x LMXSC Interaction

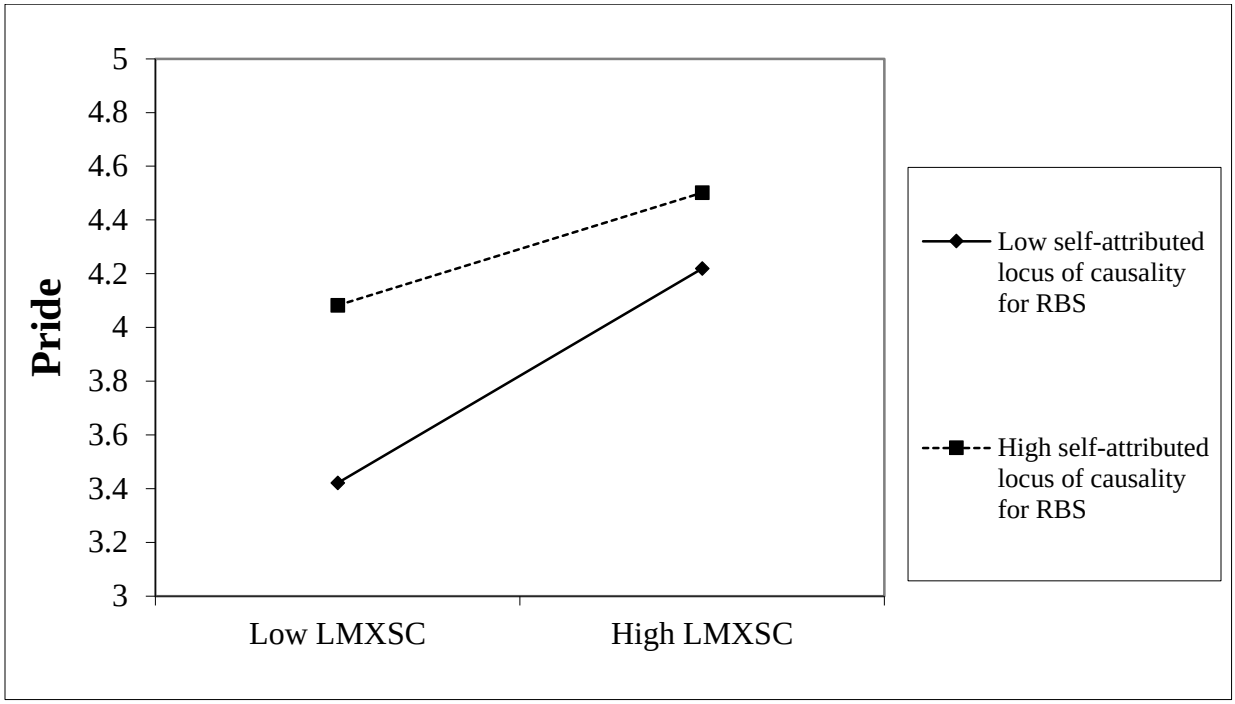
	Self-attributed Locus of Causality for RBS							
	Gratitude				Anger			
Predictors variables	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.44*				.37*
Interpersonal Justice	.06	.85	.54*		.05	-.74	-.59*	
LMXSC	.03	.21	.25*		.03	-.03	-.04	
Step 2				<.01				.02*
Interpersonal Justice	.07	.83	.53*		.05	-.65	-.53*	
LMXSC	.03	.21	.25*		.03	-.02	-.03	
IJ x LMXSC	.04	-.04	-.04		.03	.12	.15*	

Note. *p<.05. N=388 for regressions shown here. IJ= Interpersonal Justice.

Table 13 shows a significant interaction between LMXSC and self-attributed locus of causality for RBS (β=-.12, p<.05) which explained significantly more variance in pride than only the main effects of LMXSC and self-attributed locus of causality for RBS (ΔR^2=.01, p<.05). This interaction is displayed in Figure 10. Three aspects of the interaction were as expected. First, a main effect of LMXSC emerged, with high LMXSC respondents showing higher pride than low LMXSC respondents. Second, those with high LMXSC and high locus of causality for RBS showed the highest levels of pride. Third, those with low locus of causality for RBS and high LMXSC had higher pride than those with low self-attributed locus of causality for RBS and low LMXSC. However, low LMXSC, high self-attributed locus of causality for RBS individuals did not meet expectations. That is, instead of showing the lowest levels of pride, respondents with low LMXSC and high self-attributed locus of causality for RBS showed the third highest levels of pride. Those with low LMXSC and low self-attributed locus of causality for RBS showed lower levels of pride. The interaction shows the self-attributed locus of causality for RBS had a positive main effect on levels of pride for both high and low LMXSC respondents (β=.24, p<.05). Thus, H2a was partially supported.

Figure 10

LMXSC x Locus of Causality Interaction Predicting Pride



Note. N=388.

Self-attributed locus of causality for RBS was also predicted to interact with LMXSC in predicting shame (H2b) and guilt (H2c). Subordinates with high LMXSC were expected to show the lowest level of guilt and shame regardless their level of self-attributed locus of causality for RBS. For low LMXSC individuals, self-attributed locus of causality was expected to be positively related to levels of guilt and shame, with low LMXSC-high self-attributed locus of causality individuals showing the highest levels of guilt and shame.

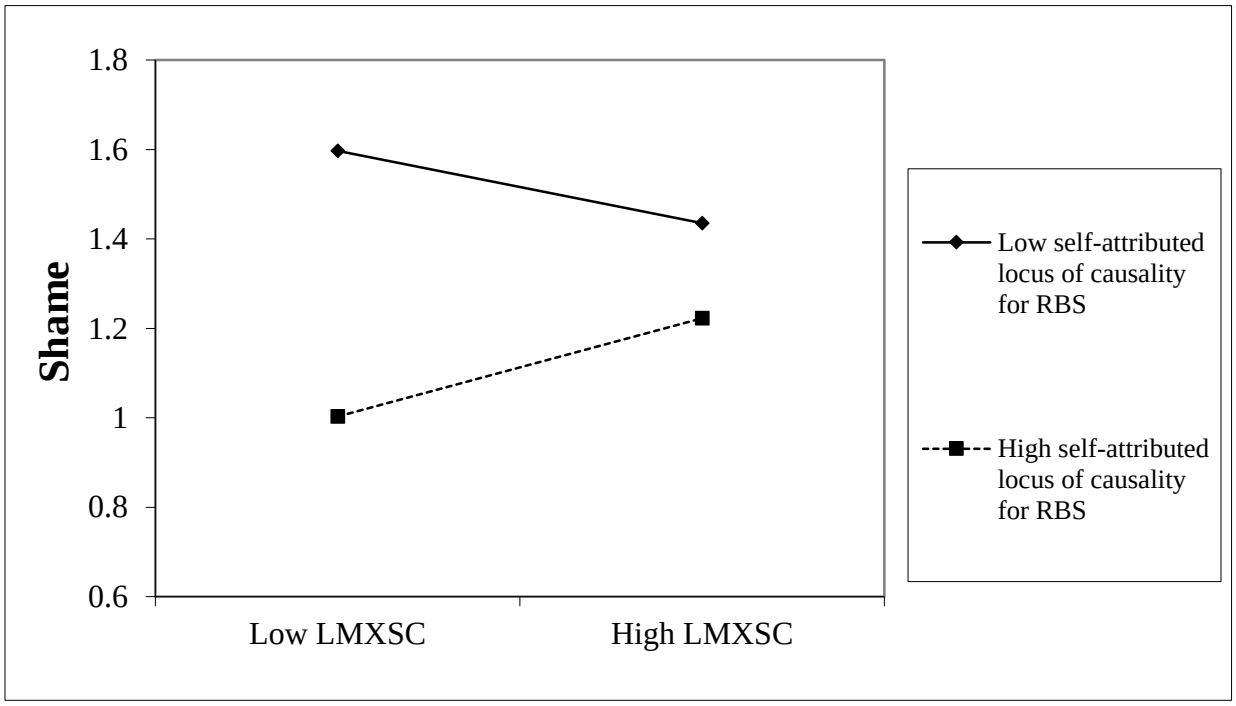
As can be seen in Table 13, this interaction did not have a significant effect on guilt (β=.02, n.s.), indicating H2b was not supported. Self-attributed locus of causality for RBS showed a significant negative main effect on guilt that was not hypothesized (β=-.31, p<.05).

The interaction was significant when shame was used as the dependent variable (β=.16, p<.05), adding significant variance explained above and beyond the main effects (ΔR^2=.02,

p<.05). This interaction, shown graphically in Figure 11, took on a different form than was expected. Among high LMXSC individuals, self-attributed locus of causality for RBS showed a weak negative association with shame. Among low LMXSC individuals, self-attributed locus of causality for RBS was expected to be positively related to shame, but instead, it was negatively related to shame. Self-attributed locus of causality for RBS indeed showed a significant main effect on shame (step 2, β=.-.27, p<.05), whereas LMXSC exhibited no main effect in the model (step 2, β=.04, n.s.). Low LMXSC, high self-attributed locus of causality individuals were expected to show the *highest* level of shame, and instead, this group reported the *lowest* level of shame. Based on these findings, H2c was not supported.

Figure 11

LMXSC x Locus of Causality Interaction Predicting Shame



Note. N=388.

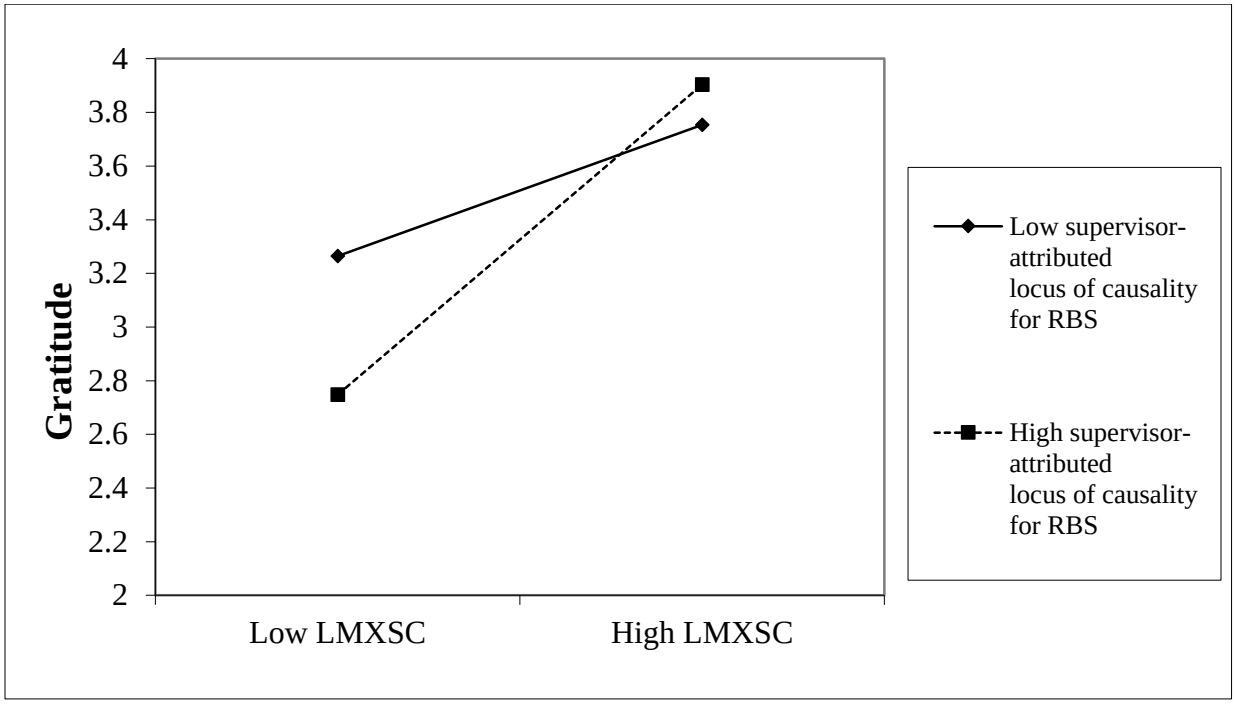
Hypothesis 3a predicted LMXSC would interact with supervisor-attributed locus of causality for RBS in predicting gratitude. Those with high supervisor-attributed locus of

causality for RBS and high LMXSC were expected to show the highest gratitude; those with high supervisor-attributed locus of causality for RBS and low LMXSC were expected to show the lowest gratitude. LMXSC was expected to show a main effect, such that for individuals reporting low supervisor-attributed locus of causality for RBS, high LMXSC respondents would exhibit higher levels of gratitude than low LMXSC respondents.

As shown in Table 13, the interaction between LMXSC and supervisor-attributed locus of causality for RBS was significant (β=.16, p<.05) and explained significantly more variance in gratitude above and beyond the main effects (ΔR^2=.02, p<.05). As Figure 12 shows, LMXSC had a main effect (β=.35, p<.05). High LMXSC respondents showed high levels of gratitude, with high supervisor-attributed locus of causality for RBS respondents showing marginally higher levels of gratitude than low supervisor-attributed locus of causality for RBS respondents. For low LMXSC respondents, supervisor-attributed locus of causality for RBS had a strong negative main effect, with low LMXSC-high supervisor-attributed locus of causality respondents reporting the lowest levels of gratitude. Overall, the results supported H3a.

Figure 12

LMXSC x Locus of Causality for RBS interaction predicting Gratitude



Note. N=388.

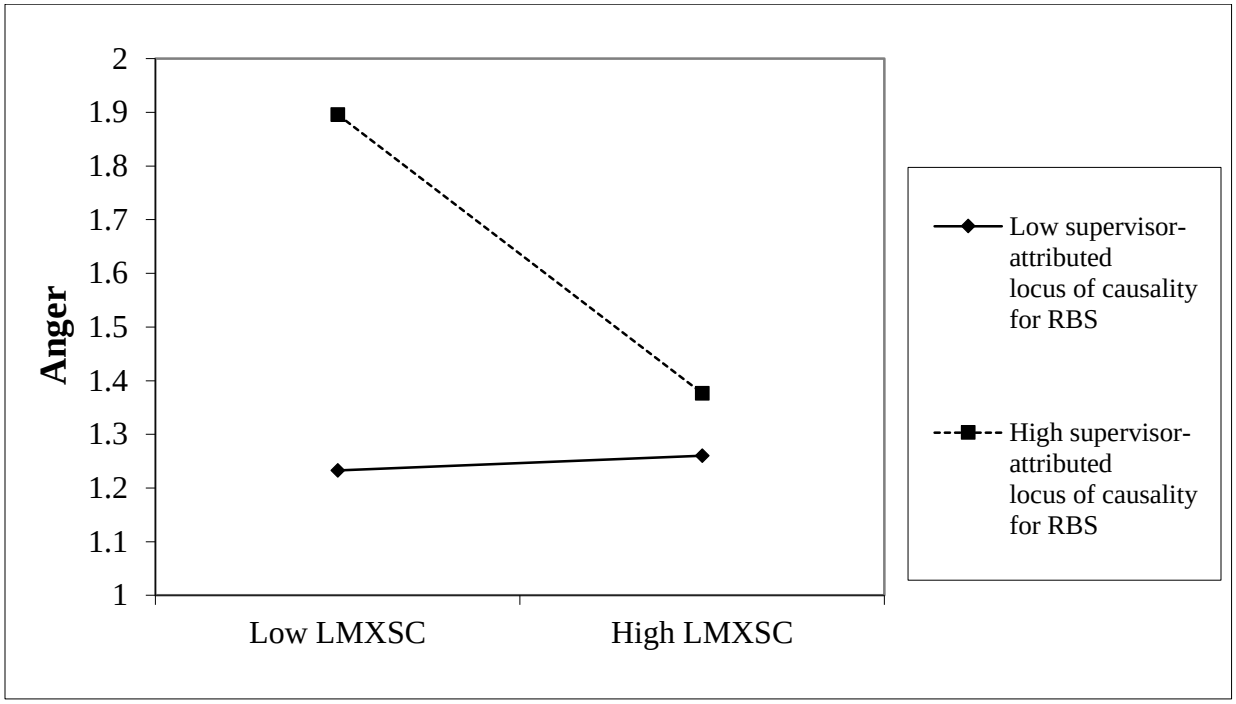
Hypothesis 3b predicted LMXSC would interact with supervisor-attributed locus of causality for RBS in predicting anger. LMXSC was expected to show a main effect, with high LMXSC respondents displaying low levels of anger regardless of the level of supervisor-attributions and low LMXSC respondents displaying higher levels of anger as supervisor-attributed locus of causality for RBS increased.

Table 13 shows the LMXSC- supervisor-attributed locus of causality for RBS interaction was significant (β=-.17, p<.05) and explained significantly more variance in anger than only main effects (ΔR^2=.03, p<.05). The interaction graph can be found in Figure 13. As expected, low LMXSC respondents displayed higher levels of anger as supervisor-attributed locus of causality for RBS increased. High LMXSC respondents reported lower anger, with high

supervisor-attributed locus of causality for RBS respondents showing slightly higher anger than low supervisor-attributed locus of causality for RBS. Counter to the expected main effect of LMXSC, individuals reporting low LMXSC and low supervisor-attributed locus of causality for RBS had the lowest levels of anger, lower than individuals with high LMXSC. Despite this discrepancy, many expectations were met, and H3b was partially supported.

Figure 13

LMXSC x Locus of Causality for RBS Interaction Predicting Anger



Note. N=388.

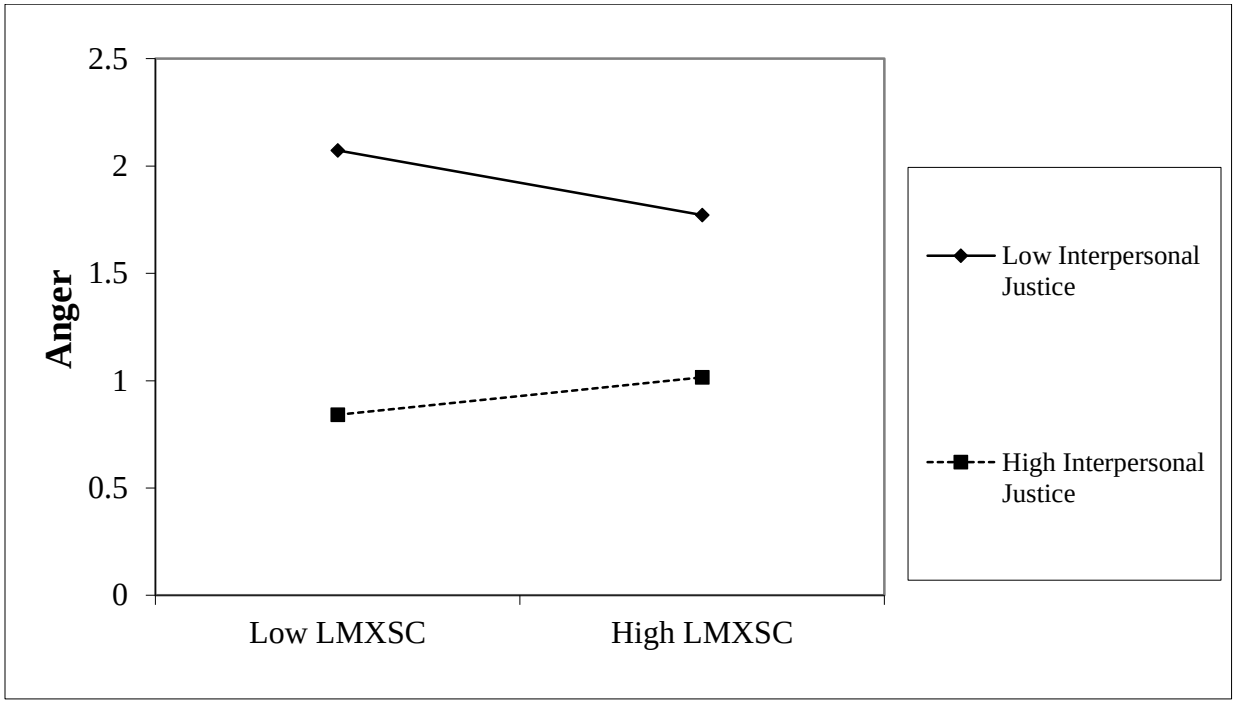
Hypothesis 4 predicted that interpersonal justice would be positively related to gratitude (H4a) and negatively related to anger (H4b). Table 11 shows interpersonal justice exhibited a positive relationship with gratitude (r=.62, p<.05) and a negative relationship with anger (r=-.59, p<.05). The second step of the regressions in Table 14 also showed interpersonal justice to have a positive main effect on gratitude (β=.53, p<.05) and a negative main effect on anger (β=-.53, p<.05). Thus, H4a and H4b were supported.

Hypothesis 5a predicted interpersonal justice and LMXSC would interact in predicting gratitude. LMXSC was predicted to show a main effect, with high LMXSC respondents showing higher gratitude than low LMXSC respondents. For high LMXSC individuals, interpersonal justice was expected to have a strong positive main effect on gratitude. For low LMXSC, interpersonal justice was expected to show a weaker main effect on gratitude. Table 14 shows no significant interpersonal justice-LMXSC interaction when gratitude was entered as the dependent variable.

Hypothesis 5b predicted LMXSC and interpersonal justice would interact in predicting anger. LMXSC was expected to show a main effect, with low LMXSC respondents showing higher anger than high LMXSC respondents. For both high and low LMXSC respondents, interpersonal justice was expected to be negatively associated with anger; however, this relationship was expected to be stronger when LMXSC was low. Table 14 shows the LMXSC-interpersonal justice interaction was significant (β=.15, p<.05) and explained significantly more variance in anger than only the main effects of LMXSC and interpersonal justice (ΔR^2=.02, p<.05). The graph of this interaction can be found in Figure 14. As per expectations, higher levels of interpersonal justice were related to lower levels of reported anger. Also in line with expectations, the highest level of anger was displayed by low LMXSC, low interpersonal justice respondents. Whereas the lowest level of anger was expected to come from participants reporting high interpersonal justice and *high* LMXSC, those with high interpersonal justice and *low* LMXSC instead reported the lowest levels of anger. Thus, H5b was partially supported.

Figure 14

LMXSC x Interpersonal Justice Interaction Predicting Anger



Note. N=388.

Hypothesis 6 predicted that interpersonal justice would display a three-way interaction with LMXSC and supervisor-attributed locus of causality for RBS in predicting anger. LMXSC and interpersonal justice were expected to show negative main effects on anger. Low LMXSC were expected to report increasing levels of anger as supervisor attributions increased; this slope was expected to be steeper when interpersonal justice is low and less steep when interpersonal justice is high. Further, anger levels experienced by high LMXSC respondents were expected to be unaffected by supervisor attributions.

As can be seen in step 3 of Table 15, the three-way interaction was not significant, indicating H6 was not supported. An unexpected two-way interaction was observed between interpersonal justice and supervisor-attributed locus of causality for RBS (β=.-14, p<.05). As can be seen in step 2 of Table 16, the same interaction was significant when LMXSC was not

included in the model (β=-.18, p<.05) and explained significant variance beyond the model main effects (ΔR^2=.03, p<.05). Figure 15 shows a graphical representation of this interaction (based on the Table 16 model). Those who reported high levels of interpersonal justice reported low levels of anger, regardless of their level of supervisor-attributed locus of causality for RBS. Respondents who perceived low levels of interpersonal justice exhibited higher levels of anger, with high supervisor attributions showing the highest level of anger and those with low supervisor attributions showing slightly lower levels of anger

Table 15

Tests of Hypothesis 6, with Anger Regressed on a Interpersonal Justice x LMXSC x Supervisor Attributed Locus of Causality for RBS Interaction

		Anger		
Predictors variables	*SE*	*B*	*B*	ΔR^2
Step 1				.39*
Interpersonal Justice	.05	-.71	-.57*	
LMXSC	.03	-.02	-.03	
LoCRBS Supervisor	.05	.19	.14*	
Step 2				.03*
Interpersonal Justice	.06	-.64	-.51*	
LMXSC	.03	<.01	<.01	
LoCRBS Supervisor	.05	.15	.11*	
LMXSC x IJ	.04	.03	.04	
LMXSC x LoCRBS Supervisor	.04	-.02	-.02	
IJ x LoCRBS Supervisor	.07	-.22	-.15*	
Step 3				<.01
Interpersonal Justice	.06	-.63	-.51*	
LMXSC	.03	<.01	<.01	
LoCRBS Supervisor	.06	.14	.11*	
LMXSC x IJ	.02	.05	.03	
LMXSC x LoCRBS Supervisor	.04	-.02	-.02	
IJ x LoCRBS Supervisor	.08	-.20	-.14*	
IJ x LMXSC x LoCRBS Supervisor	.05	.02	.03	

Note. *p<.05. N=388. IJ=Interpersonal Justice; LoCRBS=locus of causality for RBS.

Table 16

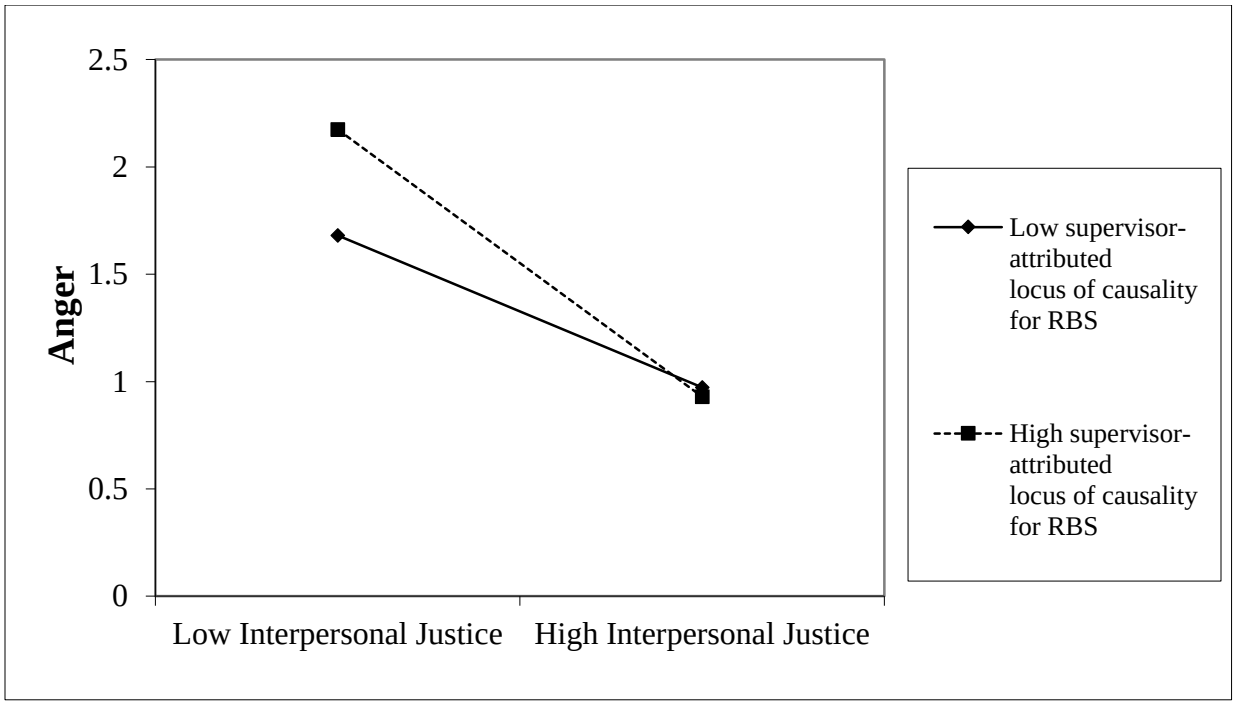
Hypothesis 6 Follow-up Regression, with Anger Regressed on an Interpersonal Justice x Locus of Causality Interaction

		Anger		
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.38*
Interpersonal Justice	.05	-.72	-.57*	
LoCRBS Supervisor	.05	.20	.15*	
Step 2				.03*
Interpersonal Justice	.05	-.65	-.52*	
LoCRBS Supervisor	.05	.16	.12*	
IJ x LoCRBS Supervisor	.06	-.26	-.18*	

Note. *p<.05. N=389. IJ=Interpersonal Justice; LoCRBS=locus of causality for RBS.

