Unpacking The Give And Take Of Social Exchange: Three Essays Concerning The Influence Of Social Exchange Contributions And Receipts In Team Member And Negotiation Relationships

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UNPACKING THE GIVE AND TAKE OF SOCIAL EXCHANGE: 
THREE ESSAYS CONCERNING THE INFLUENCE OF 
SOCIAL EXCHANGE CONTRIBUTIONS AND RECEIPTS IN 
TEAM MEMBER AND NEGOTIATION RELATIONSHIPS 

BY 

Alexander James (A.J.) Corner 

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree 

Of 

Doctor of Philosophy 

In the Robinson College of Business 

Of 

Georgia State University 

GEORGIA STATE UNIVERSITY 
ROBINSON COLLEGE OF BUSINESS 
2018
ACCEPTANCE

This dissertation was prepared under the direction of Alexander James (A.J.) Corner’s Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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ABSTRACT

UNPACKING THE GIVE AND TAKE OF SOCIAL EXCHANGE:
THREE ESSAYS CONCERNING THE INFLUENCE OF
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TEAM MEMBER AND NEGOTIATION RELATIONSHIPS

BY

ALEXANDER JAMES (A.J.) CORNER

2018

Committee Chair: Dr. Nikos Dimotakis & Dr. Lisa Schurer Lambert

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In this dissertation, I examine the social exchange relationships inherent in group settings. These relationships rely on a series of contributions and receipts between individual participants – the give and take of social exchange. I propose that by examining the interactive effects of individual social exchange contributions and receipts, we can more accurately conceptualize and measure interpersonal dynamics in team and negotiation contexts. Although social exchange theory was developed with both sides of the exchange in mind, researchers generally combine contributions and receipts into overall relationship quality. As such, they fail to acknowledge that individuals evaluate the quality of their relationships via the pattern of contributions and receipts. The purpose of my dissertation is to improve the understanding and prediction of individual responses to social exchange interactions in diverse organizational and cultural circumstances. I conduct empirical studies in domestic and global teams contexts, as well as developing a process model related to the negotiation setting. In sum, I contribute to the management literature by refining our theoretical understanding of social exchange dynamics and by providing practical advice for improving teamwork and negotiation outcomes.
DEDICATION

In loving memory of my mother, Norma Corner (1948 - 2018).

Thank you for your constant love, support, and encouragement. You raised me to be inquisitive about the world around me, taught me to think independently and critically, and emphasized the importance of people and relationships. Your influence will always be present in my life, my research, and my teaching.
ACKNOWLEDGMENTS

It takes a village to make it through a PhD program and complete a dissertation. I am truly grateful to the many people who were part of my journey.

First and foremost, I would like to thank my wife and soulmate, Alexandra Mastro. This is a shared achievement, and it was only possible due to the strength of our partnership. We have been in this together throughout, from your willingness to embark on the adventure, to navigating the highs and lows along the way. We make a perfect team, and I’m so excited about the future after adding our daughter Emilia and our dog Sasha to our family roster in Atlanta.

Second, I will forever appreciate the impact of my mum and dad, Norma and Brian Corner. You are wonderful role models, personally and professionally. You passed your passion for education onto me, and provided countless opportunities for me to learn and grow. Your marriage and parenting are an inspiration to me.

Third, I would like to express my gratitude to my in-laws, Claudia Skylar and James Mastro. Thank you for creating Alix, and for being such caring and involved grandparents.

Fourth, I am immensely thankful to my dissertation committee members for all of their guidance and advice. I am fortunate to have worked with such outstanding scholars since day one of my PhD. Nikos – thank you especially for your mentorship on all topics, for being so accessible and approachable, and for striking the right balance between challenging and supporting. Lisa, Leigh Anne, and Ed – thank you for your engagement, training, and friendship.

Finally, thanks to all – professors, advisors, co-authors, colleagues, students, peers and friends – who have made so many positive and highly valued contributions throughout this experience. I wouldn’t have made it through the last five years without your help and goodwill!
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Essay 1

Unpacking the Give and Take of Team Member Exchange

Abstract

The literature on team processes and team member exchange (TMX) is based predominantly on social exchange theory and the norm of reciprocity. In line with these theories, TMX can be divided into exchange contributions (from an individual to the team) and exchange receipts (from the team to an individual). However, researchers typically ignore the theoretical foundations of TMX and combine its distinct elements into an overall measure of teamwork quality without accounting for the pattern of contributions and receipts. In this paper, I separate the give and the take of TMX to provide a more nuanced view of the way individuals experience reciprocal relationships in a team environment. In particular, I predict that TMX contributions and TMX receipts will be related to individual perceptions of team cohesion, satisfaction with the team, conflict in the team, and trust in the team. Furthermore, there will be important effects on individual and team level performance via these mediating mechanisms. I argue that we can gain more meaningful and accurate insights into an individual’s evaluation of the team by conceptualizing TMX as two variables rather than one. In this essay, I build a theoretical case for this approach and test my hypotheses using a multi-wave survey of a team-based project.
Introduction

As the use of teams in the workplace continues to grow, there is a need for researchers and managers to better understand the nature of team interactions and their relationship with individual and organizational outcomes (Banks, Batchelor, Seers, O’Boyle, Pollack, & Gower, 2014; Liao, Liu, & Loi, 2010). Teams represent an important mechanism for achieving goals, and high-quality teamwork has been found to correlate with a number of desirable consequences such as individual job performance, job satisfaction, organizational / team commitment and lower turnover intentions, as well as team knowledge-sharing, viability and performance (Banks et al., 2014; Liu, Keller, & Shih, 2011; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008; Barrick, Stewart, Neubert, & Mount, 1998). Successful teams – frequently described as high performance teams – can accomplish far more than groups of individuals in the workplace (Serrat, 2009; Schmidt, Montoya-Weiss, & Massey, 2001; Katzenbach & Smith, 1993). Team processes are widely agreed to be the key mediator between inputs and outcomes, and positive processes such as the development of productive interpersonal relationships contribute to desirable consequences (e.g. Mathieu, Maynard, Rapp, & Gilson, 2008; Ilgen, Hollenbeck, Johnson, & Jundt, 2005; Marks, Mathieu, & Zaccaro, 2001; Mathieu, Heffner, Goodwin, Salas, & Cannon-Bowers, 2000). On the other hand, negative processes like relationship conflict are linked with inferior team cohesion, weaker performance and lower team member satisfaction (De Jong, Curşeu, & Leenders, 2014; De Dreu & Weingart, 2003). It is evident that not all teams are alike, and that team dynamics can be beneficial or detrimental to important outcomes.

There has been considerable progress in team-oriented research since the 1970s, yet overall there remains a lack of conceptual refinement and clarity when it comes to crucial team processes (Banks et al, 2014). Team Member Exchange (TMX – Seers, 1989) has emerged as
one of the dominant frameworks for examining teamwork quality, and in principle it offers a strong basis for understanding the bilateral relationship between a team member and a team. However, as I outline in this paper, the way TMX has been taken forward since its introduction means that its current usage fails to account for social exchange processes. TMX can be divided into two pieces – the perceived contributions to the team by an individual team member and the perceived receipts of that individual team member from the team. Unfortunately it is rare for researchers to separate these two elements, and typical for TMX to be combined as a single measure of teamwork. This aggregated approach conflates the give and the take of teamwork, preventing us from understanding exchange patterns between an individual and the team. For example, when researchers identify ‘high TMX’, this statement is confusing because we are not sure whether it is truly a high quality relationship driven by extensive reciprocal contributions on both sides, or whether one participant could be contributing excessively in an imbalanced relationship. A detailed description of ‘high TMX contributions’ and ‘moderate TMX receipts’ is more informative because it tells us that an individual is giving a lot to the team and getting a reasonable amount back in return. The latter situation may appear to be ‘high TMX’ when combined, but the pattern of contributions is likely to be unsustainable if the individual is dissatisfied with the lack of reciprocity over the long term for example.

Although some recent studies have started to acknowledge this considerable flaw in current theory and measurement, they continue to be limited in their respective approaches. The authors of some recent articles consider variance in TMX (e.g. Farmer, Van Dyne, & Kamdar, 2013; Liao et al., 2010), but variance still represents a type of aggregation, where we cannot separate whether contributions or receipts are driving TMX. More promisingly, Ford, Wilkerson, Seers, & Moormann (2014) examine contributions and receipts as separate predictors. However,
their study is based only on simple main effects and does not consider the interplay between give and take. As such, they still do not consider the interactive effects and an individual’s evaluation of reciprocity or inequity. Social exchange relies on an ongoing series of interactions – the back and forth of interpersonal relationships – and we can only interpret teamwork quality by considering the joint influence of contributions and receipts. It is normal for people to examine the state of their relationships by comparing their investments to their returns; although equilibrium is not necessary on a short term basis, long term imbalances are likely to signal an unhealthy relationship. I argue that splitting TMX into two connected but discrete parts can contribute to the management literature by allowing us to explore the consequences of team dynamics in a more accurate manner.

In this paper, I first revisit the origins of social exchange theory (SET) and problematize our current thinking about TMX by highlighting the need to acknowledge both sides of exchange relationships. I then propose a novel approach to conceptualizing TMX in terms of contributions and receipts so that we can understand a wider range of patterns between the individual team member and the team. I posit that the management literature would benefit from a perspective that captures the complexity of team dynamics via the joint effects of TMX contributions and TMX receipts. I describe my plans to use polynomial regression methodology (Edwards & Parry, 1993) to test a conceptual model linking TMX contributions and TMX receipts with several intermediate outcomes representing individual perceptions of the team, in addition to more distal performance outcomes. I expect to contribute to the management literature in three important ways. First, with regards to theory, my use of TMX contributions and TMX receipts represents a stronger integration of SET into the teamwork literature. Second, in relation to methodology, I outline a more suitable way of measuring contributions and receipts using polynomial regression,
and apply this analytical technique to social exchange relationships for the first time. Third, on the practical side, I help managers to understand more fully how social exchange processes can explain individual experiences of the team environment.

**Theory Development**

In the following section, I start by outlining the relevant theory that helps researchers to understand the social exchange processes underlying team member relationships. I explore how teams and teamwork are defined in the management literature, highlighting the importance of SET in this context due to the reliance of teams on interpersonal interactions in the pursuit of organizational goals. Through a focused review of the existing literature about teams and social exchange, I demonstrate that we are currently ignoring the principles of SET and therefore missing the opportunity to accurately describe and model teamwork. I argue that we can improve both our theoretical and methodological rigor by tapping into the joint effects of TMX contributions and TMX receipts as two distinct variables. Dividing TMX into these separate elements is an essential step in applying the fundamental theories of social exchange appropriately to draw proper conclusions, and in uncovering how individual team members relate with their team as a collective entity.

After making the case for a new approach to analyzing teamwork based on the key tenets of SET, I develop a series of hypotheses predicting the joint influence of TMX contributions and TMX receipts on individual team member perceptions and the subsequent consequences for performance. I describe the suitability of a polynomial regression approach for considering the joint effects of TMX contributions and TMX receipts, and I predict that my perspective will be more meaningful than current methods involving aggregated TMX or TMX differentiation. If we
focus on the ‘exchange’ of TMX, we can improve our understanding of the team member experience and better represent the dynamic nature of team member relationships.

**Defining Teams and Teamwork**

As we begin to review the theories informing our present understanding of the team environment, it is important to start with a brief discussion of the meaning of teams and teamwork. Integrating the knowledge gained from prior research (e.g. Alderfer, 1977; Hackman, 1987), Kozlowski & Bell’s (2003) comprehensive definition of teams offers a firm foundation for further investigation in this field (Banks et al., 2014). They identified teams as being “a) composed of two or more individuals, (b) who exist to perform organizationally relevant tasks, (c) share one or more common goals, (d) interact socially, (e) exhibit task interdependencies, (f) maintain and manage boundaries, and (g) are embedded in an organizational context” (p.334). This definition highlights the goal-oriented workplace setting and emphasizes the social context in which teams operate.

While the concept of teamwork is less clearly defined in the literature and there is some ambiguity to its meaning (Marks et al., 2001), several definitions converge around similar themes and provide support for TMX as a useful measure of teamwork quality. Teamwork can be categorized as a set of intragroup processes – the connecting piece between inputs and outputs in the overarching IPO (Input-Process-Output) or Input-Mediator-Output-Input (IMOI) model (e.g. Ilgen et al., 2005). It refers to “the interactions that take place among team members” (Barrick et al., 1998, p.377) and is distinct from taskwork because “the success of work conducted in teams depends on how well team members collaborate, or interact” (Hoegl & Gemuenden, 2001). Marks et al. (2001) equate taskwork with the ‘what’ and teamwork with the
‘how’ of teams, and they propose teamwork processes to be “interdependent team activities that orchestrate taskwork in employees’ pursuit of goals” (p.358).

We can see that teamwork is a relatively abstract concept consisting of often intangible inputs by multiple team members. TMX enables us to gain an insight into teamwork from the perspective of an individual team member. It assesses “the member’s perception of his or her willingness to assist other members, to share ideas and feedback and in turn, how readily information, help and recognition are received from other members. Thus, the quality of the team-member exchange relationship indicates the effectiveness of the member’s working relationship to the peer group” (Seers, 1989, p.119). As we move onto an exploration of the principles behind teamwork, these definitions of teamwork help us to remain focused on the importance of individuals cooperating with fellow team members in the pursuit of shared goals.

Social Exchange Theory Fundamentals

Given that teamwork is a function of interpersonal interactions and shared objectives, the primary theoretical lens applied to teams is that of Social Exchange Theory (SET – Blau, 1964; Thibaut & Kelley, 1959; Homans, 1958). SET has been pinpointed to be “among the most influential conceptual paradigms for understanding workplace behavior” (Cropanzano & Mitchell, 2005) and sees social exchange as a series of interactions which produce norms for the relationship and generate both expectations and obligations (Emerson, 1976). In this section, I review the research informing our understanding of SET with a view to ascertaining the most important elements that should be included in any attempt to improve the teams literature. I use Table 1 to offer a brief summary of the key concepts in the main SET sources.
With regards to the range of terminology applied to SET, I opt to use exchange ‘contributions’ and ‘receipts’ in my own writing (reflective of the language used in the TMX literature), but I acknowledge and interpret the alternative wording presented in prior works. As shown in Table 1 and as explained below, contributions and receipts have variously been described as inputs and outputs, rewards and costs, and reciprocated favors, efforts or help.

SET of today is grounded in the work of social psychologists in the mid-20th century (Cropanzano & Mitchell, 2005), although the underlying concept of interpersonal interactions as a form of exchange is far older; Aristotle is sometimes credited as a pioneer due to his writings on different types of friendships (e.g. Lambe, Wittmann, & Spekman, 2001). In the 1950s and 1960s, several researchers grappled with the challenge of organizing broad ideas about exchange relationships into a formal theory explaining group dynamics. They generated numerous academic texts and each took slightly different perspectives on how a theory of social behavior as exchange should be framed. Blau’s (1964) seminal book *Exchange and Power in Social Life* is the most common citation for those describing social exchange and it has been referenced more than 20,000 times according to Google Scholar. However, it is fair to state that Blau had already begun to formulate the logic for SET in earlier publications (Blau, 1955) and that his thinking was influenced by the academic debate with other scholars of his time. We can learn many valuable lessons with direct applicability to the current study by revisiting the writings of Blau and his contemporaries.
Blau (1955) examined bureaucratic organizations from the perspective of the interpersonal relationships in their lower echelons. He found that employees were able to reduce anxiety and navigate dynamic situations due to patterns of cooperation between individuals. Building on these observations in his 1964 book, he conceived exchange as “a social process of central significance in social life” (p.4) and described it as the “voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others” (p.91). He saw social exchange underlying any relationship on the spectrum between purely extrinsic (economic transactions) and purely intrinsic (affection and love). After one person does a favor for another, there is both an expectation and an obligation for the recipient to reciprocate due to the norms of interaction and an understanding that the relationship relies on contributions by each side. Over time, this pattern of give and take leads to an ongoing mutual exchange and a social bond. Blau determined that individuals evaluate their relationships in terms of inputs and outputs and they at least wish to maintain a balance between the two. Societal norms promote reciprocity and people seek “fair exchange” (p.156) – they will judge social experiences anywhere from “gratifying success” to “frustrating failure” (p.165) based on their comparison with this expectation. Blau also acknowledged that social exchange relies on trust between the parties, that obligations are usually unspecified and may occur at a later point in time, and that social exchange contributions can take many forms (e.g. services, approval and respect).

Homans (1958) wrote a relatively short article about the exchange paradigm, in which he proposed that such a theory could create connections between disparate academic fields such as behavioral psychology and economics. He defined social behavior as “an exchange of goods” (p.606) and emphasized that these goods could be material (e.g. technical expertise) or non-
material (e.g. prestige, respect). Homans’ terminology is interesting because he used the word ‘costs’ to describe a person’s contributions and ‘rewards’ for their receipts. In conjunction with Blau’s focus on fair exchange, we can understand from Homans’ writing that people who invest a great deal in a relationship thereby incur considerable costs and expect that they will receive rewards of a similar value in return. Individuals are motivated to minimize the distress caused by excessive costs and to maximize their rewards, so the social exchange process tends towards equilibrium and a fair balance of costs and rewards.

Thibaut & Kelley (1959) focused on understanding group behavior via a theory of dyadic interdependence, seeking to identify “the ways in which the separate and joint actions of two individuals affect the quality of their lives and the survival of their relationship” (as summarized by the authors in the 1986 version of their book). They too considered rewards and costs as driving forces, but stressed the primary role of non-material aspects of exchange – the “affective consequences” of interaction. They saw more scope for diverging outcomes related to satisfaction, and subsequent decisions for individuals about whether or not to continue a relationship. In this framework, individuals are attracted to those who reward them (e.g. willing to help) and reduce their costs (e.g. keep them calm). Conversely, individuals prefer not to interact with those who do not provide rewards (e.g. withhold help) and increase their costs (e.g. cause them anxiety). Similarly to Homans (1958), Thibaut & Kelley pointed out that something as simple as positive regard or gratitude could be a valuable reward despite its non-monetary value.

The norm of reciprocity (Gouldner, 1960) is a central tenet of SET, although there is a slight difference of opinion between Gouldner and Blau (1964) on the degree of its centrality – Gouldner considers it to be the principle foundation for our social systems, whereas Blau argues
that it is one of several factors that encourage balanced social exchange relationships. Gouldner embraces Simmel’s (1950) universal assertion that “all contacts among men rest on the schema of giving and returning the equivalence” (p.387), while Blau integrates this sentiment into his theory but also leaves room for equilibrium to be stimulated by self-interest and the exchange process itself. Essentially, both authors believe in a moral norm to repay those who provide us with benefits and both authors stress that feelings of indebtedness and duty play a role in reciprocity. In its simplest form, Gouldner states that the norm of reciprocity relies on people helping – and not injuring – those who have helped them (p.171). The norm of reciprocity is undoubtedly a driving force within SET, but misunderstandings of it can be linked with a major theoretical problem in that researchers often make a mistaken assumption of constant reciprocity (Cropanzano & Mitchell, 2005). In other words, interpersonal relationships are usually based on an expectation of something approaching fair exchange, but reciprocity is not a requirement or assumption of human interaction. Grant (2013) addressed this point in his recent book *Give and Take*, noting that there are certainly ‘givers’ and ‘takers’ in the world but that most people in the workplace prefer to be ‘matchers’. We should always keep in mind that reciprocity is a norm that is frequently followed; however, it is certainly possible for the norm to be misinterpreted, ignored, or violated.

In fact, Adams (1963, 1965) developed equity theory and the concept of exchange inequity specifically on the basis that social exchange contributions might not always meet the standard of reciprocity. He commended Homans (1958), Thibaut & Kelley (1959) and Blau (1964) for bringing attention to the reciprocal nature of human relationships, and argued that a distinguishing characteristic of exchange processes is that “whenever two individuals exchange anything, there is the possibility that one or both of them will feel that the exchange was
inequitable” (Adams, 1965, p.276). He emphasized that such judgments are personal and perceptual rather than objective, but pointed to the role of “normative expectations of what constitute ‘fair’ correlations between inputs and outputs… formed – learned – during the process of socialization, at home, at school, at work.” (p.279). He indicated that individuals are likely to be sensitive to inequities of under-reward and over-reward (e.g. people may become angry due to being underpaid, or they may feel guilty if they are overpaid). Finally, he suggested that inequity will lead not only to consequences like dissatisfaction and low morale, but perhaps also to other outcomes such as negative actions towards the exchange counterparty or even leaving the exchange relationship in extreme cases.

SET has proved useful for understanding human behavior in all manner of contexts, and offers a particularly strong perspective for examining exchanges in the workplace (Cook & Rice, 2003). In the 1970s, Graen and colleagues (Dansereau, Cashman & Graen, 1973; Dansereau, Graen & Haga, 1975; Graen, 1976) used SET to develop theory and measures related to the relationship between leaders and followers, which they termed Leader Member Exchange (LMX). In contrast to prevailing theories of the time, they focus on the dyadic interactions between superiors and subordinates rather than conceptualizing leadership only in terms of the leader’s characteristics or behaviors (Gerstner & Day, 1997). LMX theory is distinctive because it challenges the ‘average leadership style’ approach and allows for differentiated relationships to develop between a leader and their followers (Graen & Uhl-Bien, 1995; Wayne, Shore, & Liden, 1997). According to LMX, we can expect leaders to build closer exchange relationships with some subordinates over time on the basis of their ongoing interactions.

More than 40 years after being introduced, LMX continues to be a popular framework for assessing leader-follower relationships – to give an idea of scale, Graen & Uhl-Bien’s (1995)
review of LMX development has been cited approximately 4,000 times, and recent meta-analyses show that LMX has already been used in hundreds of empirical studies (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016). We can find evidence of LMX predicting many important outcomes, including performance, citizenship, trust, motivation, and job satisfaction (Martin et al., 2016). At the same time, authors of reviews and meta-analyses frequently point out theoretical and methodological flaws with LMX. One of the major concerns is that LMX tends to target contributions to the relationship by the leader alone (particularly how they vary by employee) instead of contributions by both participants. In addition, LMX is typically measured from one perspective – most often the follower – so we generally collect data about follower perceptions of leader contributions.

Dulebohn et al. (2012) succinctly state that “most current LMX scales do not measure exchange, and few measure the reciprocity between the leader and the follower, although LMX is conceptualized as an exchange process based on reciprocity” (p. 1739). They and other scholars encourage researchers to return to the exchange foundations of LMX in order to increase the explanatory potential of the construct (e.g. Dienesch & Liden, 1986; Liden, Sparrowe, & Wayne, 1997; Bernerth, Armenakis, Feild, Giles, & Walker, 2007). Essentially, they emphasize that if we truly wish to examine the leader-follower exchange relationship, we need to consider the contributions of both the leader and the follower. We should keep this message in mind as we turn our attention to TMX shortly.

All things considered, the core concepts of SET – a pattern of contributions and receipts generating expectations and obligations for the future and tending towards reciprocity – have stood the test of time very well and remain relatively unscathed more than 60 years after the appearance of Blau’s first book in 1955. However the practical application of SET to workplace
relationships has proved more problematic. Reviewers of the theory (Emerson, 1976 and Cropanzano & Mitchell, 2005) note the dominance of SET as a frame of reference for organizing the logic of multiple academic fields. They acknowledge SET’s massive contribution to organizational theory, and their criticisms relate mainly to the need for greater conceptual clarity and consideration of various levels of analysis. Their concerns do not target the core concept of SET, but they worry instead that researchers have drifted away from the foundations of the theory and that poor interpretations and implementations of SET have become commonplace. They encourage researchers to further investigate and articulate the central ideas of SET, and I hope that this paper will contribute to that effort.

Based on the extensive research related to SET, we can draw some important conclusions for the team context. The publications identified above indicate first of all that social exchange is an interpersonal process consisting of a series of interactions that generate expectations and obligations for the future. We can see that SET is highly relevant to teams, where individuals need to work cooperatively towards shared goals. Furthermore, it is essential to note that social exchange can be divided into two components: contributions and receipts. Contributions can be characterized as costs to the individual or inputs into the social exchange relationship, because they represent an investment of valuable resources (including effort, emotions, competencies, and goods). Receipts can be considered as rewards to the individual or outputs from the social exchange relationship, because they represent a benefit in the form of helpful resources (such as assistance, support, guidance etc.). Over time, SET theory indicates that social exchange relationships tend towards a balance of contributions and receipts. When there is an imbalance in social exchange, it will typically lead to dissatisfaction and distress, perhaps causing individuals to exit the relationship entirely. In a team setting, this points to the potential for team members to
become disenfranchised and for teamwork to be disrupted by conflict or even departures from the team. In summary, SET offers a valuable perspective for explaining team member relationships, and we must be careful to always consider both sides of the exchange (i.e. contributions and receipts).