Figure 15

Supervisor-attributed Locus of Causality for RBS x Interpersonal Justice Interaction Predicting Anger



Note. N=389.

Figure 15 shows regardless the respondent's level of supervisor-attributed locus of causality for RBS, interpersonal justice exhibited a negative relationship with anger. However,

when supervisor-attributed locus of causality for RBS was high, the negative relationship between interpersonal justice and anger was much steeper than when supervisor-attributed locus of causality for RBS was low. Consequently, the angriest respondents were those with high supervisor-attributions and low perceived interpersonal justice, and the least angry respondents were those with high supervisor-attributions and high perceived interpersonal justice.

Ancillary analyses: Comparing Emotions and PANA models

The current study focuses on attributions assumed to distinguish different forms of positive emotions (i.e. pride vs. gratitude) and negative emotions (i.e., anger vs. guilt/shame). However, the PANA model of affect would group these emotions into two general categories based on their valence (positive and negative affect), ignoring any related attributions. To this point, strong positive relationships were observed between PA and positive emotions (i.e. pride, r=.63, p<.05; gratitude. r=.62, p<.05), and NA and negative emotions (i.e., anger, r=.74, p<.05; guilt, r=.73, p<.05; shame, r=.77, p<.05). PA and NA showed a small negative relationship (r=-.28). Weak negative relationships between PA and NA have been reported in prior studies when participants are asked to think about affect across the past few weeks or the past year (e.g. Watson, Clark, & Tellgen, 1988). A negative relationship was also observed between PA and each negative emotion (i.e. guilt, r=-.25; shame, r=-.28; anger, r=-.33), and NA and each positive emotion (i.e., pride, r=-.62; gratitude, r=-.47).

Three CFA models were run to test the factor structure of the PANAS and emotion items. First, positively-valenced (i.e., pride, gratitude, and PA) and negatively-valenced items (i.e., guilt, shame, anger, and NA) were loaded on separate factors which were allowed to correlate. This model was poor fitting, $\chi^2(1033) = 6162.30$, CFI = .70, RMSEA = .11, SRMR = .10. A seven-factor model was then run with all emotions, PA, and NA loaded on their own respective

but correlated factors. This produced a better fitting model, $\Delta\chi^2(20) = 2454.248$, $p<.05$, CFI = .84, RMSEA = .08, SRMR = .07. A six factor model which loaded guilt and shame items on the same factor showed significantly more misfit than the seven factor model, $\Delta\chi^2(6) = 204.93$, $p<.05$, CFI = .83, RMSEA = .08, SRMR = .07 Thus, the items were best explained by the seven factor model that reflected their construct dimensionality.

In addition to exploring how PANA items relate psychometrically to the current study's measures of emotions, I also explored whether study hypotheses would yield similar results if positive and negative affect were used instead as outcomes. Table 11 shows that similar to hypothesis 1, LMXSC was significantly correlated with positive affect ($r=.53$, $p<.05$) and negative affect ($r=-.15$, $p<.05$).

Tests of hypothesis 2 and 3 using PANA outcomes are shown in Table 17. As can be seen in the second step of regressions in both tables, the interaction terms used for hypotheses 2, 3, and 5 were nonsignificant when positive and negative affect were used as outcomes.

Table 17

Ancillary tests of Hypotheses 2 and 3 with Positive Affect and Negative Affect as DVs

	Self-attributed Locus of Causality for RBS							
	Positive Affect				Negative Affect			
Predictors variables	*SE*	*B*	*B*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.33*				.08*
Locus of causality for RBS	.06	.33	.27*		.05	-.25	-.30*	
LMXSC	.03	.26	.38*		.03	.01	.02	
Step 2				<.01				.01
Locus of causality for RBS	.07	.33	.27*		.06	-.20	-.24*	
LMXSC	.03	.26	.38*		.03	<.01	.01	
LoCRBS x LMXSC	.04	.01	.01		.03	.05	.11	
	Supervisor-attributed Locus of Causality for RBS							
	Positive Affect				Negative Affect			
	SE	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.28*				.06*
Locus of causality for RBS	.06	.07	.05		.05	.17	.19*	
LMXSC	.03	.36	.54*		.02	-.06	-.12*	
Step 2				<.01				<.01
Locus of causality for RBS	.06	.08	.06		.05	.16	.18*	
LMXSC	.03	.35	.52*		.02	-.05	-.11*	
LoCRBS x LMXSC	.04	.06	.07		.03	-.02	-.04	

Note. *p<.05. N=388 for all regressions shown here. LoCRBS=locus of causality for RBS.

Table 18

Ancillary tests of Hypothesis 5 with Positive Affect and Negative Affect as DVs

	Self-attributed Locus of Causality for RBS							
	Positive Affect				Negative Affect			
Predictors variables	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.36*				.44*
Interpersonal Justice	.05	.37	.30*		.03	-.58	-.68*	
LMXSC	.03	.30	.44*		.02	.03	.06	
Step 2				<.01				<.01
Interpersonal Justice	.06	.40	.32*		.04	-.58	-.68*	
LMXSC	.03	.30	.44*		.02	.03	.06	
IJ x LMXSC	.03	.04	.05		.02	.01	<.01	

Note. *p<.05. N=388 for regressions shown here. IJ=Interpersonal Justice; LoCRBS=locus of causality for RBS.

The expectations for hypothesis 4 were also supported in Table 11. Interpersonal justice showed a moderately sized positive relationship with positive affect (r=.43, p<.05), and a negative relationship with negative affect (r=-.66, p<.05). As can be seen in Table 18, a significant interpersonal justice-LMXSC interaction did not emerge when positive and negative affect were entered as the dependent variables.

In Table 19, hypothesis 6 was conducted using negative affect as the dependent variable. The three-way interaction was non-significant (as were all two-way interactions), indicating hypothesis 6 was not supported when NA was used in place of anger.

Table 19

Ancillary test of Hypothesis 6 with Negative Affect as DV

	Negative Affect			
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.45*
Interpersonal Justice	.03	-.56	-.67*	
LMXSC	.02	.03	.07	
LoCRBS Supervisor	.04	.07	.08*	
Step 2				<.01
Interpersonal Justice	.04	-.57	-.67*	
LMXSC	.02	.02	.05	
LoCRBS Supervisor	.04	.08	.08*	
LMXSC x IJ	.03	>-.01	-.01	
LMXSC x LoCRBS Supervisor	.03	.04	.06	
IJ x LoCRBS Supervisor	.05	-.03	-.03	
Step 3				<.01
Interpersonal Justice	.04	-.58	-.68*	
LMXSC	.02	.02	.04	
LoCRBS Supervisor	.04	.10	.11*	
LMXSC x IJ	.03	.02	.05	
LMXSC x LoCRBS Supervisor	.03	.04	.07	
IJ x LoCRBS Supervisor	.05	-.08	-.08	
IJ x LMXSC x LoCRBS Supervisor	.03	-.06	-.13	

Note. *p<.05. N=388. IJ=Interpersonal Justice; LoCRBS=locus of causality for RBS.

Overall, similar to Hypotheses 1 and 4, LMXSC and interpersonal justice were significantly associated with PA or NA. However, none of the hypothesized interactions explained incremental variance when PA or NA were entered as outcomes.

Ancillary analyses: LMXSC and its relationship with LMX

In this section, the psychometric properties of LMXSC are examined and compared to findings from the two existing published studies on LMXSC (i.e., Erdogan, 2002; Vidyarthi et al., 2010). Then, the relationship between LMXSC and LMX is examined through a number of analyses.

Looking first at the descriptive statistics, internal consistencies and intercorrelations, in the current study the average level of LMXSC was close to the mid-point of the 7-point Likert scale (M=4.12) and showed a wide standard deviation (SD=1.35). Vidyarthi et al (2010) and Erdogan (2002) similarly found average responses were close to the midpoint and exhibited wide standard deviations on a 5-point Likert scale (Erdogan, 2002; undergraduate sample, M=3.95, SD=1.19; field sample, M=3.02, SD=1.10; Vidyarthi et al., 2010; M=3.46, SD=.92). The LMXSC scale showed higher internal consistency in the current study (α=.92) than has been observed previously (Erdogan, 2002; undergraduate sample, α=.86; field sample, α=.84; Vidyarthi et al., 2010; α=.86).

As described previously, LMXSC showed the expected associations with emotions, PA, and NA. LMXSC was unrelated to work experience, current position tenure, organizational tenure, or age. Only the length of the relationship held with one's supervisor exhibited a significant (albeit weak) relationship with LMXSC (r=.14, p<.05). In contrast, Vidyarthi et al. (2010) observed significant positive relationships of LMXSC with organizational tenure (r=.21, p<.05) and with age (r=.19, p<.05).

Looking next to the relationship between LMXSC and LMX, a positive correlation was expected as the two constructs overlap conceptually. The LMXSC-LMX relationship observed here was positive and moderate in size (r=.58, p<.05). Vidyarthi et al. (2010) used the same LMX measure as the current study (i.e., LMX-7, Graen & Uhl-Bein, 1995) and observed a similarly-sized relationship (r=.55, p<.05). Erodgan (2002) used a different measure (LMX-MDM, Liden & Maslyn, 1998) and observed a slightly weaker relationship (Erdogan, 2002; field sample, r=.38, p<.05).

In an effort to parallel validation efforts described in Vidyarthi et al (2010), a principal components analysis with an oblique rotation was conducted with 1) LMXSC, 2) LMX, and 3) interactional justice items. It is important to note the PCA described in Vidyarthi et al. (2010) used different measures than the current study to assess LMX (Liden & Maslyn, 1998, as compared to Graen & Uhl-Bien, 1995 here), and interactional justice (Niehoff & Moorman, 1993, as compared to Colquitt, 2001 here).[7] The results of this PCA using data from the current study can be found in Table 20. Listwise deletion was used, as the matrix was not positive-definite when pairwise deletion was applied. Items loaded onto factors with their respective scales, yielding a four-factor solution. The components exhibited high loadings (in order) from LMXSC items (.62 or higher; 45.66% variance explained), LMX items (.68 or higher; 14.84% variance explained), informational justice items (.38 or higher; 6.20% variance explained) and interpersonal justice items (.78 or higher; 4.83% variance explained). There were no cross-loadings over .30. Collectively, these components explained 71.52% of the variance. These results were similar to the validation efforts Vidyarthi et al (2010) described, where a three-

[7] Vidyarthi et al. (2010) describe a PCA and CFA using data from Erodgan (2002). These analyses were not included in the original Erdogan (2002) dissertation document, and presumably were conducted separately using the dissertation data. I cite these analyses as "described in Vidyarthi et al, (2010)", and compare the current study's findings to the statistics reported in Vidyarthi et al. (2010).

factor solution with LMXSC, LMX, and interactional justice items (the scale did not differentiate between interpersonal and informational) loaded on separate factors, explaining 71.23% of the variance and showing no cross-loadings over .20.

Table 20

Promax Rotation Principal Components Analysis Structure for Main Study LMXSC, LMX, and Interactional Justice Items

	Component			
	1	2	3	4
LMXSC 1	.80			
LMXSC 2	.62			
LMXSC 3	.91			
LMXSC 4	.87			
LMXSC 5	.95			
LMXSC 6	.91			
LMX 1		.68		
LMX 2		.76		
LMX 3		.76		
LMX 4		.89		
LMX 5		.83		
LMX 6		.80		
LMX 7		.98		
Interpersonal Justice 1				.84
Interpersonal Justice 2				.82
Interpersonal Justice 3				.78
Interpersonal Justice 4				.92
Informational Justice 1			.38	
Informational Justice 2			.98	
Informational Justice 3			.78	
Informational Justice 4			.90	
Informational Justice 5			.66	
Eigenvalue	10.05	3.26	1.36	1.06
Variance explained	45.66%	14.84%	6.20%	4.83%

Note. Loadings under .30 are suppressed. Listwise deletion was applied, *N*=379.

Table 21

Component Correlation Matrix Based on Promax Rotated Principal Components Analysis for Main Study LMXSC, LMX, and Interactional Justice Items

	Components			
	1	2	3	4
1	-			
2	.56	-		
3	.26	.58	-	
4	.31	.57	.63	-

Note. Listwise deletion was applied, N=379.

As can be seen in the component correlation matrix displayed in Table 21, the LMXSC and LMX factors were moderately related (components 1 and 2, r=.56). LMXSC also showed weak relationships with the informational and interpersonal justice components (component 3, r=.26; component 4, r=.31). Referring back to Table 11, LMXSC showed weak positive relationships with interpersonal justice and informational justice (r=.31, p<.05; r=.29, p<.05). Erdogan (2002) observed a similar sized LMXSC-interactional justice relationship (undergraduate sample, r=.31, p<.05; field sample, r=.32, p<.05) using a single interactional justice item from Niehoff and Moorman's (1993) scale.

As in parallel to the validation efforts described in Vidyarthi et al. (2010), a CFA was conducted to further test the LMXSC and LMX factor structure. In the analysis described in Vidyarthi et al. (2010), LMXSC and LMX fit well on two separate factors in a confirmatory factor analysis, χ^2 (131)= 313.12, CFI=.93, RMSEA=.08, and an alternative model specifying a correlation between LMXSC and LMX created a significantly worse fitting model $\Delta\chi^2$ (1) =48.53, p<.01.

In the current study's data, LMXSC and LMX also fit well on two separate factors, χ^2 (66)= 393.95, CFI=.93, RMSEA=.11. It should be noted that LMX item 7 displayed a negative residual variance in this model (i.e. a Heywood case); to ensure the residual covariance matrix

was positive-definite, the LMX item 7 residual was constrained to 0. When LMXSC and LMX were allowed to correlate, the model exhibited improved fit, $\Delta\chi^2$ (2)= 160.82, p<.01; CFI=.96, RMSEA=.08.

As a final comparison between LMXSC and LMX, I ran the current study's hypothesis tests with LMX entered in place of LMXSC. Hypothesis 1 suggested that LMXSC would be positively related to positive emotions (pride and gratitude) and negatively related to negative emotions (anger, guilt, and shame). As can be seen in Table 11, LMX also showed positive relationships with positive emotions (i.e. pride, r=.68, p<.05; gratitude, r=.61, p<.05), and negative relationships with negative emotions (i.e. guilt, r=-.42, p<.05; shame, r=-.43, p<.05; anger, r=-.48, p<.05).

Tests of hypothesis 2 and 3 using LMX in place of LMXSC can be found in Table 22. As can be seen in the second step of Table 22, H2a and H2b's prediction of pride and guilt proved nonsignificant when LMX was used. An LMX-self-attributed locus of causality for RBS interaction did, however, significantly predict shame (step 2, β=.12, p<.05), and explained significant variance beyond the model main effects (ΔR^2=.01, p<.05). This interaction is displayed graphically in Figure 16.

Table 22

Ancillary tests of Hypothesis 2 and 3 with LMX in place of LMXSC

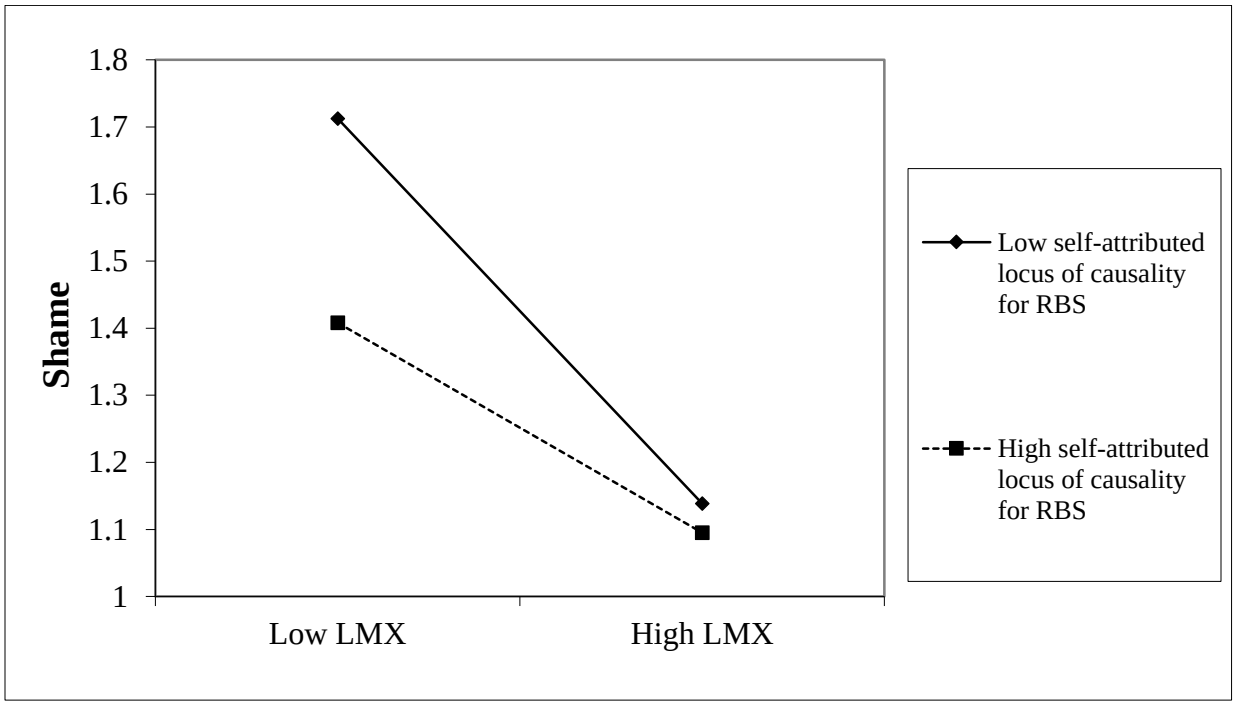
	Self-attributed Locus of Causality for RBS											
	Pride				Guilt				Shame			
Predictors variables	*SE*	*B*	*B*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.48*				.18*				.20*
Locus of causality for RBS	.06	.21	.16*		.06	-.08	-.08		.05	-.15	-.15*	
LMX	.05	.71	.60*		.05	-.36	-.38*		.05	-.32	-.35*	
Step 2				.01				<.01				.01*
Locus of causality for RBS	.06	.17	.13*		.06	-.05	-.05		.06	-.10	-.10	
LMX	.05	.70	.59*		.05	-.35	-.37*		.05	-.30	-.33*	
LoC for RBS x LMX	.05	-.08	-.07		.06	.06	.06		.05	.10	.12*	
	Supervisor-attributed Locus of Causality for RBS											
	Gratitude				Anger							
	SE	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*				
Step 1				.37*				.26*				
Locus of causality for RBS	.07	-.04	-.03		.06	.23	.17*					
LMX	.06	.84	.60*		.05	-.49	-.45*					
Step 2				.01*				.04*				
Locus of causality for RBS	.07	-.02	-.01		.06	.17	-.14*					
LMX	.06	.79	.57*		.05	-.41	-.37*					
LoC for RBS x LMX	.08	.17	.10*		.06	-.28	-.21*					

Note. *p<.05. *N*s ranged 388-389. LoCRBS=locus of causality for RBS.

As can be seen in Figure 16, a main effect of LMX was observed with low LMX respondents reporting higher levels of shame that those with high levels of LMX. For high LMX respondents, levels of shame decreased slightly as levels of self-attributed locus of causality for RBS increased. Similar to the H2c pattern observed with LMXSC, self-attributed locus of causality for RBS had a stronger negative main effect on shame on those with high levels of LMX. As such, interaction pattern was similar to that which emerged when LMXSC was entered; however, it did not reflect the interaction as put forth in the hypothesis.

Figure 16

LMX x Locus of Causality for RBS Interaction Predicting Shame



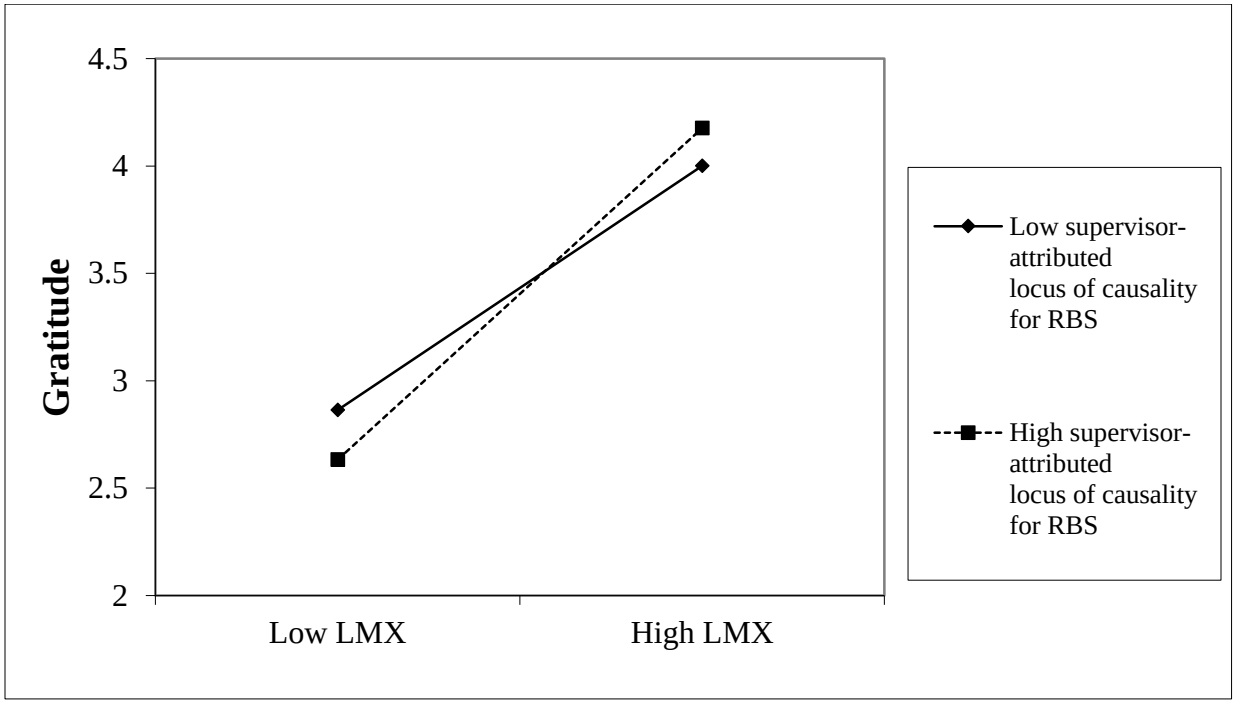
Note. *N*=389.

An LMX-supervisor-attributed locus of causality for RBS interaction significantly predicted gratitude (Table 22, step 2, β=.10, p<.05) and explained significant variance beyond the model main effects (ΔR^2=.01, p<.05). A graph of this interaction is displayed in Figure 17. LMX exhibited a strong main effect, with high LMX respondents reporting higher levels of

gratitude than those with low LMX. Supervisor-attributed locus of causality showed a slight positive relationship with gratitude for those with high LMX and a slight negative relationship with gratitude for those with low LMX. In general, the LMX-supervisor-attributed locus of causality interaction pattern matched H3a's expectations and the pattern that emerged for LMXSC within the current study's data (see Figure 12).

Figure 17

LMX x Locus of Causality for RBS Interaction Predicting Gratitude



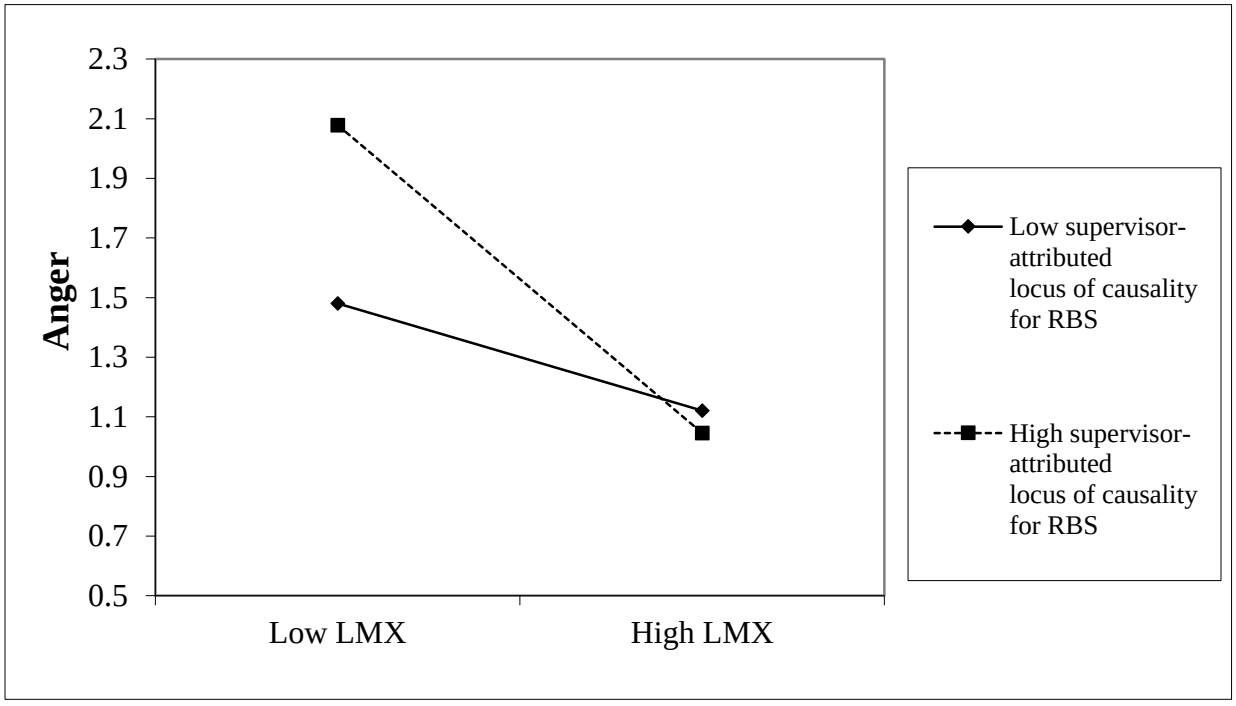
Note. *N*=389.

LMX also interacted with supervisor-attributed locus of causality in predicting anger above and beyond main effects (Table 22, step 2, β=-.21, p<.05; ΔR^2=.04, p<.05). This interaction is displayed graphically in Figure 18. As can be seen in Figure 10, LMX had a main effect with low LMX respondents reporting higher levels of anger than those with high levels of LMX. For high LMX respondents, supervisor-attributed locus of causality for RBS had a very weak negative association with anger. For those with low levels of LMX, supervisor-attributed

locus of control for RBS showed a strong positive association with anger. This pattern reflected the expectations for H3b. The pattern was also similar to the current study's H3b results, aside from one difference: at low levels of supervisor-attributed locus of causality for RBS, LMX displayed a main effect and LMXSC did not (see Figure 13).

Figure 18

LMX x Locus of Causality for RBS Interaction Predicting Anger



Note. *N*=389.

When LMX replaced LMXSC in tests of H5, an LMX-interpersonal justice interaction term did not significantly predict gratitude above and beyond the main effects. It did, however, significantly predict anger (Table 23, step 2, β=.20, p<.05), and explained significant variance beyond the model main effects (ΔR^2=.03, p<.05). This interaction is displayed graphically in Figure 19.

Table 23

Ancillary tests of Hypothesis 5 with LMX in place of LMXSC

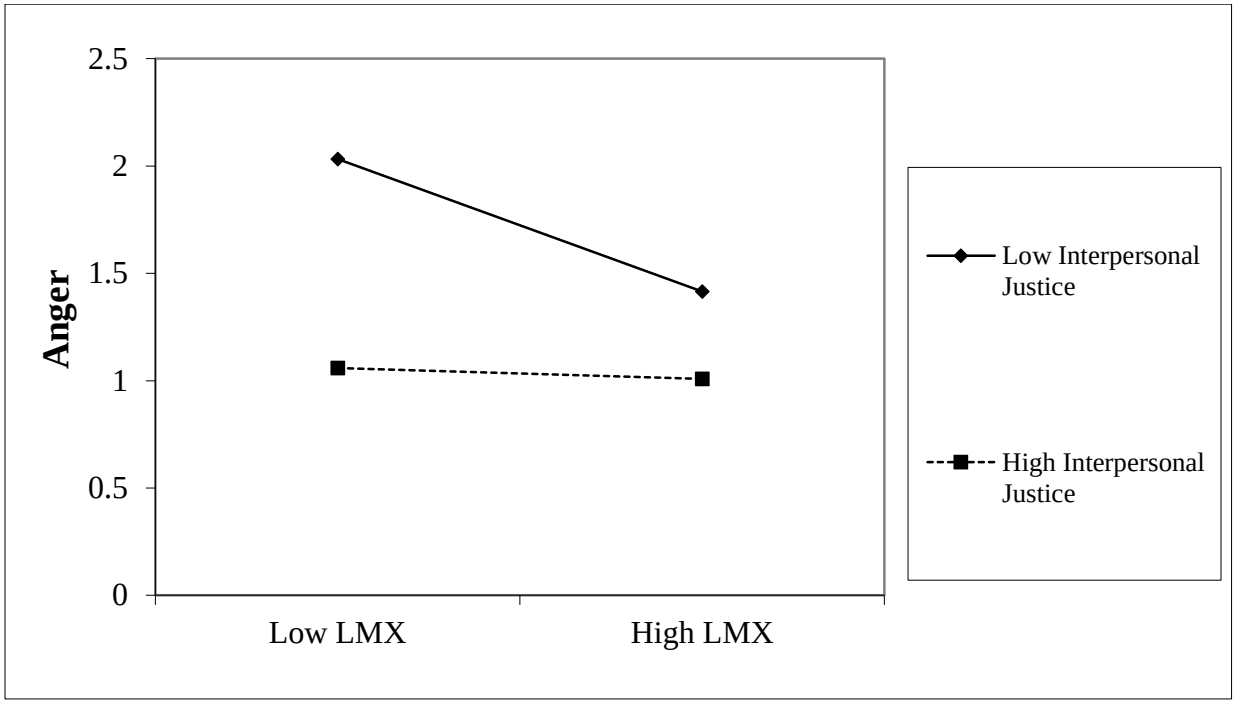
	Self-attributed Locus of Causality for RBS							
	Gratitude				Anger			
Predictors variables	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.48*				.39*
Interpersonal Justice	.07	.63	.40*		.06	-.61	-.49*	
LMX	.06	.53	.38*		.05	-.22	-.20*	
Step 2				<.01				.03*
Interpersonal Justice	.07	.58	.37*		.06	-.49	-.40*	
LMX	.06	.52	.37*		.05	-.19	-.18*	
IJ x LMX	.07	-.10	-.06		.06	.24	.20*	

Note. *p<.05. N=389 for regressions shown here. IJ=Interpersonal Justice.

In the LMX-interpersonal justice interaction, LMX had a main effect on anger when interpersonal justice was low. That is, when interpersonal justice was low, those with low LMX reported higher anger than respondents with high levels of LMX. When interpersonal justice was high, anger was lowest, regardless the level of reported LMX. As a result, interpersonal justice displayed a weaker negative association with anger for high LMX respondents and a stronger negative association with anger for low LMX respondents. This pattern was similar to the interaction expected in H5b, but H5b anticipated a main effect of LMXSC when interpersonal justice was low, and here no main effect was found. Still, the pattern more closely represented H5b expectations than the LMXSC findings, which showed low LMXSC-high interpersonal having the lowest levels of anger (see Figure 14).

Figure 19

LMX x Interpersonal Justice Interaction Predicting Anger



Note. N=389.

As can be seen in Table 24, when H6 was tested with LMX instead of LMXSC, a three-way interaction between LMX, interpersonal justice, and supervisor-attributed locus of causality for RBS did not significantly predict levels of anger.

Table 24

Ancillary test of Hypothesis 6 with LMX in place of LMXSC

		Anger		
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.41*
Interpersonal Justice	.06	-.59	-.47*	
LMX	.05	-.20	-.18	
LoCRBS Supervisor	.05	.17	.13	
Step 2				.04*
Interpersonal Justice	.06	-.50	-.40*	
LMX	.05	-.14	-.13*	
LoCRBS Supervisor	.05	.12	.09*	
LMX x IJ	.06	.14	.12*	
LMX x LoCRBS Supervisor	.07	-.16	-.12*	
IJ x LoCRBS Supervisor	.08	-.06	-.05	
Step 3				<.01
Interpersonal Justice	.07	-.48	-.37*	
LMX	.05	-.14	-.13*	
LoCRBS Supervisor	.06	.07	.06	
LMX x IJ	.07	.11	.09	
LMX x LoCRBS Supervisor	.07	-.16	-.12*	
IJ x LoCRBS Supervisor	.09	.02	.01	
IJ x LMX x LoCRBS Supervisor	.07	.12	.12	

Note. *p<.05. N=389. IJ=Interpersonal Justice; LoCRBS=locus of causality for RBS.

In these supplemental analyses, LMXSC showed psychometric properties that were relatively similar to those observed in Vidyarthi et al. (2010) and Erodogan (2002). The current study's data shows LMXSC to be similar but distinct from LMX. When LMX was entered into hypothesis models in place of LMXSC, results were similar but not identical to the findings observed with LMXSC in the model (e.g. no significant LMX-locus of causality interaction when pride was the DV).

Ancillary analyses: Comparing Informational Justice and Interpersonal Justice

Because informational and interpersonal are highly related, additional analyses were run to see whether hypotheses held when informational justice was entered in H4, H5, and H6.

Informational justice exhibited significant positive relationships with positive emotions (Table 11; pride, r=.68, p<.05; gratitude, r=.63, p<.05) and negative relationships with negative emotions (Table 11; guilt, r=-.50, p<.05; shame, r=-.52, p<.05; anger, r=-.52, p<.05), indicating H4 was supported when informational justice was used in place of interpersonal justice. Table 25 shows the results of H5 when informational justice was used. There was no significant LMXSC-informational justice interaction when gratitude was used as the dependent variable. A significant interaction did appear when anger was entered as the model outcome (β=.16, p<.05; ΔR^2=.02, p<.05). This interaction is shown graphically in Figure 20.

Table 25

Ancillary Tests of Hypothesis 5 using Informational Justice in place of Interpersonal Justice

	Self-attributed Locus of Causality for RBS							
	Gratitude				Anger			
Predictors variables	*SE*	*B*	*β*	*ΔR²*	*SE*	*B*	*β*	*ΔR²*
Step 1				.45*				.30*
Informational Justice	.06	.82	.55*		.05	-.62	-.52*	
LMXSC	.03	.22	.26*		.03	-.05	-.07	
Step 2				<.01				.02*
Informational Justice	.06	.80	.53*		.05	-.56	-.48*	
LMXSC	.03	.22	.26*		.03	-.04	-.06	
Inf J x LMXSC	.04	-.06	-.07		.03	.12	.16*	

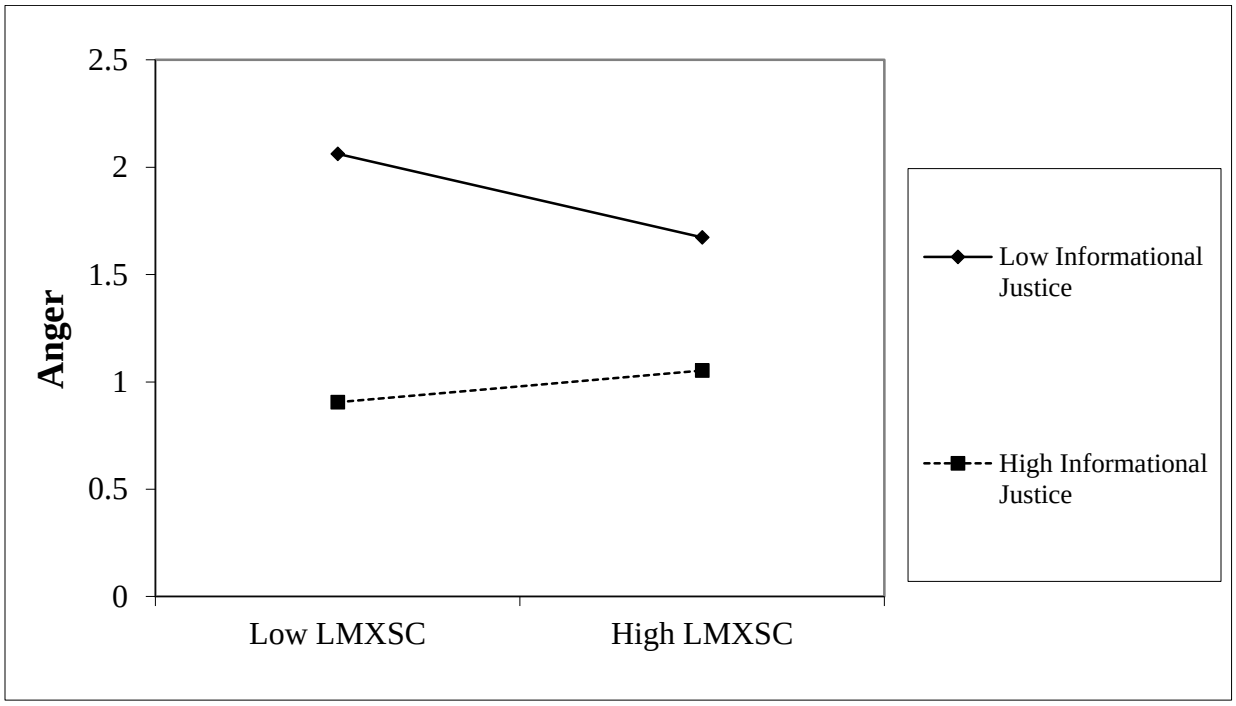
Note. *p<.05. N=388. Inf J= Informational Justice; LoCRBS=locus of causality for RBS.

The interaction shown in Figure 20 shows a similar pattern to the current study's findings for an LMXSC-interpersonal justice interaction's prediction of anger. As per H5b's expectations for interpersonal justice, informational justice had a negative main effect on anger, regardless the level of LMXSC. Yet the results also differ from H5b's expectations: the negative main effect of informational justice was so dramatic on low LMXSC respondents that low LMXSC-high informational justice individuals showed the lowest level of anger. This steep main effect of

informational justice on anger for low LMXSC individuals was also observed when interpersonal justice was used (see Figure 14).

Figure 20

LMXSC x Informational Justice Interaction Predicting Anger



Note. N=389.

Table 26 shows the results of H6 when informational justice was used in the model. As can be seen in step 3, no three-way interaction emerged between LMXSC, supervisor-attributed locus of causality, and informational justice.

Table 26

Ancillary Test of Hypothesis 6 with Informational Justice in place of Interpersonal Justice

		Anger		
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.33*
Informational Justice	.05	-.59	-.50*	
LMXSC	.03	-.03	-.05	
LoCRBS Supervisor	.06	.24	.18*	
Step 2				.03*
Informational Justice	.05	-.52	-.44*	
LMXSC	.03	-.01	-.02	
LoCRBS Supervisor	.06	.18	.14*	
LMXSC x InfJ	.04	.05	.07	
LMXSC x LoCRBS Supervisor	.04	-.03	-.04	
InfJ x LoCRBS Supervisor	.07	-.20	-.14*	
Step 3				<.01
Informational Justice	.05	-.51	-.43*	
LMXSC	.03	-.01	-.02	
LoCRBS Supervisor	.06	.16	.12*	
LMXSC x InfJ	.04	.03	.04	
LMXSC x LoCRBS Supervisor	.03	-.03	-.04	
InfJ x LoCRBS Supervisor	-.17	-.17	-.12*	
InfJ x LMXSC x LoCRBS Supervisor	.05	.05	.07	

Note. *p<.05. N=388. Inf J= Informational Justice; LoCRBS=locus of causality for RBS.

Table 27

Informational Justice x Supervisor-attributed Locus of Causality for RBS predicting Anger

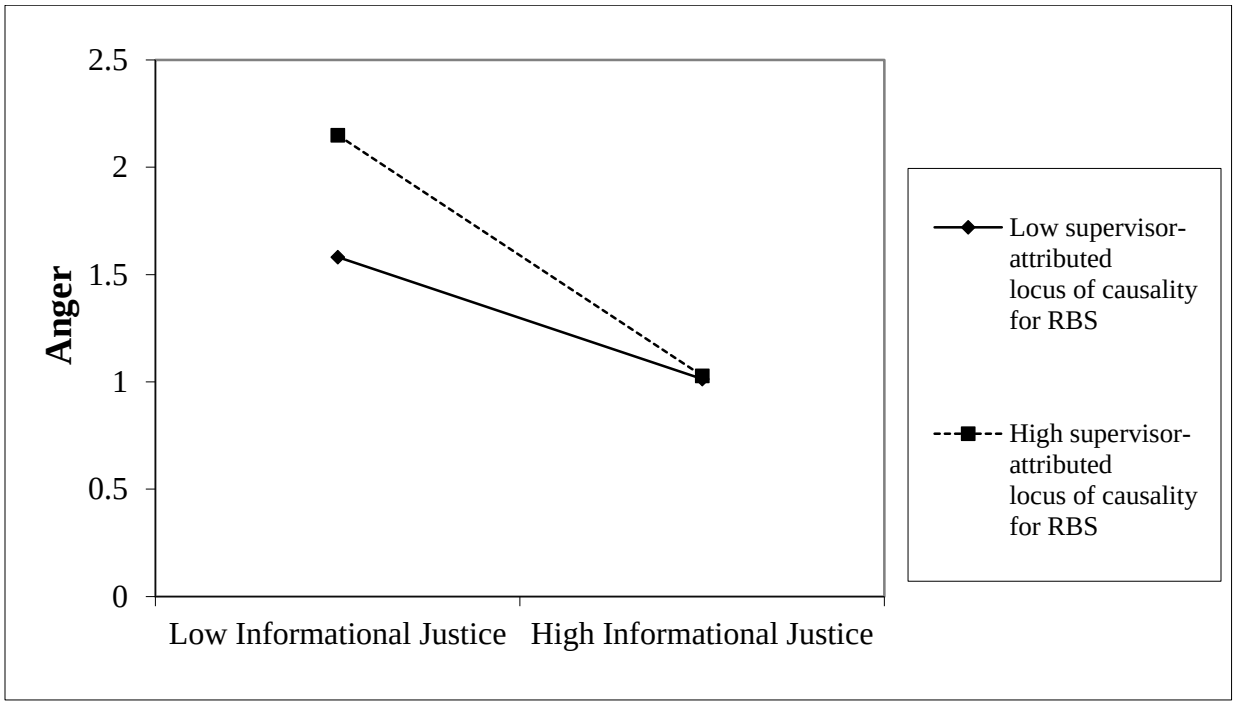
		Anger		
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.32*
Interpersonal Justice	.05	-.60	-.51*	
LoCRBS Supervisor	.06	.25	.19*	
Step 2				.03*
Interpersonal Justice	.05	-.54	-.45*	
LoCRBS Supervisor	.06	.21	.16*	
IJ x LoCRBS Supervisor	.06	-.25	-.18*	

Note. *p<.05. N=389. Inf J= Informational Justice; LoCRBS=locus of causality for RBS.

Similar to the results for interpersonal justice, informational justice showed a significant two-way interaction with supervisor-attributed locus of causality for RBS as part of Hypothesis 6. The results of this interaction without LMXSC included in the model can be found in Table 27 and are displayed graphically in Figure 21.

Figure 21

LMXSC x Informational Justice Interaction Predicting Anger



Note. **p*<.05. *N*=389.

To summarize, informational justice shows patterns similar to that of interpersonal justice: informational justice had significant relationships with focal emotions, and showed the same general patterns for H5 and H6.

Ancillary analyses: Race/Ethnicity

Study measures did not differ significantly by race/ethnicity group. The descriptive statistics and tests of mean differences can be found in Appendix R. Due to an error in the survey, data on gender was not collected.

Ancillary analyses: Workgroup size

Because the current study focuses on perceptions of the workgroup context and one's relative standing among peers working for the same supervisor, analyses were conducted to explore whether workgroup size (i.e. the number of peers reporting to the same supervisor) had an influence on study findings.

Respondents were asked to provide their workgroup size on a continuous interval scale; beyond 60 peers, respondents were asked to mark "60 or more." To facilitate an examination of mean differences across scale scores (see Appendix S), responses were placed into five groupings: those with 1-3 peers, 4-10 peers, 10-20 peers, 20-60 peers, and 60 or more peers. Only two variables showed significant mean differences across these groups: guilt and shame (respectively, $F(4,383)=3.30$, $p=.01$; $F(4,384)=2.49$, $p=.04$). Both guilt and shame tended to increase as workgroup size increased, with the exception of the 20-60 peer group, which showed slightly lower means).

Next, workgroup size was examined as a moderator of the current study's main effects. Continuous data was not available for the 17 respondents reporting "60 or more" peers. Data from these extremely large workgroups were not assumed to provide additional substantive insights (i.e. knowledge of and social comparisons with specific peers would become increasingly diffuse at numbers higher than 60). Further, extremely large workgroup numbers could be considered outliers that introduce noise to analyses. Based on this reasoning, the 17 respondents with 60 or more peers were excluded from the analyses which follow.

Workgroup size did not significantly moderate LMXSC's associations with pride, guilt, gratitude, or anger, nor did it significantly moderate interpersonal justice's associations with

gratitude or anger. A significant interaction did emerge between LMXSC and shame. These findings are reported in Table 28 and shown graphically in Figure 22.

Table 28

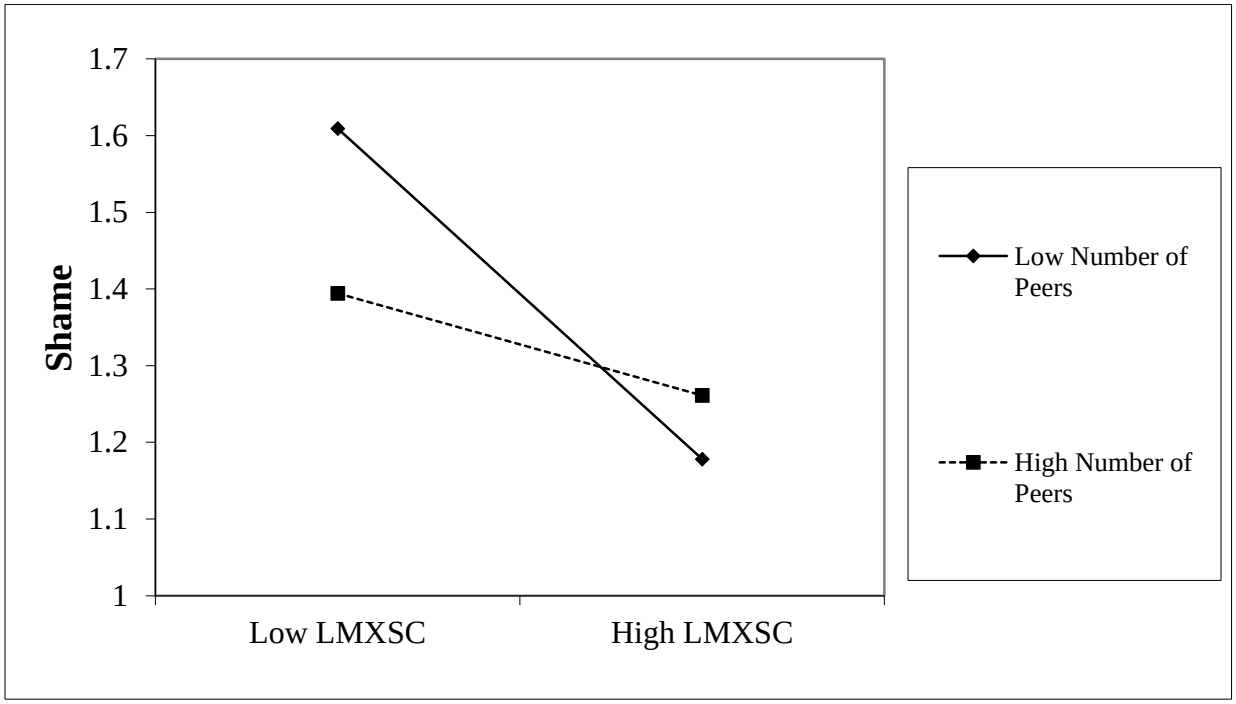
Regression with LMXSC x Number of Peers Interaction Predicting Shame

	Shame			
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.03*
Number of Peers	<.01	>-.01	.05*	
LMXSC	.03	-.10	-.19*	
Step 2				.02*
Number of Peers	<.01	>-.01	-.05*	
LMXSC	.03	-.10	-.19*	
Peers x LMXSC	<.01	.01	.11*	

Note. *p<.05. N=374.

Figure 22

LMXSC X Number of Peers Interaction Predicting Shame



Note. N=374.

As Figure 22 indicates, low LMXSC respondents reported high levels of shame which decreased as the workgroup size increased. For high LMXSC, shame was lower when the workgroup size was smaller; in larger groups, high LMXSC respondents reported slightly higher levels of shame.

Workgroup size was also tested as a moderator of the Hypothesis 2, 3, and 5 interactions; results indicated workgroup size did not significantly moderate any of these interactions.

Ancillary analyses: Length of Relationship with One's Supervisor

Of the tenure-related variables measured in this study, the length of the relationship held with one's supervisor (i.e. supervisor relationship tenure) was most closely related to study variables and most conceptually related to the theoretical framework (i.e., LMX relationships are assumed to change over time). For these reasons, analyses were conducted to see how findings might differ based on supervisor relationship tenure.

Participants provided the number of years and months they had worked for their current supervisor. Responses were grouped into five categories: 0-6 months, 6-12 months, 1-2 years, 2-5 years, and 5 or more years. Descriptive statistics of study measure by these groupings can be found in Appendix T.

There were significant mean differences across groupings for the following variables: LMXSC, LMX, interpersonal justice, and LMX-related gratitude. For both LMXSC and LMX, means tended to steadily increase as the relationship length increased. Interpersonal justice tended to be highest among those who worked with their supervisor for 6 months or less (M=4.55). Those in the 6-12 month group showed the lowest levels of interpersonal justice and a wider standard deviation (M=4.08, SD=1.02). Perceived interpersonal justice steadily increased at higher levels of supervisor relationship tenure. Gratitude was generally stable across groupings, but those who had worked with their supervisor for 1-2 years showed notably lower

levels of gratitude (*M*=3.04). Those who reported working with their supervisor for 5 or more years showed on average the highest level of gratitude (*M*=3.68).

Next, supervisor relationship tenure was examined as a moderator of the associations expected in H1 and H4. The length of relationship with one's supervisor did not significantly moderate LMXSC's associations with shame, guilt, gratitude, or anger, nor did it significantly moderate interpersonal justice's associations with gratitude or anger. The length of relationship with one's supervisor significantly moderated LMXSC's relationship with pride. These results are shown in Table 29 and displayed graphically in Figure 23.

Table 29

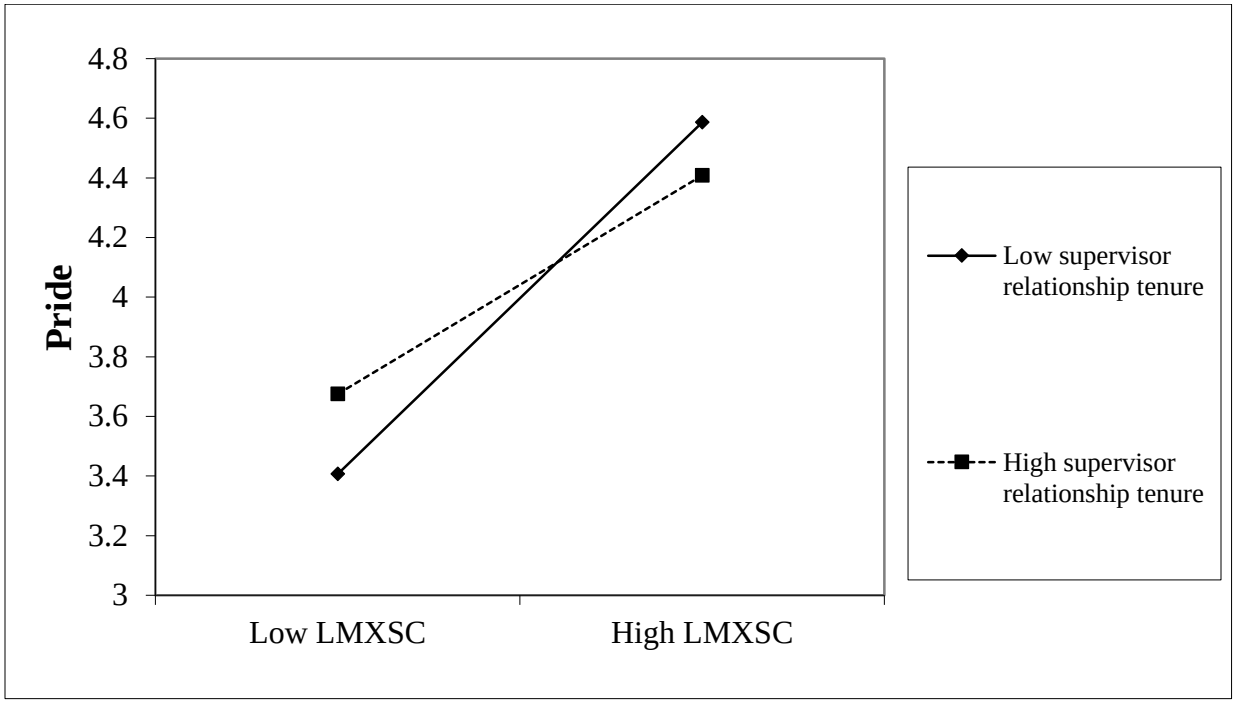
Regression with LMXSC x Supervisor Relationship Tenure Interaction Predicting Pride

		Pride		
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.22*
Supervisor Relationship Tenure	.02	>-.01	-.01	
LMXSC	.04	.34	.47*	
Step 2				.01*
Supervisor Relationship Tenure	.02	.01	.03	
LMXSC	.04	.35	.47*	
Supervisor Relationship Tenure x LMXSC	.01	-.03	-.12*	

Note. **p*<.05. *N*=360.