Team Member Exchange: Background and Current Usage

TMX emerged in the 1980s as a framework for assessing “the reciprocity between a member and the peer group” (Seers, 1989, p.119). TMX was heavily influenced by and is closely related conceptually to LMX, although it has not yet succeeded in generating the same level of academic interest and publications as LMX. For the sake of comparison, Seers’ (1989) paper introducing the construct has been cited over 600 times, and around 65 of those studies are empirical in nature. Seers (1989) initially introduced TMX as a predictor of job attitudes and performance complementary to but distinct from LMX. After all, individual employees are likely to interact with their coworkers as frequently as, if not more often than, with their manager. Seers et al. (1995) later continued to develop the TMX construct, describing it at the individual level as “the individual employee’s perception of his or her reciprocity with other team members” (p.23). Seers and colleagues clearly positioned the construct as an individual level assessment of the exchange relationship with the team as a whole.

Seers (1989) posited that TMX would be predictive of attitudes and performance outcomes over and above the effect of LMX. He developed and tested an initial 10-item scale by examining the factor loadings of items generated in previous studies (e.g. Seers & Graen, 1984) within autonomous teams in a manufacturing setting. He categorized a broad set of items into three separate team concepts – exchange, meetings and cohesiveness – with the first of these capturing team exchange quality. His theory and measurement of this construct represented a
novel contribution and provided us with what we now call TMX. The 10-item scale was a valuable and useful measure of TMX, but the original items were not entirely reflective of the reciprocity intended. It included three matched pairs of items with similar wording for contributions and receipts (sharing information, offering help, and doing extra work) plus four less connected items (making suggestions and being flexible as contributions, recognizing potential and understanding problems as receipts). Seers and colleagues (Seers, Ford, Wilkerson, & Moormann, 2001; Ford & Seers, 2006; Ford et al., 2014) recently improved the scale to correct this imbalance and provided a new 13-item scale (six items each for contributions and receipts, as well as a single-item global question about the working relationship). Both scales are included in Appendix A – with matched pairs of items aligned – and we can see that the 13-item scale is more indicative of the give and take of social exchange.

Despite the potential for using TMX (measured with either scale) to differentiate between a team member’s contribution to the team and receipts from the team, in general it has been applied as an overall measure (simply combining TMX contributions and TMX receipts to produce overall TMX). This approach fails to capitalize on the opportunity to understand reciprocal relationships more deeply, both in theoretical and empirical terms. Seers, Petty, & Cashman (1995) even alluded to the problems of combining the give and take components within their descriptions of high and low TMX – they outlined that high TMX signifies that individuals “contribute more cooperative and collaborative efforts and receive more social rewards in the bargain” while low TMX means that individuals “direct fewer efforts toward the group and receive lesser social rewards” (p.22).

Categorizing TMX in this manner places limitations on interpretation of an individual’s social exchange with a team. For example, it does not allow us to differentiate between a person
making a large contribution but getting little back in return and a person who is receiving a great deal of support from the team without contributing much. Aggregating TMX contributions and TMX receipts – the give and the take of the relationship – would tend to indicate that both of these situations represent medium TMX, preventing us from understanding the varying dynamics and equating circumstances which are clearly dissimilar and likely to trigger different attitudinal and behavioral reactions. I would speculate that the incorrect use of TMX is a contributing factor to the surprisingly small number of empirical studies to date, and that more findings would have been published if TMX contributions and TMX receipts had been the dominant approach. In order to explore the nature of social exchange in a team, we need to examine each side of the exchange and the perceived balance or imbalance in reciprocity. As discussed in the previous section about SET, interpersonal relationships rely on jointly evaluating the pattern of give and take to interpret whether there is fair exchange.

In Figure 1, I use a set of three images to help visualize the problem of combining TMX contributions and TMX receipts. In picture A, we see a situation where the individual perceives much higher contributions to the team (rating 6 on a 7 point scale) than receipts from the team (rating 2 on a 7 point scale). The scales are certainly not at equilibrium and there will likely be consequences for that individual’s reaction to the team relationship. The SET literature reviewed earlier indicates that such a person is likely to at least be dissatisfied, perhaps even distressed or desiring to leave the team. In picture B, we see a situation where the individual feels that both sides are contributing moderately (rating 4 on a 7 point scale). The scales are at equilibrium in this case and the individual is likely to consider the exchange more equitable. Finally, in picture C, we see a situation where the individual judges contributions to the team to be relatively low (rating 2 on a 7 point scale) but receipts from other team members to be relatively high (rating 6
on a 7 point scale). The scales are out of equilibrium and it might be the case that the individual is ‘free-riding’ and that other team members will be dissatisfied.

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INSERT FIGURE 1 ABOUT HERE

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It should be clear that these three situations are very different and we need to be able to account for the differences theoretically and empirically. However, if we choose to combine TMX contributions and TMX receipts into an overall measure of TMX, the result is that they are all measured as identical values of TMX (total of 8 points). This is highly problematic and in fact our understanding of the team dynamics is hidden if we decide to take this route. There have been criticisms of this ‘assumed reciprocity’ in the social exchange literature (e.g. Sparrowe & Liden, 1997; Rousseau, 1998), but unfortunately little progress to date in tackling the question of how exchange processes may vary. Seers, Wilkerson, & Grubb (2006) even comment that “measures that distinguish the resources contributed from the resources received would allow explication of actual reciprocation patterns” (p.508).

Even if TMX contributions and TMX receipts are at equilibrium, it is important to note that there are different types of equilibrium. In Figure 2, I provide three more examples to show that being aware only of equilibrium or imbalance is not enough – the actual values of give and take matter. In pictures D, E, and F, TMX contributions and TMX receipts are equal in each case. However, in picture D we can see that the individual is giving little to the team and receiving little in return. On the other hand, picture E represents a moderate level of exchange between the individual and the team. Finally, picture F shows a scenario where the individual is
making considerable contributions that are being reciprocated. The SET literature of the previous section suggests that a stronger pattern of give and take (i.e. high quality reciprocal exchange like picture F) is likely to lead to a more developed social bond and ongoing future interactions.

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INSERT FIGURE 2 ABOUT HERE

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Again, it is clear that these situations are distinct from one another and that we need to account for them in our research. Figures 1 and 2 demonstrate that business scholars must find a way to include a wide variety of possible team dynamics in their conceptual and empirical models. It is inappropriate to aggregate TMX contributions and TMX receipts, because doing so prevents us from differentiating between equilibrium and imbalance. It is also unacceptable to use difference scores to check whether TMX contributions and TMX receipts are equal, because doing so removes information about the underlying variables (Edwards, 2002). My aim in this essay is to acknowledge the multitude of social exchange patterns that can be identified and to find a suitable approach that embraces such a nuanced perspective of team dynamics.

We can see from the LMX and TMX literatures that SET is a core component of organizational relationships and that it deservedly attracts considerable attention from researchers and practitioners. Despite this attention, however, there are clearly some important weaknesses in the implementation of SET and we would benefit from refining our logic. We know that SET relies on considering both sides of the exchange relationship, but we can clearly criticize workplace applications of SET for failing to do so (LMX and TMX). In particular, TMX theory features both sides of the relationship (team member contributions and team member contributions and TMX receipts, because doing so prevents us from differentiating between equilibrium and imbalance. It is also unacceptable to use difference scores to check whether TMX contributions and TMX receipts are equal, because doing so removes information about the underlying variables (Edwards, 2002). My aim in this essay is to acknowledge the multitude of social exchange patterns that can be identified and to find a suitable approach that embraces such a nuanced perspective of team dynamics.

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receipts), yet researchers tend to interpret TMX as a single construct indicative of teamwork quality. Due to this oversimplification, researchers typically combine the separate scale items for contributions and receipts – this approach is inappropriate for truly understanding social exchange dynamics. In line with recent calls (e.g. Cropanzano & Mitchell, 2005), I intend to dig deeper into the social exchange processes prevalent in teams and thereby improve the conceptualization and operationalization of TMX.

Improving Team Member Exchange: Back to the Basics

Based on the preceding review and analysis of the literature on SET and TMX, I propose that we should conceptualize and operationalize teamwork as two separate but related constructs; I argue that we must investigate the joint influence of TMX contributions and TMX receipts. It is important to acknowledge that each of these variables can vary in amount, and that it is possible for them to be in equilibrium or imbalance. If both contributions and receipts are high, this represents a situation of reciprocity where the team member perceives a high level of exchange on both sides of the relationship; if both contributions and receipts are low, this is also reciprocity, but with lower levels of exchange. If contributions are high and receipts are low, this represents a lack of reciprocity where the team member perceives the team to be offering relatively less to the exchange relationship; if contributions are low and receipts are high, there is also a lack of reciprocity, but in this case the team member is providing comparatively little to the team. As explained earlier, traditional views of TMX have combined these distinct give and take components under the simplified condition that they are equivalent. However this assumption is difficult to sustain in the real world – in organizational and sports contexts (where much of the teams research began), it is common to hear complaints that team members are not pulling their weight or that an individual’s level of effort is not appreciated by teammates. We
will improve the theory and practice of teamwork if we can integrate this kind of complexity into
our research.

There is theoretical and empirical evidence for the problems which can be caused by an imbalance in reciprocal relationships, signaling that a lack of reciprocity can be detrimental to the individual experience of the team environment. For example, Meier & Semmer (2013) demonstrated that people who judge there to be an imbalance in their relationship with the organization are more likely to exhibit anger and incivility in the workplace. Cogliser, Gardner, Trank, Gavin, Halbesleben, & Seers (2013) studied virtual teams and found isolated negative relationships can be damaging to a team, but that generalized high quality teamwork can mitigate against this effect. Finally, de Jong et al. (2014) showed that negative interpersonal relationships inside a team can damage team performance through decreased team cohesion. So we know that exchange relationships that are not in a state of reciprocity can have deleterious effects; the more we can understand about patterns of exchange, the more we can predict and guard against such dangers.

While the proposed approach is unique, there has been previous debate in the management literature about separating out the two key elements of TMX. Seers et al. (1995) directly referenced that the combined 10-item scale consisted of five items relating to the team member’s contribution to the team and five items concerning what the member received from the team, but their theory development and empirical research did not make use of the sub-scales. Ford & Seers (2006) were among the first researchers to discuss TMX differentiation – i.e. the standard deviation of team member ratings of TMX – and the potential for variation in perceptions of TMX to influence outcomes. They acknowledged that both LMX and TMX typically assume reciprocity of exchange rather than actually investigating whether this is the
case. They provided extensive background on the TMX sub-scales of exchange contributions and exchange receipts, which were measured and reported separately in their study, as well as highlighting their potential for learning about equity in team exchange. However their analysis was at a group level (means and average deviations) and did not examine the interaction between TMX contributions and TMX receipts. Overall they found a negative impact of differentiation on within-group agreement about team climate, which is undesirable given that agreement can be predictive of organizational outcomes. This study therefore offered some indication that differing perceptions of TMX can have an impact, but the aggregated nature of the research design led to the authors’ conclusion that using TMX sub-scales masks effects which can be identified with an overall measure of TMX. I believe that applying a decomposed view of TMX at the individual level of perception will be more appropriate and will show us how a particular team member judges the reciprocity of social exchange with the team.

Liao et al. (2010) also viewed TMX differentiation as an important piece of the puzzle linking relationships with outcomes, finding that high differentiation and high average TMX are most beneficial for self-efficacy since differentiation allows individuals to interpret their own relationships as being above average. The finding relating to differentiation is at odds with that of Ford & Seers (2006), suggesting that the group level approach to differentiation may hide the underlying individual patterns and could even be as much a result of survey artifacts (e.g. common method bias). Liao et al. (2010) discussed the possibility of using two dimensions of TMX for the average measure (TMX contributed and received) before proceeding to use the combined scale to examine differentiation on the basis that the two dimensions were highly correlated and therefore frequently combined. Again, I feel that the group level aggregation of these concepts does not capture the complexity of individual perceptions regarding the
interaction between TMX contributions and TMX receipts, and that my approach of considering these variables separately and interactively can shed further light on the nature of team interactions. Farmer et al. (2013) went even further in an effort to unpack TMX by considering TMX differentiation. They explained that overall TMX can represent a shared sense of belonging within a group, while relative TMX (defined as the individual measure of TMX compared to the group level of TMX) can allow a person to still feel unique as a team member. However even this relative TMX approach does not separate the give and take which are inherent to a reciprocal relationship and which are contained in the TMX scale items. Without examining TMX contributions and TMX receipts separately, it is not possible to say whether people with high relative TMX are judging their own contributions to be higher than average, their teammates’ contributions to be higher than average, or both.

Several authors have called for research paying more attention to social exchange processes (e.g. Sparrowe & Liden, 1997; Seers et al., 2006) and there have been some attempts to address this challenge. Within the LMX literature, a few studies (e.g. Dabos & Rousseau, 2004; Dulac, Coyle-Shapiro, Henderson, & Wayne, 2008) have identified a link between psychological contracts and social exchange, suggesting that reciprocity is an important part of contract fulfilment and that assessments of contract breach are closely connected with social exchange processes. These findings point us to a degree towards a methodology for dealing with reciprocal relationships. Within the TMX literature, Ford and colleagues (Ford & Seers, 2006; Ford et al., 2014) have highlighted that we should be using TMX contributions and TMX receipts instead of overall TMX. In the most recent of these publications, Ford et al. (2014) use the two variables as separate indicators of outcome variables connected with influence and find some significant effects on the TMX contributions side. However, to my knowledge, no previous
studies have taken the step of exploring the joint effects of TMX contributions and TMX receipts.

To summarize, scholars have recognized for many years that social exchange can be considered in terms of contributions and receipts, but finding a way to integrate this perspective into the teams literature has so far proved elusive. We should conceptualize and measure TMX based on the underlying theory of social exchange, which clearly identifies that exchange is bidirectional in nature. We need to consider TMX contributions, TMX receipts and their interaction if we want to fully embrace the complexity of teamwork and understand the many possible patterns of give and take. In this paper, I hope to advance our conceptual and empirical understanding of teamwork by examining the individual experience of TMX via the joint influence of TMX contributions and TMX receipts.

Methodological Advances Relevant to TMX

It is important to note that there were perhaps limitations on adequately assessing the give and take in the past, and that recent methodological advances can help us to improve our analysis of SET relationships. In my view, the polynomial regression methodology developed by Edwards (2002) and to date used mainly in the person-environment fit (e.g. Edwards & Rothbard, 1999) and psychological contract domains (e.g. Lambert, Edwards, & Cable, 2003) is the ideal way of advancing TMX. This technique allows us to model the separate but joint effects of two variables – namely TMX contributions and TMX receipts in this case – on outcomes of interest. As noted by Edwards & Parry (1993), polynomial regression is a superior alternative to difference scores because it avoids collapsing data points into a less useful aggregate. Although overall TMX is not a difference score per se, it suffers from a similar problem due to the removal of useful information that can explain team dynamics and predict team outcomes. We essentially
make the same mistake as difference scores if we combine TMX contributions and TMX receipts; polynomial regression offers a better alternative where we do not lose the extra information available from the two variables. Furthermore, we can show the results of the polynomial regression equations via the response surface methodology, which provides a helpful illustrative framework for interpreting relatively complicated results (Edwards & Parry, 1993). We can conclude that these techniques offer a suitable analytical approach for considering the joint effects of TMX contributions and TMX receipts.

*Conceptual Model and Hypotheses*

In line with my findings above about the need to consider the influence of both TMX contributions and TMX receipts, I argue that our conceptualization and measurement of TMX should include two separate variables with a joint effect on outcome variables. Accordingly, I delineate the two types of TMX as independent variables in my conceptual model shown in Figure 3. As described in my hypotheses below, I predict that my approach will be more accurate than existing alternatives, and that the interplay of TMX contributions and TMX receipts will be related with important consequences for individuals and groups.

INSERT FIGURE 3 ABOUT HERE

Based on their judgment of TMX contributions and TMX receipts, I expect that individual team members will develop perceptions about their team. As noted by Thibaut & Kelley (1959) and Adams (1965) in the early stages of SET, social exchange processes are likely to generate consequences for various attitudes including but not limited to satisfaction. In their
recent meta-analysis, Banks et al. (2014) provided evidence of a link between overall TMX and outcomes such as performance, commitment, satisfaction and turnover intentions. We know from recent research (e.g. LePine et al., 2008; Mathieu et al., 2008; Marks et al., 2001) that interactive processes like TMX contribute to emergent states, defined as team-level concepts that reflect certain types of shared affect, motivation and cognition (Marks et al., 2001). This delineation can be somewhat blurry, but another explanation is that emergent states develop from processes over the life of a team and influence performance (Ilgen et al., 2005). It is therefore reasonable to surmise that individual team members reach conclusions about their team, and that these judgments are likely to have consequences for their own outcomes and those at the group level.

I predict that the joint effects of TMX contributions and TMX receipts will influence several variables related to how the individual team member views the relationship with the team. In particular, I expect that individual evaluations of team cohesion, team member satisfaction, conflict in the team and trust in the team will be relevant. These variables are likely mediating mechanisms through which individual team members interpret the team, and each of these intermediate processes is linked with team effectiveness and functioning.

First, cohesion, or cohesiveness, was originally defined as “the resultant forces which are acting on the members to stay in a group” (Festinger, 1950, p.274) and can be considered as a mix of group integration and individual attraction to the group (Carron, Widmeyer, & Brawley, 1985). LePine et al. (2008) found that cohesion is related with team processes and with performance outcomes. I predict that TMX contributions and TMX receipts will influence individual perceptions of team cohesion. For example, individuals who judge TMX contributions and TMX receipts to be high will be more likely to report perceptions of a highly cohesive team.
Second, in line with findings ranging from the early SET authors (e.g. Thibaut & Kelley, 1959; Blau, 1964) to recent studies (e.g. LePine et al., 2008; Banks et al., 2014), I expect that TMX contributions and TMX receipts will influence individual team member satisfaction. For example, individuals with high contributions and receipts will be more satisfied than those who perceive a lack of reciprocity such as high contributions coupled with low receipts. Both situations represent a violation of the norm of reciprocity (Gouldner, 1960), but the latter is more likely to be interpreted as a loss (with the costs of contributing outweighing the rewards from receipts – Homans, 1958), causing the team member in a ‘giving imbalance’ to be dissatisfied.

Third, conflict within the team is more likely to occur if team members consider the social exchange to be inequitable (Adams, 1965). We can classify conflict as interpersonal or task related (e.g. Jehn, 1994), both of which can be affected by unhealthy team dynamics. For example, individuals who perceive that they are making more contributions than fellow team members may become frustrated about their lack of reciprocation (interpersonal conflict about the violation of the social norm) and about the work content taken on by each person (task conflict about what is being accomplished). Concerns about inequitable exchange can even lead to severe levels of conflict including anger and arguments (Meier & Semmer, 2013).

Fourth, Blau (1964) identified that trust is an important part of social exchange and develops over the course of positive interactions. As individuals see time and time again that they can rely on an exchange partner, they are likely to develop trust, which then facilitates future interactions. In general, trust plays an important mediating role as a bridge between workplace behaviors and performance outcomes (e.g.; Cropanzano & Mitchell, 2005; Martin et al., 2016). It is particularly vital in the team environment, where there is interdependence between team members and team effectiveness depends on collaboration (e.g. Costa, 2003;
Jarvenpaa, Knoll, & Leidner, 1998; Kozlowski & Bell, 2003). I predict that individuals who experience high quality reciprocal TMX relationships with the team will report a higher level of trust in the team as a result.

While there will be many possible combinations of TMX contributions and TMX receipts, the 2x2 matrix shown in Table 2 offers a simplified overview of the type of results to be expected. The relationships between the joint effects of TMX contributions and TMX receipts and these four perceptual outcomes at the individual level can then be summarized in the following hypotheses. In line with the polynomial regression methodology and associated response surfaces mentioned earlier, my hypotheses consider the ‘fit line’ and the ‘misfit line’. The ‘fit line’ is where TMX contributions equal TMX receipts, and runs from the low-low point to the high-high point (i.e. from the bottom left box of the 2x2 matrix to the top right box). It represents situations characterized by reciprocity at different levels. The ‘misfit line’ is where TMX contributions are the opposite to TMX receipts, and runs from the low-high point to the high-low point (i.e. from the top left box of the 2x2 matrix to the bottom right box). It represents situations where there is an imbalance between TMX contributions and TMX receipts – for example, when the former are +1sd and the latter are -1sd. These two lines help researchers to plot, understand and test the shape of the response surface.

Reciprocity (Fit Line). When we consider whether it is preferable to experience a low quality reciprocal relationship or a high quality reciprocal relationship, SET suggests that a
stronger pattern of interactions will lead to a tighter social bond (Blau, 1964; Emerson, 1976). The more a person experiences positive interactions with the team (i.e. high contributions and high receipts), the more that person will view the strong level of reciprocity as consistent and reliable, and the more that person will see the relationship as being characterized by mutual support (Seers, 1989). Looking at each intermediate outcome of interest, prior literature lends credibility to this statement. For team cohesion, individual perceptions are typically strengthened by frequent, mutually beneficial interactions (e.g. Lott & Lott, 1965). For team member satisfaction, findings generally indicate a preference for building strong relationships through balanced exchange (e.g. Blau, 1964). For conflict within the team, fair exchange in accordance with behavioral norms is key to reducing conflict (e.g. Homans, 1958), and I predict that higher contributions will produce a deeper relationship between team members, thereby allowing for successful conflict management (e.g. Tekleab, Quigley, & Tesluk, 2009). For trust, SET considers ongoing reciprocal interactions to be the basis for the development of trusting relationships (Blau, 1964). As stated in my first hypothesis, I therefore expect that individuals who give a lot to their team and receive a lot in return will tend to view the team as more closely connected, and will be more positive about their experience than those whose interactions can be characterized as more limited (though still fair exchange).

Hypothesis 1: When individual team members judge TMX Contributions and TMX Receipts to both be high – compared to when they judge TMX Contributions and TMX Receipts to both be low – they will a) perceive the team to be more cohesive, b) report higher satisfaction with the team, c) perceive lower conflict in the team, and d) report higher trust in the team.
Imbalance (Misfit Line). Next, we can think about situations where the relationship is not judged to be reciprocal. In other words, the exchange in inequitable and violates the norm of reciprocity (Gouldner, 1960; Adams, 1965). One of the primary weaknesses of existing research based on SET is the frequent assumption of reciprocity, and scholars would benefit from considering situations beyond this limitation (Sparrowe & Liden, 1997; Rousseau, 1998). These fall into two categories – a ‘taking imbalance’ (where the individual gives less than received in return) and a ‘giving imbalance’ (where the individual gives more than received in return). Both situations are likely to be less ideal than a reciprocal relationship. The default expectation for a social exchange relationship between peers is that it tends towards reciprocity (Blau, 1964), so if an individual team member notes a lack of reciprocity, this is likely to lead to a degree of cognitive dissonance and an attempt to explain, avoid or correct the inconsistency (Festinger, 1957).

In a ‘taking imbalance’, perceptions might not be affected as dramatically as in a ‘giving imbalance’, but team members who believe they are receiving more than they are contributing will probably feel a sense of guilt or obligation, maybe even concern about being disliked by colleagues. They will therefore perceive the team to function less perfectly than in a reciprocal relationship, and their own position in relation to the team to be more tenuous if they are not delivering on their side of the social exchange bargain. In a ‘giving imbalance’, the lack of reciprocity is likely to be felt more forcefully, because the individual will react negatively to apparently losing out in the exchange. Given that such team members see themselves as contributing more than others in what should be fair exchange (Blau, 1964), they will be dissatisfied with the way the team is working and will perceive their team to be at odds with each other. These predictions are captured in my second and third hypotheses.
Hypothesis 2: As individual team members judge there to be more of a ‘taking imbalance’ (higher TMX Receipts combined with lower TMX Contributions) rather than reciprocity, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

Hypothesis 3: As individual team members judge there to be more of a ‘giving imbalance’ (lower TMX Receipts combined with higher TMX Contributions) rather than reciprocity, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

The predicted patterns of the first three hypotheses can be illustrated using idealized response surfaces. Figure 4 shows the predicted shape of the response surface for the more desirable outcomes (cohesion, satisfaction, and trust). In these cases, the outcomes are maximized – i.e. the team member judges the team to be most cohesive, is most satisfied and declares most trust in the team – when both TMX contributions and TMX receipts are high. Figure 5 shows the predicted shape of the response surface for the less desirable outcome of conflict. In this case, the outcome is minimized – i.e. the team members judges there to be least conflict in the team – when both TMX contributions and TMX receipts are high. So a team member who believes that there is high quality reciprocal exchange with the team will make the most positive evaluations of the team. These response surfaces can be compared with the 2x2 matrix in Table 2, but they provide much greater detail across a range of values.
Individual and Team Performance. With regards to the effect of TMX contributions and TMX receipts through individual team member perceptions, I expect to find significant relationships with both individual and team performance. I predict that performance outcomes will be better for individuals who rate their team as highly cohesive, who are more satisfied with their team, who feel a stronger identity with the team, who perceive less conflict in the team, and who place more trust in their team. In such circumstances, individuals are likely to be more motivated to exert effort on team tasks because they enjoy being part of the team and feel a sense of belonging to it. This motivation should manifest itself in the performance of the individual team member, as well as at the group level through a combination of individual contributions and the healthy functioning of teams that are seen as more cohesive and less burdened by conflict.