Figure 23

LMXSC X Supervisor Relationship Tenure Predicting Pride



Note. N=360.

Figure 23 shows that although LMXSC had the expected main effect on pride, when respondents had worked with their supervisor for longer periods of time, the effect of LMXSC was weakened (i.e. scores increased for low LMXSC respondents and decreased for high LMXSC respondents).

Analyses were also conducted to determine whether supervisor relationship tenure was a potential moderator of Hypotheses 2, 3, and 4. There were no significant three-way interactions between locus of causality, LMXSC, and supervisor relationship tenure when pride, guilt, gratitude, or anger were entered as the dependent variable. A three-way interaction did emerge for shame. The results are listed in Table 30, and displayed graphically in Figure 24.

Table 30

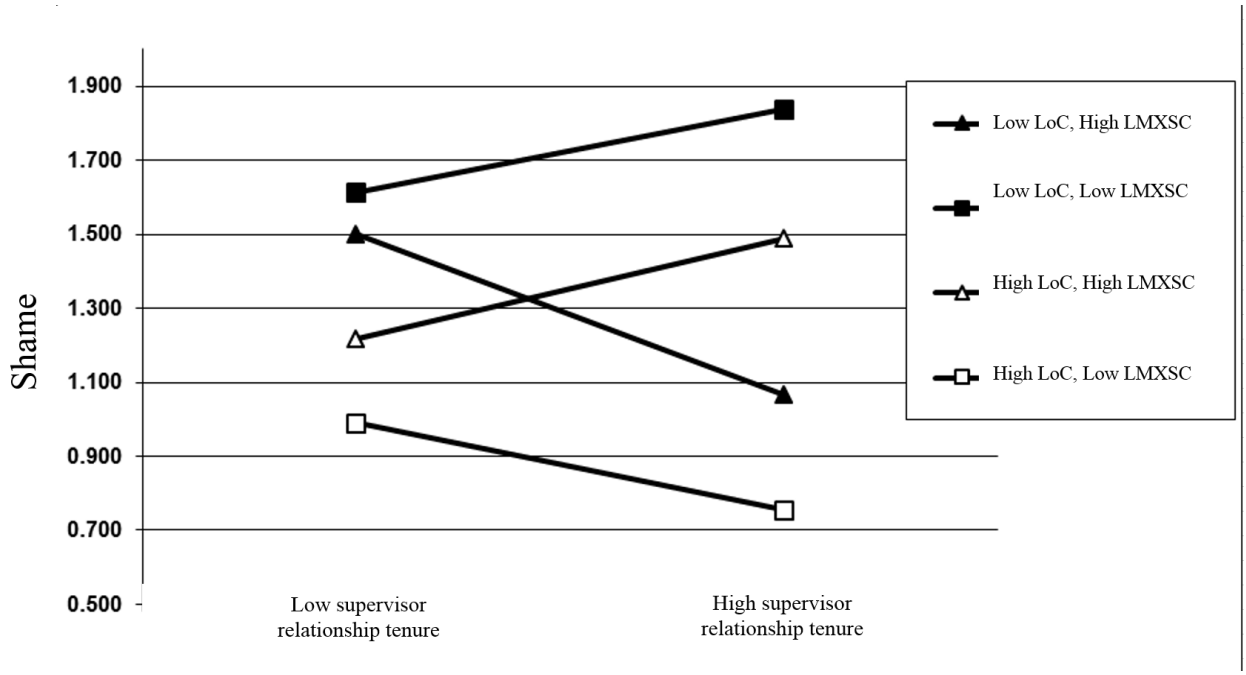
Regression with LMXSC x Self-attributed Locus of Causality for RBS x Supervisor Relationship Tenure Interaction Predicting Shame

		Shame		
Predictor variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.12*
LMXSC	.04	.01	.02	
LoCRBS Self	.06	-.34	-.35*	
Supervisor Relationship Tenure	.01	.01	.04	
Step 2				.02*
LMXSC	.03	>-.01	<.01	
LoCRBS Self	.07	-.24	-.24*	
Supervisor Relationship Tenure	.01	.01	.04	
Sup Ten x LoCRBS Supervisor	.02	.01	.02	
LMXSC x LoCRBS Supervisor	.03	.10	.18*	
LMXSC x Sup Ten	.01	>-.01	>-.01	
Step 3				.04*
LMXSC	.03	<.01	.01	
LoCRBS Self	.07	-.26	-.26*	
Supervisor Relationship Tenure	.02	-.01	-.03	
Sup Ten x LoCRBS Supervisor	.02	.01	.04	
LMXSC x LoCRBS Supervisor	.03	.10	.18*	
LMXSC x Sup Ten	.01	>-.01	-.01	
LMXSC x Sup Ten x LoCRBS Supervisor	.01	.02	.12*	

Note. *p<.05. N=361. Sup Ten= Supervisor Relationship Tenure.

Figure 24

LMXSC x Self-attributed Locus of Causality for RBS x Supervisor Relationship Tenure Interaction Predicting Shame



Note. N=361.

In this interaction, those with low self-attributed locus of causality for RBS tended to show higher levels of shame than those with high self-attributed locus of causality for RBS. LMXSC showed unexpected interactions with relationship tenure within high and low levels of self-attributed locus of causality for RBS. When self-attributed locus of causality for RBS was high, shame decreased among low LMXSC respondents as the relationship length increased. High LMXSC respondents, however, showed increased shame as the relationship length increased. When self-attributed locus of causality for RBS was low, low LMXSC individuals displayed increasing levels of shame as the relationship length increased. High LMXSC respondents showed decreasing levels of shame as the relationship length increased.

A significant interaction also emerged between supervisor relationship tenure, interpersonal justice, and LMXSC in predicting anger. No significant interaction emerged when gratitude was the DV. This finding is reported in Table 31 and the interaction is displayed graphically in Figure 25.

Table 31

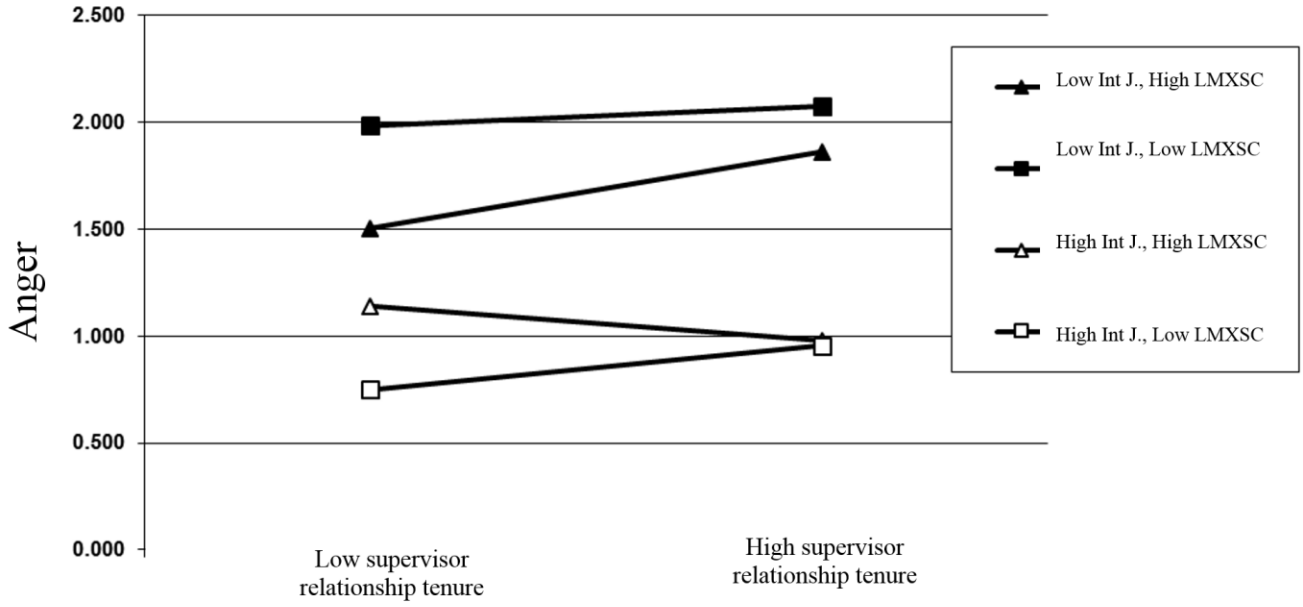
Regression with LMXSC x Interpersonal Justice x Supervisor Relationship Tenure Interaction Predicting Anger

		Anger		
Predictors variables	*SE*	*B*	*B*	*ΔR²*
Step 1				.36*
LMXSC	.03	-.03	-.04	
Interpersonal Justice	.06	-.72	-.58*	
Supervisor Relationship Tenure	.01	.01	.04	
Step 2				.03*
LMXSC	.03	-.03	-.04	
Interpersonal Justice	.06	-.64	-.52*	
Supervisor Relationship Tenure	.01	.02	.06	
LMXSC x Int. J	.04	.13	.18*	
Sup Ten x Int. J	.02	-.03	-.07	
LMXSC x Sup Ten	.01	>-.01	-.01	
Step 3				.01*
LMXSC	.03	-.03	-.04	
Interpersonal Justice	.06	-.61	-.49*	
Supervisor Relationship Tenure	.01	.02	.07	
LMXSC x Int. J	.04	.14	.18*	
Sup Ten x Int. J	.02	-.02	-.05	
LMXSC x Sup Ten	.01	>-.01	-.01	
LMXSC x Sup Ten x Int J.	.01	-.03	-.10*	

Note. *p<.05. N=361. Sup Ten= Supervisor Relationship Tenure.

Figure 25

LMXSC x Interpersonal Justice x Supervisor Relationship Tenure Interaction Predicting Anger



Note. N=361.

As shown in Figure 25, interpersonal justice had main effect level on anger, with individuals reporting high interpersonal justice reporting notably lower levels of anger than those reporting low interpersonal justice. The moderation of supervisor relationship tenure and LMXSC, though, differed by levels of interpersonal justice. When interpersonal justice was perceived to be high, LMXSC had a strong effect on the level of reported anger among respondents who worked for their supervisor for a relatively shorter length of time. As the length of the relationship with the supervisor increased, the effect of LMXSC on anger weakened with high LMXSC respondents expressing slightly more anger and low LMXSC respondents expressing slightly less anger.

When interpersonal justice is perceived to be low, the moderation showed a different pattern. When respondents who had worked for their supervisor for a relatively shorter period of

time, LMXSC again showed a main effect on levels anger. Given the main effect of interpersonal justice, these levels of anger were higher that when interpersonal justice was high. As the length of the relationship with the supervisor increased, the main effect of LMXSC appeared to weaken among high LMXSC respondents. Low LMXSC respondents did not follow this pattern: for these individuals, a longer relationship with the supervisor resulted in the highest level of anger of all groups. This indicates the effect of LMXSC tends to weaken the longer supervisors and subordinates work together, expect when subordinates perceived they had relatively low quality LMXSC within the workgroup and felt the supervisor has not been respectful.

Ancillary analyses: LMXSC x interpersonal justice interaction predicting supervisor-attributed locus of causality for RBS

Although this study's framework posits LMXSC, interpersonal justice, and supervisor-attributed locus of causality for RBS interact in predicting emotions, it could also be that LMXSC and interpersonal justice interact in predicting supervisor-attributed locus of causality. That is, when individuals perceive their supervisor displays rude and inconsiderate treatment, the supervisor may be perceived as taking control over the LMX quality, leading to high levels of supervisor-attributed locus of causality for RBS. This negative association between interpersonal justice and supervisor-attributed locus of causality for RBS may then be exacerbated by perceptions of low LMXSC.

In support of this notion, Table 11 shows interpersonal justice and supervisor-attributed locus of causality demonstrated a significant negative correlation (r=.20, p<.05). A hierarchical regression tested the interaction, and can be found in Table 32. Interpersonal justice showed a negative main effect on supervisor attributions in the first step (β=-.18, p<.05) which became non-significant when an LMXSC-interpersonal justice interaction was entered on the second step. The interaction was significant (β=.19, p<.05) and is displayed graphically in Figure 26. As

per expectations, the interaction pattern showed supervisor-attributed locus of causality for RBS was especially high among low LMXSC respondents who perceived low interpersonal justice. These levels decreased as perceptions of interpersonal justice increased. Those with high LMXSC reported low supervisor-attributed locus of causality for RBS when interpersonal justice was low, and surprisingly, these levels of supervisor attributions increased as interpersonal justice increased. Although the exact psychological mechanism driving this interaction pattern is unknown, the results indicate supervisor-attributed locus of causality may play a more endogenous role among study variables than the current study's framework originally suggested.

Table 32

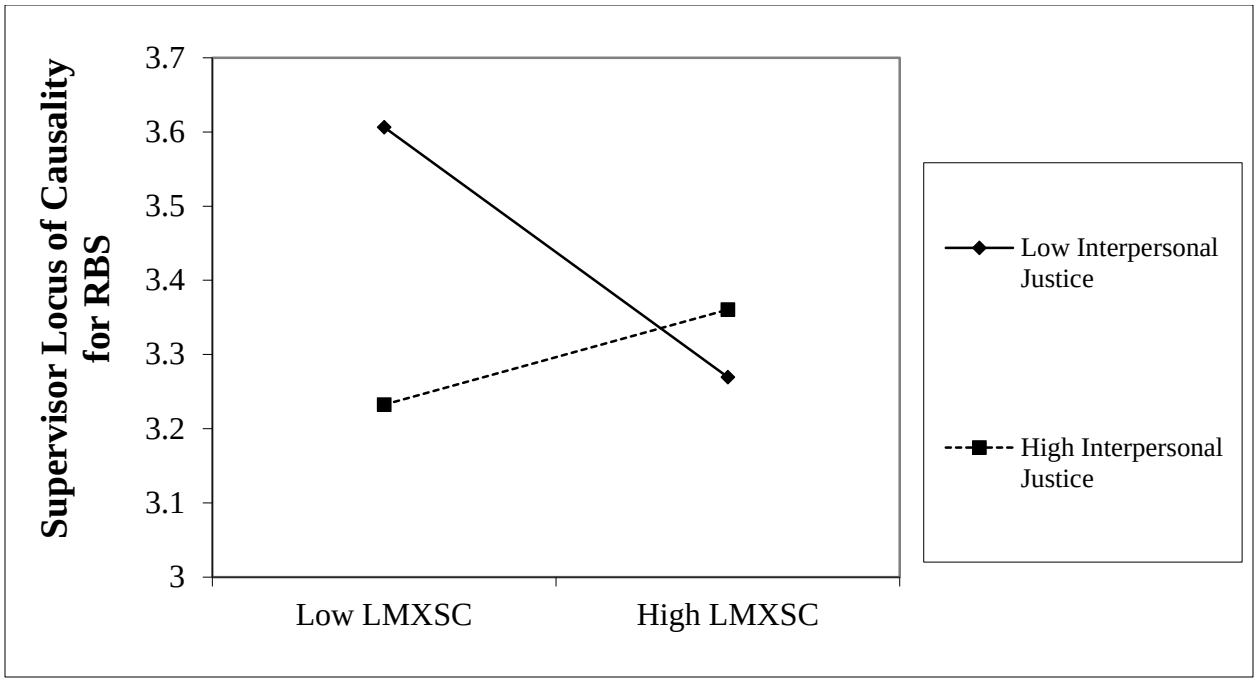
Regression with LMXSC x Interpersonal Justice Predicting Supervisor-attributed Locus of Causality for RBS

	Supervisor-Attributed Locus of Causality for RBS			
Predictors variables	*SE*	*B*	*β*	*ΔR²*
Step 1				.05*
Interpersonal Justice	.05	-.17	-.18*	
LMXSC	.03	-.04	-.08	
Step 2				.03*
Interpersonal Justice	.05	-.09	-.10	
LMXSC	.03	-.04	-.07	
IJ X LMXSC	.03	.11	.19*	

Note. *p<.05. N=388. IJ= Interpersonal Justice.

Figure 26

LMXSC x Interpersonal Justice Interaction predicting Supervisor-attributed Locus of Causality for RBS



Note. N=388.

Ancillary analyses: Hypothesized interactions with alternative emotions and locus of causality entered as controls

I also explored whether the same findings emerged when alternative categories of emotions (self-conscious vs. externally-focused emotions) or alternative locus of causality for RBS attributions (self- vs. supervisor-attributed) were entered into regression models as controls. To test this, I first ran H2 regression models with LMX-related externally focused emotions (i.e., gratitude and anger) entered as control variables, and ran H3, H5, and H6 regression models with LMX-related self-conscious emotions (i.e., pride, guilt, and shame) entered as control variables. When self-conscious emotions were entered into models predicting externally-focused emotions (i.e., H3, H5, and H6 models), results paralleled those that emerged from models without control variables. When externally-focused emotions were entered into the H2 models, the partially

supported H2a (pride) finding that emerged without controls did not appear. Similar to the findings without controls, H2b (guilt) and H2c (shame) were not supported when externally-focused emotions were entered. The three-way interaction predicting anger in H6 remained unsupported. Thus, the results of hypothesis tests generally remained similar with or without the alternative category of emotions entered as controls, but were not identical.

I also ran regression models with alternative forms of locus of causality entered as a control. When supervisor-attributed locus of causality was entered as a control in H2 models, the partial support for H2a (pride) was not observed in the results, whereas H2b (guilt) continued to be unsupported. H2c (shame) became partially supported when supervisor-attributed locus of causality was entered as a control, with the main effect of self-attributed locus of causality for RBS being stronger when LMXSC was low and weakened when LMXSC was high.

When self-attributed locus of causality for RBS was entered as a control into H3, H3a (gratitude) remained supported by the data, and H3b's (anger) partial support was not observed in the data. H6 continued to be unsupported. Overall, minor differences emerged in the results when hypothesis models were conducted with and without alternative forms of locus of causality for RBS entered as controls.

DISCUSSION

Supervisors often have numerous dyadic LMX relationships which vary in quality (Dansereau et al., 1975). As these differentiated relationships emerge, subordinates are likely to form social comparisons regarding how their LMX quality compares to the LMX quality held by peers (Vidyarthi et al., 2010; Erodogan, 2002). Although these social comparisons are assumed to influence subordinate's workplace experiences, existing research has not fully explored when and why LMXSC might be linked to LMX-related emotions. In this study, both attribution theory and research on the fair process effect were used to suggest attributions regarding relationship building and interpersonal justice would play a role in the association between LMXSC and emotions felt towards one's LMX. These expectations were tested using survey data from large sample of working adults.

Based on the findings that emerged, it appears that relationship building attributions and interpersonal justice do play a role in association with LMX-related emotions; however, their role did not always match the current study's hypotheses. Specifically, attributions moderated the effect of LMXSC on LMX-related pride, shame, gratitude, and anger, but no such moderation occurred for guilt. Despite the emergence of these interactions, only with LMX-related gratitude did attributions moderate the effect of LMXSC in a manner that aligned with attribution theory; with LMX-related pride and anger, moderation results only partially matched expectations. With LMX-related shame, the LMXSC-attribution interaction resulted in an entirely different pattern of results than was expected.

Interpersonal justice exhibited particularly strong associations with LMX-related emotions, but the interpersonal justice-LMXSC interaction hypothesized to predict levels of externally-focused LMX-related emotions did not appear when LMX-related gratitude was the outcome. Further, an interpersonal justice-LMXSC interaction only partially matched

expectations when LMX-related anger was the outcome. Interpersonal justice was also expected to act as a buffer in the LMXSC-locus of causality interaction, with interpersonal justice buffering the effect of supervisor locus of causality attributions among low LMXSC individuals. No such moderation appeared in the current study's data. Findings for each hypothesis are discussed more fully in the sections that follow.

Findings from hypothesis tests

Hypothesis 1 tested the assumption that LMXSC is related to the emotions subordinates feel regarding their LMX. In the current study, LMXSC was positively associated with positive LMX-related emotions, and negatively associated with negative LMX-related emotions. However, the linkage between LMXSC and positive emotions was far stronger than the linkage between LMXSC and negative emotions, indicating this type of social comparison may play a more important role in the emergence of LMX-related positive emotions than negative emotions. Indeed, when self-attributed locus of causality for RBS was entered in the same regression, LMXSC was not a significant predictor of negative self-conscious emotions. In the context of LMX, it may be that downward social comparisons elicit stronger affective outcomes than upward social comparisons.

In hypothesis 2, self-attributed locus of causality was expected to play a moderating role in the association between LMXSC and self-conscious LMX-related emotions (i.e., pride, guilt, and shame.) The moderation aside, it is important to note that self-attributed locus of causality had stronger than expected relationships with many variables, including LMXSC. In fact, self-attributed locus of causality for RBS was more strongly associated with LMX-related emotions than the hypothesized LMXSC-emotion associations. Consequently, self-attributed locus of causality for RBS appeared to have an overwhelming strong association with LMX-related self-

conscious emotions that altered the moderations in ways that were not expected. As an example, with LMX-related pride, self-attributed locus of causality for RBS was expected to have a positive effect on those experiencing a positive outcome (i.e., high LMXSC), and was expected to worsen the effect of a negative outcome (i.e., lower LMX-related pride for those reporting low LMXSC). Instead, those with lower LMXSC had *increased* levels of pride as self-attributed locus of causality for RBS increased (although lower than those with high LMXSC).

Similar findings were observed with shame. Whereas those with high LMXSC were expected to show low shame, those with low LMXSC were expected to feel increasing levels of shame as self-attributed locus of causality increased. The opposite result was observed amongst low LMXSC participants. Instead of showing the *highest* level of shame as per this study's expectations, those with low LMXSC and high self-attributed locus of causality for RBS showed the *lowest* level of shame.

Although these results were not anticipated, the interaction pattern was consistent across two of the three self-conscious emotions (guilt showed no significant interaction). Several possible reasons may explain why low LMXSC individuals may report more positive LMX-related emotions. First, attribution theory posits individuals look at their outcome and reflect on probable causes of that outcome. This assumes causal attributions are a secondary thought process that accentuates the positive effect of success and the negative effect of failure. Alternatively, self-attributed locus of causality for RBS may have a positive unique effect on experienced emotions above and beyond the effect of LMXSC. For example, individuals with low LXMSC and high self-attributed locus of causality for RBS may think, "Despite my low status within the group, I do my best to take action within my LMX relationship and for that reason, I'm proud /not ashamed when I think about my LMX." Similarly, those with low

LMXSC and low self-attributed locus of causality for RBS may think "I have a relatively worse LMX quality, but I tried and nothing worked, so it's not my fault" From this standpoint, self-attributed locus of causality for RBS could be negatively linked to shame and positively linked to pride in ways that are distinct from LMXSC's main effect.

The above example assumes self-attributed locus of causality for RBS is interpreted as the *amount of effort* an individual has put into their supervisory relationship. Yet these attributions could also have a distinct effect if they were interpreted as *the extent to which one has agency within the LMX relationship*. For example, those with low LMXSC and high self-attributed locus of causality may feel proud/unashamed of their LMX because despite their low status, they feel they have agency in terms of how their relationship is built. Those with low LMXSC and low self-attributed locus of causality for RBS may feel powerless within the relationship. The notion that perceived personal agency leads to positive outcomes for individuals is supported by many other streams of research in psychology, including the constructs that comprise core self-evaluations (Judge & Bono, 2001).

Another explanation for the pattern that emerged is that individuals who "have reason" to show the least amount of pride and the highest amount of shame based on attribution theory's expectations (i.e., low LMXSC and high self-attributed locus of causality for RBS) are most likely to be defensive about their LMX quality. Tangney and Dearing (2003) noted that measures that ask respondents directly about their experiences of shame are likely to invite defensive denial response patterns. It may be that attribution theory's assumptions hold true, but low LMXSC-low self-attributed locus of causality for RBS individuals exhibit defensive denial and thus do not report negative self-conscious emotions.

Although shame and guilt where highly correlated, an LMXSC-locus of causality for RBS interaction did not appear for LMX-related guilt. This suggests the interaction between LMXSC and self-attributed locus of causality for RBS may predict LMX-related emotions that involve feelings regarding a stable aspect of oneself. That is, pride's definition emphasizes attributions made regarding both one's behaviors and sense of self ("when…one is responsible for a socially valued outcome or for being a socially-valued person"); shame focuses more exclusively on views of stable aspects of the self. Guilt, alternatively, focuses on (negative) thoughts and feelings regarding one's behavior.

Another consideration in the lack of findings for guilt is that LMX-related guilt items refer to non-specific behaviors which were vaguer and required higher cognitive recall from respondents. Specifically, guilt items refer to tension and feeling bad regarding "what I have done." In the context of a standing exchange relationship, past actions that elicit guilt would likely be specific failed exchanges with the supervisor. In order to report feelings of guilt, the respondent must think back to specific unsuccessful interactions wherein they perceived they were at fault, and then report feeling bad or tension regarding that interaction. Whereas other emotion items asked respondents to report emotions that may be more easily accessed (e.g. feeling powerless, appreciative, or valuable), the guilt items used here required more cognitive recall.

Hypothesis 3 suggested that supervisor-attributed locus of causality for RBS would moderate LMXSC's relationships with externally-focused emotions (i.e. anger and gratitude). Whereas the *strength* of relationships between study variables and self-attributed locus of causality for RBS was surprising, the *direction* of relationships between supervisor attributions and other variables was unexpected. As noted previously, supervisor-attributed locus of

causality for RBS in concept was not assumed to be perceived as negatively valenced or unfair. Supervisor-attributed locus of causality was thought to be accentuate LMXSC's linkage with both positive and negative externally-focused emotions (i.e. anger and gratitude). Yet supervisor-attributed locus of causality showed unexpected (albeit weak) positive associations with negative outcomes (e.g. shame), and negative associations with positive outcomes (e.g. interactional justice, LMXSC, LMX).

In spite of these unexpected characteristics of supervisor-attributed locus of causality for RBS, the interactions between LMXSC and supervisor-attributed locus of causality for RBS showed patterns that were largely as expected. The only major difference between the observed results and the hypothesized interactions was that regardless one's level of LMXSC, anger was low when supervisor-attributed locus of causality for RBS was low. These findings indicate that LMXSC is more strongly linked with LMX-related anger and gratitude when one's LMX quality is assumed to be driven by the supervisor.

As per hypothesis 4's expectations, those who perceived their supervisor to be treating them with respect and consideration were more likely to express increased levels of LMX-related gratitude and decreased levels of LMX-related anger. This finding fits with existing research linking interpersonal justice to anger (e.g. Rupp, McCance, Spencer, & Sonnentag, 2008), and adds to existing research by identifying a linkage between interpersonal justice and LMX-related gratitude. However, in interpreting the notably strong justice-emotion bivariate relationships, it is important to acknowledge these relationships are likely inflated by common method variance.

As part of hypothesis 5, interpersonal justice was expected to buffer the negative effects of low LMXSC and heighten the positive effects of high LMXSC on externally-focused LMX-related emotions. A moderation was observed with LMX-related anger, but not with LMX-

related gratitude. Findings for LMX-related anger partially matched expectations. As per expectations, interpersonal justice was associated with lowered levels of anger experienced by high LMXSC respondents. Unexpectedly, those with low LMXSC who observed high interpersonal justice reported the lowest level of anger, even lower than high LMXSC-high interpersonal justice respondents. It may be that when low LMXSC individuals experience high interpersonal justice, the supervisor's respect and consideration appear even more exceptional than when high LMXSC individuals experience the same behavior. That is, when a supervisor shows consideration to even the members with whom he or she has the weakest relationship, that supervisor may be seen as transformational or at the very least, egalitarian. This fits with Greenberg et al.'s (2007, p.25) assertion that individuals react less negatively to supervisors who have shown to be either equally considerate to all subordinates or "equal opportunity jerks", than supervisors who show inconsistent interpersonal justice (i.e., "inconsiderate to me, but considerate to others").

Last, counter the expectations made in hypothesis 6, a significant three-way interaction between supervisor-attributed locus of causality for RBS, LMXSC, and interpersonal justice predicting LMX-related anger was not observed. There are several potential reasons why this interaction did not emerge. From a practical standpoint, the contributing two-way interactions (LMXSC-locus of causality, LMXSC-interpersonal justice) did not match study expectations. At a more conceptual level, the fair process effect suggests procedural and interactional justice can buffer the negative effects of low distributive justice. Here, LMXSC may not be an important enough outcome that the interpersonal justices would necessarily be required to buffer the anger induced by low LMXSC. Indeed, LMXSC showed weaker associations with anger than self- and supervisor-attributed locus of causality for RBS, LMX, interpersonal and informational justice.

Ancillary analyses: Comparing Emotions and PANA models

Turning next to the analyses on emotions and the PANAS items, attributions did not moderate effects of LMXSC on PA or NA, despite observed LMXSC-PA and LMXSC-NA associations of similar size and direction to LMXSC-emotion associations. These results support the notion that LMX-related emotions are distinguished by attributional underpinnings, whereas PA and NA do not specify an attributional component. Further, LMX-related emotions were conceptualized here as more cool and cognitive emotional metaperceptions. Although PA and NA items were also in reference to one's LMX, responses to PA and NA items may still reflect more "hot" feelings of core affect.

Tests of the PANA and emotion measurement model showed a model allowing all emotion and PANAS items to load on separate but related factors was better fitting than a two-factor model comprised of positive and negative valenced items. This measurement model finding indicates the emotions of interest here cannot be fully explained by an overarching PA and NA model.

Given the strong bivariate relationship between shame and guilt items, there is reason to question their discriminant validity. Existing literature has observed high correlations between guilt and shame, but in general, the constructs are considered conceptually distinct in their focus. (Tangney, Miller, Flicker, & Barlow, 1996) In support of their distinctiveness, the seven factor model with guilt and shame on separate factors showed significantly less misfit than the six factor model that loaded shame and guilt items on a single factor. The fact that hypothesis 2 was supported for shame, but was not supported for guilt provides additional evidence of discriminant validity. Given these findings, I chose to analyze guilt and shame as separate

constructs. However, future research should focus on how the subtle differences in these constructs can be more effectively measured.

Ancillary analyses: LMXSC and its relationship with LMX

Next, the relationship between LMXSC and LMX was further explored. LMXSC showed psychometric characteristics similar to those observed in existing studies (i.e., Vidyarthi et al., 2010; Erdogan, 2002). Overall, the data supported the notion that LMXSC and LMX are related but distinct constructs that share substantive variance but have meaningful differences in their focus.

Running the hypotheses with LMX entered in place of LMXSC allowed me to explore the question, do attributions and interpersonal justice also moderate LMX quality-emotion relationships? Although these analyses had a fundamentally different focus than the original hypotheses, results tended to show a similar pattern as was found with LMXSC, outside of stronger LMX-emotion linkages than LMXSC-emotion linkages. Attributions moderated LMX's associations with LMX-related shame, gratitude, and anger. With LMX-related shame, self-attributed locus of causality greatly reduced LMX-related shame among low LMX respondents, but made little difference for high LMX individuals. Thus, attributing one's own behavior as influential in relationship building may be an important factor in lowering LMX-related shame experienced when one's LMX quality is poor. With externally-focused emotions, the effect of LMX on emotions was accentuated when the supervisor was viewed as driving the relationship quality, indicating supervisor-attributed locus of causality may exacerbate both the positive and negative effects of LMX on emotions.

Analyses were also run to see whether interpersonal justice buffered the negative effects of low LMX quality on externally focused LMX-related emotions. As with LMXSC, an LMX-

interpersonal justice interaction was observed with anger, but not with gratitude. The results for LMX-related anger matched expectations put forth by H5b: LMX was not important in determining levels of anger when interpersonal justice was high, but was especially important when interpersonal justice was low. Thus, although LMX is a different target than LMXSC, many expectations put forth by attribution theory and the fair process effect can also help to explain LMX's association with LMX-related emotions.

Ancillary analyses: Comparing Informational Justice and Interpersonal Justice

Next, given interpersonal and informational justice are both facets of interactional justice and tend to be highly correlated, analyses were conducted to see if interpersonal justice's moderating effects also held for informational justice. As was the case with interpersonal justice, informational justice did moderate the LMXSC-anger linkage, but not the LMXSC-gratitude linkage. With LMX-related anger, the results matched the LMXSC-interpersonal justice moderation findings. Informational justice was negatively associated with levels for anger for both high and low LMXSC individuals, but the effect was stronger for low LMXSC individuals. Low LMXSC- high informational justice respondents in fact reported the lowest levels of LMX-related anger. This suggests the honesty and straightforwardness of communication with a supervisor may improve (i.e. lower) the level of LMX-related anger subordinates feel, especially when individuals feel they have relatively poor quality LMX. Thus, perceptions that one's supervisor is respectful and honest appear to have similar effects on the extent to which LMXSC elicits LMX-related anger.

Ancillary analyses: Workgroup size

Given social comparisons are likely to change as the size of the comparison group increases, it was also of interest to look at whether workgroup size was associated with the

current study's variables and hypothesized relationships. LMX-related guilt and shame increased as one's workgroup size increased; LMX-related pride, gratitude, and anger did not differ based on workgroup size. Further, the effect of LMXSC on shame decreased as the workgroup size increased. These findings suggest negative LMX-related self-conscious emotions tend to be lower in smaller workgroups, but are more likely to stem from LMXSC than with large groups. Future research should be directed towards understanding how and when specific small group processes influence LMXSC and moderate its relationship with outcomes, both at group and individual levels.

Ancillary analyses: Length of Relationship with One's Supervisor

I also examined how LMX relationship tenure influenced study variables and hypotheses. LMX theory would suggest the quality of the exchange between a supervisor and subordinate changes over time as the dyad has an increasing number of exchanges (i.e. "interacts"). In the current study's data, LMX quality changed the longer the dyad worked together. The longer individuals worked with their current supervisor, the more likely they were to rate their LMX as high quality and of a relatively higher quality than the LMX levels observed among peers. LMX relationship tenure also had an effect on LMX-related gratitude, with those working for their supervisor for 5 or more years reporting the highest level of gratitude.

Time, however, likely cannot fully account for the positive effects of a longer relationship with one's supervisor: just as the attraction-selection-attrition (ASA; Schneider, 1987) theory suggests employees are more likely to seek out, enter, and remain members of organizations where they "fit," employees likely seek out, enter, and remain in LMX dyads that are effective. Thus, in a cross-sectional design, we might expect LMX tenure to be associated with positive LMX perceptions simply because subordinates with longer relationship tenure have elected to remain working for the same supervisor.

Still, many of the current study's variables did not change significantly based on the length of the LMX relationship. Relationship length did not appear to play a significant role in most LMX-related emotions (i.e. pride, guilt, shame, anger, Appendix T), nor was it an important factor in the extent to which an individual made self or supervisor locus of causality for RBS attributions. These findings suggest that while LMX and LMXSC may stabilize over time, LMX-related emotions and locus of causality for RBS attributions may vary even among dyads who have extensive LMX tenure.

Last, interpersonal justice significantly differed based on relationship length, with the high mean levels of interpersonal justice reported among those who recently started working for their supervisor, and a notable drop appeared among those who have worked for their supervisor for 6-12 months. Beyond the 6-12 month relationship length, interpersonal justice steadily increased with relationship length. Several other variables (i.e. LMX guilt, shame, and anger) showed similar (albeit nonsignificant) "blips" in means, where those in the first six months of their relationship with the supervisor reported particularly positive experiences, and those who had worked for their supervisor for 6-12 months reporting more negative experiences.

Research on organizational socialization suggests that in the first several months of a new job, newcomers experience a boost in job satisfaction beyond past job satisfaction levels ("honeymoons"), which tapers off around 6 months ("hangovers"; Boswell, Shipp, Payne, & Culbertson, 2009). Here it appears LMX relationships may also show a honeymoon and hangover effect, particularly in terms of interpersonal justice. It may be that while subordinates are getting socialized into a new role, supervisors are particularly attentive to the needs and concerns of the newcomer. Further, supervisors (and subordinates) may engage in greater levels of impression management in new relationships. As subordinates become more autonomous in

their role, supervisors may focus less on showing polite and considerate treatment to the subordinate and more on task accomplishment. Subordinates may then perceive the interpersonal treatment their supervisor displays to be less considerate than the treatment they experienced initially.

LMX relationship tenure moderated the relationship between LMXSC and LMX-related pride, with the association between LMXSC and pride weakening the longer subordinates worked for their supervisor. For relatively new LMX relationships, LMXSC was associated with feeling capable, valuable, and worthwhile in the context of one's LMX; this was less the case as LMX tenure increased. Still, relationship tenure did not moderate the relationship between LMXSC and LMX-related guilt, shame, anger, and gratitude, indicating the role of social comparisons in LMX-related emotions often remains the same, regardless one's relationship tenure.

LMX tenure also showed two significant three-way interactions: an interaction with LMXSC and self-attributed locus of causality for RBS predicting LMX-related shame, and an interaction with LMXSC and interpersonal justice predicting LMX-related anger. The findings from these interactions were not entirely intuitive, but indicate that LMX tenure may sometimes exacerbate the effects of LMXSC on emotions and at other times buffer the effects. Future studies should focus on the mechanisms for when and why negative LMX-related emotions occur at later stages of LMX relationships.

Theoretical Implications and Future Directions

Several findings observed in this study have important implications for LMX theory; these findings are listed as follows.

- **Although LMXSC plays a role in subordinates LMX-related emotions, its associations were small relative to LMXSC's linkages with interpersonal justice and thinking one's own behavior "matters" in determining one's LMX quality.** LMXSC is a relatively new area of research within the broader stream of LMX research. Although the present study showed LMXSC as having some effect on LMX-relation emotions, associations were small and weaker than the associations with other predictors. As researchers continue to examine how LMXSC relates to workplace and career attitudes and behaviors, it is important to interpret findings relative to other findings of other relevant variables.
- **When subordinates experience a sense of personal agency within one's LMX relationship (e.g. high self-attributed locus of causality for RBS), they experience more LMX-related positive emotions.** The current study's findings indicate viewing one's behavior as important in determining one's LMX quality positive effect on subordinate's emotions, even when they have relatively low LMXSC. Future research should seek to explore the role self-attributed locus of causality for RBS plays in other workplace and career behaviors.
- **Although LMX theory would suggest supervisor-subordinate dyads change in nature over time, LMX relationship tenure did not moderate most LMXSC- LMX-related associations, nor did it moderate the majority of the study's interaction hypotheses.** As noted previously, it appears that LMXSC's main effect and interactions involving LMXSC did not differentially predict LMX-related emotions based on LMX relationship tenure. Whether subordinates are at the beginning of an LMX relationship and after the relationship has been established, it appears LMXSC exhibits the same

relationship with emotions and attributions have the same effect on the LMXSC-emotion relationships.

- **As LMX relationship tenure increases, LMXSC increases.** Perhaps intuitively, this study shows that as subordinates who have worked for their supervisor for a long period of time, they are more likely to perceive themselves as having a relatively higher quality relationship with the supervisor than their peers.

Below are several other future research questions stemming from the current study.

- *What role do discrete LMX-related emotions play in LMX-, job-, and organization-related attitudes and behaviors?* The current study focused on potential antecedents of LMX-related emotions; future studies should explore how LMX-related emotions relate other attitudes and behaviors at work.
- *Is RLMX associated with LMX-related emotions? If so, do locus of causality for RBS attributions and interpersonal justice similarly moderate the effects of RLMX on LMX-related emotions?* Existing research assumes LMXSC is a perception that mediates the linkage between RLMX and subordinate outcomes (Vidyarthi et al., 2010). Future research should examine whether attributions and interpersonal justice moderate the direct linkages between RLMX and LMX-related emotions.
- *Does task type or leader decision making style moderate the linkages between LMX variability and different subordinate outcomes?* More democratic task structures (e.g. compensatory tasks) and decision making styles may make LMX variability more surprising and uncomfortable than in hierarchical contexts. Additional research on this topic may be merited.

More broadly, researchers should consider whether LMXSC adds significant value to our understanding of employee cognition, affect, and behavior. Although social comparisons have consistently shown associations with important employee outcomes (Greenberg et al., 2007), the current study showed LMXSC was more weakly associated with focal outcomes of this study than other related variables (i.e. LMX and interpersonal justice). Based on the current study's findings, LMXSC does not appear to be an immensely important factor in how subordinates feel regarding their LMX.

Also, although this study focused on self- and supervisor- attributed locus of causality for RBS, open text responses in the pilot study showed that most participants thought both they and their supervisor jointly determined their LMX quality (e.g. "the way we treat one another"). However, there are several reasons why incorporating "joint" attributions in the current study's framework might not have yielded valuable insights. Specifically, attribution theory does not make predictions about the effects of multiple causal loci, and thus it would not suggest a LMXSC-"joint" locus of causality for RBS interaction would predict LMX-related emotions. Further, Burton et al.'s (2014) research on perceived causes of abusive supervision suggest joint "relational" attributions were not significantly associated with interactional justice, direct or indirect aggression, or OCBs. Thus, it seems unlikely that a direct examination of "joint" locus of causality attributions would have provided meaningful insight in the current study.

This study also has several implications for research on attribution theory and affect, listed here.

- **Current measures of causal attributions show weak psychometric properties.** The measure developed to measure self- and supervisor-attributed locus of causality for RBS was more psychometrically sound than many existing measures. Focusing research on

more context-specific attributions (as in the current study) may prove more effective than the existing, more generalized approach to attribution measurement.

- **Core affect theory provides a useful framework for understanding affect as part of attribution theory and other areas of affect**. Core affect theory allows affect researchers to make subtle distinctions in affect constructs, in a sense differentiating between "oranges and tangerines." Future studies should utilize core affect theory as a way of explicating their affective constructs and comparing and contrasting those constructs to existing research.
- **Direct measures of negative, self-conscious emotions may elicit defensive response patterns.** In the current study, respondents who were expected to exhibit the highest levels of negative, self-conscious emotions instead reported particularly positive feelings. As Tagney and Dearing (2003) suggest, using situational measures may mitigate this concern in future studies.

Practical Implications

The current study's findings also have several practical implications for supervisors and employees. Results from this study indicated that supervisor-attributed locus of causality for RBS was generally linked to negative outcomes for subordinates. To ensure subordinates do not solely blame their supervisor when misunderstandings occur within the dyad, supervisors should initiate "debriefing" conversations with subordinates when problems arise. In these conversations, both parties should discuss how they contributed to an issue and what both could do differently in the future. For employees, results indicate those who see themselves as driving the effectiveness of their relationship with the supervisor feel more positively about their relationship quality. For this reason, it is important for employees to "manage their boss," and

take ownership over not only their work, but also their LMX quality. Employees should seek to understand their supervisor's strengths, weaknesses, goals, motivations, and constraints, and use this information to strategize and engage in work content and processes that meet mutual needs.

Limitations

There were several limitations to this study that have been noted throughout the discussion, and are summarized here. First, common method variance (CMV) may have inflated the correlations between justice and LMX-related emotions. CMV is less of a concern when focusing on interactions; still, future research should test whether the findings for interpersonal justice hold when justice and emotion measures are temporally separated. Second, guilt and shame were highly correlated, indicating low discriminant validity. Additional research on LMX-related emotions should consider using different measures of shame and guilt to see if differences in these constructs can be assessed more effectively. Third, PA and NA were similarly highly correlated with positive and negative emotions, calling into question whether emotions are specifically the requisite affective outcome of the model. The results of the affect measurement model provides some evidence of discriminant validity. Further, the observation that hypothesis tests yielded different results when PANAS items were the dependent variable supports the notion that emotions are a more appropriate model outcome. Still, additional research should focus on the extent to which LMX-related emotions and LMX-related PA and NA are distinctive from one another, both theoretically and empirically. Fourth, for both the pilot and the main study, online panel studies were used as a sample. Although highly rigorous data cleaning was applied to screen out duplicate and careless respondents, it was not possible to formally verify participants have a full time job. This leaves open the possibility that participants could theoretically lie about these characteristics to be eligible to participate in the study. Still, it

is worth noting that the same issue could occur in an undergraduate sample, wherein students could falsely state they have work experience to increase subject pool study eligibility.

Conclusion

This study proposed LMXSC is linked to different LMX-related emotions, and these linkages are moderated by causal attributions regarding relationship building with one's supervisor as well as perceptions of interpersonal justice. In a two-part survey of employed adults, interpersonal justice and causal locus attributions regarding LMX relationship building were associated with LMX-related emotions, and in many cases moderated the extent to which LMXSC was associated with LMX-related emotions. This study reveals the linkage between LMXSC and how subordinates feel regarding their LMX is not necessarily straightforward; attributions regarding why and how their LMX came to be are also important. Research in organizational psychology can integrate these findings to help better explain the mechanisms through which LMX variability leads to positive and negative outcomes.

APPENDICES

Appendix A: Pilot Survey Consent Form

Pilot Survey: Causal Attribution Measurement Properties
Please read the information below completely and carefully:

In this questionnaire, you will be answering several questions about your relationship with your manager/immediate supervisor and your beliefs about how that relationship developed. Because this study focuses on the psychometric properties of similar measures, you will be asked to answer very similar questions about the same topic. **You will receive $1 for your participation in this study.**

Please be aware that your confidentiality will be protected to the maximum extent allowable by law. This means that all disseminated data from this and future surveys **will not contain any identifying information that links individuals to their responses**, and **under no circumstances will anyone other than the Michigan State University researcher have access to identifying information**.

All data will be stored on a password-protected computer, on a secure system, at Michigan State University. The data will be kept for the regulatory minimum of three years after the study is completed. The results of the survey may be disseminated or published in an *aggregated, group* form, but the identities of all employees in these publications will remain **completely anonymous**. Please note that in addition to the researcher at Michigan State University, the MSU Institutional Review Board (the participants' rights protection board) also has the right to access the records and research results.

Please note that your participation is voluntary. This means that refusal to participate will involve *NO* penalty. We will not be keeping record of who does not participate. You are free to withdraw your consent and discontinue participation at any point during the survey. You may choose not to answer specific questions or to stop participating at any time.

We very much appreciate your time and participation! If you have any questions about this survey, our larger research effort, or to report an injury, please contact Catherine Ott-Holland by phone: (262) 497-2486, email: ottholla@msu.edu, or regular mail: 348 Psychology Building, East Lansing, MI 48824 or Dr. Ann Marie Ryan, 333 Psychology Building, East Lansing, MI 48824 or ryanan@msu.edu.

If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this research study, you may contact, anonymously if you wish, the Michigan State University Human Research Protection Program at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 408 W. Circle Dr., 207 Olds Hall, MSU, East Lansing, MI 48824.

If you consent to participation in this study, please press the button below to continue.
If you do not agree to participate in this study, you may close out of this webpage.

Appendix B: Example Causal Attribution Measures

Attributional Style Questionnaire
Dykema, Bergbower, Doctora, and Peterson (1996)

Please try to imagine yourself in the following situations. If such a situation happened to you, what do you think might have caused it? While situations like these may have many causes, we want you to choose only one- THE MAIN CAUSE, THAT IS, WHAT MADE THIS SITUATION HAPPEN TO YOU. Please write the main cause in the box after each situation. Next, answer two questions about the cause you provided. First, how likely is it that the main cause you gave will continue to affect you? Second, is the main cause that you gave something that affects just this situation, or does it affect other areas of your life?

To summarize, please:
Read each situation and vividly imagine it happening to you.
Decide what you feel would be the one main cause for the situation if it happened to you.
Write down the one main cause in the box provided.
Answer the two questions about the main cause.

Try to imagine yourself in the following situation.

…you have trouble sleeping
…you feel sick and tired most of the time
…you have a serious injury
…you can't find a job
…you can't get the work done that others expect of you
…you are fired from your job
…you don't help a friend who has a problem
…you have financial problems
…you don't understand what your boss wants you to do
…a friend is very angry with you
…you are guilty of breaking the law
…you have a serious argument with someone in your family

How likely is it that the main cause you gave will continue to affect you?

Will never affect you -3 -2 -1 0 1 2 3 Will always affect you

Is the main cause that you gave something that affects just this situation, or does it affect other areas of your life?

Just affects this sort of event -3 -2 -1 0 1 2 3 Affects all other areas

Revised Causal Dimension Scale (CDSII)
McAuley, Duncan, and Russell (1992)

Instructions: Think about the reason or reasons you have written above. The items below concern your impressions or opinions of this cause or causes of your performance. Circle one number for each of the following questions.

Is the cause(s) of something:

That reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	Reflects an aspect of the situation
Manageable by you	9	8	7	6	5	4	3	2	1	Not manageable
Permanent	9	8	7	6	5	4	3	2	1	Temporary
You can regulate	9	8	7	6	5	4	3	2	1	You cannot regulate
Over which others have control	9	8	7	6	5	4	3	2	1	Over which others have no control
Inside of you	9	8	7	6	5	4	3	2	1	Outside of you
Stable over time	9	8	7	6	5	4	3	2	1	Variable over time
Under the power of other people	9	8	7	6	5	4	3	2	1	Not under the power of other people
Something about you	9	8	7	6	5	4	3	2	1	Something about others
Over which you have power	9	8	7	6	5	4	3	2	1	Over which you have no power
Unchangeable	9	8	7	6	5	4	3	2	1	Changeable
Other people can regulate	9	8	7	6	5	4	3	2	1	Other people cannot regulate

Note. The total scores for each dimensions are obtained by summing the items, as follows: 1,6,9= locus of causality; 5, 8, 12= external control; 3,7,11=stability; 2,4,10= personal control.

Attributions to abusive supervision
Burton, Taylor, and Barber (2014)

Internal attributions
1. The source of my supervisor's behavior reflects something about me.
2. I need to look in the mirror to examine why my supervisor treats me the way he or she does.
3. I probably provoked my supervisor to act the way he or she does.
4. I am at fault for the way my supervisor treats me at work.
External attributions
5. My supervisor chooses to act the way he or she does.
6. My supervisor's behavior in due to something about him or her (e.g. the type of person he or she is.)
7. The cause of the supervisor's behavior is something controllable by the supervisor.
Relational attributions
8. The cause of my supervisor's behavior is a result of the relationship we have.
9. The relationship I have with my supervisor is one of the reason he or she acts the way he or she does toward me.
10. My supervisor's behavior toward me is due, in part, to the relationship we have.

Marital Attitude Scale Subscales
Pretzer, Epstein, and Fleming (1991)

Perceived Ability of Couple to Change Relationship
Example item: There's no way for us to change this relationship.
Expectancy of Improvement in Relationship
Example item: I think our relationship might improve.
Attribution of Causality to Own Behavior
Example item: My problems with my partner are caused by the things I say and do.
Attribution of Causality to Own Personality
Example item: My personality would have to change for my partner and me to get along better.
Attribution of Causality to Spouse's Behavior
Example item: If my partner did something differently we'd get along better.
Attribution of Causality to Spouse's Personality
Example item: I don't think my problems with my partner are because of the type of person he/she is.
Attribution of Malicious Intent to Spouse
Example item: I doubt if my partner deliberately does things to irritate me.
Attribution of Lack of Love to Spouse
Example item: If my partner cared he/she wouldn't do the things he/she does.

Appendix C: Locus of Causality for Relationship Building with one's Supervisor

Instructions:

Often in workgroups, some subordinates have better relationships with their supervisor in comparison to the relationships other coworkers have with the supervisor. Other subordinates may have worse relationships with their supervisor in comparison to the relationships other coworkers have with the supervisor. Think about the reason or reasons for why this might be.

The items below concern your impressions or opinions of what causes effective relationship building with your supervisor. Rate the extent to which you agree with the following statements.

The quality of the relationship that has developed between you and your supervisor

Is mostly due to the actions I take
Reflects something about me
Is incited mostly by me
Is mostly the consequence of how I chose to do my work
Is generally the result of how I spend my time
Tends to be determined by the things I say or do
Is mostly due to the actions my supervisor takes
Reflects something about my supervisor
Is incited mostly by my supervisor's behavior
Is mostly the consequence of how my supervisor choses to do his or her work
Is generally the result of how my supervisor spends his/her time
Tends to be determined by the things my supervisor says or does

1=Strongly disagree
2=Disagree
3=Neither agree nor disagree
4=Agree
5=Strongly agree

Appendix D: Pilot Survey Measures with Revisions Marked

Revised Causal Dimension Scale (CDSII)
McAuley, Duncan, and Russell (1992)

Instructions: Think about ~~the reason or reasons you have written above~~ **the quality of your relationship with your direct supervisor.** The items below concern your impressions or opinions of this cause or causes of your ~~performance the quality of that~~ **relationship.** Circle one number for each of the following questions.

Is the cause(s) of your **relationship with your direct supervisor** something:

That reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	Reflects an aspect of the situation
Manageable by you	9	8	7	6	5	4	3	2	1	Not manageable
Permanent	9	8	7	6	5	4	3	2	1	Temporary
You can regulate	9	8	7	6	5	4	3	2	1	You cannot regulate
Over which others have control	9	8	7	6	5	4	3	2	1	Over which others have no control
Inside of you	9	8	7	6	5	4	3	2	1	Outside of you
Stable over time	9	8	7	6	5	4	3	2	1	Variable over time
Under the power of other people	9	8	7	6	5	4	3	2	1	Not under the power of other people
Something about you	9	8	7	6	5	4	3	2	1	Something about others
Over which you have power	9	8	7	6	5	4	3	2	1	Over which you have no power
Unchangeable	9	8	7	6	5	4	3	2	1	Changeable
Other people can regulate	9	8	7	6	5	4	3	2	1	Other people cannot regulate

Note. The total scores for each dimensions are obtained by summing the items, as follows: 1,6,9= locus of causality; 5, 8, 12= external control; 3,7,11=stability; 2,4,10= personal control.

Attributional Style Questionnaire
Dykema, Bergbower, Doctora, and Peterson (1996)

Please try to imagine ~~yourself in the following situations.~~ **the quality of the relationship that has been built between you and your direct supervisor.** ~~If such a situation happened to you,~~ what do you think ~~might have~~ caused ~~it~~ **your relationship to be of this quality**? While situations like these may have many causes, we want you to choose only one- THE MAIN CAUSE, THAT IS, ~~WHAT MADE THIS SITUATION HAPPEN TO YOU~~ **WHAT DETERMINES THE RELATIONSHIP QUALITY YOU HAVE WITH YOUR SUPERVISOR**. Please write the main cause in the box after each situation. Next, answer two questions about the cause you provided. First, how likely is it that the main cause you gave will continue to affect you? Second, is the main cause that you gave something that affects just ~~this situation~~ **your relationship with your supervisor**, or does it affect other areas of your life?