My fourth hypothesis focuses on performance outcomes at the individual level. I predict that individuals who – based on their judgment of TMX contributions and TMX receipts – perceive their team as cohesive (i.e. as a highly functional unit that they enjoy being part of) will be motivated to complete their tasks to a high standard because they see their contributions as integrated and important. In line with previous research, I also expect that employees who are more satisfied due to their assessment of team dynamics will achieve higher individual outcomes (e.g. Iaffaldano & Muchinsky, 1985; Judge, Thoresen, Bono, & Patton, 2001). With regards to conflict, individuals who perceive less conflict in their relationships with their peers will exhibit stronger performance, because they are less distracted and do not need to allocate resources
towards interpersonal negativity (e.g. De Dreu & Weingart, 2003). Finally, trust in the team as perceived following social exchange will be related with higher performance, because the team member believes they can depend on the support of their team and on their colleagues holding up their end of the bargain (e.g. Colquitt, Scott, & LePine, 2007). The hypothesized indirect effects are likely to be additional to direct effects from TMX contributions and TMX receipts, since the actual contributions (e.g. effort, communication) will also be important for performance.

_Hypothesis 4: TMX contributions and TMX receipts will influence individual level performance indirectly through a) team cohesion, b) satisfaction with the team, c) conflict in the team, and d) trust in the team._

My fifth hypothesis targets performance outcomes at the group level. This will be partly driven by the individual performance level of the fourth hypothesis, and partly by insights about the team as a whole. Research indicates that constructs that are important at the individual level can also describe the work environment at a unit level and relate to group outcomes (e.g. Harter, Schmidt, & Hayes, 2002). I expect that individuals who perceive their team to be cohesive will be making a somewhat accurate judgment of how well the team is functioning, and that their evaluation will be linked with performance. When an individual team member is highly satisfied, this is likely to be indicative of a team where exchange is more reciprocal, which will produce benefits for team performance through each individual’s motivation. Similar to cohesion, I anticipate that team members who consider there to be conflict in the team are aware of their environment and that their feedback indicates interpersonal issues taking away from performance. Finally, I predict that team member perceptions of trust will reflect a willingness for team members to cooperate towards shared goals, thereby increasing group performance. Again, I predict that there will be an indirect effect via the mediating processes.
Hypothesis 5: TMX contributions and TMX receipts will influence team level performance indirectly through a) team cohesion, b) satisfaction with the team, c) conflict in the team, and d) trust in the team.

Methods

Sample and Procedure

I collected survey data for this study from undergraduate students at a large US university. The respondents were all in their senior year and were participating in a semester-long business strategy simulation as part of their capstone class before graduation. Although it would be preferable for generalizability purposes to gather data from workplace teams, I contend that this sample is appropriate for several important reasons. First, senior year students are fairly representative of employees in the early stages of their career – many of them have prior work experience, and they are on the verge of entering full-time work on graduation. Second, individual responses to team dynamics are a relatively generalizable phenomenon – people face similar situations at various life stages, including in educational, recreational and professional settings. Third, the business strategy simulation mimics the challenges of a workplace project team and enables us to examine how team members interact over a period of time.

The initial research sample consists of 351 individuals divided into 88 teams of 3-5 members. I carried out power analysis using PINT software (Snijders & Bosker, 1993) and determined that this sample size should be sufficient to detect single-level and cross-level effects.

After removing a limited number of participants who did not complete surveys across all time periods, we were left with a usable sample of 321 individuals, representing a response rate of 91 percent. The peer reviews used to measure individual team member performance were
completed by 245 individuals, representing a response rate of 70 percent. The mean age of participants was 26 years of age, and the sample was split equally between males and females. There was considerable diversity within the sample group – 67 percent of respondents categorized themselves as non-white, and 28 percent were born in a country other than the United States. 88 percent of participants reported that they had some work experience (one year or more), with a mean of 11.6 years of experience. Although this number was positively skewed by a few individuals with lengthy working careers, the median value of 7.0 years of work experience provides evidence that this student sample is representative of the workplace and that we can justify generalizing our findings beyond the university setting.

*Measures*

**Team Member Exchange.** TMX contributions and TMX receipts were measured using the 13-item version of the TMX scale (Seers et al., 2001) shown in Appendix A. This version includes 6 items for contributions, 6 items for receipts and a single-item global measure about the quality of the working relationship. A sample item for TMX contributions is “When other members of my team are busy, I often volunteer to help them out” and a sample item for TMX receipts is “When I am busy, other members of my team often volunteer to help me out”. Respondents rated these statements on a 5-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency of the 13-item scale was $\alpha = .94$. Examined separately, the internal consistency for the 6 contribution items was $\alpha = .89$ and for the 6 receipts items it was $\alpha = .93$. As per Cortina (1993), coefficient alpha is inflated by the addition of items, and robust coefficient alphas with fewer scale items are indicative of stronger inter-item correlations. While the alpha for the longer combined scale appears reasonable and would not discourage researchers from using the scale, the alphas of the shorter separated scales are actually more convincing.
**Perceived Team Cohesion.** Perceived cohesion was measured with 8 items adapted from the Michigan Organizational Assessment Questionnaire (Seashore, Lawler, Mirvis, & Cammann, 1982) and the Group Environment Questionnaire (Carron et al., 1985). The items selected were split equally between task cohesion and social cohesion, and some negatively phrased items were changed to a positive framing (in line with the recommendations of Eys, Carron, Bray, & Brawley, 2007). A sample item is “I will miss the other team members when the semester ends”. Respondents indicated their level of agreement with items using a 5-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency for this scale was $\alpha = .92$.

**Team Member Satisfaction.** Individual team member satisfaction was measured using 3 items following the example of Gladstein (1984) and Van der Vegt, Emans, & Van de Vliert (2000). A sample item is: “I was satisfied with my team members”. Respondents indicated their level of agreement with items using a 5-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency for this scale was $\alpha = .97$.

**Intra-Team Conflict.** Perceived conflict was measured using 8 items about intragroup conflict from Pelled, Eisenhardt, & Xin (1999). This scale includes 4 questions for task conflict and 4 questions for relationship conflict. A sample item is “How often was there tension among members of your team?” Respondents answered the questions using a 5-point scale from “Never” to “Very often”. The internal consistency for this scale was $\alpha = .93$.

**Trust in Team.** Individual trust in the team was measured using the 5-item scale of De Jong & Elfring (2010). A sample item is “I can rely on my team members to keep their word”. Respondents indicated their level of agreement with items on a 5-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency for this scale was $\alpha = .95$. 
**Team Member Performance.** Individual performance was measured with peer evaluations submitted by team members. This questionnaire included 12 items about participation in meetings, taskwork effectiveness, and teamwork effectiveness. A sample item from the third category is “Enthusiasm and Commitment”. Team members received an evaluation from each of the other members of their team, and these scores were aggregated to produce an overall peer evaluation with a maximum possible score of 100.

**Team Performance.** Team performance was measured via the score achieved by each team within the simulation. This score was computed based on five performance targets, including earnings per share and return on equity.

*Confirmatory Factor Analyses*

I conducted a series of multilevel CFAs to evaluate the factor structure of the study variables. The results of these CFAs are shown in Table 3. My proposed model – Model 1 – was composed of six factors (TMX contributions, TMX receipts, Team Cohesion, Team Member Satisfaction, Intra-Team Conflict, and Trust in Team). The proposed model (df = 571, $\chi^2 = 1152$, $p < .01$) showed acceptable fit in terms of CFI (.92), RMSEA (.059), and SRMR (.059). Factor loadings were high, and cross-loadings and residual variances were low. The fit indices of the proposed model were superior to alternative models; these included the five-factor Model 2 in which TMX contributions and TMX receipts were collapsed into a single TMX factor (df = 576, $\Delta \chi^2 = 238$, $p < .01$; CFI = .89; RMSEA = .069; SRMR = .067), the four-factor Model 3 with team cohesion, team member satisfaction and trust in team collapsed into a single factor (df = 580, $\Delta \chi^2 = 558$, $p < .01$; CFI = .85; RMSEA = .081; SRMR = .065), and the single-factor Model 4 (df = 588, $\Delta \chi^2 = 2204$, $p < .01$; CFI = .62; RMSEA = .126; SRMR = .137). As such, the CFAs were supportive of splitting the TMX scale and I proceeded with data analysis accordingly.
Analyses

As the data featured individuals nested within teams, I used multilevel modeling (e.g. Raudenbush & Bryk, 2002) to test my hypotheses using MPlus software. Multilevel modeling enables researchers to separate the effects of independent variables on dependent variables into their level 1 and level 2 components. In this case, my analyses were predominantly at level 1 (the individual level), but it was necessary to account for nesting at level 2 (the team level). To test the effects of social exchange contributions and receipts, I utilized a polynomial model (Edwards, 2002) in which the intermediate outcome variables (team cohesion, team member satisfaction, intra-team conflict, and trust in team) were regressed on TMX contributions, TMX receipts, their product term, and their respective squared terms. I further computed and tested the significance of the response surface characteristics as a test of the first three hypotheses.

H1 was tested by examining the slope and curvature of the surface along the fit line (defined as X = Y) where X and Y represent TMX contributions and TMX receipts respectively. Support was indicated if the curvature was null and the slope of the surface was positive for a) team cohesion, b) team member satisfaction, and d) trust in team, or the curvature was null and the slope was negative for c) intra-team conflict. For H2 and H3, I tested the misfit line (defined as X = -Y) of the response surface. The slope and curvature of the misfit line indicate the shape of the response surface in situations of imbalance. For both H2 and H3 to be supported, it was necessary to find negative curvature for a), b), and d), and positive curvature for c).
Finally, the mediation models in H4 and H5 involve a set of independent variables (TMX contributions, TMX receipts, their product term, and their squared terms). I therefore used a block variable approach (as per the recommendations of Cable & Edwards, 2004; Heise, 1972; Marsden, 1982) to test the mediated effect via the intermediate processes on performance outcomes at individual and team levels. This approach allows researchers to set up a single block consisting of multiple independent variables, which can then be used to calculate the direct and indirect effects in a polynomial model with mediation. In my study, the direct effect is produced by regressing the performance outcome on the TMX block, while the indirect effect is the product of the intermediate outcome regressed on the TMX block and the effect of the intermediate outcome on the performance outcome.

**Results**

Table 3 shows the means, standard deviations, and correlations among the study variables at the individual level. The descriptive statistics appear to be reasonable and the correlations are in the direction expected (e.g. conflict is negatively related with the other variables). It is worth noting the moderately high correlation of .72 between TMX contributions and TMX receipts. Figure 6 shows a scatterplot of these pairs of results. As would be expected, and in line with the norm of reciprocity, there is a significant relationship between the give and take of social exchange. On the other hand, the correlation and scatterplot indicate that there is also considerable scope for the two components of TMX to diverge from each other, and this offers support for my approach of examining them jointly yet separately. It is also important to note that there are relatively few reports of extreme “taking imbalances” (i.e. people are more inclined to see themselves as over-contributing than under-contributing. This will impose a limitation on my ability to make predictions beyond the scope of the data.
Tables 5, 6, 7, and 8 show the effects of TMX contributions and TMX receipts on individual perceptions of team cohesion, team member satisfaction, intra-team conflict, and trust in the team, respectively. They include the polynomial regression coefficients, as well as the response surface characteristics for each dependent variable.

Figures 6, 7, 8, and 9 show the plotted response surfaces based on the results obtained. The axes for these figures are set at +0.7 and -0.7, because these numbers are set at approximately +1sd and -1sd, which is an appropriate range for reporting and predicting based on the data collected.

Before proceeding to the hypothesis tests, it is worth examining the overall pattern of results obtained for each intermediate outcome variable. For team cohesion (Table 5), the positive fit slope (b = .511, t-value = 2.068, p < .05) combined with a negative misfit slope
(b = -1.230, t-value = -3.480, p < .05) indicate that high levels of reciprocity are better than low levels of reciprocity, and that a “giving imbalance” leads to inferior outcomes than reciprocity or a “taking imbalance”. These dynamics can clearly be seen in Figure 7, with cohesion maximized when TMX contributions are low and TMX receipts are high. For team member satisfaction (Table 6), I found a similar pattern of positive fit slope (b = .820, t-value = 7.457, p < .05) and negative misfit slope (b = -2.210, t-value = -5.326, p < .05), as well as a positive misfit curve (b = .953, t-value = 3.141, p < .05). These results can be interpreted in the same manner as for team cohesion, with the additional comment that the curvature along the misfit line indicates that the increase in satisfaction speeds up, and the decrease in satisfaction slows down, as they move further from reciprocity. Figure 8 provides a visual representation of these relationships.

For intra-team conflict (Table 7), there was a negative fit slope (b = -.471, t-value = -4.631, p < .05) and a positive misfit curve (b = .762, t-value = 2.550, p < .05), but the misfit slope was non-significant. These results suggest that higher levels of reciprocity lead to lower perceived conflict than lower levels of reciprocity, that imbalances are likely to cause greater perceived conflict than reciprocity (whether “giving imbalances” or “taking imbalances”), and that the perception of conflict increases more rapidly as the situation moves further from reciprocity. These results are plotted in Figure 9. For trust in the team (Table 8), I found a positive fit slope (b = .854, t-value = 8.034, p < .05) and a negative misfit slope (b = -1.671, t-value = -4.125, p < .05). This is the same pattern identified for team cohesion, and it indicates that higher levels of reciprocity generate greater trust than lower levels of reciprocity, and that a “giving imbalance” is more damaging to trust than a “taking imbalance”. These results are presented in Figure 9, showing that trust is maximized in a “taking imbalance” where the other
team members contribute a lot (i.e. high TMX receipts) and the focal team member contributes relatively little (i.e. low TMX contributions).

H1 predicted the relationship between situations of high quality reciprocity and of low quality reciprocity for each intermediate outcome variable. In line with my predictions, I found a positive and significant fit slope with null curvature for a) team cohesion (b = .511, t-value = 2.068, p < .05), b) team member satisfaction (b = .820, t-value = 7.457, p < .05), and d) trust in the team (b = .854, t-value = 8.034, p < .05). In addition and as expected, I found a negative and significant fit slope with null curvature for c) intra-team conflict (b = -.471, t-value = -4.631, p < .05). H1 was thus fully supported.

The next two hypotheses related to the difference between situations of reciprocity and of a taking imbalance in H2 (meaning higher TMX receipts combined with lower TMX contributions) and a giving imbalance in H3 (meaning lower TMX receipts combined with higher TMX contributions). For team cohesion, the negative misfit slope and null curvature indicate that individuals evaluate their team more positively when there is a taking imbalance versus reciprocity, and more negatively when there is a giving imbalance versus reciprocity. This leads to the rejection of H2 a) and the acceptance of H3 a). For team member satisfaction, I found a negative misfit slope with positive curvature. These results indicate a similar response to that for team cohesion, and I therefore rejected H2 b) – individuals were in fact more satisfied with a taking imbalance – and accepted H3 b). For intra-team conflict, the misfit slope was not significant and there was a positive curvature. This finding was in line with my hypotheses, because it indicated that both a taking imbalance and a giving imbalance are associated with higher reported conflict than reciprocity. H2 c) and H3 c) were supported. For trust in the team, the results were comparable to those for team cohesion, with a negative misfit slope and null
curvature. I therefore rejected H2 d) regarding a taking imbalance, and accepted H3 d) regarding a giving imbalance. Overall, the evidence for H2 was limited and individuals appeared to respond relatively well to a taking imbalance (with the exception of perceived conflict), whereas H3 about inferior outcomes in the case of a giving imbalance was fully supported.

Tables 8, 9, 10, and 11 show the results of mediation analyses relating to the effects of TMX contributions and TMX receipts on team member performance (individual level) and team performance (group level) via team cohesion, team member satisfaction, intra-team conflict, and trust in the team, respectively.

With regard to H4 concerning team member performance, there was a significant indirect effect from TMX via intra-team conflict ($b = -3.309$, t-value $= -2.568$, $p < .05$) and the confidence interval did not include zero. This result offers evidence of mediation through intra-team conflict, in support of H4 c). However, my results for the indirect effect of the TMX block variable via team cohesion, team member satisfaction, and trust in the team were not significant and the mediation hypotheses H4 a), b), and d) were therefore rejected.

As for H5 concerning team performance, I found significant indirect effects from TMX via team member satisfaction ($b = 27.610$, t-value $= 2.872$, $p < .05$) and intra-team conflict ($b = 23.247$, t-value $= -2.247$, $p < .05$), indicating mediation through these processes. However, the indirect effects for team cohesion and trust in the team were not significant. Based on these findings, H5 b) and c) were supported, while H5 a) and d) were rejected.
Discussion

Overall, the results are supportive of my premise that we can gain valuable insights by examining teamwork from the perspective of TMX contributions and TMX receipts rather than a combined view of TMX. It is clear that when individual team members perceive a taking or a giving imbalance in their relationship with the team, they do not respond in the same way as in reciprocal situations. This is particularly evident when it comes to intra-team conflict, which is perceived as being higher when there is an imbalance of either kind.

Team members appear to be especially cognizant of giving imbalances, and report lower team cohesion, lower satisfaction, higher conflict, and lower trust when they occur. The results for taking imbalances were more surprising in that people reported higher cohesion, satisfaction, and trust when they were receiving more than they were contributing. However this can perhaps be explained by greater interest in gaining resources in the short term, and it is telling that perceptions of intra-team conflict were high in this situation – team members who benefit from a taking imbalance are aware of the potential for tension and arguments due to the lack of reciprocity.

My mediation analyses further emphasize the importance of accurately conceptualizing and measuring team member exchange. TMX contributions and TMX receipts influenced individual team member performance via intra-team conflict, while their influence on team performance was mediated through intra-team conflict and team member satisfaction.

Theoretical Implications

My review and critique of the social exchange and TMX literatures highlights the need for researchers to return to the roots of SET and to consider both sides of exchange relationships.
When individual team members think about their relationship with the team, they have two aspects in mind – the contributions they are making and what they are receiving in return. Their evaluation of the level of reciprocity of these exchanges will influence a wide range of attitudes, perceptions and outcomes related to the team. It is important for future research to emphasize and investigate the joint effects of TMX contributions and TMX receipts rather than relying on an overall concept of teamwork. SET clearly prioritizes exchange – the give and take between participants in a relationship – yet this is often forgotten in the teamwork literature. In this paper, I demonstrate the limitations imposed by ignoring the give and take, as well as the need to consider both contributions and receipts to account for the many patterns of social exchange.

In addition, while polynomial regression and the associated response surface methodology have been used in a variety of other contexts (e.g. psychological contracts and person-environment fit), my paper demonstrates that it can be extremely useful in a social exchange setting. These tools offer huge promise for other fields where we need to appreciate the interplay of dual variables. I hope that using this methodology to measure the joint effects of TMX contributions and TMX receipts will advance the teams literature and inspire the application of this methodology to more diverse contexts.

**Practical Implications**

On the practical side, my findings will be important for managers and team members seeking to understand workplace team dynamics. This research shows the benefits of examining how individual team members feel about their contributions to and receipts from the team. It is difficult to tackle an inadequately defined challenge such as ‘poor teamwork’, but if we can discover a more specific source of the problem (e.g. that a perceived lack of communication and respect between team members is damaging the team), then we can hopefully begin to find
feasible solutions. My findings suggest that separating out the give and take in measures of teamwork will be helpful to diagnosing and preventing negative team processes that can contribute to weaker performance.

**Limitations and Future Research**

It is important to acknowledge the limitations of my study, and to consider how future research can usefully extend this work. In terms of generalizability, although I believe the sample to be relatively representative of the working population, there may be some differences between students engaged in a project for academic credit and members of organizational teams. In particular, the short-term nature of the 10-week project might have influenced results such as the superior intermediate outcomes in a taking imbalance. In teams with longer life cycles and where members expect to work together again in the future, it is possible that the norm of reciprocity would be more powerful. It would be beneficial to conduct similar research in an organizational setting to investigate this topic further.

There are a variety of other contextual variables that were not included in this study, but that are likely to play some role in team dynamics. For example, I did not examine the effect of formal or informal team leadership in this paper. It would also be interesting to explore how universal or context-specific my findings are to different industries and cultures. My second essay begins to tackle this challenge by investigating the moderating effect of individual cultural values.

Finally, I noticed that respondents in this study exhibited some typical biases in terms of tending to rate their own contributions more highly than those of other team members. This is evident in the mean values recorded (3.76 versus 3.55 respectively), as well as in the relative
lack of data in the taking imbalance category (approximately 14 percent of responses). I was able to obtain some significant results despite this tendency, but on the other hand I might have detected additional effects with a larger sample. I hope that my second essay will also address this concern to some extent because it features a team project of much larger scale.

**Conclusion**

Based on a review of the social exchange literature and a critical assessment of the way social exchange contributions and receipts have been handled in studies of teamwork, I identified a problematic assumption of reciprocity and proposed a novel approach to conceptualizing and measuring team member exchange. I hypothesized that it would be useful to examine individual perceptions of TMX contributions and TMX receipts as joint predictors of team processes and performance outcomes. My results from a team-based project offered broad support to this approach, and showed that individual evaluations of the give and take with a team influence how team members judge the team. Furthermore, these judgments can have important outcomes for individual and team performance.
ESSAY 1 REFERENCES


### TABLE 1: TMX FOUNDATIONS IN SOCIAL EXCHANGE LITERATURE

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Key Concept</th>
<th>Definition / Clarification</th>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blau (1955, 1964)</td>
<td>Social exchange</td>
<td>“voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others”</td>
<td>Outputs &amp; Inputs</td>
</tr>
<tr>
<td>Homans (1958)</td>
<td>Social exchange</td>
<td>“an exchange of goods” – including material and non-material types</td>
<td>Rewards &amp; Costs</td>
</tr>
<tr>
<td>Thibaut &amp; Kelley (1959)</td>
<td>Dyadic interdependence</td>
<td>“the ways in which the separate and joint actions of two individuals affect the quality of their lives and the survival of their relationship”</td>
<td>Rewards &amp; Costs</td>
</tr>
<tr>
<td>Gouldner (1960)</td>
<td>Norm of reciprocity</td>
<td>“people should help those who have helped them, and people should not injure those who have helped them”</td>
<td>Benefits &amp; Repayments / Reciprocation</td>
</tr>
<tr>
<td>Adams (1963, 1965)</td>
<td>Equity theory</td>
<td>“whenever two individuals exchange anything, there is the possibility that one or both of them will feel that the exchange was inequitable”</td>
<td>Outcomes &amp; Inputs</td>
</tr>
<tr>
<td>Graen et al. (1973-76)</td>
<td>Leader Member Exchange (LMX)</td>
<td>“a relationship-based approach to leadership” where “leaders develop differentiated relationships with direct reports” (Graen &amp; Uhl-Bien, 1995)</td>
<td>Leader Contributions &amp; Member Contributions</td>
</tr>
<tr>
<td>Seers et al. (1989, 1995)</td>
<td>Team Member Exchange (TMX)</td>
<td>“the reciprocity between a member and the peer group”</td>
<td>Contributions &amp; Receipts</td>
</tr>
</tbody>
</table>
### TABLE 2: INTERACTIVE INFLUENCE OF TMX CONTRIBUTIONS & RECEIPTS

<table>
<thead>
<tr>
<th>Low TMX Contributions</th>
<th>High TMX Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High TMX Receipts</strong></td>
<td>Reasonable Perceptions</td>
</tr>
<tr>
<td></td>
<td>- Moderate Cohesion</td>
</tr>
<tr>
<td></td>
<td>- Moderate Satisfaction</td>
</tr>
<tr>
<td></td>
<td>- Low Conflict</td>
</tr>
<tr>
<td></td>
<td>- High Trust</td>
</tr>
<tr>
<td><strong>Positive Perceptions</strong></td>
<td>- High Cohesion</td>
</tr>
<tr>
<td></td>
<td>- High Satisfaction</td>
</tr>
<tr>
<td></td>
<td>- Low Conflict</td>
</tr>
<tr>
<td></td>
<td>- High Trust</td>
</tr>
<tr>
<td><strong>Low TMX Receipts</strong></td>
<td>Poor Perceptions</td>
</tr>
<tr>
<td></td>
<td>- Low Cohesion</td>
</tr>
<tr>
<td></td>
<td>- Moderate Satisfaction</td>
</tr>
<tr>
<td></td>
<td>- Low Conflict</td>
</tr>
<tr>
<td></td>
<td>- Moderate Trust</td>
</tr>
<tr>
<td><strong>Negative Perceptions</strong></td>
<td>- Low Cohesion</td>
</tr>
<tr>
<td></td>
<td>- Low Satisfaction</td>
</tr>
<tr>
<td></td>
<td>- High Conflict</td>
</tr>
<tr>
<td></td>
<td>- Low Trust</td>
</tr>
</tbody>
</table>