To summarize, please:

~~Read each situation and vividly imagine it happening to you.~~
Decide what you feel is ~~would be~~ the one main cause for ~~the situation if it happened to you.~~ **the quality of the relationship you have with your supervisor?**
Write down the one main cause in the box provided.
Answer the two questions about the main cause.

~~Try to imagine yourself in the following situation.~~
~~…you have trouble sleeping~~
~~…you feel sick and tired most of the time~~
~~…you have a serious injury~~
~~…you can't find a job~~
~~…you can't get the work done that others expect of you~~
~~…you are fired from your job~~
~~…you don't help a friend who has a problem~~
~~…you have financial problems~~
~~…you don't understand what your boss wants you to do~~
~~…a friend is very angry with you~~
~~…you are guilty of breaking the law~~
~~…you have a serious argument with someone in your family~~

How likely is it that the main cause you gave will continue to affect you?

Will never affect you -3 -2 -1 0 1 2 3 Will always affect you

Is the main cause that you gave something that affects just ~~this situation~~ **your relationship with your supervisor**, or does it affect other areas of your life?

Just affects this sort of event -3 -2 -1 0 1 2 3 Affects all other areas

Appendix E: First Consent Form for Online Panel Participants

Relationships in the Workplace Survey Part 1
Please read the information below completely and carefully:

This is the first questionnaire of a two-part survey study on your perceptions of your workplace, with a special focus on your relationship with your supervisor. We expect that it will take about 10 minutes for you to complete this survey. The survey focuses on how employees view their relationships with their colleagues and supervisors, and what factors employees think contribute to effective relationships at work.

You will receive $1 for your participation in this study. You will receive an invitation from MTurk to participate in a second online questionnaire approximately **1 week from today** for $3. It is very important to our research that you respond to both questionnaires.

Please be aware that your confidentiality will be protected to the maximum extent allowable by law. This means that all disseminated data from this and future surveys **will not contain any identifying information that links individuals to their responses**, and **under no circumstances will anyone other than the Michigan State University researcher have access to identifying information**.

All data will be stored on a password-protected computer, on a secure system, at Michigan State University. The data will be kept for the regulatory minimum of three years after the study is completed. The results of the survey may be disseminated or published in an *aggregated, group* form, but the identities of all employees in these publications will remain **completely anonymous**. Please note that in addition to the researcher at Michigan State University, the MSU HRPP (the participants' rights protection board) also has the right to access the records and research results.

Please note that your participation is voluntary. This means that refusal to participate will involve *NO* penalty. We will not be keeping record of who does not participate. You are free to withdraw your consent and discontinue participation at any point during the survey. You may choose not to answer specific questions or to stop participating at any time.

We very much appreciate your time and participation! If you have any questions about this survey, our larger research effort, or to report an injury, please contact Catherine Ott-Holland by phone: (262) 497-2486, email: ottholla@msu.edu, or regular mail: 348 Psychology Building, East Lansing, MI 48824, or Dr. Ann Marie Ryan, 333 Psychology Building, East Lansing, MI 48824 or ryanan@msu.edu.

If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this research study, you may contact, anonymously if you wish, the Michigan State University Human Research Protection Program at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 408 W. Circle Dr., 207 Olds Hall, MSU, East Lansing, MI 48824.

If you consent to participation in this study, please enter your MTurk ID number. We will use this as an anonymous identifier to link your two surveys. Then, click the continue arrow.

If you do not agree to participate in this study, you may close out of this webpage.

Appendix F: Second Consent Form for Online Panel Participants

Relationships in the Workplace Survey Part 2
Please read the information below completely and carefully:

This is the second questionnaire of a two-part survey study on your perceptions of your workplace, with a special focus on your relationship with your supervisor. If you received an invitation to participate in this study, you should have participated in an earlier survey 1 week ago. We expect that it will take about 10 minutes for you to complete this survey. The survey focuses on how employees view their relationships with their supervisors, and the physical symptoms of stress. You will receive $3 for participating in this survey.

Please be aware that your confidentiality will be protected to the maximum extent allowable by law. This means that all disseminated data from this and future surveys **will not contain any identifying information that links individuals to their responses**, and **under no circumstances will anyone other than the Michigan State University researcher have access to identifying information**.

All data will be stored on a password-protected computer, on a secure system, at Michigan State University. The data will be kept for the regulatory minimum of three years after the study is completed. The results of the survey may be disseminated or published in an *aggregated, group* form, but the identities of all employees in these publications will remain **completely anonymous**. Please note that in addition to the researcher at Michigan State University, the MSU HRPP (the participants' rights protection board) also has the right to access the records and research results.

Please note that your participation is voluntary. This means that refusal to participate will involve *NO* penalty. We will not be keeping record of who does not participate. You are free to withdraw your consent and discontinue participation at any point during the survey. You may choose not to answer specific questions or to stop participating at any time.

We very much appreciate your time and participation! If you have any questions about this survey, our larger research effort, or to report an injury, please contact Catherine Ott-Holland by phone: (262) 497-2486, email: ottholla@msu.edu, or regular mail: 348 Psychology Building, East Lansing, MI 48824, or Dr. Ann Marie Ryan, 333 Psychology Building, East Lansing, MI 48824 or ryanan@msu.edu.

If you have any questions or concerns about your role and rights as a research participant, would like to obtain information or offer input, or would like to register a complaint about this research study, you may contact, anonymously if you wish, the Michigan State University Human Research Protection Program at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 408 W. Circle Dr., 207 Olds Hall, MSU, East Lansing, MI 48824.

If you consent to participation in this study, please enter your MTurk ID number. We will use this as an anonymous identifier to link your two surveys. Then, click the continue arrow.
If you do not agree to participate in this study, you may close out of this webpage.

Appendix G: End of Survey Message for Online Panel Participants

The researchers at Michigan State University would like to thank you for your participation in their two-part survey looking at employees' perspectives on how relationships are built with their supervisors.

This study examined how thoughts and feelings employees experience regarding their relationship with their supervisor are related to perceptions of a fair environment and physiological side effects of stress. A brief report on the study's findings can be sent to you by request at ottholla@msu.edu.

For additional information on how to develop an effective relationship with your supervisor, check out the following articles

Forbes *14 Tips for Improving your Relationship with your Boss*
Fast Company *12 Ways to Build the Best Relationship with your Boss*

Appendix H: Leader-Member Exchange Social Comparison

Please rate the extent to which you agree with the following statements regarding your relationship with your manager/immediate supervisor.

I have a better relationship with my manager than most others in my work group.
When my manager cannot make it to an important meeting, it is likely that s/he will ask me to fill in.
Relative to the others in my work group, I receive more support from my manager.
The working relationship I have with my manager is more effective than the relationships most members of my group have with my manager.
My manager is more loyal to me compared to my coworkers.
My manager enjoys my company more than he/she enjoys the company of other group members.

1= Strongly disagree
2= Disagree
3= Somewhat disagree
4= Neither agree or disagree
5= Somewhat agree
6= Agree
7= Strongly agree

Appendix I: Leader-Member Exchange

(Note: The term “leader” has been changed to “supervisor” throughout to match the proposed study’s focus)

Answer the following questions with regard to your relationship with your **manager/ immediate supervisor.**

1. Do you know where you stand with your supervisor…do you usually know how satisfied your leader is with what you do?

Rarely/Occasionally/Sometimes/Fairly Often/Very Often

2. How well does your supervisor understand your job problems and needs?

Not a bit/A little/A fair amount/Quite a bit/A great deal

3. How well does your supervisor recognize your potential?

Not at all/A little/Moderately/Mostly/Fully

4. Regardless of how much formal authority he/she has built into his/her position what are the chances that your supervisor would use his/her power to help you solve problems in your work?

None/Small/Moderate/High/Very High

5. Again, regardless of the amount of formal authority your supervisor has, what are the chances that he/she would “bail you out,” at his/her expense?

None/Small/Moderate/High/Very High

6. I have enough confidence in my supervisor that I would defend and justify his/her decision if he/she were not present to do so.

Strongly Disagree/Disagree/Neutral/Agree/Strongly Agree

7. How would you characterize your working relationship with your supervisor?

Extremely Ineffective/Worse than Average/Average/Better than Average/Extremely Effective

Appendix J: Demographic Questions

Reminder: All survey responses are anonymous. Only the researchers will access to survey data and results of this study will only be presented in aggregate.

Please answer the following questions about yourself:

Work Experience: _____ years, _____ months

How long have you been in your current position? ____years, ____ months

How long have you worked for your organization? ____years, ____ months

How long have you worked with your current supervisor? _____ years _____ months

How many other employees work for current supervisor? _____

My age is: _____

Are you of Hispanic, Latino, or Spanish origin?
No, not of Hispanic, Latino, or Spanish origin
Yes, Mexican, Mexican American, or Chicano
Yes, Puerto Rican
Yes, Cuban
Yes, another Hispanic, Latino, Spanish origin _____

My race is (mark one or more)
White
Black, African American, or Negro
American Indian or Alaska Native
Asian Indian
Chinese
Filipino
Other Asian_____
Japanese
Korean
Vietnamese
Native Hawaiian
Guamanian or Chamorro
Samoan
Other Pacific Islander_____
Some other race_____

Appendix K: Interactional Justice

Supervisor-focused interactional justice

Colquitt (2001)

The following items refer to your manager/immediate supervisor. To what extent:

(Interpersonal justice)
Has he/she treated you in a polite manner?
Has he/she treated you with dignity?
Has he/she treated you with respect?
Has he/she refrained from improper remarks or comments?

(Informational justice)
Has he/she been candid in his/her communications with you?
Has he/she explained the procedures thoroughly?
Were his/her explanations regarding the procedures reasonable?
Has he/she communicated details in a timely manner?
Has he/she seemed to tailor his/her communications to individuals' specific needs?

1 – Never
2 – Rarely
3 – Occasionally
4 – A moderate amount
5 – A great deal

Appendix L: LMX-related Emotions

The relationship I have developed with my manager/immediate supervisor makes me feel…
(pride subscale)
… good about myself
… worthwhile
… valuable
… capable
… useful
… proud
… pleased about what I have done
(guilt subscale)
… remorse
… regret
…tension regarding what I have done
… like apologizing
… bad about what I have done
(shame subscale)
…want to sink into the floor and disappear
…small
…that I am a bad person
…humiliated
… disgraced
… worthless
… powerless
(gratitude subscale)
…grateful
…privileged
…appreciative
…fortunate
(anger subscale)
… furious
… angry
… like yelling
… mad

- Not at all
- Very Little
- Somewhat
- To a great extent

(Optional) Please feel free to provide any other thoughts on your relationship with your supervisor. [open text box]

Appendix M: Positive and Negative Affectivity

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scale. *Journal of Personality and Social Psychology*, *54*, 1063-1070.

Read each item and then, using the scale below, mark the appropriate answer in the space next to that word.

Indicate to what <u>extent you feel this way about your relationship with your</u> manager/immediate supervisor.

1 VERY SLIGHTLY OR NOT AT ALL
2 A LITTLE
3 MODERATELY
4 QUITE A BIT
5 EXTREMELY

_____interested	_____irritable
_____distressed	_____alert
_____excited	_____ashamed
_____upset	_____inspired
_____strong	_____nervous
_____guilty	_____determined
_____scared	_____attentive
_____hostile	_____jittery
_____enthusiastic	_____active
_____proud	_____afraid

Appendix N: Example Emotion Measures

Examples of single item emotion measures

Guilt, Shame, Anger

Barclay, L. J., Skarlicki, D. P., & Pugh, S. D. (2005). Exploring the Role of Emotions in Injustice Perceptions and Retaliation. *Journal of Applied Psychology*, 90(4), 629-643.

Participants were asked to think about how they felt when they were being laid off and to indicate the extent to which they felt specific emotions.

"Indicate to what extent you felt guilt when you found out about the layoff"
"Indicate to what extent you felt ashamed when you found out about the layoff"
"I felt angry about the way I was laid off"
"I felt hostile toward my former company"

Pride, Anger, Guilt

Weiss, H. M., Suckow, K., & Cropanzano, R. (1999). Effects of justice conditions on discrete emotions. *Journal of Applied Psychology, 84*(5), 786.

"Emotions were assessed using a questionnaire developed by the authors and based on the work of Shaver, Schwarz, Kirson, and O'Connor (1987). Shaver et al. delineate over 200 emotion works and group them into emotion categories.

On the basis of Shaver's work, a short list of primary emotions including the target emotions and fillers were chosen for the questionnaire. Each emotion word was preceded by "Please indicate how you feel about what just happened" and was paired with a 7-point scale which ranges from *not at all* to *somewhat* to *very much*.

Although *we were only interested in the four emotions of happiness, pride, anger and guilt,* we also asked about such primary emotions as anxiety, compassion, disgust, envy, embarrassment, fear, and love. These were included in order to reduce the demand characteristics for the specific emotions tested. No a priori predictions were made about these other emotions."

Anger

Rupp, D. E., & Spencer, S. (2006). When customers lash out: the effects of customer interactional injustice on emotional labor and the mediating role of discrete emotions. *Journal of Applied Psychology*, 91(4), 971.

"Anger and happiness were measured using the anger and happiness subscales from the discrete emotions inventory originally developed by Weiss (1999) and modified by Mattern, Bedwell, and Rupp (2004). The two scales consisted for 7 and 10 items, respectively, and contained single-word emotional adjectives (e.g. anger, fury, joy, and happiness) to which participants indicated the extent which they were currently feeling each emotion using a scale ranging from 1 (not at all) to 5 (very much)."

Anger, Guilt

Coulter, R. H., & Pinto, M. B. (1995). Guilt appeals in advertising: what are their effects?. *Journal of Applied Psychology, 80,* 697-705.

"… we selected 15 emotional responses to measure anger-irritation, happy-amused, and guilt (see Table 2) based on previous research (Batra & Ray, 1986; Edell & Burke, 1987) and freely elicited emotional responses obtained in Phase 1 of this study. Participants used a 7-point Likert-type scale, ranging from 1 (not at all) to 7 (very strongly), to respond to the following question: "We would like you to tell us how the advertisement made you feel. For each of the [emotions] below, please indicate the extent to which you had a particular feeling."

Guilt

Otterbacher, J. R., & Munz, D. C. (1973). State-trait measure of experiential guilt. *Journal of Consulting and Clinical Psychology, 40,* 115.

Perceived Guilt Index (PGI)

The G-Trait scale of the PGI is essentially a single-item measure. People are asked to select one adjective from a list of 11 adjectives (varying in level of guilt) that best describes how they "normally feel"

Unforgivable
Disgraceful
Degraded
Marred
Reproachable
Chagrined
Fretful
Pent-up
Restrained
Undisturbed
Innocent

Qualitative approaches

Anger

Friedman, R., Anderson, C., Brett, J., Olekalns, M., Goates, N., & Lisco, C. C. (2004). The positive and negative effects of anger on dispute resolution: evidence from electronically mediated disputes. *Journal of Applied Psychology,* 89, 369.

Used Pennebaker, Francis, and Booth's Linguistic Inquiry Word Count on open ended responses.

Multi-item measures

Pride

Tyler, T. R., & Blader, S. L. (2003). The group engagement model: Procedural justice, social identity, and cooperative behavior. *Personality and Social Psychology Review, 7,* 349-361.

My company is one of the best companies in its field;
People are impressed when I tell them where I work
My company is well respected in its field;
I think that where I work reflects well on me;
I am proud to tell others where I work.

Pride, Guilt, Shame

Marschall, D. E., Sanftner, J., & Tangney, J. P. (1994). *The State Shame and Guilt Scale.* George Mason University, Fairfax, VA.
They showed pride alpha =.93, shame .88, guilt .89

Please answer the following questions thinking about how you feeling as you think about the transgression you described. Be as honest and as accurate as possible.
Use the following scale: Strongly Disagree 1 2 3 4 5 Strongly Agree

Pride
I feel good about myself.
I feel worthwhile, valuable.
I feel capable, useful.
I feel proud.
I feel pleased about what I have done.

Guilt
I feel remorse, regret.
I feel tension of what I have done.
I cannot stop thinking about the bad thing that I have done.
I feel like apologizing, confessing.
I feel bad about what I have done.

Shame
I want to sink into the floor and disappear.
I feel small.
I feel that I am a bad person.
I feel humiliated, disgraced.
I feel worthless, powerless.

Gratitude

McCullough, M. E., Emmons, R. A., & Tsang, J. A. (2002). The Grateful Disposition: A Conceptual and Empirical Topography. *Journal of Personality and Social Psychology, 82,* 112-127.

I have so much in life to be thankful for.

If I had to list everything that I felt grateful for, it would be a very long list.
When I look at the world, I don't see much to be grateful for.
I am grateful to a wide variety of people.
As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
Long amounts of time can go by before I feel grateful for something or someone else.

Gratitude

Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. (2003). Gratitude and happiness: Development of a measure of gratitude and relationships with subjective well-being. *Social Behavior and Personality, 31,* 431-452.

Gratitude, Appreciation, and Resentment Test (GRAT)
For some reason I never seem to get the breaks that others get.
More bad things have happened to me in my life than I deserve.
I never seem to get the breaks that other people do.
There never seems to be enough to go around and I'm always coming up short.
I really don't think that I've gotten all the good things that I deserve in life.
Because of what I've gone through in my life, I really feel like the world owes me something.
I believe that I've had more than my share of bad things come my way.
I think that life has handed me a short stick
I basically feel like life has ripped me off
It sure seems like others get a lot more benefits in life than I do.
Life has been good to me
It seems like people have frequently tried to impede my progress.
I feel that "someone up there" doesn't like me
I believe that I am a very fortunate person.
Although I think that I'm morally better than most, I haven't gotten my just reward in life.
At Christmas I never seemed to get as many presents or presents that were as good as others received.
I believe that things in life that are really enjoyable are just as available to me as they are to Ross Perot or Donald Trump.
Every Fall I really enjoy watching the leaves change colors.
I think that it's important to "stop and smell the roses"
I really enjoy the changing seasons
Oftentimes I have been overwhelmed at the beauty of nature.
I love the green of spring.
I think it's important to sit down every once in a while and "count your blessings"
The simple pleasures of life are the best pleasures of life.
I think it's important to appreciate each day that you are alive.
The simple pleasures of life are the best pleasures of life.
I think it's important to appreciate each day that you are alive.
Often I think, "What a privilege it is to be alive."
Although I'm basically in control of my life, I can't help but think about all those who have supported me and helped me along the way.

I feel deeply appreciative for the things others have done for me in my life.
Although I think it's important to feel good about your accomplishments, I think it's important to remember how others have contributed to my accomplishments.
I couldn't have gotten where I am today without the help of many people.
I'm basically very thankful for the parenting that was provided to me.
Sometimes I think "Why am I so privileged so as to be born into the situation I was born into?"
I'm really thankful for friends and family.
Many people have given me valuable wisdom throughout my life that has been important to my success.
One of my favorite times of the year is Thanksgiving.
Part of really enjoying something good is being thankful for that thing.
I've gotten where I am today because of my own hard work, despite the lack of any help or support.
I feel grateful for the education I have received.
After eating I often pause and think, "What a wonderful meal."

Gratitude

Gordon, A. M., Impett, E. A., Kogan, A., Oveis, C., & Keltner, D. (2012). To have and to hold: gratitude promotes relationship maintenance in intimate bonds. *Journal of Personality and Social Psychology, 103,* 257-274.

Appreciative subscale
I tell my partner often that s/he is the best
I often tell my partner how much I appreciate her/him.
At times I take my partner for granted (R).
I appreciate my partner.
Sometimes I don't really acknowledge or treat my partner like s/he is someone special (R)
I make sure my partner feels appreciated.
My partner sometimes says that I fail to notice the nice things s/he does for me. (R)
I acknowledge the things that my partner does for me, even the really small things.
I am sometimes stuck with a sense of awe and wonder when I think about my partner being in my life.

Appreciated subscale
My partner makes sure I feel appreciated.
When I am with my partner, sometimes s/he will look at me excitedly and tell me how much s/he appreciates me.
My partner often tells me the things that s/he really likes about me.
At times, my partner takes me for granted (R).
My partner often expresses her/his thanks when I do something nice, even if it's really small.
My partner doesn't notice when I do nice things for her/him (R).
My partner makes me feel special.

Gratitude

Adler, M. G., & Fagley, N. S. (2005). Appreciation: Individual Differences in Finding Value and Meaning as a Unique Predictor of Subjective Well-Being. *Journal of Personality, 73,* 79-114.

Multifactorial Appreciation Scale
Gratitude Subscale (10)

I say ‘‘please’’ and ‘‘thank you.’’
I notice the sacrifices that my friends make for me.
Food, clothing, and shelter are basic needs that I do not need to be grateful for because I am entitled to them.
I acknowledge when people go out of their way for me.
I say ‘‘please’’ and ‘‘thank you’’ to indicate my appreciation.
When a friend gives me a ride somewhere when he or she doesn’t have to, I really appreciate it.
I say ‘‘thank you’’ in a restaurant when people bring my food to express my appreciation for their help.
I am very fortunate for the opportunity to receive an education.
I value the sacrifices that my parents (or guardians) have made (and/or make) for me.
Anything that my parents (or guardians) have done for me can be attributed to their responsibility as parents (or guardians), and I do not need to be thankful because that was their job.

Anger

Fuqua, D. R., Leonard, E., Masters, M. A., Smith, R. J., Campbell, J. L., & Fischer, P.C. (1991). A structural analysis of the state-trait anger expression inventory. *Educational and Psychological Measurement, 51*(2), 439.

State Anger Subscale

Furious
Irritated
Angry
Feel like yelling
Feel like breaking
Mad
Feel like banging
Feel like hitting
Burned up
Feel like swearing

Appendix O: Item statistics of All Main Study Items

Table 33

Item statistics of all main study items

	M	*SD*	*N*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. LMXSC1	4.47	1.54	451	-														
2. LMXSC2	3.81	1.87	452	**.49**	-													
3. LMXSC3	4.03	1.54	452	**.74**	**.49**	-												
4. LMXSC4	4.35	1.49	451	**.77**	**.50**	**.75**	-											
5. LMXSC5	3.91	1.60	452	**.69**	**.51**	**.76**	**.78**	-										
6. LMXSC6	4.13	1.61	452	**.73**	**.45**	**.72**	**.75**	**.78**	-									
7. LoCRBSSelf1	3.52	.94	453	**.49**	**.23**	**.43**	**.45**	**.37**	**.37**	-								
8. LoCRBSSelf2	3.61	.95	453	**.55**	**.29**	**.48**	**.50**	**.43**	**.44**	**.65**	-							
9. LoCRBSSelf3	3.07	.98	453	**.36**	**.20**	**.34**	**.37**	**.34**	**.34**	**.59**	**.54**	-						
10. LoCRBSSelf4	3.7	1.02	453	**.43**	**.26**	**.39**	**.42**	**.35**	**.34**	**.58**	**.53**	**.43**	-					
11. LoCRBSSelf5	3.43	.99	453	**.42**	**.18**	**.36**	**.38**	**.32**	**.33**	**.53**	**.51**	**.48**	**.61**	-				
12. LoCRBSSelf6	3.62	.92	453	**.43**	**.21**	**.42**	**.46**	**.36**	**.40**	**.58**	**.54**	**.50**	**.53**	**.52**	-			
13. LoCRBSSup1	3.29	.93	453	**-.17**	-.08	-.05	**-.10**	-.03	-.08	**-.21**	**-.19**	**-.17**	**-.24**	**-.18**	**-.19**	-		
14. LoCRBSSup2	3.72	.84	453	-.07	-.02	.00	-.07	-.02	-.01	**-.14**	-.01	**-.12**	**-.14**	**-.12**	-.08	**.44**	-	
15. LoCRBSSup3	3.31	.90	453	**-.19**	**-.11**	-.09	**-.16**	-.07	**-.10**	**-.28**	**-.25**	**-.19**	**-.29**	**-.20**	**-.27**	**.62**	**.45**	-
16. LoCRBSSup4	3.38	.93	453	**-.09**	-.06	.01	-.06	.00	-.03	**-.15**	**-.14**	**-.15**	**-.11**	**-.14**	**-.12**	**.54**	**.39**	**.52**
17. LoCRBSSup5	3.22	.98	453	-.07	-.02	-.02	-.02	.02	.03	**-.10**	**-.10**	-.06	**-.10**	-.02	**-.11**	**.47**	**.38**	**.44**
18. LoCRBSSup6	3.51	.91	453	**-.14**	**-.11**	-.04	-.08	**-.10**	-.09	**-.20**	**-.19**	**-.15**	**-.17**	**-.13**	**-.13**	**.57**	**.42**	**.53**
19. LMX1	3.91	.95	453	**.41**	**.29**	**.31**	**.38**	**.30**	**.33**	**.25**	**.34**	**.12**	**.28**	**.25**	**.30**	**-.12**	-.06	**-.12**
20. LMX2	3.64	1.08	452	**.43**	**.21**	**.37**	**.41**	**.32**	**.34**	**.32**	**.39**	**.22**	**.28**	**.27**	**.36**	**-.17**	-.06	**-.16**
21. LMX3	3.66	1.10	450	**.51**	**.36**	**.44**	**.51**	**.44**	**.46**	**.38**	**.43**	**.21**	**.40**	**.36**	**.38**	**-.15**	**-.10**	**-.16**
22. LMX4	3.57	1.04	452	**.44**	**.28**	**.38**	**.40**	**.34**	**.36**	**.32**	**.40**	**.18**	**.34**	**.32**	**.39**	**-.15**	-.06	**-.18**
23. LMX5	2.98	1.10	453	**.49**	**.36**	**.44**	**.44**	**.43**	**.42**	**.29**	**.43**	**.21**	**.26**	**.27**	**.33**	**-.13**	-.07	**-.15**
24. LMX6	3.67	1.03	452	**.48**	**.29**	**.38**	**.44**	**.38**	**.38**	**.40**	**.47**	**.26**	**.40**	**.39**	**.41**	**-.20**	-.09	**-.24**
25. LMX7	3.57	.83	453	**.58**	**.38**	**.49**	**.54**	**.47**	**.49**	**.41**	**.52**	**.25**	**.41**	**.39**	**.45**	**-.20**	**-.09**	**-.21**

Table 33 (cont'd)