### TABLE 3: MULTILEVEL CFA RESULTS

<table>
<thead>
<tr>
<th>Fit Index</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square (df)</td>
<td>1151.89* (571)</td>
<td>1389.55* (576)</td>
<td>1710.27* (580)</td>
<td>3356.28* (588)</td>
</tr>
<tr>
<td>CFI</td>
<td>0.921</td>
<td>0.889</td>
<td>0.846</td>
<td>0.622</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.059</td>
<td>0.069</td>
<td>0.081</td>
<td>0.126</td>
</tr>
<tr>
<td>SRMR</td>
<td>0.059</td>
<td>0.067</td>
<td>0.065</td>
<td>0.137</td>
</tr>
</tbody>
</table>

Notes. * Chi-square test significant at p<0.05

Model 1 = TMXC  TMXR  COHE  SATIS  CONF  TRUST
Model 2 = TMX                COHE  SATIS  CONF  TRUST
Model 3 = TMXC  TMXR  COHSATRTRU  CONF
Model 4 = SINGLE FACTOR
Table 4: Means, Standard Deviations, and Correlations among Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TMX Contributions</td>
<td>3.76</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. TMX Receipts</td>
<td>3.55</td>
<td>0.83</td>
<td>0.72*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Team Cohesion</td>
<td>3.54</td>
<td>0.89</td>
<td>0.58*</td>
<td>0.80*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Team Member Satisfaction</td>
<td>3.74</td>
<td>1.07</td>
<td>0.48*</td>
<td>0.77*</td>
<td>0.79*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Intra-Team Conflict</td>
<td>2.25</td>
<td>0.87</td>
<td>-0.16*</td>
<td>-0.31*</td>
<td>-0.29*</td>
<td>-0.39*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Trust in Team</td>
<td>3.78</td>
<td>0.98</td>
<td>0.52*</td>
<td>0.81*</td>
<td>0.81*</td>
<td>0.80*</td>
<td>-0.40*</td>
<td></td>
</tr>
<tr>
<td>7. Team Member Performance</td>
<td>87.07</td>
<td>11.97</td>
<td>0.19*</td>
<td>0.04</td>
<td>0.05</td>
<td>0.04</td>
<td>-0.17*</td>
<td>0.03</td>
</tr>
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Notes. N = 291-294 for all correlations except Team Member Performance (N = 228).
* Correlation is significant at p < 0.01.
Table 5: Effects of TMX Contributions and TMX Receipts on Team Cohesion

<table>
<thead>
<tr>
<th>Variables</th>
<th>(\gamma)</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.134</td>
<td>38.351</td>
</tr>
<tr>
<td>TMX Contributions</td>
<td>-0.360</td>
<td>-1.434</td>
</tr>
<tr>
<td>TMX Receipts</td>
<td>0.871*</td>
<td>5.017</td>
</tr>
<tr>
<td>TMX Contributions Squared</td>
<td>0.246</td>
<td>1.725</td>
</tr>
<tr>
<td>TMX Contributions / TMX Receipts Interaction</td>
<td>-0.072</td>
<td>-0.508</td>
</tr>
<tr>
<td>TMX Receipts Squared</td>
<td>0.037</td>
<td>0.567</td>
</tr>
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**Response Surface Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fit Slope</td>
<td>0.511*</td>
<td>2.068</td>
</tr>
<tr>
<td>Misfit Slope</td>
<td>-1.230*</td>
<td>-3.480</td>
</tr>
<tr>
<td>Fit Curve</td>
<td>0.211</td>
<td>1.581</td>
</tr>
<tr>
<td>Misfit Curve</td>
<td>0.355</td>
<td>1.334</td>
</tr>
</tbody>
</table>

**Notes:** N = 227 individuals after listwise deletion. All coefficients unstandardized.

* \(p < .05\)
Table 6: Effects of TMX Contributions and TMX Receipts on Team Member Satisfaction

<table>
<thead>
<tr>
<th>Variables</th>
<th>Team Member Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
</tr>
<tr>
<td>Intercept</td>
<td>3.310</td>
</tr>
<tr>
<td>TMX Contributions</td>
<td>-0.695*</td>
</tr>
<tr>
<td>TMX Receipts</td>
<td>1.515*</td>
</tr>
<tr>
<td>TMX Contributions Squared</td>
<td>0.394*</td>
</tr>
<tr>
<td>TMX Contributions / TMX Receipts Interaction</td>
<td>-0.473*</td>
</tr>
<tr>
<td>TMX Receipts Squared</td>
<td>0.086</td>
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**Response Surface Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fit Slope</td>
<td>0.820*</td>
<td>7.457</td>
</tr>
<tr>
<td>Misfit Slope</td>
<td>-2.210*</td>
<td>-5.326</td>
</tr>
<tr>
<td>Fit Curve</td>
<td>0.006</td>
<td>0.089</td>
</tr>
<tr>
<td>Misfit Curve</td>
<td>0.953*</td>
<td>3.141</td>
</tr>
</tbody>
</table>

*Notes: N = 227 individuals after listwise deletion. All coefficients unstandardized.

* $p < .05$
Table 7: Effects of TMX Contributions and TMX Receipts on Intra-Team Conflict

<table>
<thead>
<tr>
<th>Variables</th>
<th>γ</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.257</td>
<td>31.264</td>
</tr>
<tr>
<td>TMX Contributions</td>
<td>-0.493</td>
<td>-2.525</td>
</tr>
<tr>
<td>TMX Receipts</td>
<td>0.022</td>
<td>0.134</td>
</tr>
<tr>
<td>TMX Contributions Squared</td>
<td>0.526*</td>
<td>4.247</td>
</tr>
<tr>
<td>TMX Contributions / TMX Receipts Interaction</td>
<td>-0.304*</td>
<td>-1.994</td>
</tr>
<tr>
<td>TMX Receipts Squared</td>
<td>-0.069</td>
<td>-0.808</td>
</tr>
</tbody>
</table>

Response Surface Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fit Slope</td>
<td>-0.471*</td>
<td>-4.631</td>
</tr>
<tr>
<td>Misfit Slope</td>
<td>-0.515</td>
<td>-1.493</td>
</tr>
<tr>
<td>Fit Curve</td>
<td>0.153</td>
<td>1.717</td>
</tr>
<tr>
<td>Misfit Curve</td>
<td>0.762*</td>
<td>2.550</td>
</tr>
</tbody>
</table>

Notes: N = 227 individuals after listwise deletion. All coefficients unstandardized.
* p < .05
### Table 8: Effects of TMX Contributions and TMX Receipts on Trust in Team

<table>
<thead>
<tr>
<th>Variables</th>
<th>γ</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3.436</td>
<td>45.533</td>
</tr>
<tr>
<td>TMX Contributions</td>
<td>-0.409</td>
<td>-1.754</td>
</tr>
<tr>
<td>TMX Receipts</td>
<td>1.263*</td>
<td>6.908</td>
</tr>
<tr>
<td>TMX Contributions Squared</td>
<td>0.186</td>
<td>1.393</td>
</tr>
<tr>
<td>TMX Contributions / TMX Receipts Interaction</td>
<td>-0.231</td>
<td>-1.759</td>
</tr>
<tr>
<td>TMX Receipts Squared</td>
<td>-0.026</td>
<td>-0.412</td>
</tr>
</tbody>
</table>

**Response Surface Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fit Slope</td>
<td>0.854*</td>
<td>8.034</td>
</tr>
<tr>
<td>Misfit Slope</td>
<td>-1.671*</td>
<td>-4.125</td>
</tr>
<tr>
<td>Fit Curve</td>
<td>-0.071</td>
<td>-1.419</td>
</tr>
<tr>
<td>Misfit Curve</td>
<td>0.391</td>
<td>1.441</td>
</tr>
</tbody>
</table>

*Notes: N = 227 individuals after listwise deletion. All coefficients unstandardized.  
* p < .05
Table 9: Effects of TMX Contributions and TMX Receipts on Team Member Performance and Team Performance through Team Cohesion

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th>Team Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>$t$-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>84.482</td>
<td>59.357</td>
</tr>
<tr>
<td>TMX Block Variable</td>
<td>1.024*</td>
<td>3.613</td>
</tr>
<tr>
<td>Team Cohesion</td>
<td>0.056</td>
<td>0.036</td>
</tr>
<tr>
<td>TMX to Team Cohesion</td>
<td>0.998*</td>
<td>15.914</td>
</tr>
<tr>
<td>*Indirect Effect of TMX</td>
<td>IE</td>
<td>$z'$</td>
</tr>
<tr>
<td></td>
<td>0.056</td>
<td>0.036</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td></td>
<td>Bound</td>
<td>Bound</td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>-3.012</td>
<td>3.125</td>
</tr>
</tbody>
</table>

Note: N = 227 individuals for Team Member Performance; N = 291 observations within 88 teams for Team Performance. All coefficients unstandardized unless otherwise specified.

* $p < .05$
Table 10: Effects of TMX Contributions and TMX Receipts on Team Member Performance and Team Performance through Team Member Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th>Team Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>$t$-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>84.400</td>
<td>56.601</td>
</tr>
<tr>
<td>TMX Block Variable</td>
<td>0.986*</td>
<td>3.757</td>
</tr>
<tr>
<td>Team Member Satisfaction</td>
<td>-0.098</td>
<td>-0.068</td>
</tr>
<tr>
<td>TMX to Satisfaction</td>
<td>1.004*</td>
<td>14.537</td>
</tr>
<tr>
<td><strong>Indirect Effect of TMX</strong></td>
<td><strong>IE</strong></td>
<td><strong>z’</strong></td>
</tr>
<tr>
<td></td>
<td>-0.098</td>
<td>-0.068</td>
</tr>
<tr>
<td></td>
<td><em>Lower Bound</em></td>
<td><em>Upper Bound</em></td>
</tr>
<tr>
<td>95% Confidence Interval</td>
<td>-2.938</td>
<td>2.742</td>
</tr>
</tbody>
</table>

*Note: N = 227 individuals for Team Member Performance; N = 291 observations within 88 teams for Team Performance. All coefficients unstandardized unless otherwise specified.*

* *p* < .05
Table 11: Effects of TMX Contributions and TMX Receipts on Team Member Performance and Team Performance through Intra-Team Conflict

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th></th>
<th>Team Performance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>$t$-value</td>
<td>$\gamma$</td>
<td>$t$-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>86.354</td>
<td>86.775</td>
<td>102.529</td>
<td>2.949</td>
</tr>
<tr>
<td>TMX Block Variable</td>
<td>0.515*</td>
<td>2.585</td>
<td>1.419</td>
<td>0.794</td>
</tr>
<tr>
<td>Intra-Team Conflict</td>
<td>-2.887*</td>
<td>-2.969</td>
<td>-19.484*</td>
<td>-2.572</td>
</tr>
<tr>
<td>TMX to Conflict</td>
<td>1.146*</td>
<td>7.215</td>
<td>1.193*</td>
<td>5.763</td>
</tr>
</tbody>
</table>

*Indirect Effect of TMX*

<table>
<thead>
<tr>
<th></th>
<th>IE</th>
<th>$z'$</th>
<th>IE</th>
<th>$z'$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-3.309*</td>
<td>-2.568</td>
<td>-23.247*</td>
<td>-2.247</td>
</tr>
</tbody>
</table>

*Lower Bound Upper Bound Lower Bound Upper Bound

| 95% Confidence Interval | -5.835 | -0.783 | -43.523 | -2.972 |

Note: $N = 227$ individuals for Team Member Performance; $N = 291$ observations within 88 teams for Team Performance. All coefficients unstandardized unless otherwise specified.

* $p < .05$
Table 12: Effects of TMX Contributions and TMX Receipts on Team Member Performance and Team Performance through Trust in Team

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th>Team Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>t-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>84.528</td>
<td>59.682</td>
</tr>
<tr>
<td>TMX Block Variable</td>
<td>1.001*</td>
<td>3.655</td>
</tr>
<tr>
<td>Trust in Team</td>
<td>0.246</td>
<td>0.166</td>
</tr>
<tr>
<td>TMX to Trust</td>
<td>1.000*</td>
<td>15.866</td>
</tr>
<tr>
<td><strong>Indirect Effect of TMX</strong></td>
<td>IE</td>
<td>z’</td>
</tr>
<tr>
<td></td>
<td>0.246</td>
<td>0.166</td>
</tr>
<tr>
<td><strong>95% Confidence Interval</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-2.658</td>
<td>3.150</td>
</tr>
</tbody>
</table>

* $p < .05$

**Note:** N = 227 individuals for Team Member Performance; N = 291 observations within 88 teams for Team Performance. All coefficients unstandardized unless otherwise specified.
FIGURE 1: ILLUSTRATIVE IMAGES OF EQUILIBRIUM AND IMBALANCE BETWEEN TMX CONTRIBUTIONS ("GIVE") AND TMX RECEIPTS ("TAKE")

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giving Imbalance</td>
<td>Equilibrium</td>
<td>Taking Imbalance</td>
</tr>
<tr>
<td>Give = 6</td>
<td>Give = 4</td>
<td>Give = 2</td>
</tr>
<tr>
<td>Take = 2</td>
<td>Take = 4</td>
<td>Take = 6</td>
</tr>
<tr>
<td>TMX = 8</td>
<td>TMX = 8</td>
<td>TMX = 8</td>
</tr>
</tbody>
</table>

FIGURE 2: ILLUSTRATIVE IMAGES OF DIFFERENT TYPES OF EQUILIBRIUM BETWEEN TMX CONTRIBUTIONS ("GIVE") AND TMX RECEIPTS ("TAKE")

<table>
<thead>
<tr>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Quality</td>
<td>Medium Quality</td>
<td>High Quality</td>
</tr>
<tr>
<td>Give = 2</td>
<td>Give = 4</td>
<td>Give = 6</td>
</tr>
<tr>
<td>Take = 2</td>
<td>Take = 4</td>
<td>Take = 6</td>
</tr>
<tr>
<td>TMX = 4</td>
<td>TMX = 8</td>
<td>TMX = 12</td>
</tr>
</tbody>
</table>
FIGURE 4: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST
FIGURE 5: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT

FIGURE 6: SCATTERPLOT OF TMX CONTRIBUTIONS AND TMX RECEIPTS
FIGURE 7: PLOTTED RESPONSE SURFACE SHOWING INFLUENCE OF TMX CONTRIBUTIONS AND TMX RECEIPTS ON TEAM COHESION

FIGURE 8: PLOTTED RESPONSE SURFACE SHOWING INFLUENCE OF TMX CONTRIBUTIONS AND TMX RECEIPTS ON TEAM MEMBER SATISFACTION
FIGURE 9: PLOTTED RESPONSE SURFACE SHOWING INFLUENCE OF TMX CONTRIBUTIONS AND TMX RECEIPTS ON INTRA-TEAM CONFLICT

FIGURE 10: PLOTTED RESPONSE SURFACE SHOWING INFLUENCE OF TMX CONTRIBUTIONS AND TMX RECEIPTS ON TRUST IN TEAM
Essay 2

Exploring the Influence of Cultural Values on Social Exchange in Global Teams

Abstract

Global teams are an increasingly important and commonplace feature of modern organizations operating in a highly interconnected business world. Yet despite calls to prioritize research about the influence of cultural differences on team dynamics, our knowledge and understanding about these topics is severely limited. In this paper, I focus on social exchange as a foundational building block for developing connections between team members. I first present a novel approach to conceptualizing and measuring an individual’s evaluation of their relationship with their team. This approach involves the consideration of team member contributions and receipts separately and interactively, as opposed to the traditional view of teamwork as an overall construct. I then integrate the effect of cultural values by considering how people vary in their interpretation of and response to team dynamics – i.e. the give and take represented by contributions and receipts – based on their cultural background. I develop a series of hypotheses relating to the interactive effects of social exchange patterns and cultural values, and I describe my study design for testing these predictions.
Introduction

During the past 25 years, we have witnessed an increased focus on the role of culture in organizational settings due to the changing work context in a more globally integrated world (Gelfand, Erez, & Aycan, 2007). Companies are more likely to operate across borders and to employ individuals from a broad range of national and cultural backgrounds (e.g. Leung, Bhagat, Buchan, Erez, & Gibson, 2005). As individuals interact more often with people holding different values and beliefs, it is becoming more important to appreciate the challenges and opportunities inherent in these interactions. An ability to span boundaries, to interact with unfamiliar others and to deal with intercultural situations is paramount for employees (e.g. Leung, Ang, & Tan, 2014). Global teams represent an arena where individuals from different cultures are frequently thrown together, and it is essential to appreciate how social exchange relationships develop and influence outcomes in this setting.

Management scholars acknowledge the need for conducting more research in response to the trend towards global teams. Cohen & Bailey (1997) set out a research agenda for improving the teams literature, identifying ‘virtual and global teams’ as one of five key areas for future research. When Mathieu, Maynard, Rapp, & Gilson (2008) revisited this list of priorities to conduct a progress update a decade later, they commented that work on virtuality in teams has exploded, but they highlighted a relative lack of attention to the global context despite its importance, saying: “work on the role of the larger cultural context on team functioning is beginning to emerge” (p.459). They noted that with a few exceptions, the majority of studies focus on culture only in terms of diversity and team composition. If we wish to improve theory and practice related to teamwork, we need to develop a deeper understanding of how culture influences team processes.
In the last few years, we have seen the continuing gradual emergence of research about global teams, particularly in relation to competency development (e.g. Adair, Hideg, & Spence, 2013; Erez, Lisak, Harush, Glikson, Nouri, & Shokef, 2013) and communication challenges (e.g. Klitmoller & Lauring, 2013). However, when we look over recent publications about global virtual teams, we can see that researchers typically incorporate virtuality into their research to a much greater extent than culture (Gibson, Huang, Kirkman, & Shapiro, 2014). Mockaitis, Rose, & Zettinig’s (2012) work stands out for its integration of global and virtual influences on team processes, and the authors lament that “despite widespread acknowledgement of the challenges presented by cultural differences in the context of global teams, little is known about the effect of these differences on team dynamics in the absence of face-to-face interaction” (p.193). Although organizations are becoming ever more reliant on global teams, the situation remains that “surprisingly little research on understanding team effectiveness has been conducted outside North American and other Western contexts” (Kirkman, Shapiro, Lu, & McGurrin, 2016). In this essay, I contribute to this conversation by examining the role of cultural values with regards to the individual experience of building a social exchange relationship with their team.

Team Member Exchange (TMX – Seers, 1989) considers the reciprocity between a focal team member and a peer group and sees high quality relationships as consisting of positive contributions by both sides. Building on the foundations of Social Exchange Theory (SET - Blau, 1964; Thibaut & Kelley, 1959; Homans, 1958), TMX represents an interpersonal process through which individual team members develop expectations and obligations as a result of their interactions with the team. TMX offers us a useful way of describing and measuring an individual’s perceived relationship with the group, but – as I will explain in more detail – it tends to be used in a manner that is not consistent with SET. Teamwork is typically conceptualized and
measured as a combination of all team members’ activities, whereas SET indicates that relationships should be considered in terms of the contributions by each party. We need to separate TMX into its two components (TMX contributions and TMX receipts) if we want to account for the realities of interpersonal interactions. In this essay, I first outline the case for a new approach to TMX, before exploring the added layer of complexity presented by differences in cultural values.

**Theory Development**

In the following section, I first define global teams and then I explore the social exchange literature underlying relationships between team members. I consider the reciprocal nature of social exchange, and highlight the opportunity to better understand the give and take of team member relationships by examining TMX contributions and TMX receipts as separate constructs. I then integrate my proposed approach to investigating teamwork with the cross-cultural demands faced by global teams. I develop a series of hypotheses predicting individual team member perceptions and performance outcomes, taking into account the influence of values (such as individualism/collectivism) on the way individuals interpret the interaction between TMX contributions and TMX receipts. I argue that we can gain a more precise and nuanced perspective of the team member experience if we evaluate both sides of the social exchange relationship and acknowledge cultural differences in reactions to TMX dynamics.

**Defining Global Teams**

Kozlowski & Bell (2003) reviewed the existing teams literature to develop a comprehensive definition of teams that offers a firm basis for continuing research (Banks, Batchelor, Seers, O’Boyle, Pollack, & Gower, 2014). The authors describe teams as “(a)
composed of two or more individuals, (b) who exist to perform organizationally relevant tasks, (c) share one or more common goals, (d) interact socially, (e) exhibit task interdependencies, (f) maintain and manage boundaries, and (g) are embedded in an organizational context” (p.334). We can place this general definition in the cross-cultural context by referring to the work of Wheatley and Wilemon (1999), who define a global team as “a team that is comprised of individuals located in many different countries or geographic areas, and team members differ in their functionality, which adds complexity to group dynamics”. These definitions show that members of a global team are distributed around the world, yet they are interdependent and still need to interact in order to accomplish their joint goals. Such team members face increased complexity in their relationships due to factors including distance and culture, but there remains a need for social exchange in the form of communication and cooperation across national borders.

Social Exchange Processes for Global Teams

Social Exchange Theory (SET – Blau, 1964; Thibaut & Kelley, 1959; Homans, 1958) is “among the most influential conceptual paradigms for understanding workplace behavior” (Cropanzano & Mitchell, 2005), and is particularly relevant for teams due to their reliance on interpersonal dynamics. SET describes relationships in terms of a series of interactions that produce norms for the relationship and generate both expectations and obligations (Emerson, 1976). As we attempt to understand how individual team members relate with the rest of their team, it is important for us to consider the quality of social exchange in the team. TMX applies the SET perspective to the team environment by focusing on “an individual employee’s perception of his or her reciprocity with other team members” (Seers, Petty, & Cashman, 1995). As shown in Table 1, TMX builds on an array of influential SET literature from the last 60 years.
In this section, I briefly review the key concepts underlying SET and indicate the most appropriate way of using TMX to fully appreciate social exchange within teams.

The foundational SET writings of the 1950s and 1960s used various terminologies and approaches to emphasize similar points. Blau (1955, 1964) wrote about how people evaluate the outputs and inputs of their relationships, seeking to maintain a level of balance between them over time. He acknowledged that some encounters are more transactional, but argued that in most ongoing relationships there are intrinsic elements such as respect, gratitude, and goodwill. There might not be immediate payoffs from doing a favor for a business partner, but in the long run the recipient will tend to remember and return the gesture. Homans (1958) and Thibaut & Kelley (1959) preferred to theorize about rewards and costs, highlighting that investments in a social exchange relationship are valuable, and that people are likely to withdraw from a relationship where they do not receive anything in return for their investments. Individuals are motivated to maximize their rewards and minimize their costs, which should generally push relationships towards an equilibrium between give and take. Gouldner (1960) and Adams (1963, 1965) examined the tendency towards balance and the potential for imbalance in social exchange – the former described reciprocity as a behavioral norm that drives people to repay benefits received, while the latter posited that individuals will be dissatisfied if they perceive inequity in a relationship. All of these ideas are integral to SET and we can understand that individuals see two sides to every social exchange relationship – their own contributions and the contributions
they receive in return. People usually expect these elements to be relatively equal over time in a healthy relationship and there are typically negative consequences if this norm is violated.

In the more recent publications about LMX and TMX, the authors specifically use the terminology of contributions in their analysis of leader-member dyads (Dansereau, Cashman & Graen, 1973; Dansereau, Graen & Haga, 1975; Graen, 1976) and team member perceptions (Seers, 1989; Seers et al., 1995). I follow this convention in my writing and use the TMX terminology of contributions (from the individual to the team) and receipts (from the team to the individual). We can note that LMX and TMX perspectives are firmly grounded in SET, and that the authors highlight the need for researchers to pay attention to both parties in a social exchange relationship. SET and TMX suggest that when team members evaluate their relationship with the team as a whole, they jointly consider their contributions (what they are giving to the team) and their receipts (what they are getting back from the team). Over time, they expect the relationship to be reciprocal, and they will react negatively to situations where they are always contributing more than they are receiving, perhaps even choosing to discontinue relationships of this type.

The original conceptualization of TMX (Seers, 1989; Seers et al., 1995) certainly includes the idea of contributions and receipts. However, the initial 10-item TMX scale (Seers, 1989) features a mix of items that do not fully reflect reciprocity – perhaps partly as a result of this misstep, researchers tend to lump everything together and view TMX as a single measure of teamwork. Seers and colleagues (Seers, Ford, Wilkerson, & Moormann, 2001; Ford, Wilkerson, Seers, & Moormann, 2014) offer an improved version of the TMX scale, with 6 items each representing reciprocal contributions and receipts. Nonetheless, with a couple of notable exceptions closely linked to the development of TMX (Ford & Seers, 2006; Ford et al., 2014), it is typical for papers to simply aggregate contributions and receipts – conceptually and
empirically – into a single variable. Doing so veers sharply away from the intentions of SET and TMX and limits our ability to engage with the complexity of team member relationships.

The images in Figure 1 provide a simple overview of why this type of aggregation is inappropriate. If we add together an individual team member’s perceived contributions and receipts, we run the risk of hiding the pattern of give and take. As per the examples shown, we can reach the same overall TMX score irrespective of whether team members are contributing more than, less than or the same as their teammates. This imprecision is problematic in theoretical and practical terms, as it impairs our thinking and damages our results.

Along similar lines, it is not an acceptable alternative to look only at whether the give and the take are at equilibrium or not. As shown in Figure 2, there are different types of equilibrium – ranging from low quality reciprocity to high quality reciprocity – and it is therefore essential that we account for social exchange patterns and the actual values on each side.

I take the position that we need to theorize about teamwork in line with SET and we should explicitly separate TMX into contributions and receipts. My logic is in line with the recommendations of authors intimately linked with TMX (Ford & Seers, 2006; Ford et al.,
2014), who urge researchers not to see it as a single teamwork construct. Doing so removes valuable information and insights by combining two conceptually distinct variables into a single construct. Researchers will be able to explain the give and take of team member relationships and predict their outcomes more precisely by considering the joint influence of TMX contributions and receipts. I argue that TMX contributions and TMX receipts are closely connected in team members’ minds, because they correspond to the two sides of social exchange, and people evaluate them jointly to reach conclusions about the reciprocity (or lack thereof) in their relationship with the team. It is therefore important for theory-building and for empirical research about team processes that we consider their joint effects.

Conceptual Model

Figure 3 provides an overview of the conceptual model and hypotheses for this study, and is followed by a detailed discussion of the theory and logic underpinning the predicted relationships. According to the earlier evidence about the need to consider TMX contributions and TMX receipts separately and jointly, I predict that these two variables will interact to influence how a team member perceives their relationship with the team. It is important for us to understand the different combinations and their effects – for example, an individual making high contributions with low receipts in return is unlikely to respond in the same manner as a person making low contributions with high receipts, or a team member in a high quality reciprocal relationship (high contributions and high receipts). Cultural values will moderate the effect of social exchange dynamics on team member perceptions, with individualism, masculinity, and long term orientation affecting how individuals interpret the level of reciprocity they experience. Finally, team member perceptions will have important consequences for performance outcomes at the individual and group levels, indicating that organizations would be well advised to
improve their understanding of team member relationships by considering their inherent give and take.

Influence of Cultural Values on Social Exchange Processes

Authors of previous studies have noted that cultural factors such as individualism / collectivism can influence team processes and social exchange dynamics (Harrison, McKinnon, Wu, & Chow, 2000; Pellegrini & Scandura, 2006; Gelfand, Erez, & Aycan, 2007). There is evidence that people from different cultures can have different perspectives on the nature of social relationships; in some contexts, people will be extremely focused on ‘equality matching’, whereas in others there might be an expectation of ‘communal sharing’ (Fiske, 1992). In addition, culturally diverse teams can suffer from process losses due to poor social integration and task conflict (Stahl, Maznevski, Voigt, & Jonsen, 2010). It is clear that cultural differences among team members can be challenging, and that researchers and practitioners would benefit from improving their understanding of how people from different backgrounds relate with each other in a team environment. With regards to TMX in a global context, I predict that cultural values will alter how individuals from different backgrounds will perceive balance and imbalance in their social exchange relationships. I expect that people will rely on their cultural frame of reference as they respond to perceived reciprocity, as well as apparent excess or deficit of team member contributions.
There are several approaches to examining cultural values and a range of potentially relevant cultural dimensions. Much of the research on cultural differences originates with the seminal work of Hofstede (1980), although his national level of analysis has been criticized for promoting stereotypes and ignoring intra-national variation (e.g. Au, 1999; Tsui, Nifadkar, & Ou, 2007). Hofstede acknowledges some problems with the way his original study is interpreted and states that the national level is in fact not the ideal unit for studying culture (e.g. Hofstede, 2002). We can find extensive academic debate about the pros and cons of Hofstede’s work, and they key takeaway is that we must be aware of what is being measured. A national level cultural dimension represents a central tendency for that country, but it should not be taken as accurate for every individual born there. Authors on both sides of the debate agree that we should expect intra-national variation and that we need to be careful not to falsely assume that cultural values can be applied to a whole population. When we are concerned with individuals, it makes sense to assess perceptions, beliefs and values related to culture at the individual level. For this reason, scholars have developed individual measures of culture (e.g. Dorfman & Howell, 1988; Triandis, 1995) – some using the same dimensions as Hofstede, others introducing alternative dimensions.

Hofstede (1980) presents a model of national culture with six dimensions: Power Distance, Individualism (as opposed to Collectivism), Masculinity (as opposed to Femininity), Uncertainty Avoidance, Long Term Orientation (as opposed to Short Term Orientation), and Indulgence. As we examine the team environment and the perspective of individual team members, some of these dimensions appear more relevant than others. For the reasons outlined below, I expect that three of the dimensions – namely individualism, masculinity and long term orientation – will be especially salient in the context at hand. Conversely, it seems less likely that power distance, uncertainty avoidance and indulgence will influence a team member’s evaluation
of contributions and receipts. Power distance relates to the acceptance and expectation of a strict hierarchical order in society (Hofstede Center, 2016), but the equal status of team members leads me to believe there will be relatively little power differentiation in this situation. Uncertainty avoidance describes the degree to which people are uncomfortable with ambiguity and tend to rely on firm rules to control the future (Hofstede Center, 2016); as such, this dimension is more closely linked with topics such as stress and creativity than team processes. Indulgence concerns the extent to which enjoying life and having fun is prioritized (Hofstede Center, 2016), so it is less focused on teamwork and taskwork.

Individualism, masculinity and long term orientation are dimensions that are closely connected with the team context and with the characteristics of social exchange relationships. As outlined in the SET section earlier, social exchange relationships consist of a series of interactions that generate expectations and obligations for the future. They are a function of contributions and receipts – the give and take within the relationship – and tend towards reciprocity over time, with ongoing exchange imbalances generally reflecting an unhealthy relationship. Individualism is highly relevant to these processes, because it describes a tendency to be more self-oriented, whereas collectivists are typically more other-oriented (Hofstede Center, 2016). This may influence how a person views imbalance in the relationship (i.e. they might see a ‘taking imbalance’ as beneficial). Masculinity is also an interesting dimension, because it is related with a more competitive approach in comparison with the more cooperative approach of feminism (Hofstede Center, 2016). This may lead to a greater emphasis on claiming value by maximizing receipts without as much attention to contributions. Finally, long term orientation is clearly linked with the idea of reciprocity over time – someone who is looking to the future will probably be more accepting of short term imbalance than a person who is
obsessed with immediate payoffs (Hofstede Center, 2016). Each of these dimensions is discussed in more detail below and I develop hypotheses related to their moderating effect in the next section.

With regards to the team member perceptions that are likely to be most salient in relation to evaluations of social exchange relationships, I expect that individual judgments about team cohesion, satisfaction with the team, conflict within the team, and trust in the team will be especially meaningful. Individual perceptions of team cohesion represent an assessment of the level of group integration and individual attraction to the group (Carron, Widmeyer, & Brawley, 1985). Team members who consider their relationship with the team to be characterized by frequent, positive interactions are more likely to see their team as cohesive (e.g. Lott & Lott, 1965). The type of interactions desired will vary according to cultural values, adding complexity to this relationship. With regards to satisfaction, this intermediate outcome has been linked with reciprocity throughout the development of SET (e.g. Thibaut & Kelley, 1959), while violations of the norm of reciprocity tend to be dissatisfying (Gouldner, 1960). Cultural values will play a role in determining what is acceptable based on norms. Interpersonal conflict between team members is likely if exchanges are seen to be inequitable (Adams, 1965). Again, cultural values will influence what team members judge to be fair or unfair exchange. As for trust, SET authors (e.g. Blau, 1964) view the development of trust through ongoing reciprocal interactions as a building block for high quality relationships. Expectations of team members and subsequent evaluations of their reliability will also depend on cultural values. All four intermediate outcomes will therefore rely both on an assessment of TMX (perceived contributions and receipts) and on the cultural background of the focal team member.
Turning to the first dimension that is likely to influence a team member’s interpretation of team dynamics, individualism is defined as a preference for a social framework in which individuals are largely responsible for themselves (Hofstede Center, 2016). Low individualism, known as collectivism, indicates a preference for a tightly connected social framework in which members of an ingroup are highly supportive of each other. An individualistic person will tend to see the world from an ‘I / me’ viewpoint, whereas a collectivistic person will emphasize ‘we / us’. This cultural value is by far the most commonly used dimension for explaining cognition and behavior (Taras, Kirkman, & Steel, 2010) and seems certain to play a role in team relationships.

I expect that team members with collectivistic values will be less sensitive to apparent deficit in contributions (i.e. more willing to accept that their contribution is higher than the contribution received in return, because this represents an investment in their ingroup) yet more sensitive to apparent excess (i.e. more uncomfortable if their contributions are lower than their receipts, because they feel guilt and obligation as a weak member of the group). Collectivists are more likely to believe in communal relationships where it is important to meet the needs of others (Clark & Mills, 1979; Fiske, 1992). On the other hand, I expect that team members with individualistic values will be more sensitive to apparent deficit in contributions (i.e. dissatisfied that they are incurring costs in the relationship but receiving little in return) and less sensitive to apparent excess (i.e. feeling less awkwardness about gaining from the group even if their own contributions are relatively low). Individualists are more likely to rely on exchange relationships versus communal relationships, seeing exchange deficits as a personal cost (Clark & Mills, 1979). These expected patterns are summarized in Table 2.
My first two hypotheses relate to the moderating role of individualism / collectivism on the influence of TMX contributions and receipts on team member perceptions. As shown in Table 2, I expect that both individualists (due to self-interests) and collectivists (due to collective interests) will prefer a high quality reciprocal relationship over a low quality reciprocal relationship. This prediction is in line with the basic tenets of SET (Blau, 1964) stating a preference for people to build trusting relationships via consistent back and forth. However, it is also possible for an exchange relationship to be lacking in reciprocity (e.g. Adams, 1965; Gouldner, 1960). I predict that individualists will be less satisfied than collectivists with a ‘giving imbalance’, because their worldview is centered on achieving satisfactory outcomes for themselves (Hofstede Center, 2016), which includes avoiding excessive costs that are not reciprocated. Individualists are more focused on their own interests and will therefore prioritize improving their position through receipts. They will find a situation where they are over-contributing and incurring the costs of doing so least acceptable. On the other hand, I expect that collectivists will be less satisfied than individualists with a ‘taking imbalance’, because they feel a sense of responsibility towards the group (Hofstede Center, 2016). Collectivists will see more value in contributing based on their other-orientation. They will feel most uncomfortable when they assess their contributions as insufficient compared to their peers.

**Hypothesis 1:** As team members who are high in individualism judge there to be more of a ‘giving imbalance’ (lower TMX Receipts combined with higher TMX Contributions)
rather than a ‘taking imbalance’ or reciprocal relationship, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

**Hypothesis 2:** As team members who are high in collectivism judge there to be more of a ‘taking imbalance’ (higher TMX Receipts combined with lower TMX Contributions) rather than a ‘giving imbalance’ or reciprocal relationship, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

Figures 4 to 7 provide idealized response surfaces of the relationships shown in the preceding hypotheses. As shown in Figures 4 and 5, team members high in individualism will react most negatively (i.e. making evaluations of low cohesion, low satisfaction, low trust and high conflict) when their contributions are high and their receipts are low (giving imbalance). As shown in Figures 6 and 7, team members high in collectivism will take a different view, reacting most negatively when their receipts are high and their contributions are low (taking imbalance).

With regards to the second dimension of interest, Hofstede (1998) noted that masculinity is equally as important a cultural value as individualism, but lacks the same volume of research due to being less easy to categorize into western and eastern tendencies and to being viewed as a somewhat ‘taboo’ dimension. Masculinity is connected with achievement, competitiveness, and rewards for success. Low masculinity, also termed femininity, represents a stronger preference
for caring, cooperation, and consensus (Hofstede Center, 2016). Employees in highly masculine cultures tend to be motivated by competition within their organization, whereas employees in less masculine cultures prefer to maintain interpersonal relationships and promote societal well-being (Taras, Steel, & Kirkman, 2011). I expect that team members who subscribe to more masculine values will be motivated to ‘win’ in their interpersonal relationships, and will view high TMX receipts as a symbol of success. They will be particularly disturbed by situations where they are making high contributions and yet do not receive at least the same level of receipts in return. Those team members whose values are more feminine will strive for cooperation and reciprocity in their relationships, and will feel uncomfortable with imbalance in either direction, as well as an overall lack of working together. Table 3 offers an overview of the predicted responses based on masculinity / femininity.

My next hypotheses relate to the moderating role of masculinity / femininity on the influence of TMX contributions and receipts on team member perceptions. As shown in Table 3, I expect that both masculine individuals (for reasons of competition) and feminine individuals (for reasons of cooperation) will prefer a high quality reciprocal relationship over a low quality reciprocal relationship. Again, this corresponds to the principles of SET (Blau, 1964) in that people typically prefer to develop a mutually beneficial relationship based on a pattern of give and take. However, when it comes to situations characterized by a lack of reciprocity (e.g. Adams, 1965; Gouldner, 1960), I predict that those high in masculinity will be more satisfied
than those high in femininity with a ‘taking imbalance’, because this could be viewed as a competitive victory (Hofstede Center, 2016). Those high in femininity will be most satisfied with a highly reciprocal TMX relationship, because this indicates a strong social bond supportive of cooperation (Taras, Steel, & Kirkman, 2011). Masculine individuals will perceive a ‘taking imbalance’ as winning in a competitive environment, and will think of a ‘giving imbalance’ as a loss. Feminine individuals will be motivated to reach the win-win outcome of a highly reciprocal relationship and will see any imbalance as inferior.

**Hypothesis 3:** As team members who are high in masculinity judge there to be more of a ‘giving imbalance’ (lower TMX Receipts combined with higher TMX Contributions) rather than a ‘taking imbalance’ or reciprocal relationship, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

**Hypothesis 4:** As team members who are high in femininity judge there to be more of a ‘giving imbalance’ (lower TMX Receipts combined with higher TMX Contributions) or a ‘taking imbalance’ (higher TMX Receipts combined with lower TMX Contributions) rather than a reciprocal relationship, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

Figures 8 to 11 provide idealized response surfaces of the relationships shown in the preceding hypotheses. As shown in Figures 8 and 9, team members high in masculinity will react most negatively (i.e. making evaluations of low cohesion, low satisfaction, low trust and high conflict) when their contributions are high and their receipts are low (giving imbalance). As
shown in Figures 10 and 11, team members high in femininity will take a different view, reacting negatively whenever there is a lack of reciprocity (taking imbalance or giving imbalance).

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INSERT FIGURES 8-11 ABOUT HERE

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Long term and short term orientation describe the frame of reference used by individuals to integrate past experience with future challenges (Hofstede Center, 2016). Temporality is considered to be a critical yet often overlooked component in effective management theory-building (George & Jones, 2000), and a clear understanding of societal time orientation is helpful to those working across borders (Venaik, Zhu, & Brewer, 2013). People with long term orientation (LTO) are more willing to make sacrifices today for anticipated benefits in the future, and can be considered pragmatic in terms of being flexible and open to change. People with short term orientation (STO) are more likely to rely on norms of behavior in work and everyday life, and they will tend to be skeptical of threats or changes to these norms. LTO has unfortunately been studied relatively rarely, perhaps as a result of being added to the Hofstede values later than the other dimensions (Taras, Steel, & Kirkman, 2012). But given that individual perspectives about time orientation guide various aspects of decision-making, there has been some research in the marketing literature. For example, consumer research indicates that people high in LTO tend to be more frugal and have stronger personal ethics because they are not very motivated by short term gains (Bearden, Money, & Nevins, 2006). In the team context, I expect that team members with LTO will be less sensitive to imbalances in the relationship with their team, assuming that things will eventually come full circle. In fact, they will view their own contributions positively.
because they are making long term investments in the team. However, team members with STO will react negatively to an excess of contributions, seeing the lack of reciprocity as unacceptable. Their desire for short term gains will generally encourage them to seek high TMX receipts. Table 4 provides an overview of these patterns.

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INSERT TABLE 4 ABOUT HERE

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My next hypotheses relate to the moderating role of LTO / STO on the influence of TMX contributions and receipts on team member perceptions. As shown in Table 4, I expect that both long-term oriented individuals (seeking to build a future relationship) and short-term oriented individuals (seeking to maximize their present gain) will prefer a high quality reciprocal relationship over a low quality reciprocal relationship. This prediction is in keeping with the fundamentals of SET (Blau, 1964) in that people prefer to develop positive relationships based on trust and reciprocation. However, in cases where there is a lack of reciprocity (e.g. Adams, 1965; Gouldner, 1960), I predict that those high in LTO will be less satisfied with a ‘taking imbalance’, and that those high in STO will be less satisfied with a ‘giving imbalance’. For those high in LTO, a ‘taking imbalance’ will suggest that the future of the relationship could be put in doubt through their lack of contributions. They would prefer to invest in the relationship through a ‘giving imbalance’ or to have reciprocity, because they are not driven to pursue short term gains (Bearden, Money, & Nevins, 2006). For those high in STO, a ‘giving imbalance’ will signify that they are over-contributing and not receiving an immediate return – this would be seen as a lack of reciprocity rather than a temporary imbalance, leading to negative reactions
This will be unappealing to someone with such a short time horizon (Hofstede Center, 2016), whereas a ‘taking imbalance’ or reciprocity at least mean they are not losing out.

**Hypothesis 5:** As team members who are high in LTO judge there to be more of a ‘taking imbalance’ (higher TMX Receipts combined with lower TMX Contributions) rather than a ‘giving imbalance’ or reciprocal relationship, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

**Hypothesis 6:** As team members who are high in STO judge there to be more of a ‘giving imbalance’ (lower TMX Receipts combined with higher TMX Contributions) rather than a ‘taking imbalance’ or reciprocal relationship, they will a) perceive the team to be less cohesive, b) report lower satisfaction with the team, c) perceive higher conflict in the team, and d) report lower trust in the team.

Figures 12 to 15 provide idealized response surfaces of the relationships shown in the preceding hypotheses. As shown in Figures 12 and 13, team members high in LTO will react most negatively (i.e. making evaluations of low cohesion, low satisfaction, low trust and high conflict) when their contributions are low and their receipts are high (taking imbalance). As shown in Figures 14 and 15, team members high in STO will take a different view, reacting most negatively when their contributions are high and their receipts are low (giving imbalance).

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INSERT FIGURES 12-15 ABOUT HERE

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Finally, I expect that a team member’s perception of their team, including their satisfaction and trust in the team, will contribute to their individual performance and their team outcomes. For instance, team members who are unhappy, see their team as lacking in cohesion and do not trust their team will perform poorly as a result. This will have a negative impact on their own productivity, which will have an associated effect on team performance. In addition, their evaluation of poor team quality is likely to be indicative of wider team problems. These arguments are outlined in greater detail and developed into hypotheses below.

My next hypothesis concerns individual performance. I predict that team members who believe their team to be cohesive will be motivated to perform as a result of being part of a highly functional unit where their performance is influential. In addition, it is widely accepted that employees who are satisfied with their work environment perform better than those who are unhappy in their role (e.g. Iaffaldano & Muchinsky, 1985; Judge, Thoresen, Bono, & Patton, 2001). If a team member perceives there to be conflict in the team, this is likely to distract from their taskwork and contribute to a decline in performance (e.g. De Dreu & Weingart, 2003). Finally, team members who trust their team will feel a level of security about being helped and supported, which will allow them to focus on the tasks at hand and achieve higher levels of performance (e.g. Colquitt, Scott, & LePine, 2007).

Hypothesis 7: Individual team member perceptions of a) team cohesion, b) satisfaction with the team, c) conflict in the team, and d) trust in the team will be related to individual level performance.

My final hypothesis focuses on team performance. Group outcomes will depend partly on the aggregation of individual team member efforts, and partly on whether team dynamics are healthy or not. I expect that team members who report their team to be cohesive will be relatively
well informed to comment on this attribute, and that teams described as highly cohesive will perform well due to their interconnectedness. Team member satisfaction is likely to signal that the team as a whole is working together successfully and that performance will follow. If conflict is identified within the team, interpersonal issues will probably be detrimental to team performance because they involve multiple parties, are difficult to ignore, and detract from both taskwork and teamwork. Finally, if team members consider the team to be characterized by high levels of trust, this is likely to be a good indicator of future performance because trust forms a basis for cooperation towards shared organizational goals.

*Hypothesis 8: Individual team member perceptions of a) team cohesion, b) satisfaction with the team, c) conflict in the team, and d) trust in the team will be related to team level performance.*

**Method**

*Sample and Procedure*

For my second essay, I collected data to from two different global virtual team simulations with participants in various countries. Data for the main study – Study 1 – comes from the X-Culture project, which connects thousands of students at undergraduate and graduate levels from more than 40 countries as they collaborate on business consulting tasks in global virtual teams. Data for the smaller study – Study 2 – comes from the Technion Multi-Cultural Team Project, which involves hundreds of graduate students from several different countries working cooperatively in international project teams. In both cases, participants are assigned to teams at the beginning of the semester in order to ensure representation from a variety of cultural backgrounds and time zones.
In Study 1, the research sample consisted of 2,964 individuals divided into 622 teams ranging in size from 3 to 7 team members. The average team size was 4.8 and the majority of teams featured 5 team members. The average age of participants was 23.8 years and there was a relatively even split between male and female respondents (49 and 51 percent respectively). 80 percent of participants were undergraduate students, and 20 percent were MBA students. The participants worked together for 10 weeks on a project aimed at assisting partner companies with a real-world business problem. This project was graded by course instructors and formed part of the students’ assessment for the semester. I collected data about team member contributions and receipts at the end of week 5, about intermediate outcomes at the end of week 7, and about performance outcomes after week 10.

In Study 2, the research sample consisted of 292 individuals divided into 77 teams ranging in size from 3 to 4 team members. The average team size was 3.8 and the majority of teams featured 4 team members. The average age of participants was 28.0 years, which is consistent with the students being at the graduate level. Similar to Study 1, the sample exhibited a relatively even split between male and female respondents (52 and 48 percent respectively). Participants cooperated for approximately six weeks on a team-based task, and each team received a grade for the final presentation. TMX contributions and TMX receipts were measured two weeks into the project, and intermediate outcomes captured after four weeks.

Measures

Team Member Exchange. In Study 1, team member contributions (TMC) and team member receipts (TMR) were assessed by asking participants directly about the level of their contributions and those of each of their teammates. As such, TMC is based on self-assessment, while TMR is based on the aggregated value of team member assessments (e.g. the average
rating of contributions across four team members as rated by the focal individual in a five-person team). For both TMC and TMR, respondents evaluated 4 items (namely effort, ideas, leadership, and friendliness) on a 5-point scale from “Poor” to “Excellent”. The internal consistency for TMC was $\alpha = .82$ and for TMR it was $.92$.

In Study 2, TMX was assessed using a shortened 8-item version of the Seers et al. (2001; 2014) scale shown in Appendix A. Respondents used a 7-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency for this scale was $\alpha = .90$. Examined separately, the internal consistency for TMX contributions and TMX receipts was $\alpha = .88$ in each case.

**Individual Cultural Values.** As discussed earlier, although the work of Hofstede (1980) brought about increased awareness of cultural dimensions, the measures are at the national level and are intended to offer an insight into central tendencies per country rather than individual values. Since this paper examines the individual experience of the team, it is appropriate to use individual level measures to capture the focal team member’s cultural orientation. The scales are designed to tap into the Hofstede values at an individual level rather than the national level.

In Study 1, individual cultural values were measured using an adapted version of the CVSCALE (Yoo & Donthu, 2002; Yoo, Donthu, & Lenartowicz, 2011). This scale consisted of 4 items measuring masculinity, 4 items measuring collectivism, and 3 items measuring long-term orientation. Sample items for each dimension respectively are: “There are many jobs that men can always do better than women”, “Group success is more important than individual success”, and “People should be planning for the long term even if it means giving up pleasures today”. Respondents rated statements on a 5-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency for these scales was $\alpha = .89$ for masculinity, $.77$ for collectivism, and $.76$ for long-term orientation.
In Study 2, the cultural value of collectivism was measured using an adapted version of the scale of Dorfman & Howell (1988). This scale consisted of 5 items, and a sample item is “Group success is more important than individual success”. Respondents rated statements on a 7-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency for this scale was $\alpha = .74$.

**Team Member Perceptions.** In Study 1, I collected data related to the intermediate outcomes of perceived team cohesion, satisfaction with the team, perceived intra-team conflict, and trust in the team. Perceived team cohesion was measured using a question about team chemistry, specifically: “How often did you discuss with your teammates matters that are not related to the project, such as weather, hobbies, friends, movies or something else?”. Respondents answered this question using a 5-point scale from “Never” to “Most of the time”. Satisfaction with the team was assessed via responses to the question “Do you enjoy working with the people on your team?”. Participants responded on a scale from 0 to 100. Perceived intra-team conflict was evaluated by asking respondents about the frequency of “conflicts, misunderstandings, or disagreements with your team members”. Respondents reported the number of conflicts experienced in the previous week. For the purpose of this study, I examined the number of conflicts reported in the two weeks following the survey about team member exchange (i.e. weeks 6 and 7). Finally, for trust in the team, I used identification with the team as a proxy – identification with the team is considered to be both a precursor to trust in the team (Han & Harms, 2010) and an important element within the most trusting workplace relationships including those found in team settings (Lewicki & Bunker, 1996; Jarvenpaa & Shaw, 1998). Identification was measured using four items adapted from the social identification scale of Ellemers, Kortekaas, & Ouwerkerk (1999). A sample item is “I would like to continue to be part
of this team” and respondents rated each statement on a 5-point scale from “Strongly disagree” to “Strongly agree”. The internal consistency of this scale was $\alpha = .95$.