	M	*SD*	*N*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
26. InterpersonalJ.1	4.35	.82	401	**.33**	**.12**	**.24**	**.25**	**.20**	**.19**	**.18**	**.27**	**.10**	**.22**	**.24**	**.27**	**-.17**	**-.12**	**-.24**
27. InterpersonalJ.2	4.36	.83	399	**.38**	**.18**	**.32**	**.35**	**.24**	**.28**	**.27**	**.36**	**.18**	**.31**	**.32**	**.32**	**-.17**	**-.11**	**-.23**
28. InterpersonalJ.3	4.32	.86	399	**.41**	**.19**	**.33**	**.37**	**.29**	**.29**	**.32**	**.36**	**.19**	**.31**	**.36**	**.33**	**-.18**	**-.15**	**-.22**
29. InterpersonalJ.4	4.29	.93	400	**.15**	.06	**.10**	**.12**	.05	.05	**.15**	**.21**	.08	**.15**	**.21**	**.14**	**-.10**	-.08	**-.14**
30. InformationalJ.1	4.07	.88	401	**.32**	**.14**	**.23**	**.27**	**.20**	**.22**	**.26**	**.30**	**.20**	**.17**	**.27**	**.32**	-.07	-.04	**-.17**
31. InformationalJ.2	3.84	.94	401	**.24**	.08	**.20**	**.21**	**.19**	**.17**	**.23**	**.24**	**.19**	**.19**	**.27**	**.29**	-.08	-.03	**-.12**
32. InformationalJ.3	3.99	.95	400	**.19**	.05	**.15**	**.14**	.10	**.11**	**.15**	**.26**	**.10**	**.12**	**.23**	**.25**	**-.11**	-.01	**-.10**
33. InformationalJ.4	3.89	.97	401	**.24**	.10	**.23**	**.22**	**.18**	**.18**	**.27**	**.24**	**.18**	**.25**	**.29**	**.36**	**-.12**	**-.11**	**-.18**
34. InformationalJ.5	3.62	1.08	401	**.36**	**.16**	**.30**	**.31**	**.33**	**.28**	**.28**	**.33**	**.20**	**.26**	**.39**	**.32**	**-.10**	-.10	**-.20**
35. Pride1	3.95	1.14	401	**.47**	**.21**	**.40**	**.40**	**.34**	**.30**	**.35**	**.44**	**.22**	**.29**	**.37**	**.37**	**-.16**	**-.12**	**-.18**
36. Pride2	4.03	1.16	401	**.42**	**.20**	**.34**	**.38**	**.32**	**.30**	**.35**	**.43**	**.25**	**.28**	**.31**	**.33**	**-.13**	**-.17**	**-.20**
37. Pride3	4.06	1.17	400	**.45**	**.21**	**.37**	**.41**	**.36**	**.33**	**.36**	**.44**	**.25**	**.31**	**.33**	**.35**	**-.19**	**-.19**	**-.23**
38. Pride4	4.16	1.08	400	**.41**	**.21**	**.37**	**.38**	**.31**	**.30**	**.34**	**.40**	**.19**	**.28**	**.29**	**.33**	**-.18**	**-.16**	**-.24**
39. Pride5	4.17	1.05	399	**.44**	**.24**	**.38**	**.43**	**.32**	**.31**	**.33**	**.38**	**.20**	**.26**	**.29**	**.33**	**-.14**	-.10	**-.19**
40. Pride6	3.73	1.21	401	**.46**	**.24**	**.39**	**.43**	**.38**	**.35**	**.38**	**.45**	**.27**	**.26**	**.31**	**.36**	**-.12**	**-.12**	**-.19**
41. Pride7	3.98	1.13	400	**.42**	**.18**	**.36**	**.41**	**.33**	**.31**	**.34**	**.47**	**.22**	**.31**	**.34**	**.37**	**-.14**	**-.12**	**-.18**
42. Guilt1	1.49	.99	399	**-.19**	-.01	**-.11**	**-.12**	-.06	-.06	**-.20**	**-.33**	**-.15**	**-.17**	**-.24**	**-.18**	**.21**	**.12**	**.17**
43. Guilt2	1.49	1.00	399	**-.25**	-.01	**-.19**	**-.19**	**-.13**	**-.14**	**-.25**	**-.37**	**-.18**	**-.24**	**-.30**	**-.27**	**.20**	**.11**	**.17**
44. Guilt3	1.7	1.14	400	**-.17**	-.03	**-.11**	**-.13**	**-.11**	**-.11**	**-.20**	**-.27**	**-.17**	**-.15**	**-.21**	**-.18**	**.17**	**.15**	**.14**
45. Guilt4	1.43	.89	400	-.01	.02	.01	.01	.07	.05	-.07	-.08	-.05	-.08	**-.12**	-.07	.07	.06	.00
46. Guilt5	1.37	.83	395	**-.11**	.02	-.09	**-.12**	-.02	-.05	**-.13**	**-.16**	-.03	**-.16**	**-.15**	**-.17**	**.10**	.06	.08
47. Shame1	1.35	.90	400	**-.20**	-.02	**-.11**	**-.12**	-.01	-.09	**-.22**	**-.27**	**-.15**	**-.18**	**-.24**	**-.23**	**.17**	.09	**.16**
48. Shame2	1.51	1.00	399	**-.23**	-.07	**-.17**	**-.18**	**-.14**	**-.12**	**-.22**	**-.29**	**-.16**	**-.22**	**-.22**	**-.22**	**.16**	**.19**	**.18**
49. Shame3	1.2	.67	401	**-.11**	-.01	-.06	-.09	-.01	-.01	**-.15**	**-.23**	**-.10**	**-.17**	**-.22**	**-.14**	.08	.05	.07
50. Shame4	1.33	.89	399	**-.20**	-.04	**-.12**	**-.13**	-.06	-.08	**-.23**	**-.28**	**-.14**	**-.21**	**-.21**	**-.20**	**.21**	**.16**	**.18**
51. Shame5	1.29	.81	399	**-.15**	.03	-.08	-.09	-.03	-.04	**-.16**	**-.27**	**-.12**	**-.16**	**-.23**	**-.14**	**.20**	**.11**	**.17**
52. Shame6	1.3	.81	396	**-.25**	-.05	**-.19**	**-.18**	**-.14**	**-.13**	**-.27**	**-.35**	**-.15**	**-.20**	**-.24**	**-.22**	**.15**	**.12**	.10
53. Shame7	1.66	1.20	397	**-.27**	-.08	**-.21**	**-.24**	**-.19**	**-.20**	**-.29**	**-.43**	**-.23**	**-.28**	**-.27**	**-.24**	**.14**	**.16**	**.15**

Table 33 (cont'd)

	M	*SD*	*N*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
54. Gratitude1	3.24	1.46	399	**.34**	**.16**	**.30**	**.36**	**.26**	**.27**	**.30**	**.33**	**.23**	**.28**	**.33**	**.29**	**-.11**	-.08	**-.16**
55. Gratitude2	2.87	1.44	398	**.34**	**.22**	**.32**	**.31**	**.31**	**.24**	**.22**	**.29**	**.21**	**.24**	**.28**	**.29**	**-.10**	-.07	**-.10**
56. Gratitude3	3.81	1.25	400	**.44**	**.17**	**.38**	**.39**	**.35**	**.30**	**.37**	**.47**	**.28**	**.33**	**.39**	**.40**	**-.12**	**-.13**	**-.23**
57. Gratitude4	3.7	1.36	399	**.43**	**.22**	**.39**	**.39**	**.31**	**.28**	**.32**	**.45**	**.23**	**.33**	**.32**	**.37**	**-.11**	-.07	**-.19**
58. Anger1	1.43	.98	401	**-.25**	-.04	**-.15**	**-.17**	**-.10**	**-.12**	**-.27**	**-.29**	**-.18**	**-.27**	**-.27**	**-.25**	**.27**	**.13**	**.21**
59. Anger2	1.57	1.13	401	**-.29**	-.07	**-.18**	**-.23**	**-.16**	**-.16**	**-.27**	**-.36**	**-.20**	**-.32**	**-.32**	**-.31**	**.21**	**.12**	**.20**
60. Anger3	1.41	.95	401	**-.28**	-.02	**-.20**	**-.20**	**-.14**	**-.16**	**-.29**	**-.32**	**-.18**	**-.26**	**-.31**	**-.30**	**.18**	.07	**.20**
61. Anger4	1.49	1.03	395	**-.34**	-.07	**-.25**	**-.25**	**-.18**	**-.19**	**-.33**	**-.39**	**-.24**	**-.32**	**-.37**	**-.40**	**.19**	**.10**	**.25**
62. PA1	3.27	1.07	399	**.45**	**.33**	**.47**	**.45**	**.43**	**.38**	**.36**	**.45**	**.30**	**.28**	**.35**	**.38**	.02	.05	-.05
63. PA2	2.47	1.21	400	**.41**	**.32**	**.41**	**.38**	**.41**	**.35**	**.30**	**.36**	**.32**	**.22**	**.29**	**.35**	.05	.06	-.02
64. PA3	2.83	1.26	400	**.45**	**.35**	**.42**	**.43**	**.39**	**.35**	**.30**	**.33**	**.25**	**.25**	**.23**	**.31**	-.04	-.03	-.06
65. PA4	2.85	1.24	401	**.41**	**.26**	**.38**	**.43**	**.35**	**.35**	**.39**	**.44**	**.30**	**.31**	**.33**	**.38**	-.09	.00	**-.10**
66. PA5	2.94	1.26	400	**.50**	**.38**	**.44**	**.46**	**.41**	**.39**	**.39**	**.46**	**.29**	**.33**	**.28**	**.40**	-.09	-.01	**-.14**
67. PA6	3.16	1.21	400	**.17**	**.18**	**.16**	**.18**	**.19**	**.15**	**.12**	**.14**	**.20**	.07	.08	**.17**	.03	**.11**	.02
68. PA7	2.79	1.32	401	**.47**	**.35**	**.42**	**.46**	**.43**	**.39**	**.37**	**.43**	**.30**	**.31**	**.30**	**.39**	-.08	.01	-.08
69. PA8	3.32	1.21	400	**.41**	**.30**	**.35**	**.40**	**.34**	**.36**	**.34**	**.40**	**.24**	**.34**	**.31**	**.37**	**-.15**	-.04	**-.17**
70. PA9	3.55	1.06	400	**.29**	**.23**	**.24**	**.29**	**.23**	**.23**	**.23**	**.30**	**.18**	**.21**	**.19**	**.25**	.00	.08	-.04
71. PA10	3.07	1.13	399	**.34**	**.29**	**.33**	**.37**	**.27**	**.23**	**.33**	**.32**	**.26**	**.22**	**.22**	**.28**	.04	.06	-.04
72. NA1	1.61	.98	401	**-.23**	-.07	**-.14**	**-.14**	**-.11**	**-.12**	**-.18**	**-.29**	**-.12**	**-.21**	**-.18**	**-.17**	**.21**	**.13**	**.17**
73. NA2	1.48	.95	400	**-.26**	-.07	**-.17**	**-.19**	**-.14**	**-.11**	**-.26**	**-.36**	**-.21**	**-.29**	**-.28**	**-.22**	**.22**	**.18**	**.20**
74. NA3	1.24	.61	401	.00	.03	.04	.06	**.14**	.07	-.03	-.07	.06	-.05	-.03	-.03	.06	.00	.04
75. NA4	1.21	.59	400	**-.10**	.02	-.05	-.08	.01	-.02	**-.11**	**-.16**	-.02	**-.13**	**-.15**	**-.11**	**.17**	**.11**	**.16**
76. NA5	1.33	.79	401	**-.22**	-.02	**-.17**	**-.22**	**-.13**	**-.12**	**-.25**	**-.32**	**-.21**	**-.29**	**-.29**	**-.29**	**.22**	**.14**	**.26**
77. NA6	1.62	1.01	400	**-.31**	-.07	**-.27**	**-.26**	**-.22**	**-.22**	**-.32**	**-.34**	**-.21**	**-.32**	**-.32**	**-.31**	**.14**	**.11**	**.18**
78. NA7	1.21	.59	401	-.03	.07	.02	-.01	.08	.01	-.06	-.10	.01	-.03	-.07	-.07	.07	.00	.09
79. NA8	1.65	.96	401	**-.15**	-.07	**-.14**	**-.16**	-.08	-.07	**-.15**	**-.21**	-.10	**-.12**	**-.14**	**-.15**	**.15**	**.11**	**.11**
80. NA9	1.46	.88	401	**-.15**	-.04	**-.14**	**-.11**	-.08	-.08	**-.15**	**-.19**	-.06	**-.17**	**-.17**	**-.10**	.09	**.11**	.08
81. NA10	1.29	.72	401	-.08	.01	-.06	-.05	-.01	.00	**-.11**	**-.16**	-.04	**-.15**	**-.15**	**-.10**	**.16**	.07	**.14**

Table 33 (cont'd)

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
17. LoCRBSSup5	**.51**	-																	
18. LoCRBSSup6	**.53**	**.57**	-																
19. LMX1	-.06	**-.10**	**-.12**	-															
20. LMX2	**-.10**	**-.11**	**-.11**	**.54**	-														
21. LMX3	-.08	**-.11**	**-.10**	**.56**	**.63**	-													
22. LMX4	**-.11**	**-.13**	**-.10**	**.46**	**.58**	**.57**	-												
23. LMX5	**-.12**	-.09	**-.15**	**.40**	**.51**	**.50**	**.66**	-											
24. LMX6	**-.14**	**-.14**	**-.19**	**.44**	**.59**	**.62**	**.67**	**.61**	-										
25. LMX7	**-.13**	**-.14**	**-.16**	**.71**	**.81**	**.82**	**.83**	**.78**	**.83**	-									
26. InterpersonalJ.1	-.06	**-.12**	**-.18**	**.36**	**.44**	**.42**	**.46**	**.37**	**.49**	**.53**	-								
27. InterpersonalJ.2	**-.12**	-.07	**-.13**	**.44**	**.49**	**.47**	**.51**	**.37**	**.55**	**.59**	**.77**	-							
28. InterpersonalJ.3	**-.12**	-.07	**-.14**	**.41**	**.49**	**.51**	**.52**	**.41**	**.54**	**.61**	**.75**	**.87**	-						
29. InterpersonalJ.4	**-.12**	-.01	**-.11**	**.21**	**.24**	**.24**	**.23**	**.20**	**.28**	**.30**	**.51**	**.52**	**.54**	-					
30. InformationalJ.1	-.03	-.04	-.05	**.35**	**.47**	**.41**	**.39**	**.33**	**.41**	**.49**	**.46**	**.46**	**.50**	**.32**	-				
31. InformationalJ.2	-.06	-.08	-.06	**.37**	**.49**	**.36**	**.37**	**.31**	**.41**	**.49**	**.46**	**.49**	**.51**	**.35**	**.45**	-			
32. InformationalJ.3	-.06	**-.12**	-.06	**.36**	**.48**	**.36**	**.44**	**.32**	**.44**	**.50**	**.52**	**.55**	**.58**	**.42**	**.46**	**.69**	-		
33. InformationalJ.4	-.06	**-.12**	-.10	**.37**	**.52**	**.41**	**.45**	**.32**	**.48**	**.54**	**.50**	**.51**	**.56**	**.33**	**.50**	**.68**	**.68**	-	
34. InformationalJ.5	-.09	-.03	**-.14**	**.29**	**.43**	**.41**	**.49**	**.45**	**.48**	**.54**	**.50**	**.57**	**.62**	**.39**	**.42**	**.61**	**.57**	**.63**	-
35. Pride1	**-.11**	-.05	**-.11**	**.43**	**.51**	**.54**	**.52**	**.47**	**.53**	**.63**	**.57**	**.64**	**.69**	**.37**	**.47**	**.51**	**.52**	**.54**	**.58**
36. Pride2	**-.13**	**-.11**	**-.17**	**.43**	**.52**	**.52**	**.51**	**.43**	**.51**	**.61**	**.57**	**.67**	**.72**	**.39**	**.46**	**.51**	**.51**	**.50**	**.51**
37. Pride3	**-.19**	**-.13**	**-.14**	**.38**	**.49**	**.52**	**.49**	**.42**	**.54**	**.59**	**.56**	**.68**	**.68**	**.35**	**.45**	**.48**	**.45**	**.50**	**.54**
38. Pride4	**-.18**	**-.12**	**-.15**	**.39**	**.43**	**.47**	**.46**	**.39**	**.48**	**.55**	**.53**	**.61**	**.63**	**.34**	**.39**	**.44**	**.44**	**.45**	**.52**
39. Pride5	**-.14**	**-.18**	**-.13**	**.39**	**.45**	**.50**	**.49**	**.43**	**.55**	**.59**	**.57**	**.60**	**.63**	**.37**	**.43**	**.46**	**.49**	**.43**	**.46**
40. Pride6	**-.11**	**-.12**	**-.13**	**.42**	**.51**	**.55**	**.53**	**.47**	**.54**	**.63**	**.51**	**.57**	**.61**	**.34**	**.53**	**.50**	**.49**	**.51**	**.54**
41. Pride7	**-.19**	**-.14**	**-.14**	**.42**	**.50**	**.57**	**.48**	**.44**	**.53**	**.62**	**.51**	**.59**	**.64**	**.37**	**.44**	**.46**	**.47**	**.51**	**.52**
42. Guilt1	**.15**	**.20**	**.19**	**-.34**	**-.35**	**-.31**	**-.25**	**-.21**	**-.32**	**-.37**	**-.44**	**-.43**	**-.43**	**-.30**	**-.30**	**-.31**	**-.44**	**-.38**	**-.32**
43. Guilt2	**.14**	**.12**	**.14**	**-.35**	**-.40**	**-.33**	**-.32**	**-.25**	**-.35**	**-.42**	**-.46**	**-.51**	**-.52**	**-.37**	**-.34**	**-.37**	**-.46**	**-.40**	**-.45**
44. Guilt3	**.11**	**.11**	**.15**	**-.36**	**-.37**	**-.34**	**-.27**	**-.23**	**-.32**	**-.39**	**-.36**	**-.49**	**-.45**	**-.28**	**-.31**	**-.37**	**-.38**	**-.35**	**-.37**
45. Guilt4	.03	.07	.04	**-.29**	**-.19**	**-.22**	**-.16**	-.07	**-.20**	**-.23**	**-.22**	**-.37**	**-.30**	**-.20**	**-.20**	**-.27**	**-.36**	**-.31**	**-.21**

Table 33 (cont'd)

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
46. Guilt5	.07	.09	.09	**-.32**	**-.30**	**-.28**	**-.22**	**-.20**	**-.28**	**-.33**	**-.35**	**-.44**	**-.38**	**-.26**	**-.21**	**-.28**	**-.31**	**-.33**	**-.26**
47. Shame1	**.13**	.10	**.15**	**-.41**	**-.25**	**-.28**	**-.24**	**-.18**	**-.32**	**-.35**	**-.38**	**-.54**	**-.46**	**-.34**	**-.28**	**-.36**	**-.43**	**-.37**	**-.31**
48. Shame2	**.17**	**.16**	**.16**	**-.36**	**-.36**	**-.36**	**-.34**	**-.24**	**-.36**	**-.42**	**-.41**	**-.52**	**-.58**	**-.34**	**-.38**	**-.41**	**-.45**	**-.42**	**-.43**
49. Shame3	.07	.06	**.10**	**-.33**	**-.16**	**-.22**	**-.21**	**-.14**	**-.24**	**-.27**	**-.33**	**-.45**	**-.43**	**-.35**	**-.22**	**-.25**	**-.40**	**-.32**	**-.23**
50. Shame4	**.18**	**.14**	**.23**	**-.29**	**-.30**	**-.28**	**-.30**	**-.24**	**-.37**	**-.37**	**-.36**	**-.51**	**-.49**	**-.31**	**-.30**	**-.30**	**-.37**	**-.37**	**-.35**
51. Shame5	**.16**	**.16**	**.21**	**-.25**	**-.25**	**-.22**	**-.26**	**-.23**	**-.33**	**-.32**	**-.36**	**-.51**	**-.48**	**-.36**	**-.26**	**-.26**	**-.41**	**-.30**	**-.34**
52. Shame6	**.12**	.09	**.14**	**-.28**	**-.29**	**-.31**	**-.28**	**-.22**	**-.31**	**-.35**	**-.43**	**-.53**	**-.55**	**-.40**	**-.32**	**-.31**	**-.37**	**-.37**	**-.37**
53. Shame7	**.14**	.07	**.18**	**-.29**	**-.37**	**-.38**	**-.30**	**-.31**	**-.41**	**-.43**	**-.39**	**-.51**	**-.55**	**-.32**	**-.38**	**-.36**	**-.40**	**-.38**	**-.45**
54. Gratitude1	**-.12**	-.08	-.10	**.29**	**.40**	**.38**	**.40**	**.39**	**.43**	**.48**	**.39**	**.43**	**.48**	**.27**	**.35**	**.32**	**.38**	**.34**	**.38**
55. Gratitude2	-.08	-.03	-.09	**.24**	**.34**	**.36**	**.37**	**.41**	**.37**	**.44**	**.35**	**.40**	**.44**	**.20**	**.33**	**.35**	**.38**	**.36**	**.42**
56. Gratitude3	**-.13**	-.08	**-.10**	**.38**	**.50**	**.49**	**.49**	**.46**	**.54**	**.60**	**.56**	**.64**	**.67**	**.39**	**.48**	**.53**	**.51**	**.53**	**.60**
57. Gratitude4	**-.12**	-.06	-.07	**.35**	**.48**	**.45**	**.46**	**.46**	**.54**	**.58**	**.53**	**.58**	**.61**	**.36**	**.45**	**.41**	**.49**	**.49**	**.52**
58. Anger1	**.23**	**.16**	**.23**	**-.25**	**-.29**	**-.34**	**-.37**	**-.32**	**-.40**	**-.41**	**-.39**	**-.51**	**-.48**	**-.35**	**-.30**	**-.33**	**-.40**	**-.38**	**-.38**
59. Anger2	**.23**	**.14**	**.23**	**-.33**	**-.36**	**-.36**	**-.36**	**-.33**	**-.43**	**-.45**	**-.45**	**-.53**	**-.52**	**-.39**	**-.29**	**-.35**	**-.42**	**-.40**	**-.40**
60. Anger3	**.16**	**.13**	**.21**	**-.28**	**-.35**	**-.34**	**-.37**	**-.31**	**-.44**	**-.44**	**-.50**	**-.55**	**-.50**	**-.37**	**-.33**	**-.37**	**-.44**	**-.44**	**-.44**
61. Anger4	**.21**	**.18**	**.23**	**-.32**	**-.39**	**-.36**	**-.39**	**-.32**	**-.48**	**-.48**	**-.47**	**-.56**	**-.53**	**-.34**	**-.36**	**-.41**	**-.48**	**-.43**	**-.43**
62. PA1	-.01	.05	.02	**.31**	**.44**	**.42**	**.47**	**.47**	**.51**	**.55**	**.44**	**.47**	**.51**	**.24**	**.40**	**.40**	**.38**	**.43**	**.52**
63. PA2	.04	**.10**	.06	**.21**	**.32**	**.27**	**.34**	**.37**	**.35**	**.39**	**.25**	**.28**	**.35**	**.11**	**.31**	**.32**	**.28**	**.36**	**.43**
64. PA3	-.04	.03	-.04	**.31**	**.35**	**.40**	**.41**	**.41**	**.39**	**.47**	**.32**	**.32**	**.37**	**.16**	**.30**	**.35**	**.28**	**.34**	**.44**
65. PA4	.02	.04	-.03	**.32**	**.46**	**.41**	**.46**	**.45**	**.48**	**.54**	**.35**	**.42**	**.47**	**.15**	**.34**	**.38**	**.36**	**.45**	**.48**
66. PA5	-.06	-.02	-.07	**.37**	**.49**	**.47**	**.53**	**.50**	**.55**	**.61**	**.40**	**.47**	**.51**	**.24**	**.40**	**.37**	**.39**	**.44**	**.50**
67. PA6	.04	.03	-.05	**.18**	**.13**	**.14**	**.17**	**.16**	.09	**.18**	.00	.04	.03	.04	.12	.13	.05	**.13**	**.11**
68. PA7	-.01	.04	-.05	**.34**	**.47**	**.46**	**.47**	**.45**	**.49**	**.56**	**.37**	**.40**	**.46**	**.23**	**.34**	**.40**	**.35**	**.44**	**.50**
69. PA8	-.06	-.04	-.09	**.39**	**.38**	**.43**	**.42**	**.40**	**.42**	**.51**	**.31**	**.37**	**.41**	**.20**	**.30**	**.35**	**.34**	**.37**	**.36**
70. PA9	.04	.02	-.01	**.33**	**.32**	**.36**	**.39**	**.35**	**.34**	**.43**	**.26**	**.32**	**.30**	**.22**	**.26**	**.26**	**.29**	**.32**	**.31**
71. PA10	.07	.07	.03	**.26**	**.30**	**.28**	**.30**	**.27**	**.28**	**.36**	**.16**	**.25**	**.26**	**.13**	**.26**	**.30**	**.23**	**.27**	**.29**

Table 33 (cont'd)

	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
72. NA1	**.11**	**.14**	**.17**	**-.34**	**-.37**	**-.32**	**-.34**	**-.30**	**-.46**	**-.44**	**-.54**	**-.56**	**-.55**	**-.35**	**-.28**	**-.37**	**-.45**	**-.35**	**-.42**
73. NA2	**.16**	**.11**	**.19**	**-.30**	**-.36**	**-.36**	**-.36**	**-.30**	**-.44**	**-.44**	**-.50**	**-.57**	**-.60**	**-.41**	**-.32**	**-.35**	**-.49**	**-.41**	**-.43**
74. NA3	-.02	.08	.06	**-.26**	**-.15**	**-.13**	**-.14**	-.06	**-.19**	**-.19**	**-.29**	**-.34**	**-.29**	**-.23**	**-.15**	**-.21**	**-.32**	**-.21**	**-.12**
75. NA4	**.13**	**.10**	**.16**	**-.28**	**-.21**	**-.22**	**-.23**	**-.16**	**-.31**	**-.29**	**-.38**	**-.44**	**-.43**	**-.32**	**-.21**	**-.29**	**-.36**	**-.30**	**-.28**
76. NA5	**.17**	**.17**	**.23**	**-.24**	**-.34**	**-.32**	**-.38**	**-.28**	**-.44**	**-.42**	**-.54**	**-.55**	**-.53**	**-.40**	**-.31**	**-.39**	**-.45**	**-.43**	**-.40**
77. NA6	.10	.10	**.14**	**-.33**	**-.43**	**-.40**	**-.41**	**-.34**	**-.48**	**-.50**	**-.61**	**-.65**	**-.65**	**-.35**	**-.37**	**-.48**	**-.51**	**-.54**	**-.53**
78. NA7	-.01	.05	.08	**-.21**	**-.19**	**-.16**	**-.19**	-.08	**-.20**	**-.21**	**-.35**	**-.44**	**-.35**	**-.29**	**-.23**	**-.30**	**-.34**	**-.31**	**-.21**
79. NA8	.08	.08	**.11**	**-.31**	**-.37**	**-.27**	**-.32**	**-.23**	**-.35**	**-.38**	**-.42**	**-.47**	**-.48**	**-.32**	**-.28**	**-.37**	**-.41**	**-.33**	**-.36**
80. NA9	.08	.09	**.12**	**-.24**	**-.27**	**-.26**	**-.27**	**-.19**	**-.31**	**-.32**	**-.39**	**-.44**	**-.47**	**-.32**	**-.27**	**-.24**	**-.35**	**-.32**	**-.29**
81. NA10	**.12**	**.11**	**.17**	**-.25**	**-.22**	**-.19**	**-.24**	**-.19**	**-.28**	**-.28**	**-.36**	**-.42**	**-.42**	**-.32**	**-.24**	**-.27**	**-.38**	**-.28**	**-.25**

Table 33 (cont'd)