In Study 2, I collected data about the outcomes of perceived intra-team conflict and team trust. Perceived intra-team conflict was measured using 6 items based on the work of Jehn (1994; 1995). Three items targeted relational conflict (e.g. “How much relationship tension was there in your team?”) and three items targeted task conflict (e.g. “How much conflict of ideas was there in your team?”). Respondents answered these questions using a 7-point scale from “None” to “A great deal”. The internal consistency for this scale was $\alpha = .92$. The team trust scale was adapted from Spreitzer, Noble, Mishra, Cooke, & Wageman (1999) – it consisted of four items including “I believe most team members communicate honestly with each other”. Participants responded on a 5-point Likert scale ranging from “Not at all” to “Very much”. The internal consistency for this scale was $\alpha = .94$.

**Performance Outcomes.** Subsequent performance outcomes were collected for Study 1 only. At the individual level, I assessed performance using the peer evaluations received from fellow team members. As per the team member exchange measure, these evaluations included ratings of 4 items (effort, ideas, leadership, and friendliness) on a 5-point scale from “Poor” to “Excellent”. The internal consistency for this scale was $\alpha = .96$. At the team level, I captured performance via the overall grade measured on a 7-point scale and awarded to the final project report produced by the team.

**Confirmatory Factor Analyses**

I conducted a series of multilevel CFAs to evaluate the factor structure of the variables in each study. In Study 1, my proposed model was composed of five factors (TMC, TMR,
masculinity, collectivism, and long-term orientation). The proposed model (df = 142, $\chi^2 = 1,736$) showed acceptable fit in terms of CFI (.92), RMSEA (.064), and SRMR (.041). In general, factor loadings were high, and cross-loadings and residual variances were low. The main exceptions with comparatively higher residual variances were one item each for TMC (self rating for “friendliness”), masculinity (“Meetings are usually run more effectively when they are chaired by a man”), and collectivism (“Individuals should give up their personal goals to serve the interests of the group”).

The fit indices of the proposed model in Study 1 were superior to alternative models, and as such I proceeded with my analyses. The alternative models included a four-factor model in which TMC and TMR were collapsed into a single team member exchange factor (df = 146, $\Delta\chi^2 = 3,819$, $p < .01$; CFI = .81; RMSEA = .095; SRMR = .113), indicating that the two sides of social exchange are best considered distinctly. Further, I analyzed a two-factor model with the three cultural values collapsed into a single factor (df = 153, $\Delta\chi^2 = 7,608$, $p < .01$; CFI = .61; RMSEA = .133; SRMR = .161), and a single-factor model (df = 171, $\Delta\chi^2 = 19,195$, $p < .01$; CFI = .37; RMSEA = .169; SRMR = .201).

In Study 2, my proposed model was composed of five factors (TMX contributions, TMX receipts, collectivism, intra-team conflict, and team trust). The proposed model (df = 220, $\chi^2 = 544$) showed acceptable fit in terms of CFI (.91), RMSEA (.071), and SRMR (.061). In general, factor loadings were high, and cross-loadings and residual variances were low. The main exception was the collectivism scale, where residual variances were relatively high for all items. The fit indices of the proposed model were superior to alternative models, which included a four-factor model in which TMX contributions and TMX receipts were collapsed into a single TMX factor (df = 224, $\Delta\chi^2 = 759$, $p < .01$; CFI = .86; RMSEA = .090; SRMR = .072), and a single-
factor model (df = 230, $\Delta \chi^2 = 3,243$, p < .01; CFI = .21; RMSEA = .21; SRMR = .204). Given the superior fit of the proposed model and the continuing support for examining TMX contributions and TMX receipts as separate variables, I continued with my analyses.

Analyses

As in essay 1, the data in these studies featured individuals nested within teams, and I therefore used multilevel modeling (e.g. Raudenbush & Bryk, 2002) to test my hypotheses using MPlus software. To test the effects of social exchange contributions and receipts, I utilized a polynomial model (Edwards, 2002) in which the intermediate outcome variables (team cohesion, team member satisfaction, intra-team conflict, and trust in team) were regressed on team member contributions, team member receipts, their product term, and their respective squared terms. My first six hypotheses concerning moderation were tested by calculating the overall effect of the polynomial product terms with the moderator for significance. If significant, this indicated that I could proceed to testing the characteristics of the response surface at different levels of the moderator. If non-significant, this indicated that no moderation effects were present and I did not test the response surfaces.

In the case of significant moderation, H1-H4 were tested by examining the slope and curvature of the response surface along the misfit line ($X = -Y$) where $X$ and $Y$ represent TMX contributions and TMX receipts respectively. Support for H1, H3, and H6 would be indicated if the slope of the surface was negative for a) team cohesion, b) team member satisfaction, and d) trust in the team, or the slope was positive for c) intra-team conflict. This result would provide evidence of inferior outcomes in the case of a “giving imbalance” for those high in individualism (H1), masculinity (H3), or short-term orientation (H6). For H2 and H5, support would be indicated if those relationships were reversed, i.e. a positive misfit slope for a), b), and d), and a
negative misfit slope for c). This result would provide evidence of inferior outcomes in the case of a “taking imbalance” for those high in collectivism (H2) or long-term orientation. For H4, support would be indicated if the curvature of the misfit line was positive for a), b), and d), and negative for c). This result would show that either type of imbalance leads to inferior outcomes for those high in femininity.

H7 and H8 examined the direct effect of the four intermediate outcomes on individual and team performance respectively. I tested the hypothesized relationships via multilevel regression in MPlus. Furthermore, I investigated the mediated effects using a block variable approach as per the recommendations of Cable & Edwards (2004), Heise (1972), and Marsden (1982), with a single block variable representing team member contributions, team member receipts, their product term, and their squared terms. This allowed me to calculate the direct and indirect effects of the block on individual and team performance via the intermediate outcomes.

Results

Study 1 (X-Culture)

Table 5 shows the means, standard deviations, and correlations among the study variables at the individual level. The descriptive statistics appear to be reasonable and the correlations are in the direction expected (e.g. conflict tends to be negatively related with the other variables other than the competitive cultural value of masculinity). The relationship between team member contributions and receipts is significant but considerably lower than the correlation found in Essay 1 at .24 compared with .72. This indicates that, although related, the two variables appear to be quite distinct. Figure 16 shows a scatterplot of the pairs of results. According to the scatterplot, the data is fairly evenly dispersed with individuals in this large sample reporting all
combinations of high/low contributions and high/low receipts. It is perhaps surprising to see that a relatively large number of team members are willing to admit to making a contribution of zero to the team, although on the other hand it is quite rare for people to say that they made an extremely low contribution (1 or 2 on the 7-point scale). It is also interesting to note from the correlation table that several variables have direct effects on individual team member performance (as rated by their peers): team member contributions, the cultural value of masculinity (negative effect), perceived team cohesion, team member satisfaction, and intra-team conflict (negative effect).

For H1 and H2, Table 6 provides an overview of the polynomial regression coefficients for each intermediate outcome variable. These hypotheses predicted that outcomes would be inferior in the case of a “giving imbalance” for those high in individualism, and in the case of a “taking imbalance” for those high in collectivism. Unfortunately my overall tests for moderation (shown in footnote of Table 6) indicated that there was no evidence of the expected differences between people holding more individualistic or more collectivistic values. H1 and H2 were therefore rejected, and I did not proceed to response surface testing.
For H3 and H4, Table 7 shows the effects of team member contributions and receipts on intermediate outcomes. These hypotheses predicted that intermediate outcomes would be inferior in the case of a “giving imbalance” for those high in masculinity, and in the case of a “giving imbalance” or a “taking imbalance” for those high in femininity. As per the results of the overall test for moderation (shown in the footnote of Table 7), unfortunately there is no evidence of significant differences between individuals with higher levels of masculinity versus those with higher levels of femininity. H3 and H4 were therefore rejected. Plotted response surfaces are not provided since the characteristics are not dependent on the moderator.

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INSERT TABLE 7 ABOUT HERE

--------------------------------------------------

For H5 and H6, Table 8 shows the polynomial regression coefficients for each intermediate outcome. These hypotheses predicted that intermediate outcomes would be inferior in the case of a “taking imbalance” for those high in long-term orientation, and in the case of a “giving imbalance” high in short-term orientation. According to the results (shown in the footnote of Table 8), there are no significant differences related to different levels of this moderator. Again, plotted response surfaces are not shown due to the lack of results.

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INSERT TABLE 8 ABOUT HERE

--------------------------------------------------
For H7 and H8, I tested the direct effect of each intermediate outcome of interest on performance measures at the individual and team levels respectively. I did not find evidence of a significant relationship between team cohesion and these outcomes (H7a: β = .015, t-value = .736, p < .46; H8a: β = .050, t-value = .421, p < .67). For team member satisfaction, the relationship with individual performance (β = .001, t-value = 1.421, p < .16) was not significant and H7b was rejected, but H8b about the connection between team member satisfaction and team performance was supported (β = -.862, t-value = -2.272, p < .05). The relationship described in H7c between intra-team conflict and team member performance was supported (β = -.034, t-value = -2.691, p < .01), but H8c linking conflict and team level performance was rejected (β = -.021, t-value = -.227, p < .82). Finally, H7d and H8d were rejected due to the lack of significant relationships between trust in the team and both performance measures (H7d: β = .009, t-value = .445, p < .66; H8d: β = .134, t-value = .438, p < .66). Overall, there was limited evidence for the relationships outlined in H7 and H8, although all coefficients were in the direction expected and H7c and H8b lend some support.

Beyond testing my formal hypotheses, I also conducted moderated mediation analyses in MPlus using a TMX block variable to explore the relationships further. The majority of the models tested were not significant, and in general there was limited evidence of indirect effects via the proposed mediating variables. For team performance, I did not find any significant indirect effects across the four intermediate variables and low/mean/high levels of each moderator. For individual team member performance, I found a significant indirect effects via intra-team conflict suggesting mediation via this process. As shown in Tables 9-11, there are significant indirect effects on individual performance at the mean value, -1 and +1 standard deviation of all three moderators (β = -.034, t-value = -2.645, p < .05 at the mean value of
collectivism; b = -.040, t-value = -2.800, p < .05 at the mean value of masculinity; b = -.040, t-value = -2.800, p < .05 at the mean value of long-term orientation).

-------------------------------------------------

INSERT TABLES 9-11 ABOUT HERE

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Study 2 (TMCTP)

Table 12 shows the means, standard deviations, and correlations among the study variables at the individual level. The descriptive statistics appear to be reasonable and the correlations are in the direction expected (e.g. conflict tends to be negatively related with the other variables other than the cultural value of collectivism). The relationship between team member contributions and receipts is significant at .62 and is more in line with the result in my Essay 1 study (.72 compared with .24 in the X-Culture study described above). This correlation indicates that team member contributions and team member receipts are somewhat related and somewhat distinct. Figure 17 provides a scatterplot of the pairs of results and supports this assertion. The majority of the data in this sample is clustered around the fit line in the mid-high contributions / mid-high receipts quadrant of the scatterplot and occurrences are much less common in the other areas. It is important to keep the scope of the data in mind when making predictions based on findings.

-------------------------------------------------

INSERT TABLE 12 AND FIGURE 17 ABOUT HERE

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While Study 2 is less extensive than Study 1 and does not allow for a full examination of my hypotheses, it provides an opportunity to re-examine H1c, H2c, H1d, and H2d in a considerably smaller sample. These hypotheses relate to the influence of team member exchange on intra-team conflict and trust in the team at different levels of the moderator collectivism. The results of these analyses are shown in Table 13. According to the overall test of moderation (shown in the footnote), unfortunately there is no evidence of moderation for either intermediate outcome. The response surfaces are therefore not provided due to the lack of significant results.

---------------------------------------------

INSERT TABLE 13 ABOUT HERE

---------------------------------------------

Discussion

It is disappointing that the majority of my hypotheses were rejected, with no support for the predicted moderation by cultural values and extremely limited evidence of the indirect effects of TMX on performance outcomes. On the one hand, this suggests that the ideas underlying my proposed model and relationships may be flawed. On the other hand, and as discussed further in the limitations section, it is possible that the flaws were connected instead to the empirical studies and that the proposed concepts still merit further investigation.

Given the lack of results, it is difficult to take many lessons from this essay. The main bright spot was the support for H7c, linking perceived intra-team conflict with individual performance ratings. This suggests that people who sense conflict in their team are likely making a somewhat accurate assessment, and that the interpersonal tension contributes to poor peer evaluations. Conflict was one of the most important pathways for team member exchange to
influence performance in Essay 1, and these results emphasize the negative consequences of conflict in teams.

**Theoretical Implications**

Although global teams are now the reality for many organizations, the academic literature is currently lagging behind in developing theory about how team members understand their relationship with teams of this kind. Through this study, I hoped to advance our shared knowledge by demonstrating that we need to take multiple factors into account. First, we must acknowledge the fundamental give and take of social exchange by conceptualizing teamwork as contributions and receipts. Team members judge their relationship with the team by examining the pattern of contributions and receipts – I argue that current approaches to theorizing about and measuring teamwork should change to reflect this reality of social exchange. This essay offers further support to the underlying idea that situations of imbalance in social exchange are distinct from reciprocity. Second, I posited that individuals will evaluate patterns of contributions and receipts differently based on their personal cultural values. Although my results did not provide sufficient evidence for this prediction, this is probably related to the challenges outlined in the limitations section, and it remains likely that cultural values could have an important influence in the team setting. It is particularly important to realize that individualism, masculinity and long term orientation will vary from team member to team member, and that reactions to reciprocal or non-reciprocal interactions may change based on these cultural values.

**Practical Implications**

This study also has valuable lessons for practitioners. Global teams are commonplace in the workplace of today, and performance outcomes will be improved if managers can better
understand and coordinate their teamwork. Organizational leaders should take into account differing cultural perspectives about what constitutes the right mix of contributions to the team and receipts from the team. Even actions as simple as taking the time to consider such differences and explain how misunderstandings could occur might be beneficial. It could also be helpful to frame projects and tasks in a manner that encourages shared understanding. For example, a manager at a project kick-off meeting could explicitly outline expectations about the competitive or cooperative nature of the teamwork and the time horizons to be kept in mind to try to minimize the assumptions applied to the situation by people with varying levels of masculinity and long-term orientation.

**Limitations and Future Research**

This study was not without limitations, and exploring them represents an outstanding learning opportunity in preparation for future studies on the same and other themes. In retrospect, I believe that my analyses and results were hampered by some of the measures in Study 1. Most importantly, I would now assess the approach to capturing team member contributions and receipts to be sub-optimal. My measure for these variables was based on aggregated assessments of individual contributions to the team, and I anticipated that this would provide a suitable proxy for the TMX scale. However, in contrast to TMX, this approach does not use the team as the referent (i.e. questions are not designed to ask about an overall evaluation of the focal team member’s relationship with the team as a whole, but rather to examine each of the other team members). Furthermore, this approach does not evoke the same comparison between individual contributions and receipts as TMX. My intention in future studies will certainly be to use the TMX scale itself in order to adequately capture social exchange dynamics in teams.
In addition, I believe that some of the single-item and shortened scales used in Study 1 were also unhelpful, even if they were necessary due to the challenges of conducting several surveys across multiple points in time and needing to reduce the number of items. Specifically, the single items for team cohesion and team member satisfaction were perhaps too simplistic to adequately capture the complex dynamics of the team environment. Unfortunately I think that these limitations – with the measures for both contributions and intermediate outcomes – were largely responsible for my lack of results.

On another note, there are potentially some outliers in my data samples that I did not account for sufficiently. It would be beneficial to conduct more thorough analyses of multivariate outliers in future studies in an effort to ensure that results were not overly influenced by specific individuals or groups. Despite and indeed perhaps due to these clear limitations, I continue to see the global virtual teams space as a fertile research area for the future.

Conclusion

This essay aimed to extend the findings of the previous essay by considering the influence of cultural values on the relationship between team member exchange and proximal / distal outcomes of interest. My analyses of the data collected from two global virtual teams projects with participants located in several countries allowed me to examine the moderating effect of individualism/collectivism, masculinity/femininity, and long-term/short-term orientation. Unfortunately my results were unsupportive of the expected moderation effects. However, building on the previous essay, they demonstrated the importance of separating out team member contributions and receipts.
ESSAY 2 REFERENCES


<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Key Concept</th>
<th>Definition / Clarification</th>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blau (1955, 1964)</td>
<td>Social exchange</td>
<td>“voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others”</td>
<td>Outputs &amp; Inputs</td>
</tr>
<tr>
<td>Homans (1958)</td>
<td>Social exchange</td>
<td>“an exchange of goods” – including material and non-material types</td>
<td>Rewards &amp; Costs</td>
</tr>
<tr>
<td>Thibaut &amp; Kelley (1959)</td>
<td>Dyadic interdependence</td>
<td>“the ways in which the separate and joint actions of two individuals affect the quality of their lives and the survival of their relationship”</td>
<td>Rewards &amp; Costs</td>
</tr>
<tr>
<td>Gouldner (1960)</td>
<td>Norm of reciprocity</td>
<td>“people should help those who have helped them, and people should not injure those who have helped them”</td>
<td>Benefits &amp; Repayments / Reciprocation</td>
</tr>
<tr>
<td>Adams (1963, 1965)</td>
<td>Equity theory</td>
<td>“whenever two individuals exchange anything, there is the possibility that one or both of them will feel that the exchange was inequitable”</td>
<td>Outcomes &amp; Inputs</td>
</tr>
<tr>
<td>Graen et al. (1973-76)</td>
<td>Leader Member Exchange (LMX)</td>
<td>“a relationship-based approach to leadership” where “leaders develop differentiated relationships with direct reports” (Graen &amp; Uhl-Bien, 1995)</td>
<td>Leader Contributions &amp; Member Contributions</td>
</tr>
<tr>
<td>Seers et al. (1989, 1995)</td>
<td>Team Member Exchange (TMX)</td>
<td>“the reciprocity between a member and the peer group”</td>
<td>Contributions &amp; Receipts</td>
</tr>
</tbody>
</table>
### TABLE 2: INFLUENCE OF INDIVIDUALISM / COLLECTIVISM

<table>
<thead>
<tr>
<th></th>
<th>Low TMX Contributions</th>
<th>High TMX Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High TMX Receipts</strong></td>
<td><em>Indiv:</em> Relatively satisfied, slight feeling of obligation</td>
<td><em>Indiv:</em> Relatively satisfied, slight feeling of obligation</td>
</tr>
<tr>
<td></td>
<td><em>Coll:</em> Somewhat awkward, strong feeling of obligation</td>
<td><em>Coll:</em> Somewhat awkward, strong feeling of obligation</td>
</tr>
<tr>
<td><strong>Low TMX Receipts</strong></td>
<td><em>Indiv:</em> Relatively satisfied, positive about reciprocity</td>
<td><em>Indiv:</em> Relatively satisfied, positive about reciprocity</td>
</tr>
<tr>
<td></td>
<td><em>Coll:</em> Fairly neutral, concern about lack of exchange</td>
<td><em>Coll:</em> Relatively satisfied, assisting ingroup members</td>
</tr>
</tbody>
</table>

### TABLE 3: INFLUENCE OF MASCULINITY / FEMININITY

<table>
<thead>
<tr>
<th></th>
<th>Low TMX Contributions</th>
<th>High TMX Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High TMX Receipts</strong></td>
<td><em>Masc:</em> Relatively satisfied, success in competition</td>
<td><em>Masc:</em> Relatively satisfied, success in competition</td>
</tr>
<tr>
<td></td>
<td><em>Fem:</em> Somewhat awkward, desire for equal cooperation</td>
<td><em>Fem:</em> Somewhat awkward, desire for equal cooperation</td>
</tr>
<tr>
<td><strong>Low TMX Receipts</strong></td>
<td><em>Masc:</em> Fairly neutral, lack of value to claim in competition</td>
<td><em>Masc:</em> Highly dissatisfied, failure in competition</td>
</tr>
<tr>
<td></td>
<td><em>Fem:</em> Fairly neutral, concern about lack of exchange</td>
<td><em>Fem:</em> Somewhat awkward, desire for equal cooperation</td>
</tr>
</tbody>
</table>

### TABLE 4: INFLUENCE OF SHORT / LONG TERM ORIENTATION

<table>
<thead>
<tr>
<th></th>
<th>Low TMX Contributions</th>
<th>High TMX Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High TMX Receipts</strong></td>
<td><em>STO:</em> Highly satisfied, gaining from relationship</td>
<td><em>STO:</em> Highly satisfied, gaining from relationship</td>
</tr>
<tr>
<td></td>
<td><em>LTO:</em> Slightly awkward, feeling of future obligation</td>
<td><em>LTO:</em> Slightly awkward, feeling of future obligation</td>
</tr>
<tr>
<td><strong>Low TMX Receipts</strong></td>
<td><em>STO:</em> Fairly neutral, low priority relationship</td>
<td><em>STO:</em> Highly dissatisfied, draining relationship</td>
</tr>
<tr>
<td></td>
<td><em>LTO:</em> Fairly neutral, concern about lack of exchange</td>
<td><em>LTO:</em> Relatively satisfied, investing in relationship</td>
</tr>
</tbody>
</table>
Table 5: Means, Standard Deviations, and Correlations among Study Variables in Study 1

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<tr>
<td>1</td>
<td>TM Contributions</td>
<td>4.27</td>
<td>1.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>TM Receipts</td>
<td>4.06</td>
<td>0.67</td>
<td>0.24*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Collectivism</td>
<td>3.70</td>
<td>0.79</td>
<td>0.03</td>
<td>0.07*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Masculinity</td>
<td>2.28</td>
<td>1.08</td>
<td>-0.02</td>
<td>0.02</td>
<td>0.14*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Long-Term Orientation</td>
<td>3.75</td>
<td>0.78</td>
<td>0.05</td>
<td>0.07*</td>
<td>0.29*</td>
<td>0.09*</td>
<td></td>
<td></td>
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<tr>
<td>6</td>
<td>Team Cohesion</td>
<td>2.37</td>
<td>1.00</td>
<td>0.06*</td>
<td>0.12*</td>
<td>0.12*</td>
<td>0.09*</td>
<td>0.05</td>
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<tr>
<td>7</td>
<td>Satisfaction</td>
<td>80.3</td>
<td>25.5</td>
<td>0.12*</td>
<td>0.33*</td>
<td>0.15*</td>
<td>-0.02</td>
<td>0.07*</td>
<td>0.18*</td>
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<td>8</td>
<td>Intra-Team Conflict</td>
<td>0.74</td>
<td>1.72</td>
<td>-0.01</td>
<td>-0.14*</td>
<td>0.01</td>
<td>0.07*</td>
<td>0.02</td>
<td>0.02</td>
<td>-0.20*</td>
<td></td>
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<td>9</td>
<td>Trust in Team</td>
<td>3.90</td>
<td>0.96</td>
<td>0.06*</td>
<td>0.27*</td>
<td>0.34*</td>
<td>0.06*</td>
<td>0.23*</td>
<td>0.22*</td>
<td>0.49*</td>
<td>-0.12*</td>
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<tr>
<td>10</td>
<td>Individual Performance</td>
<td>3.80</td>
<td>0.93</td>
<td>0.17*</td>
<td>0.04</td>
<td>0.00</td>
<td>-0.22*</td>
<td>0.01</td>
<td>0.05*</td>
<td>0.08*</td>
<td>-0.09*</td>
</tr>
</tbody>
</table>


* Correlation is significant at p < 0.01.
Table 6: Effects of TM Contributions and TM Receipts on Intermediate Outcomes in Study 1 with Moderator Collectivism**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cohesion</th>
<th>Satisfaction</th>
<th>Conflict</th>
<th>Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>t-value</td>
<td>$\gamma$</td>
<td>t-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.387</td>
<td>73.520</td>
<td>82.803</td>
<td>114.976</td>
</tr>
<tr>
<td>TM Contributions (TMC)</td>
<td>0.015</td>
<td>0.240</td>
<td>-0.209</td>
<td>-0.135</td>
</tr>
<tr>
<td>TM Receipts (TMR)</td>
<td>0.169*</td>
<td>4.051</td>
<td>11.836*</td>
<td>9.705</td>
</tr>
<tr>
<td>TMC Squared (TMCS)</td>
<td>-0.004</td>
<td>-0.063</td>
<td>-0.278</td>
<td>-0.127</td>
</tr>
<tr>
<td>Interaction Term</td>
<td>0.014</td>
<td>0.184</td>
<td>-0.801</td>
<td>-0.300</td>
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<tr>
<td>TMR Squared (TMRS)</td>
<td>0.020</td>
<td>0.463</td>
<td>-2.099</td>
<td>-1.602</td>
</tr>
<tr>
<td>Moderator (Collectivism)</td>
<td>0.106*</td>
<td>2.692</td>
<td>2.719*</td>
<td>2.919</td>
</tr>
<tr>
<td>TMC x Moderator</td>
<td>0.014</td>
<td>0.173</td>
<td>1.734</td>
<td>0.849</td>
</tr>
<tr>
<td>TMR x Moderator</td>
<td>0.018</td>
<td>0.343</td>
<td>-2.205</td>
<td>-1.496</td>
</tr>
<tr>
<td>TMCS x Moderator</td>
<td>-0.071</td>
<td>-0.841</td>
<td>1.755</td>
<td>0.671</td>
</tr>
<tr>
<td>Interaction x Moderator</td>
<td>0.076</td>
<td>0.836</td>
<td>4.392</td>
<td>1.456</td>
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<tr>
<td>TMRS x Moderator</td>
<td>0.068</td>
<td>1.389</td>
<td>1.407</td>
<td>1.083</td>
</tr>
</tbody>
</table>

Notes: N = 1875 individuals after listwise deletion. All coefficients unstandardized.

* p < .05

** Overall test of moderation (set of final five coefficients in table):
- Cohesion b = .105, t-value = .757, p < .45
- Satisfaction b = 7.082, t-value = 1.880, p < .06
- Conflict b = .406, t-value = .757, p < .13
- Trust b = .172, t-value = 1.222, p < .22
Table 7: Effects of TM Contributions and TM Receipts on Intermediate Outcomes in Study 1 with Moderator Masculinity**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cohesion</th>
<th>Satisfaction</th>
<th>Conflict</th>
<th>Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>t-value</td>
<td>$\gamma$</td>
<td>t-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.390</td>
<td>71.191</td>
<td>82.982</td>
<td>112.870</td>
</tr>
<tr>
<td>TM Contributions (TMC)</td>
<td>0.057</td>
<td>0.917</td>
<td>-0.270</td>
<td>-0.177</td>
</tr>
<tr>
<td>TM Receipts (TMR)</td>
<td>0.158*</td>
<td>3.758</td>
<td>12.544*</td>
<td>10.378</td>
</tr>
<tr>
<td>TMC Squared (TMCS)</td>
<td>0.007</td>
<td>0.109</td>
<td>-0.877</td>
<td>-0.424</td>
</tr>
<tr>
<td>Interaction Term</td>
<td>0.032</td>
<td>0.425</td>
<td>-2.080</td>
<td>-0.790</td>
</tr>
<tr>
<td>TMR Squared (TMRS)</td>
<td>0.000</td>
<td>0.010</td>
<td>-1.812</td>
<td>-1.349</td>
</tr>
<tr>
<td>Moderator (Masculinity)</td>
<td>0.069*</td>
<td>2.225</td>
<td>-0.470</td>
<td>-0.603</td>
</tr>
<tr>
<td>TMC x Moderator</td>
<td>-0.032</td>
<td>-0.506</td>
<td>2.011</td>
<td>1.389</td>
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<tr>
<td>TMR x Moderator</td>
<td>0.027</td>
<td>0.655</td>
<td>-2.900*</td>
<td>-2.626</td>
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<tr>
<td>TMCS x Moderator</td>
<td>0.034</td>
<td>0.470</td>
<td>1.467</td>
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<tr>
<td>Interaction x Moderator</td>
<td>-0.085</td>
<td>-1.160</td>
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</tr>
<tr>
<td>TMRS x Moderator</td>
<td>0.063</td>
<td>1.503</td>
<td>-2.099</td>
<td>-1.565</td>
</tr>
</tbody>
</table>

Notes: N = 1875 individuals after listwise deletion. All coefficients unstandardized.

* p < .05

** Overall test of moderation (set of final five coefficients in table):
- Cohesion $b = .007$, t-value = .069, p < .95
- Satisfaction $b = 2.551$, t-value = .923, p < .36
- Conflict $b = .093$, t-value = .537, p < .59
- Trust $b = -.017$, t-value = -.142, p < .89
Table 8: Effects of TM Contributions and TM Receipts on Intermediate Outcomes in Study 1 with Moderator Long-Term Orientation**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cohesion</th>
<th>Satisfaction</th>
<th>Conflict</th>
<th>Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>t-value</td>
<td>$\gamma$</td>
<td>t-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.384</td>
<td>72.481</td>
<td>82.559</td>
<td>106.603</td>
</tr>
<tr>
<td>TM Contributions (TMC)</td>
<td>0.027</td>
<td>0.428</td>
<td>0.766</td>
<td>0.464</td>
</tr>
<tr>
<td>TM Receipts (TMR)</td>
<td>0.172*</td>
<td>4.073</td>
<td>11.720*</td>
<td>9.261</td>
</tr>
<tr>
<td>TMC Squared (TMCS)</td>
<td>0.017</td>
<td>0.284</td>
<td>0.765</td>
<td>0.357</td>
</tr>
<tr>
<td>Interaction Term</td>
<td>0.014</td>
<td>0.196</td>
<td>0.022</td>
<td>0.008</td>
</tr>
<tr>
<td>TMR Squared (TMRS)</td>
<td>0.016</td>
<td>0.368</td>
<td>-2.405</td>
<td>-1.772</td>
</tr>
<tr>
<td>Moderator (LTO)</td>
<td>0.041</td>
<td>0.996</td>
<td>0.491</td>
<td>0.479</td>
</tr>
<tr>
<td>TMC x Moderator</td>
<td>0.023</td>
<td>0.256</td>
<td>-1.649</td>
<td>-0.775</td>
</tr>
<tr>
<td>TMR x Moderator</td>
<td>-0.023</td>
<td>-0.382</td>
<td>-0.500</td>
<td>-0.332</td>
</tr>
<tr>
<td>TMCS x Moderator</td>
<td>-0.038</td>
<td>-0.415</td>
<td>0.883</td>
<td>0.357</td>
</tr>
<tr>
<td>Interaction x Moderator</td>
<td>0.110</td>
<td>1.043</td>
<td>2.617</td>
<td>0.775</td>
</tr>
<tr>
<td>TMRS x Moderator</td>
<td>0.014</td>
<td>0.240</td>
<td>2.497</td>
<td>1.426</td>
</tr>
</tbody>
</table>

Notes: N = 1875 individuals after listwise deletion. All coefficients unstandardized.
* $p < .05$
** Overall test of moderation (set of final five coefficients in table):
- Cohesion $b = .087$, t-value = .544, $p < .59$
- Satisfaction $b = 3.847$, t-value = 1.025, $p < .31$
- Conflict $b = .125$, t-value = .454, $p < .65$
- Trust $b = .142$, t-value = .972, $p < .33$
Table 9: Effects of TM Contributions and TM Receipts on Team Member Performance and Team Performance through Perceived Intra-Team Conflict at Mean Value, -1 and +1 Standard Deviation of Collectivism in Study 1

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th>Team Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>$t$-value</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>4.091</td>
<td>195.479</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>4.091</td>
<td>195.479</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>4.091</td>
<td>195.479</td>
</tr>
<tr>
<td><strong>Direct effect of TMX Block</strong></td>
<td>1.003*</td>
<td>8.591</td>
</tr>
<tr>
<td><strong>Intra-Team Conflict</strong></td>
<td>-0.034*</td>
<td>-3.099</td>
</tr>
<tr>
<td><strong>TMX to Conflict Alpha Path</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>0.999*</td>
<td>5.883</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>1.039*</td>
<td>5.540</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>0.824*</td>
<td>6.049</td>
</tr>
<tr>
<td><strong>Indirect Effect of TMX</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>-0.034*</td>
<td>-2.645</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>-0.036*</td>
<td>-2.669</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>-0.028*</td>
<td>-2.637</td>
</tr>
<tr>
<td><strong>95% Confidence Interval</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>-0.060</td>
<td>-0.009</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>-0.062</td>
<td>-0.010</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>-0.050</td>
<td>-0.007</td>
</tr>
</tbody>
</table>

*Note: N = 1875 individuals for TM Performance; N = 1875 observations within 581 teams for Team Performance. All coefficients unstandardized unless otherwise specified. * $p < .05$
Table 10: Effects of TM Contributions and TM Receipts on Team Member Performance and Team Performance through Perceived Intra-Team Conflict at Mean Value, -1 and +1 Standard Deviation of Masculinity in Study 1

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th></th>
<th>Team Performance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \gamma )</td>
<td>( t)-value</td>
<td>( \gamma )</td>
<td>( t)-value</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>4.109</td>
<td>185.788</td>
<td>4.656</td>
<td>29.559</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>4.109</td>
<td>185.788</td>
<td>4.652</td>
<td>29.377</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>4.109</td>
<td>185.788</td>
<td>4.655</td>
<td>29.529</td>
</tr>
<tr>
<td><strong>Direct effect of TMX Block</strong></td>
<td>0.765*</td>
<td>7.310</td>
<td>0.775*</td>
<td>3.950</td>
</tr>
<tr>
<td><strong>Intra-Team Conflict</strong></td>
<td>-0.040*</td>
<td>-3.460</td>
<td>0.015</td>
<td>0.149</td>
</tr>
<tr>
<td><strong>TMX to Conflict Alpha Path</strong></td>
<td>( \gamma )</td>
<td>( t)-value</td>
<td>( \gamma )</td>
<td>( t)-value</td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>1.002*</td>
<td>5.956</td>
<td>0.955*</td>
<td>5.655</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>1.001*</td>
<td>5.956</td>
<td>0.955*</td>
<td>5.655</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>1.002*</td>
<td>5.956</td>
<td>0.955*</td>
<td>5.655</td>
</tr>
<tr>
<td><strong>Indirect Effect of TMX</strong></td>
<td>( IE )</td>
<td>( z' )</td>
<td>( IE )</td>
<td>( z' )</td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>-0.040*</td>
<td>-2.800</td>
<td>0.015</td>
<td>0.149</td>
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<tr>
<td>-1 SD of Moderator</td>
<td>-0.040*</td>
<td>-2.799</td>
<td>0.015</td>
<td>0.148</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>-0.040*</td>
<td>-2.800</td>
<td>0.015</td>
<td>0.149</td>
</tr>
<tr>
<td><strong>95% Confidence Interval</strong></td>
<td>Lower</td>
<td>Upper</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>-0.068</td>
<td>-0.012</td>
<td>-0.179</td>
<td>0.209</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>-0.068</td>
<td>-0.012</td>
<td>-0.179</td>
<td>0.209</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>-0.068</td>
<td>-0.012</td>
<td>-0.180</td>
<td>0.209</td>
</tr>
</tbody>
</table>

*Note: \( N = 1875 \) individuals for TM Performance; \( N = 1875 \) observations within 581 teams for Team Performance. All coefficients unstandardized unless otherwise specified. \( * p < .05 \)
Table 11: Effects of TM Contributions and TM Receipts on Team Member Performance and Team Performance through Perceived Intra-Team Conflict at Mean Value, -1 and +1 Standard Deviation of Long-Term Orientation in Study 1

<table>
<thead>
<tr>
<th></th>
<th>Team Member Performance</th>
<th></th>
<th>Team Performance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>$t$-value</td>
<td>$\gamma$</td>
<td>$t$-value</td>
</tr>
<tr>
<td><strong>Intercept</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>4.108</td>
<td>185.753</td>
<td>4.636</td>
<td>28.656</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>4.108</td>
<td>185.753</td>
<td>4.978</td>
<td>49.563</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>4.108</td>
<td>185.753</td>
<td>4.771</td>
<td>34.745</td>
</tr>
<tr>
<td>Direct effect of TMX Block</td>
<td>0.763*</td>
<td>7.298</td>
<td>0.821*</td>
<td>3.946</td>
</tr>
<tr>
<td>Intra-Team Conflict</td>
<td>-0.040*</td>
<td>-3.460</td>
<td>0.014</td>
<td>0.130</td>
</tr>
<tr>
<td><strong>TMX to Conflict Alpha Path</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>1.004*</td>
<td>5.931</td>
<td>0.955*</td>
<td>5.624</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>1.004*</td>
<td>5.931</td>
<td>0.642*</td>
<td>3.620</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>1.004*</td>
<td>5.931</td>
<td>0.857*</td>
<td>5.001</td>
</tr>
<tr>
<td><strong>Indirect Effect of TMX</strong></td>
<td>$IE$</td>
<td>$z'$</td>
<td>$IE$</td>
<td>$z'$</td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>-0.040*</td>
<td>-2.790</td>
<td>0.013</td>
<td>0.130</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>-0.040*</td>
<td>-2.790</td>
<td>0.015</td>
<td>0.226</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>-0.040*</td>
<td>-2.790</td>
<td>0.021</td>
<td>0.226</td>
</tr>
<tr>
<td><strong>95% Confidence Interval</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Value of Moderator</td>
<td>-0.069</td>
<td>-0.012</td>
<td>-0.182</td>
<td>0.208</td>
</tr>
<tr>
<td>-1 SD of Moderator</td>
<td>-0.068</td>
<td>-0.012</td>
<td>-0.112</td>
<td>0.141</td>
</tr>
<tr>
<td>+1 SD of Moderator</td>
<td>-0.068</td>
<td>-0.012</td>
<td>-0.157</td>
<td>0.198</td>
</tr>
</tbody>
</table>

*Note:* $N = 1875$ individuals for TM Performance; $N = 1875$ observations within 581 teams for Team Performance. All coefficients unstandardized unless otherwise specified. * $p < .05$
Table 12: Means, Standard Deviations, and Correlations among Variables in Study 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. TMX Contributions</td>
<td>6.09</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. TMX Receipts</td>
<td>5.92</td>
<td>0.93</td>
<td>0.62*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Collectivism</td>
<td>4.95</td>
<td>0.86</td>
<td>0.26*</td>
<td>0.24*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Intra-Team Conflict</td>
<td>2.38</td>
<td>1.32</td>
<td>-0.05</td>
<td>-0.11</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>5. Trust in Team</td>
<td>4.32</td>
<td>0.80</td>
<td>0.22*</td>
<td>0.41*</td>
<td>0.12*</td>
<td>-0.33*</td>
</tr>
</tbody>
</table>

Notes. N = 295

* Correlation is significant at p < 0.01.
Table 13: Effects of TMX Contributions and TMX Receipts on Intermediate Outcomes in Study 2 with Moderator Collectivism**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Conflict</th>
<th></th>
<th>Trust</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\gamma$</td>
<td>t-value</td>
<td>$\gamma$</td>
<td>t-value</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.330</td>
<td>23.215</td>
<td>4.320</td>
<td>69.595</td>
</tr>
<tr>
<td>TM Contributions (TMC)</td>
<td>0.113</td>
<td>0.707</td>
<td>-0.098</td>
<td>-1.073</td>
</tr>
<tr>
<td>TM Receipts (TMR)</td>
<td>-0.230</td>
<td>-1.584</td>
<td>0.456*</td>
<td>5.888</td>
</tr>
<tr>
<td>TMC Squared (TMCS)</td>
<td>0.133</td>
<td>1.289</td>
<td>0.012</td>
<td>0.174</td>
</tr>
<tr>
<td>Interaction Term</td>
<td>0.018</td>
<td>0.123</td>
<td>-0.202*</td>
<td>-2.344</td>
</tr>
<tr>
<td>TMR Squared (TMRS)</td>
<td>0.007</td>
<td>0.059</td>
<td>0.054</td>
<td>0.746</td>
</tr>
<tr>
<td>Moderator (Masculinity)</td>
<td>0.180</td>
<td>1.579</td>
<td>0.087</td>
<td>1.307</td>
</tr>
<tr>
<td>TMC x Moderator</td>
<td>-0.521*</td>
<td>-2.903</td>
<td>0.107</td>
<td>1.080</td>
</tr>
<tr>
<td>TMR x Moderator</td>
<td>0.313</td>
<td>1.951</td>
<td>-0.002</td>
<td>-0.015</td>
</tr>
<tr>
<td>TMCS x Moderator</td>
<td>0.022</td>
<td>0.111</td>
<td>0.036</td>
<td>0.289</td>
</tr>
<tr>
<td>Interaction x Moderator</td>
<td>-0.222</td>
<td>-0.849</td>
<td>-0.189</td>
<td>-1.068</td>
</tr>
<tr>
<td>TMRS x Moderator</td>
<td>0.179</td>
<td>1.321</td>
<td>-0.005</td>
<td>-0.062</td>
</tr>
</tbody>
</table>

Notes: $N = 293$ individuals after listwise deletion. All coefficients unstandardized.

* $p < .05$

** Overall test of moderation (set of final five coefficients in table):
- Conflict $b = -0.229$, t-value = -0.836, p < .40
- Trust $b = -0.052$, t-value = -0.456, p < .65
FIGURE 1: ILLUSTRATIVE IMAGES OF EQUILIBRIUM AND IMBALANCE BETWEEN TMX CONTRIBUTIONS (“GIVE”) AND TMX RECEIPTS (“TAKE”)

A
Giving Imbalance

Give = 6
Take = 2
TMX = 8

B
Equilibrium

Give = 4
Take = 4
TMX = 8

C
Taking Imbalance

Give = 2
Take = 6
TMX = 8

FIGURE 2: ILLUSTRATIVE IMAGES OF DIFFERENT TYPES OF EQUILIBRIUM BETWEEN TMX CONTRIBUTIONS (“GIVE”) AND TMX RECEIPTS (“TAKE”)

D
Low Quality

Give = 2
Take = 2
TMX = 4

E
Medium Quality

Give = 4
Take = 4
TMX = 8

F
High Quality

Give = 6
Take = 6
TMX = 12
**FIGURE 3: CONCEPTUAL MODEL**

**Cultural Values:**
- Individualism / Collectivism
- Masculinity / Femininity
- Long Term Orientation

**Team Member Perceptions:**
- Cohesiveness
- Satisfaction
- Conflict
- Trust

**Performance Outcomes:**
- Individual
- Team

**TMX Contributions**

**TMX Receipts**
FIGURE 4: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST FOR TEAM MEMBERS HIGH IN INDIVIDUALISM

FIGURE 5: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT FOR TEAM MEMBERS HIGH IN INDIVIDUALISM
FIGURE 6: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST FOR TEAM MEMBERS HIGH IN COLLECTIVISM

FIGURE 7: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT FOR TEAM MEMBERS HIGH IN COLLECTIVISM
FIGURE 8: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST FOR TEAM MEMBERS HIGH IN MASCULINITY

FIGURE 9: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT FOR TEAM MEMBERS HIGH IN MASCULINITY
FIGURE 10: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST FOR TEAM MEMBERS HIGH IN FEMININITY

FIGURE 11: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT FOR TEAM MEMBERS HIGH IN FEMININITY
FIGURE 12: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST FOR TEAM MEMBERS HIGH IN LONG TERM ORIENTATION

FIGURE 13: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT FOR TEAM MEMBERS HIGH IN LONG TERM ORIENTATION
FIGURE 14: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOMES OF COHESION, SATISFACTION, AND TRUST FOR TEAM MEMBERS HIGH IN SHORT TERM ORIENTATION

FIGURE 15: PREDICTED SHAPE OF RESPONSE SURFACES: TMX CONTRIBUTIONS AND TMX RECEIPTS PREDICTING OUTCOME OF CONFLICT FOR TEAM MEMBERS HIGH IN SHORT TERM ORIENTATION
FIGURE 16: SCATTERPLOT FOR TM CONTRIBUTIONS AND TM RECEIPTS IN STUDY 1
FIGURE 17: SCATTERPLOT FOR TMX CONTRIBUTIONS AND TMX RECEIPTS IN STUDY 2
Essay 3

The Give and Take of Social Exchange Relationships in Negotiation Settings

Abstract

People negotiate every day at work, yet we still do not have a clear understanding of the dynamic interpersonal processes that constitute negotiation. We can gain insights about how negotiators assess and react to their relationship with a counterparty by learning lessons from the social exchange and teams literatures. In particular, I propose that we can improve our conceptualization of negotiation processes by examining the social exchange contributions and receipts experienced by individual negotiators at different stages of their interaction with counterparties. The pattern of give and take, and negotiators’ evaluations of the quality and reciprocity present, are likely to predict individual perceptions of the relationship and subsequent negotiation outcomes. In this essay, I argue for the deeper integration of the social exchange perspective in negotiation and put forward a process model for examining the ongoing interaction between negotiator exchange contributions and receipts.
Introduction

“Like it or not, you are a negotiator. Negotiation is a fact of life. Everyone negotiates something every day.”  
(Fisher, Ury, & Patton, 1991)

“Negotiation is your key communication and influence tool inside and outside the company. Anytime you cannot achieve your objectives without the cooperation of others, you are negotiating.”  
(Thompson, 2014)

Negotiation is an essential aspect of organizational life. Researchers and practitioners agree both that it is an extremely frequent work activity – employees are generally involved in some form of negotiation on a daily basis – and that it is vital to achieving objectives through collaboration (Thompson, 2014; Lewicki, Barry, & Saunders, 2015). Some negotiations are high-profile in nature, for instance those related to mergers between large corporations, but the vast majority are connected with more routine challenges such as managing colleagues, workflows, and business transactions. Negotiation can be considered as a “fundamental skill, not only for successful management, but also for successful living” (Lewicki et al., 2015, p.v). Given the importance of negotiation to individuals and organizations, it is hardly surprising that it has been the subject of research interest for the past 50 years. However, despite the relative maturity of the field of study, Brett & Thompson (2016) recently reviewed the negotiation literature and identified “the dynamic interaction between and among negotiators” (p.76) as a continuing blind spot and the top priority for future research. In this essay, I contribute to the literature by focusing squarely on the nature of the interpersonal relationship between negotiating parties.
Negotiators and their counterparties choose to enter into a relationship in the belief that they can accomplish more through the interaction than alone (Thompson, 2014). Each side hopes to achieve a beneficial outcome for themselves through cooperating to some extent with the other party. However the relationship is unlikely to be straight-forward, because there are usually elements of competition to the negotiation. The fundamental negotiator’s dilemma, which stands at the center of most negotiation research, concerns the tension between attempting either to create value or to claim value (Lax & Sebenius, 1986). In most circumstances, optimal outcomes rely on building a productive working relationship, and are produced by both parties cooperating to create value (win-win situation). But in the competitive context of negotiations people are often more concerned with protecting themselves from exploitation by the other party, leading to mediocre outcomes focused on claiming value. Success in negotiation involves overcoming the obstacles to cooperation, and is aided by motivation to solve the problem on both sides, information sharing and communication, and the development of a trusting and supportive climate (Walton & McKersie, 1965). These characteristics bear close resemblance to descriptions of high performance teams as environments not only with shared purposes, standards, and strategies but also where members care about the perspective of their colleagues (e.g. Katzenbach & Smith, 1993). In this paper, I seek to build on the common ground of teams and negotiations by exploring the interpersonal relationship between negotiating parties through the perspectives of social exchange and teamwork.

Although the negotiation context is certainly distinct from a typical team environment, it offers many conceptual similarities and I argue that we can apply the logic of Social Exchange Theory to this setting (SET – Blau, 1964; Thibaut & Kelley, 1959; Homans, 1958). I first examine the definitions of teams and negotiations, highlighting the high degree of overlap
concerning the driving forces of a social context and shared aims. The relationship between negotiating parties is comparable to the relationship between team members, because in both cases they are connected by a desire to achieve important organizational goals through their relationship. It therefore seems reasonable to investigate how the social exchange relationship between negotiator and counterparty develops, and how a negotiator’s evaluation of the relationship quality influences their attitudes, behaviors, and outcomes. I revisit the foundations of social exchange to incorporate the two core elements of the theory – contributions and receipts – into a framework for understanding the negotiation context. Negotiation participants tend to be sensitive to the social exchange norm of reciprocity and prefer outcomes that they perceive as equal (Loewenstein, Thompson, & Bazerman, 1989). Based on these underlying drivers, I predict that negotiation represents an interpersonal arena where individuals will respond to the equilibrium or imbalance in their interactions with the counterparty.

In this paper, I posit that negotiators will instigate and evaluate patterns of social exchange contributions and receipts in every negotiation. Their evaluation will have consequences for how they perceive the relationship, how it continues in the future, and the outcomes of the negotiation. Extending the existing literature about SET and Team Member Exchange (TMX – Seers, 1989), I provide a social exchange process model to explain interpersonal dynamics in the negotiation context and develop related propositions. This model offers a way of analyzing different stages of the relationship between negotiator and counterparty, as well as opening up several avenues for future research.