	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
36. Pride2	**.82**	-																	
37. Pride3	**.78**	**.81**	-																
38. Pride4	**.75**	**.75**	**.81**	-															
39. Pride5	**.72**	**.74**	**.72**	**.76**	-														
40. Pride6	**.75**	**.73**	**.73**	**.64**	**.68**	-													
41. Pride7	**.78**	**.73**	**.72**	**.70**	**.66**	**.74**	-												
42. Guilt1	**-.44**	**-.44**	**-.47**	**-.47**	**-.41**	**-.41**	**-.44**	-											
43. Guilt2	**-.51**	**-.51**	**-.54**	**-.51**	**-.44**	**-.46**	**-.51**	**.83**	-										
44. Guilt3	**-.44**	**-.47**	**-.49**	**-.45**	**-.37**	**-.41**	**-.43**	**.68**	**.68**	-									
45. Guilt4	**-.25**	**-.25**	**-.23**	**-.25**	**-.22**	**-.20**	**-.27**	**.48**	**.40**	**.58**	-								
46. Guilt5	**-.38**	**-.40**	**-.42**	**-.42**	**-.31**	**-.28**	**-.40**	**.56**	**.54**	**.60**	**.62**	-							
47. Shame1	**-.46**	**-.48**	**-.48**	**-.51**	**-.45**	**-.36**	**-.44**	**.63**	**.60**	**.56**	**.55**	**.68**	-						
48. Shame2	**-.50**	**-.53**	**-.55**	**-.54**	**-.44**	**-.46**	**-.52**	**.60**	**.61**	**.61**	**.52**	**.56**	**.64**	-					
49. Shame3	**-.38**	**-.37**	**-.35**	**-.38**	**-.33**	**-.28**	**-.38**	**.52**	**.48**	**.43**	**.50**	**.55**	**.71**	**.60**	-				
50. Shame4	**-.46**	**-.45**	**-.51**	**-.48**	**-.39**	**-.38**	**-.48**	**.59**	**.58**	**.57**	**.44**	**.57**	**.69**	**.64**	**.71**	-			
51. Shame5	**-.46**	**-.46**	**-.47**	**-.47**	**-.43**	**-.36**	**-.47**	**.59**	**.57**	**.57**	**.42**	**.53**	**.68**	**.59**	**.73**	**.77**	-		
52. Shame6	**-.52**	**-.53**	**-.54**	**-.51**	**-.40**	**-.37**	**-.51**	**.56**	**.58**	**.47**	**.37**	**.51**	**.66**	**.65**	**.69**	**.73**	**.66**	-	
53. Shame7	**-.53**	**-.54**	**-.58**	**-.53**	**-.43**	**-.51**	**-.54**	**.57**	**.61**	**.63**	**.39**	**.47**	**.56**	**.66**	**.50**	**.63**	**.62**	**.64**	-
54. Gratitude1	**.49**	**.48**	**.45**	**.41**	**.45**	**.48**	**.51**	**-.29**	**-.30**	**-.27**	-.10	**-.17**	**-.24**	**-.30**	**-.21**	**-.28**	**-.27**	**-.26**	**-.34**
55. Gratitude2	**.49**	**.47**	**.43**	**.38**	**.37**	**.49**	**.49**	**-.22**	**-.27**	**-.24**	**-.11**	**-.18**	**-.21**	**-.26**	**-.14**	**-.23**	**-.23**	**-.23**	**-.32**
56. Gratitude3	**.75**	**.72**	**.76**	**.65**	**.64**	**.72**	**.72**	**-.43**	**-.50**	**-.45**	**-.22**	**-.31**	**-.40**	**-.48**	**-.29**	**-.41**	**-.40**	**-.41**	**-.55**
57. Gratitude4	**.66**	**.61**	**.65**	**.57**	**.57**	**.63**	**.62**	**-.41**	**-.46**	**-.39**	**-.19**	**-.30**	**-.38**	**-.40**	**-.27**	**-.37**	**-.38**	**-.35**	**-.52**
58. Anger1	**-.48**	**-.45**	**-.48**	**-.43**	**-.41**	**-.38**	**-.40**	**.52**	**.52**	**.51**	**.44**	**.42**	**.52**	**.48**	**.42**	**.60**	**.56**	**.53**	**.54**
59. Anger2	**-.55**	**-.52**	**-.54**	**-.49**	**-.43**	**-.42**	**-.51**	**.58**	**.63**	**.58**	**.38**	**.54**	**.59**	**.59**	**.54**	**.65**	**.62**	**.62**	**.63**
60. Anger3	**-.49**	**-.49**	**-.51**	**-.46**	**-.43**	**-.40**	**-.43**	**.51**	**.57**	**.50**	**.32**	**.45**	**.52**	**.47**	**.48**	**.57**	**.52**	**.55**	**.52**
61. Anger4	**-.55**	**-.55**	**-.53**	**-.48**	**-.48**	**-.45**	**-.48**	**.55**	**.61**	**.55**	**.33**	**.49**	**.59**	**.56**	**.47**	**.58**	**.55**	**.57**	**.57**

Table 33 (cont'd)

	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
62. PA1	**.57**	**.52**	**.52**	**.46**	**.47**	**.58**	**.57**	**-.24**	**-.32**	**-.21**	-.10	**-.18**	**-.23**	**-.30**	**-.20**	**-.24**	**-.22**	**-.27**	**-.34**
63. PA2	**.46**	**.39**	**.39**	**.32**	**.31**	**.50**	**.41**	**-.11**	**-.21**	**-.11**	-.03	-.07	**-.11**	**-.16**	-.06	**-.11**	-.10	**-.12**	**-.21**
64. PA3	**.50**	**.45**	**.44**	**.42**	**.39**	**.52**	**.47**	**-.17**	**-.24**	**-.16**	-.08	**-.13**	**-.14**	**-.20**	-.07	**-.17**	**-.12**	**-.13**	**-.26**
65. PA4	**.55**	**.49**	**.49**	**.44**	**.43**	**.53**	**.53**	**-.22**	**-.32**	**-.23**	**-.11**	**-.16**	**-.21**	**-.28**	**-.13**	**-.25**	**-.20**	**-.22**	**-.32**
66. PA5	**.58**	**.53**	**.57**	**.49**	**.48**	**.67**	**.59**	**-.26**	**-.35**	**-.25**	**-.12**	**-.21**	**-.25**	**-.30**	**-.15**	**-.26**	**-.21**	**-.23**	**-.37**
67. PA6	**.12**	**.15**	**.15**	**.16**	**.13**	**.16**	**.16**	-.02	-.02	.01	.07	.00	-.06	.01	-.04	-.01	.02	-.01	.02
68. PA7	**.53**	**.50**	**.50**	**.44**	**.42**	**.53**	**.54**	**-.25**	**-.29**	**-.22**	-.06	**-.18**	**-.19**	**-.25**	**-.10**	**-.20**	**-.16**	**-.20**	**-.31**
69. PA8	**.45**	**.46**	**.45**	**.45**	**.45**	**.45**	**.51**	**-.27**	**-.30**	**-.22**	**-.11**	**-.22**	**-.26**	**-.26**	**-.20**	**-.23**	**-.24**	**-.23**	**-.27**
70. PA9	**.38**	**.39**	**.36**	**.34**	**.36**	**.36**	**.38**	**-.20**	**-.24**	**-.14**	**-.11**	**-.16**	**-.22**	**-.22**	**-.23**	**-.20**	**-.21**	**-.22**	**-.21**
71. PA10	**.38**	**.36**	**.33**	**.32**	**.31**	**.42**	**.36**	**-.11**	**-.13**	-.08	-.04	-.05	-.11	-.08	-.09	-.08	-.06	-.11	**-.17**
72. NA1	**-.51**	**-.52**	**-.57**	**-.53**	**-.51**	**-.43**	**-.45**	**.54**	**.59**	**.57**	**.34**	**.47**	**.51**	**.54**	**.37**	**.53**	**.47**	**.48**	**.55**
73. NA2	**-.54**	**-.55**	**-.55**	**-.48**	**-.51**	**-.46**	**-.47**	**.57**	**.63**	**.53**	**.36**	**.42**	**.54**	**.51**	**.49**	**.62**	**.54**	**.58**	**.61**
74. NA3	**-.21**	**-.28**	**-.24**	**-.23**	**-.28**	**-.19**	**-.16**	**.47**	**.39**	**.39**	**.44**	**.41**	**.54**	**.37**	**.46**	**.46**	**.41**	**.41**	**.39**
75. NA4	**-.34**	**-.38**	**-.40**	**-.39**	**-.35**	**-.33**	**-.34**	**.51**	**.48**	**.45**	**.43**	**.47**	**.58**	**.48**	**.56**	**.55**	**.55**	**.52**	**.46**
76. NA5	**-.47**	**-.51**	**-.51**	**-.45**	**-.51**	**-.44**	**-.43**	**.50**	**.53**	**.44**	**.27**	**.43**	**.49**	**.46**	**.41**	**.46**	**.45**	**.50**	**.49**
77. NA6	**-.62**	**-.61**	**-.62**	**-.54**	**-.53**	**-.55**	**-.55**	**.52**	**.59**	**.54**	**.35**	**.48**	**.50**	**.57**	**.37**	**.50**	**.44**	**.53**	**.59**
78. NA7	**-.36**	**-.42**	**-.39**	**-.38**	**-.35**	**-.28**	**-.30**	**.45**	**.42**	**.43**	**.40**	**.60**	**.62**	**.42**	**.49**	**.46**	**.52**	**.51**	**.40**
79. NA8	**-.43**	**-.46**	**-.46**	**-.46**	**-.39**	**-.38**	**-.38**	**.51**	**.49**	**.55**	**.38**	**.46**	**.48**	**.57**	**.41**	**.52**	**.47**	**.51**	**.50**
80. NA9	**-.37**	**-.42**	**-.41**	**-.41**	**-.34**	**-.36**	**-.41**	**.52**	**.46**	**.52**	**.36**	**.44**	**.45**	**.57**	**.47**	**.54**	**.54**	**.53**	**.49**
81. NA10	**-.34**	**-.39**	**-.36**	**-.37**	**-.34**	**-.30**	**-.32**	**.52**	**.48**	**.48**	**.38**	**.47**	**.57**	**.48**	**.55**	**.53**	**.57**	**.54**	**.48**

Table 33 (cont'd)

	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
55. Gratitude2	**.68**	-																
56. Gratitude3	**.58**	**.56**	-															
57. Gratitude4	**.56**	**.57**	**.80**	-														
58. Anger1	**-.35**	**-.29**	**-.41**	**-.40**	-													
59. Anger2	**-.36**	**-.32**	**-.49**	**-.45**	**.77**	-												
60. Anger3	**-.36**	**-.29**	**-.44**	**-.42**	**.76**	**.79**	-											
61. Anger4	**-.38**	**-.34**	**-.51**	**-.46**	**.71**	**.87**	**.81**	-										
62. PA1	**.41**	**.46**	**.58**	**.56**	**-.24**	**-.36**	**-.35**	**-.39**	-									
63. PA2	**.28**	**.43**	**.46**	**.46**	-.08	**-.15**	**-.16**	**-.20**	**.70**	-								
64. PA3	**.31**	**.41**	**.51**	**.49**	**-.18**	**-.22**	**-.23**	**-.24**	**.59**	**.61**	-							
65. PA4	**.44**	**.45**	**.56**	**.54**	**-.28**	**-.28**	**-.30**	**-.31**	**.67**	**.71**	**.63**	-						
66. PA5	**.41**	**.52**	**.66**	**.66**	**-.26**	**-.34**	**-.32**	**-.37**	**.70**	**.68**	**.72**	**.73**	-					
67. PA6	**.11**	**.12**	**.12**	.08	-.04	-.07	-.06	-.08	**.31**	**.28**	**.31**	**.28**	**.25**	-				
68. PA7	**.46**	**.51**	**.60**	**.58**	**-.23**	**-.31**	**-.28**	**-.32**	**.63**	**.67**	**.63**	**.72**	**.76**	**.30**	-			
69. PA8	**.34**	**.35**	**.50**	**.49**	**-.28**	**-.28**	**-.30**	**-.34**	**.55**	**.48**	**.58**	**.60**	**.62**	**.41**	**.63**	-		
70. PA9	**.25**	**.30**	**.36**	**.37**	**-.23**	**-.23**	**-.26**	**-.25**	**.46**	**.44**	**.46**	**.47**	**.47**	**.57**	**.49**	**.65**	-	
71. PA10	**.24**	**.32**	**.40**	**.34**	**-.15**	**-.14**	**-.16**	**-.20**	**.53**	**.56**	**.58**	**.54**	**.54**	**.49**	**.58**	**.60**	**.64**	-
72. NA1	**-.30**	**-.28**	**-.50**	**-.46**	**.53**	**.60**	**.61**	**.58**	**-.32**	**-.17**	**-.25**	**-.33**	**-.36**	.04	**-.30**	**-.25**	**-.19**	**-.11**
73. NA2	**-.36**	**-.32**	**-.51**	**-.45**	**.64**	**.67**	**.60**	**.64**	**-.30**	**-.15**	**-.19**	**-.31**	**-.33**	.02	**-.28**	**-.26**	**-.19**	**-.15**
74. NA3	-.08	-.02	**-.17**	**-.12**	**.38**	**.32**	**.36**	**.38**	.02	.04	-.01	-.01	-.06	-.02	-.01	-.09	**-.13**	-.05
75. NA4	**-.20**	**-.14**	**-.31**	**-.23**	**.50**	**.45**	**.50**	**.49**	**-.16**	-.05	**-.15**	**-.18**	**-.20**	.01	**-.12**	**-.19**	**-.14**	**-.12**
76. NA5	**-.33**	**-.27**	**-.46**	**-.43**	**.61**	**.63**	**.72**	**.68**	**-.31**	**-.15**	**-.19**	**-.28**	**-.30**	-.01	**-.27**	**-.28**	**-.21**	**-.14**
77. NA6	**-.39**	**-.34**	**-.58**	**-.55**	**.59**	**.63**	**.68**	**.69**	**-.43**	**-.28**	**-.29**	**-.42**	**-.42**	.01	**-.38**	**-.32**	**-.22**	**-.19**
78. NA7	**-.15**	**-.13**	**-.28**	**-.20**	**.41**	**.44**	**.46**	**.50**	-.08	.00	-.07	-.09	**-.14**	-.05	-.07	**-.18**	**-.19**	-.08
79. NA8	**-.25**	**-.20**	**-.40**	**-.34**	**.41**	**.46**	**.47**	**.45**	**-.22**	**-.14**	**-.22**	**-.26**	**-.28**	.05	**-.23**	**-.17**	**-.11**	**-.13**
80. NA9	**-.26**	**-.19**	**-.37**	**-.29**	**.42**	**.46**	**.45**	**.42**	**-.17**	-.07	**-.16**	**-.19**	**-.19**	.07	**-.17**	**-.16**	-.06	-.03
81. NA10	**-.21**	**-.17**	**-.31**	**-.27**	**.47**	**.47**	**.48**	**.50**	**-.13**	-.04	-.08	**-.12**	**-.17**	.03	-.10	**-.15**	-.10	-.08

Table 33 (cont'd)

	72	73	74	75	76	77	78	79	80	81
73. NA2	**.72**	-								
74. NA3	**.41**	**.49**	-							
75. NA4	**.53**	**.58**	**.64**	-						
76. NA5	**.61**	**.68**	**.39**	**.59**	-					
77. NA6	**.70**	**.70**	**.38**	**.49**	**.74**	-				
78. NA7	**.44**	**.46**	**.68**	**.58**	**.54**	**.49**	-			
79. NA8	**.61**	**.57**	**.52**	**.62**	**.53**	**.60**	**.46**	-		
80. NA9	**.52**	**.54**	**.48**	**.58**	**.52**	**.55**	**.43**	**.72**	-	
81. NA10	**.49**	**.60**	**.62**	**.78**	**.57**	**.48**	**.60**	**.61**	**.60**	-

Appendix P: Factor Correlation Matrix Based on Promax Rotated Maximum Likelihood Extraction Factor Analysis of Main Study Items

Table 34

Factor Correlation Matrix Based on Promax Rotated Maximum Likelihood Extraction Factor Analysis of Main Study Items

	Factor							
Factor	1	2	3	4	5	6	7	8
1	-							
2	-.61	-						
3	-.13	.51	-					
4	-.31	.53	.59	-				
5	.24	-.24	-.10	-.28	-			
6	-.40	.55	.19	.31	-.09	-		
7	.65	-.58	-.26	-.45	.30	-.43	-	
8	-.52	.63	.28	.34	-.19	.52	-.50	-

Note. Pairwise deletion was used, item *Ns*=395-453.

This table shows the factor intercorrelations. The largest correlation was between the guilt/ shame factor and anger factor (factors 1 and 7, *r*=.65). The weakest correlation was between the supervisor-attributed locus of causality for RBS factor and the informational justice factor (i.e., factors 5 and 6, *r*=-.09).

Several other moderately-sized correlations (i.e. *r*s=.40-.60) emerged between factors. The guilt/shame factor (factor 1) showed negative relationships with the positive emotions (factor 2, *r*=-.61), informational justice (factor 6, *r*=-.40), and interpersonal justice factors (factor 8, *r*=-.52). The positive emotion factor (factor 2) exhibited positive relationships with the LMXSC (factor 3; *r*=.51), self-attributed locus of causality for RBS (factor 4; *r*=.53), informational justice (factor 6; *r*=.55), and interpersonal justice factors (factor 8, *r*=.63), and negative relationships with the anger factor (factor 7; *r*=-.58). The LMXSC factor (factor 3) showed a positive relationships with the self-attributed locus of causality for RBS factor (factor 4; *r*=.59). The self-attributed locus of causality for RBS factor (factor 4) also showed a

moderately-sized negative relationship with the anger factor (factor 7; *r*=-.45). The informational justice factor (factor 6) was negatively related to the anger factor (factor 7; *r*=-.43), and a positively related to the interpersonal justice factor (factor 8; *r*=.52). The anger and interpersonal justice factors were negatively related (factors 8 and 9; *r*=-.50).

Appendix Q: Factor Correlation Matrix Based on Promax Rotated Maximum Likelihood Extraction Factor Analysis of Main Study Predictor Items

Table 35

Factor Correlation Matrix Based on Promax Rotated Maximum Likelihood Extraction Factor Analysis of Main Study Predictor Items

	Factor			
Factor	1	2	3	4
1	-			
2	.62	-		
3	-.10	-.30	-	
4	.38	.43	-.23	-

Note. Pairwise deletion was applied, item *Ns*=399-453.

This table shows the factor correlations. The highest correlation emerged between the LMXSC and self-attributed locus of causality for RBS factors (factors 1 and 2 ; *r*=.62), indicating that participants who perceived they have a relatively better quality relationship with the supervisor than their peers were also more likely to view their relationship quality with their supervisor as driven by their own actions. Self-attributed locus of causality was also positively related to interpersonal justice (factors 2 and 4, *r*=.43), indicating those who perceive interactions with the supervisor as considerate also tended to think their actions and characteristics heavily influenced their relationship quality with the supervisor.

Appendix R: Descriptive Statistics of All Main Study Items by Race/Ethnicity

Table 36

Descriptive Statistics of All Main Study Items by Race/Ethnicity

	White N=340/290		Black N=30/26		Asian-PI N=38/33		Multiracial N=16/15		Hispanic N=25/22		Total N=449/386	
	M	*SD*	***M***	*SD*	***M***	*SD*	***M***	*SD*	***M***	*SD*	***M***	*SD*
LMXSC	**4.09**	1.40	**4.01**	1.17	**4.09**	1.08	**4.20**	1.44	**4.41**	1.21	**4.11**	1.35
LoC for RBS Self	**3.49**	.76	**3.62**	.80	**3.50**	.57	**3.48**	1.05	**3.41**	.74	**3.49**	.76
LoC for RBS Supervisor	**3.38**	.69	**3.54**	.78	**3.44**	.63	**3.71**	.66	**3.33**	.78	**3.40**	.70
LMX	**3.59**	.85	**3.51**	.85	**3.36**	.71	**3.39**	.93	**3.81**	.73	**3.57**	.83
Interpersonal J.	**4.32**	.77	**4.41**	.66	**4.27**	.64	**4.35**	.68	**4.33**	.83	**4.32**	.75
Informational J.	**3.86**	.79	**4.02**	.89	**3.86**	.82	**3.97**	.62	**3.91**	.79	**3.88**	.79
Pride	**4.00**	1.03	**3.93**	1.12	**3.96**	.83	**4.10**	.73	**4.15**	1.08	**4.00**	1.01
Guilt	**1.49**	.81	**1.52**	.78	**1.36**	.71	**1.51**	.82	**1.55**	.88	**1.49**	.80
Shame	**1.37**	.74	**1.28**	.49	**1.24**	.62	**1.46**	1.04	**1.60**	1.09	**1.37**	.76
Gratitude	**3.36**	1.20	**3.59**	1.15	**3.19**	1.06	**3.95**	1.05	**3.51**	1.13	**3.40**	1.18
Anger	**1.49**	.94	**1.27**	.66	**1.22**	.70	**1.42**	1.05	**1.74**	1.29	**1.46**	.93
Positive Affect	**3.00**	.94	**3.12**	1.09	**2.78**	.84	**3.23**	.82	**3.15**	.82	**3.01**	.93
Negative Affect	**1.41**	.61	**1.28**	.53	**1.28**	.46	**1.68**	1.04	**1.50**	.87	**1.41**	.64

Note. N listed first reflects the N for measures used in the first survey (LMXSC-LMX), N listed second reflects the N for measures used in the second survey (Interpersonal Justice-Negative Affect). Asian-PI=Asian and Pacific Islander. LMXSC was rated on a 7-point Likert scale; all other scales were rated on a 5-point Likert scale. LMXSC was rated on a 7-point Likert scale; all other scales were rated on a 5-point Likert scale. No mean differences were found across groups.

Appendix S: Descriptive Statistics of All Main Study Items by Workgroup Size

Table 37

Descriptive Statistics of All Main Study Items by Workgroup Size

		1-3 Peers *N*=44-51	4-10 Peers *N*=180-208	10-20 Peers *N*=99-116	20-60 Peers *N*=52-61	60 or more Peers *N*=14-17	Mean differences
LMXSC	***M***	**4.34**	**4.21**	**3.87**	**4.14**	**3.94**	***F*(4,447)=1.63, *p*=.17**
	SD	1.27	1.35	1.32	1.34	1.68	
Self-attributed Locus of Causality for RBS	***M***	**3.42**	**3.55**	**3.47**	**3.51**	**3.15**	***F*(4,448)=1.36, *p*=.25**
	SD	.79	.72	.79	.73	.99	
Supervisor-attributed Locus of Causality for RBS	***M***	**3.30**	**3.44**	**3.40**	**3.30**	**3.63**	***F*(4,448)=1.23, *p*=.30**
	SD	.69	.70	.71	.66	.69	
LMX	***M***	**3.64**	**3.63**	**3.46**	**3.62**	**3.14**	***F*(4,448)=2.07, *p*=.08**
	SD	.82	.82	.86	.77	1.07	
Interpersonal Justice	***M***	**4.42**	**4.31**	**4.29**	**4.41**	**4.04**	***F*(4, 384)=.98, *p*=.42**
	SD	.81	.73	.80	.68	.63	
Informational Justice	***M***	**3.82**	**3.97**	**3.74**	**3.95**	**3.56**	***F*(4,384)=2.12, *p*=.08**
	SD	.77	.78	.78	.74	1.01	
Pride	***M***	**4.07**	**4.08**	**3.88**	**3.96**	**3.84**	***F*(4, 384)=.83, *p*=.51**
	SD	1.01	.94	1.07	1.07	1.07	
Guilt	***M***	**1.40**	**1.41**	**1.61**	**1.45**	**2.10**	***F*(4,383)=3.30, *p*=.01**
	SD	.72	.71	.95	.66	1.16	
Shame	***M***	**1.27**	**1.35**	**1.51**	**1.18**	**1.68**	***F*(4,384)=2.49, *p*=.04**
	SD	.54	.73	.94	.35	1.07	
Gratitude	***M***	**3.46**	**3.45**	**3.34**	**3.37**	**3.00**	***F*(4,384)=.60, *p*=.67**
	SD	1.20	1.11	1.21	1.26	1.43	

Table 37 (cont'd)

Anger	***M***	**1.34**	**1.45**	**1.55**	**1.33**	**2.03**	***F*(4,384)=2.00, *p*=.09**
	SD	.77	.91	1.04	.73	1.31	
PA	***M***	**2.92**	**3.11**	**2.94**	**2.89**	**2.99**	***F*(4,384)=.98, *p*=.42**
	SD	.92	.93	.93	.87	1.17	
NA	***M***	**1.30**	**1.39**	**1.53**	**1.29**	**1.52**	***F*(4,384)=1.90, *p*=.11**
	SD	.42	.62	.81	.39	.61	

Appendix T: Descriptive Statistics of All Main Study Items by Supervisor Relationship Tenure

Table 38

Descriptive Statistics of All Main Study Items by Supervisor Relationship Tenure

		0-6 mo. *N*=36-43	6-12 mo. *N*=42-47	1-2 years *N*=71-85	2-5 years *N*=140-162	5+ years *N*=73-83	Mean differences
LMXSC	***M***	**3.72**	**3.80**	**4.07**	**4.30**	**4.33**	***F*(4,415)=2.82, *p*=.03**
	SD	1.18	1.49	1.19	1.35	1.48	
Self-attributed Locus of Causality for RBS	***M***	**3.34**	**3.35**	**3.51**	**3.57**	**3.52**	***F*(4,416)=1.32, *p*=.26**
	SD	.85	.98	.65	.71	.76	
Supervisor-attributed Locus of Causality for RBS	***M***	**3.38**	**3.60**	**3.36**	**3.39**	**3.40**	***F*(4,416)=.98, *p*=.42**
	SD	.71	.72	.60	.75	.69	
LMX	***M***	**3.33**	**3.33**	**3.42**	**3.63**	**3.87**	***F*(4,416)=5.63, *p*<.01**
	SD	.95	1.02	.75	.79	.77	
Interpersonal Justice	***M***	**4.55**	**4.08**	**4.20**	**4.37**	**4.40**	***F*(4,357)=2.79, *p*=.03**
	SD	.54	1.02	.68	.71	.71	
Informational Justice	***M***	**4.03**	**3.78**	**3.78**	**3.88**	**3.95**	***F*(4,357)=.95, *p*=.44**
	SD	.70	.97	.78	.74	.77	
Pride	***M***	**4.08**	**3.91**	**3.79**	**4.04**	**4.15**	***F*(4,357)=1.36, *p*=.25**
	SD	.90	1.19	1.03	1.00	.95	
Guilt	***M***	**1.33**	**1.62**	**1.51**	**1.50**	**1.43**	***F*(4,356)=.72, *p*=.58**
	SD	.64	.87	.83	.81	.79	
Shame	***M***	**1.22**	**1.52**	**1.37**	**1.35**	**1.38**	***F*(4,357)=.84, *p*=.50**
	SD	.40	.86	.70	.70	.92	
Gratitude	***M***	**3.45**	**3.48**	**3.04**	**3.46**	**3.68**	***F*(4,357)=2.94, *p*=.02**
	SD	1.12	1.32	1.20	1.15	1.06	
Anger	***M***	**1.26**	**1.62**	**1.53**	**1.45**	**1.40**	***F*(4,357)=.90, *p*=.46**
	SD	.56	1.19	.94	.92	.85	
PA	***M***	**2.92**	**3.08**	**2.78**	**3.06**	**3.22**	***F*(4,357)=2.23, *p*=.07**
	SD	.83	1.00	.83	1.00	.87	
NA	***M***	**1.23**	**1.53**	**1.45**	**1.42**	**1.34**	***F*(4,357)=1.45, *p*=.22**
	SD	.30	.76	.56	.66	.63	

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