**Theory Development**

In this section, I make a case for applying a social exchange lens to negotiation and for jointly considering the effects of negotiation contributions and receipts in an effort to understand
the relationship between negotiating parties. I first outline the similarities between negotiation and team settings by reviewing their respective definitions and characteristics. I show that the two situations share many similarities, indicating that researchers can potentially learn more about negotiation by considering lessons from the teams literature. I then analyze how patterns of social exchange are initiated and then contribute to individual negotiators’ evaluations of their relationship with the counterparty. I develop a social exchange process model that includes consideration of pre-negotiation predictors, first impressions about the social exchange relationship, an evaluation of the negotiation experience itself, and implications for future meetings. I propose that social exchange contributions and receipts will help us to understand how individual negotiators react to a multitude of interpersonal situations.

**Conceptual Similarities between Team and Negotiation Contexts**

As a starting point for comparing the team and negotiation contexts, it is informative to check the respective definitions that allow us to place workplace events into these categories. Although academic articles often skip a formal definition of negotiation in the assumption the concept is clearly understood, scholars have produced recent definitions in their efforts to educate students about negotiation skills. Negotiation can be defined as “an interpersonal decision making process necessary whenever we cannot achieve our objectives single-handedly” (Thompson, 2014, p.2) or as “a process by which we attempt to influence others to help us achieve our needs while at the same time taking their needs into account” (Lewicki et al., 2015, p.v). Both of these definitions emphasize that negotiation is a method of reaching goals through social interactions. They point out that negotiation is a dynamic process based on communication rather than a momentary decision about whether or not to make a deal. Interestingly, at first glance it appears that these definitions could equally be applied to teams.
For further verification, we can use Kozlowski & Bell’s (2003) comprehensive definition of teams – it takes the form of a structured checklist, is based on an extensive literature review and offers a firm foundation for research (Banks, Batchelor, Seers, O’Boyle, Pollack, & Gower, 2014). They identified teams as being “(a) composed of two or more individuals, (b) who exist to perform organizationally relevant tasks, (c) share one or more common goals, (d) interact socially, (e) exhibit task interdependencies (i.e., workflow, goals, outcomes), (f) maintain and manage boundaries, and (g) are embedded in an organizational context” (p.334). The negotiation context often consists of two people, which equates to a small team, and it seems that we could easily replace the word ‘team’ with ‘negotiation’ in this definition. As shown in Table 1, each part of the definition is applicable to the negotiation context.

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The comparison in Table 1 offers compelling evidence that the relationship between negotiating parties is likely to have a lot in common with the relationship between team members. To assuage any doubts based on negotiations sometimes taking place over a relatively short period of time, it is clear that teams are not subject to any constraints related to longevity. Even when teams are categorized as ‘short-term project teams’, researchers find that interpersonal processes are indicative of team learning and performance (Druskat & Kayes, 2000). Furthermore, certain professional environments – particularly healthcare and the military – are typified by action teams that form and disband rapidly and regularly to react to urgent situations (e.g. Murray & Foster, 2000; Edmondson, 2003; Ellis, Bell, Ployhart, Hollenbeck, &
Ilgen, 2005; Klein, Ziegert, Knight, & Xiao, 2006). Given that teams of this kind can collaborate for a matter of minutes or hours rather than days, it is reasonable to surmise that the similarity of social exchange in negotiations would not be limited by the timeframe.

And the suggestion that there is overlap between teams and negotiations makes sense in real life too. If we think about a classic example of negotiation, it is not a big stretch to frame the scenario as teamwork. One of President Jimmy Carter’s greatest legacies – and a centerpiece of the Carter Presidential Library – was his role in bringing together Egyptian and Israeli leaders to negotiate a peace treaty known as the Camp David Accords. It could be described as a tense, stressful negotiation between former enemies towards a mutually beneficial outcome. Or it could be discussed in terms of outstanding teamwork in the face of adversity between team members with vastly different opinions. A simple business example might be the negotiation between a home owner who would like to build a screened porch and a building contractor. From one angle, they are negotiating over variables such as the price of materials and labor to build the porch. From another, they could be seen as having a shared goal of a porch being built and an associated desire to communicate and find a method of building it within their respective constraints. As mentioned previously, the negotiator’s dilemma (Lax & Sebenius, 1986) describes the delicate balance between competition (over price) and cooperation (achieving the shared goal). However we phrase these examples, we can note that multiple parties needed to interact because the achievement of their organizational goals depended on some level of cooperation.

For additional evidence about the relevance of social exchange processes for negotiations, we can turn to research and models that describe the respective contexts via continua. Blau (1964) positioned a purely non-economic form of social exchange at the opposite
end of the spectrum to completely economic exchange. The most extreme example of the former is a relationship grounded entirely in love and affection, whereas for the latter it could be a one-time online transaction. In reality, Blau and contemporary SET authors (e.g. Homans, 1958) agreed that most interactions contain some social (e.g. trust) and some transactional elements (e.g. assessments of value), and people evaluate their relationships based on a combination of the two. For instance, a new member of a team might benefit from receipts such as time, expertise and advice from more experienced colleagues, while reciprocating with contributions like gratitude, respect and effort. Blau’s key contribution with SET was to move the conversation away from a solely rational view of interactions based on economic utility to a perspective which embraced the often intangible and unspecified aspects of interpersonal relationships (Cropanzano & Mitchell, 2005).

When it comes to negotiation, the traditional dichotomy is between distributive and integrative bargaining (Walton & McKersie, 1965; Barry & Friedman, 1998), concepts which correspond closely with the negotiator’s dilemma between competition and cooperation. Distributive scenarios feature fixed sums that negotiators must compete for, such as the classic example of the buyer and seller in a used car purchase (i.e. win-lose with negative correlations between the parties’ outcomes). Integrative scenarios offer the opportunity for the win-win of joint gains through cooperation – in the most integrative cases, there may even be fully compatible interests and a lack of conflict (e.g. the story of two people who both want the same orange, one for the peel and one for the fruit). Again, the ends of the continuum tend to represent theoretical possibilities rather than everyday situations – most negotiations can be classified as ‘mixed motive’ due to the inclusion of both integrative and distributive parts (Walton & McKersie, 1965). As a result, competition and cooperation coexist within the majority of
negotiations, and negotiators face challenges like the dilemma of honesty and openness in terms of deciding how much information to share with the counterparty (Kelley, 1966).

In Figure 1, I show that these continua match up well with each other, suggesting once again that social exchange mechanisms like those found in the team environment are likely to be relevant in negotiations.

Given the conceptual similarities between teams and negotiations outlined above, I believe that it is entirely reasonable to take a social exchange perspective when trying to understand the relationship between negotiating parties and its consequences. In the next section, I first look to the SET and TMX literatures to draw lessons about the critical aspects of social exchange that need to be incorporated into a negotiation framework. I then proceed to explore how these social exchange processes begin and progress in a negotiation setting. My proposed social exchange process model for negotiation brings together the key points and propositions related to these topics and can serve as a stimulus for future research.

Lessons for Negotiation from SET and TMX

Although SET is invoked less regularly than could be expected in the negotiation literature, there is acknowledgement that interpersonal interactions are important for the purpose of building relationships in this context. Social exchange has been identified as a ‘pathway to cooperation’ (Bottom, Holloway, Miller, Mislin, & Whitford, 2006), which echoes the language
of the continua shown in Figure 1. During integrative or mixed motive bargaining, there are clearly benefits to exchanging information and developing trust in the pursuit of an expanded pie and a win-win result (Kelley, 1966; Thompson & Hastie, 1990). As we endeavor to understand how social exchange processes play out in negotiations and contribute to proximal and distal outcomes, it is sensible to briefly review the fundamentals of SET.

In Table 2, I provide an overview of the seminal works related to the development of SET in the 1950s and 1960s, as well as its application in the workplace as Leader Member Exchange (LMX) and Team Member Exchange (TMX). The most important points to note regarding the definition of SET are that social exchange consists of a series of interactions between individuals, that the goods exchanged can be economic and/or relational, and that people have a basic expectation of reciprocity but this need not be immediate. The other key takeaway from this table is that there are two sides to the exchange – the terminology has changed over time and depending on the specific author, but there is an overwhelming consensus that we need to consider both contributions and receipts. Social exchange contributions represent what an individual is giving to their team or negotiation counterparty, while social exchange receipts indicate what they are getting back in return.

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Based on the similarities between the negotiation and team settings, I predict that there is a novel opportunity for researchers to understand negotiation dynamics through social exchange processes similar to those identified in dyadic and team environments. In the next section, I
apply the logic of SET to the negotiation setting, keeping in mind that relationship develops over the course of time and through interactions consisting of give and take.

Social Exchange Processes in Negotiations

As outlined above, the negotiation context bears considerable resemblance to situations, especially the team setting, where social exchange processes are fundamental to our understanding. I argue that a social exchange perspective seems well suited to explaining the dynamics between a negotiator and their counterparty. However, the existing literature about negotiation processes in general – and social exchange in negotiation specifically – is relatively limited. Although Bottom et al. (2006) conclude that social exchange is a more appropriate lens for negotiation than rational choice and Molm (2003) argues that negotiation is a form of social exchange (albeit typically more economically focused than other forms), Cropanzano & Mitchell (2005) find that most of the extensive research on negotiation does not use SET logic. Scholars have dedicated some attention to broader negotiation processes, but these articles tend to largely emphasize the back and forth of making offers and counter-offers. For example, Carberry & Lambert (1999) conceptualize negotiation as a decision tree of possible responses, prioritizing the content of offers rather than relational development. Similarly, De Paula, Ramos, & Ramalho (2000) consider cycles of communication within the negotiation only in terms of one party making an offer and the other responding.

Two publications in particular stand out for their attempts to move the academic conversation forward with regards to considering fluctuations over time in negotiations. First, Adair & Brett (2005) eloquently describe the ‘negotiation dance’, comparing the interplay between negotiator and counterparty with the skillful movements of dance partners. They identify four stages in the negotiation process – relational positioning, identifying the problem,
generating solutions, and reaching agreement. They mention that the first two stages include communication and sharing of information, although they do not ground their observations in social exchange. Second, Olekalns & Weingart (2008) write about the potential for negotiation strategies to shift over the course of the interaction as parties adapt to each other. In both cases, the authors make a compelling case that negotiations are not static scenarios and urge researchers to integrate the potential for change into their studies. I agree with their conclusions and further propose that we can make progress in the field by applying SET to capture the ongoing give and take between negotiators. In addition, I believe we can increase our understanding by going beyond the current limitation to the negotiation encounter alone. Adair & Brett (2005) describe the dance as negotiators reach an agreement, but I contend that the dance tends to begin before the negotiation itself and continues long past the agreement. In the following sub-sections, I explain how social exchange processes are influenced by pre-negotiation factors, and how they play out through first impressions, the negotiation phase, and into future meetings.

**Phase 1: Pre-Negotiation.** Even before a negotiation begins, certain attributes and information are likely to play a role in how the negotiator and counterparty enter into the initial interaction. The individual characteristics of the negotiator, as well as perceptions about the counterparty and contextual factors can all influence expectations about what is about to occur (Thompson, 1990).

First, the negotiator brings their personal background, values and feelings to the negotiating table. There is an established stream of literature linking personality traits to negotiation consequences, for instance finding that the Big Five traits contribute to negotiating style and outcomes (Antonioni, 1998; Barry & Friedman, 1998). We also know that prosocial orientation is linked with a more cooperative perspective on negotiation and superior joint
outcomes (De Dreu & Boles, 1998; Beersma & De Dreu, 1999). In addition, a person’s mood going into the negotiation will influence their approach to building a relationship with the counterparty. For example, positive affect tends to make negotiations less contentious (Carnevale & Isen, 1986), while anger can generate concessions but reduces desire to work together in future (Allred, Mallozzi, Matsui, & Raia, 1997; Steinel, Van Kleef, & Harinck, 2008). It seems fair to say that an extraverted negotiator in a good mood will probably be more interested in conversing with the counterparty and asking questions about them than an angry neurotic who is skeptical and withdrawn. Overall, I expect that negotiator characteristics connected with an interest in the other party and relationship building will encourage a negotiator to make social exchange contributions during early interactions with their counterparty. Furthermore, negotiators who enter the relationship in a good mood will tend to make higher contributions than those who are in a bad mood at the outset.

Proposition 1: The personality of individual negotiators will influence their approach to social exchange when beginning a negotiation, such that other-oriented traits will be related with higher initial contributions to the relationship.

Proposition 2: The affect of individual negotiators will influence their approach to social exchange when beginning a negotiation, such that positive affect will be related with higher initial contributions to the relationship.

The counterparty brings an equally complex set of personality characteristics to the table and this will influence their level of contribution to the early part of the relationship. Furthermore, negotiators will form perceptions of their counterparts before they start talking based on evaluations of factors like demographics and reputation. For an example of the former, Huang & Murnighan (2010) provided evidence that even a subtle cue such as a liked/disliked
name can activate positive/negative relational schemas and trusting behavior in subsequent interactions. For the latter, Tinsley, O’Connor, & Sullivan (2002) found that having a reputation as a hard bargainer (whether justified or not) leads to the other party making negative judgments of behavior, sharing less information, trying to control the negotiation process more, and generates less beneficial outcomes. So we can certainly expect that what little is known about the counterparty will be integrated into the beginning of the social exchange relationship. For example, realizing that the counterparty is reputed to be a difficult character might reduce the negotiator’s intended contribution to social exchange from 6 to 4 on a 7 point scale. On the other hand, if a counterparty has a reputation as a considerate and reasonable negotiator (but not a complete pushover who gives unnecessary concessions), this is likely to lead to the most integrative tactics on the part of the negotiator (Croson & Glick, 2001). Information about demographic characteristics and the counterparty’s personality are likely to generate perceptions in the negotiator about how similar the two participants are. When negotiators consider the counterparty to be more ingroup than outgroup, they will tend to develop a more favorable judgment and a stronger desire to build a relationship (e.g. Lee, 2005). I therefore expect that counterparties with a good reputation who are perceived to be similar to the negotiator will typically stimulate higher initial contributions on behalf of the negotiator.

**Proposition 3:** A counterparty’s reputation will influence the approach of individual negotiators to social exchange when beginning a negotiation, such that a positive counterparty reputation will be related with higher initial contributions to the relationship by the focal negotiator.

**Proposition 4:** Perceived similarity with a counterparty will influence the approach of individual negotiators to social exchange when beginning a negotiation, such that the
more the counterparty is considered an ingroup member, the higher initial contributions to the relationship by the focal negotiator will be.

The negotiator’s understanding of the wider context in which the negotiation will take place is also relevant to their approach to building a relationship with the counterparty. For example, the framing of a negotiation situation influences how the negotiator enters into the social exchange. Positive framing (focused on the potential gains) has been shown to induce risk-averse behavior, whereas negative framing (focused on the potential losses) contributes to risk-seeking behavior (Neale & Bazerman, 1985). So the instructions provided by the negotiator’s superiors will guide them in how they perceive the upcoming interaction. When negotiators understand the negotiation to be a potential win-win situation, they are more likely to reach mutually beneficial settlements (Bottom & Studt, 1993). The norms provided by organizational (and even industry or national culture) can also influence the negotiator’s perspective. Schein (1990) identifies the organization’s relationship to its environment (e.g. dominant or submissive) and the nature of human relationships (e.g. competitive or cooperative) as underlying dimensions of organizational culture. The negotiator will to some extent be immersed in their organization’s way of doing things, which will change how they view the pending negotiation relationship. We can suppose that a negotiator who is warned not to let a deal slip away and whose organization champions cooperation will be keen to contribute to the social exchange relationship (e.g. planning to contribute 7 out of 7). Overall, I expect that framing and norms will provide contextual information to negotiators and influence their approach to the negotiation.

Proposition 5: The framing of the situation will influence the approach of individual negotiators when beginning a negotiation, such that cooperative framing will be related with higher initial contributions to the relationship.
Proposition 6: Understanding of negotiation norms will influence the approach of individual negotiators when beginning a negotiation, such that cooperative norms will be related with higher initial contributions to the relationship.

Phase 2: First Impressions. The early interactions between negotiator and counterparty are critical to the development of a social exchange relationship. Initial patterns of contributions by the negotiator and receipts (i.e. contributions by the counterparty) create a strong impression of what the future is likely to hold for the dyad. The importance of first impressions is evident in the original SET writings (e.g. Blau, 1964) as well as the LMX literature, which suggests that role-making at the beginning of leader-member relationships is essential for their progression from transactional to high quality status (e.g. Graen & Uhl-Bien, 1995). Negotiation research also point to the primacy effect – early breaches of trust are the most damaging to the relationship and will never truly be overcome (Lount, Zhong, Sivanathan, & Murnighan, 2008). Negotiators will evaluate the give and take during the first minutes and hours of their interaction with the counterparty to understand whether they consider the relationship to be a fair exchange or an imbalance. This assessment will influence their expectations for future interactions, particularly the upcoming negotiation, and they may decide to adjust their level of contributions according to the information garnered. For example, if the negotiator perceives themselves to be contributing at 5 out of 7 but their counterparty to only be contributing 3 out of 7 in return, they may decide to continue in the hope of signaling a desire to invest in the relationship, or they may choose to react to the apparent ‘giving imbalance’ by reducing their contributions in the next round of interactions. In general, I expect that a negotiator’s future contributions will tend to reflect those of the counterparty, so high receipts during first impressions will be related with high contributions as the relationship continues. Alternatively, low receipts during first
impressions will be connected with low contributions at the next stage. Reciprocal contributions and receipts during first impressions will form a basis for increasing contributions on both sides.

Proposition 7: Social exchange contributions and receipts at the earliest stage of a negotiation will influence the development of an interpersonal relationship between negotiator and counterparty. As individual negotiators perceive there to be more of a ‘taking imbalance’ or a reciprocal relationship, their future contributions will be higher than when they perceive there to be more of a ‘giving imbalance’.

The first impressions may occur in advance of the negotiation if the negotiator and counterparty are brought together socially before meeting formally. This could happen if one party is visiting from out of town and being hosted by the other party. There may be a collection from the airport, a dinner on the evening of arrival, a tour of the city or business premises, or even more extended activities such as a round of golf if the visit will take several days. These kinds of social events represent an opportunity to make first impressions before the negotiation and to start building the relationship in a more relaxed and casual setting. They can be compared with the early stages of ‘face-work’ (Goffman, 1967), when people are presenting themselves and setting expectations that will be maintained or adjusted over time.

In general, I expect that taking the time to get to know each other and sharing information – perhaps related to work, or maybe just discussing families – will be beneficial for the development of the relationship, because each party will be encouraged to contribute to the discussion and build a mutual bond. Of course, there is some risk of catastrophe if the relationship turns sour at this early stage – we can imagine uncomfortable negotiations after a drunken confrontation about politics for instance – but overall I would predict that these events
to be connected with high quality reciprocity at later stages (assuming they can be classified as successful in terms of not damaging the relationship).

Proposition 8: Successful social interactions between individual negotiators and their counterparts prior to the negotiation will help them to build an interpersonal relationship. Participation in pre-negotiation activities will be related with higher future contributions and receipts.

In the absence of social events before the negotiation, the initial greetings and small talk before getting down to business will become the venue for creating first impressions and beginning face-work. Building rapport prior to negotiation typically leads to superior outcomes (e.g. Drolet & Morris, 2000; Nadler, 2003; 2004). Enjoyable and engaged introductions will indicate that the negotiator and counterparty each want to contribute to a smooth and productive negotiation process. On the other hand, a lack of contributions to greetings and small talk is likely to be taken as an indication of limited future contributions. Ignoring the pleasantries between negotiators before beginning discussions can cause the relationship to unravel very quickly. For example, we can consider the problems faced by US and German executives coming to the negotiating table with different expectations about small talk. Partly due to cultural factors and a desire to get straight down to business, the German representatives might dismiss the attempts of their hosts to break the ice by asking about their travels and begin a formal presentation of their position. This could set the tone for an awkward interaction on the day and may contribute to not reaching a deal despite the apparent benefits to both parties.

Proposition 9: Successful social interactions at the beginning of the negotiation will help individual negotiators and their counterparties to build an interpersonal relationship. If
Individual negotiators and their counterparts each make early contributions to the development of a social bond, future contributions and receipts will be higher.

In addition to the implications for the ongoing social exchange relationship in the negotiation phase, the negotiator’s first impressions about the reciprocity or lack thereof in contributions and receipts might have other consequences. In line with the tenets of SET, if a relationship is judged to be too inequitable, it is possible that the participant decides to withdraw entirely. In the prior example about a drunken confrontation at a social event, it is feasible that someone could be sufficiently offended that they decide not to pursue the relationship. A negotiator who feels severely disrespected and believes there to be alternative routes to achieving their goals may prefer to walk away from the negotiating table due to an intolerable incident. As for other possible outcomes, if the negotiator is required to report back to head office about the counterparty and negotiation progress, the first impressions will probably affect the content of that update and ensuing decisions about next steps. The primary outcomes of initial social exchange contributions and receipts are for the future of the relationship between negotiator and counterparty, but my next proposition acknowledges the potential for subsequent effects even at the earliest stage of the negotiation.

Proposition 10: In addition to outcomes for the ongoing relationship, the first impressions in a negotiation will influence the focal negotiator’s desire to continue negotiating and feedback to supervisors.

Phase 3: Negotiation. As described at the beginning of this section, the limited existing research on dynamic processes tends to focus on the negotiation phase itself. We know that the negotiator and the counterparty need to communicate and engage in some back and forth in order to make offers and reach an acceptable agreement. We can see from the TMX scales (available
in Appendix A) that the major exchange themes in teams revolve around communication and sharing of information, recognition and respect, assistance and support. These themes overlap considerably with the stages of the negotiation dance (Adair & Brett, 2005) in that they facilitate relationship building, identifying problems, generating solutions and reaching an agreement. I argue that we can best understand the negotiation phase via the lens of SET, by considering how the negotiator evaluates social exchange contributions and receipts.

In a similar manner to the way first impressions influence the social exchange dynamics of the negotiation phase (Proposition 7), I expect that the experience of contributions and receipts at this point will have consequences for the ongoing relationship. As individual negotiators evaluate the social exchange processes of the negotiation, they will reach certain conclusions about their relationship with the other party. The negotiator may feel that they contributed more than the counterparty during the negotiation and perceive a ‘giving imbalance’, perhaps leading them to expect receipts in a future encounter to correct the imbalance. Or they may feel that they benefitted more from the exchange with higher receipts than contributions in a ‘taking imbalance’ – as a result, they might be motivated to contribute more in future encounters to pay off the perceived obligation. Or they may feel that both parties contributed at a high level, signifying a high quality reciprocal relationship that they can rely on in the future. The negotiator’s experience of social exchange processes will be impactful over and above the effects of the outcome (Loewenstein et al., 1989). My next three propositions describe the different social exchange dynamics in terms of patterns of contributions and receipts, as well as their consequences for the ongoing relationship.

Proposition 11: When social exchange contributions and receipts are both perceived to be high, individual negotiators’ evaluations of the relationship will be better than when
they are both low due to the perceived high quality reciprocity. This will be related with higher investments in the relationship in the form of future contributions.

**Proposition 12:** As individual negotiators judge there to be more of ‘giving imbalance’ rather than a reciprocal relationship, their evaluations of the relationship will decline. This situation will be related with lower investments in the relationship in the form of future contributions.

**Proposition 13:** As individual negotiators judge there to be more of ‘taking imbalance’ rather than a reciprocal relationship, their evaluations of the relationship will decline. This situation will be related with higher investments in the relationship in the form of future contributions.

As stated by Bottom et al. (2006), social exchange offers a pathway to cooperation in negotiation. The pattern of contributions and receipts is likely to be a strong indicator of negotiation outcomes due to its role in relationship building. For example, Kerr & Kaufman-Gilliland (1994) found that communication between negotiating parties contributes to cooperative outcomes via group identity. Several authors suggest that interpersonal trust is a key mediator between negotiation processes and bargaining outcomes (e.g. Beersma & De Dreu, 1999; Thompson, 2014). And experts point to communication and building trust as advisable tactics for reaching mutually beneficial outcomes (e.g. Kelley, 1966; Maddux, Mullen, & Galinsky, 2008). Conversely, when negotiators fail to reach optimal outcomes, this is attributed to a variety of reasons including a lack of information sharing, an inability to understand the counterparty’s perspective, breaches of trust, and perceived conflict (e.g. Thompson & Hastie, 1990; Tor & Bazerman, 2003; Lount et al., 2008). I expect that healthy social exchange dynamics, especially high contributions by both the negotiator and the counterparty, will
contribute to the achievement of positive outcomes in mixed motive and integrative negotiations (i.e. all situations except the purely distributive where the relationship is unimportant).

*Proposition 14: Social exchange contributions and receipts during bargaining will influence joint outcomes, such that negotiations characterized by high quality reciprocal relationships will be related with better negotiation outcomes than low quality reciprocal relationships or imbalanced relationships.*

**Phase 4: Next Meeting.** In the ever more interconnected business world, it is fairly unlikely that the end of the specific negotiation will represent the end of an entire relationship. If the two parties reach a mutually beneficial agreement, there is a chance they will be working together for some time to fulfill the terms of the deal, and that they might want to cooperate again in the future. The next interactions, negotiation or partnership will be influenced by the prior social exchange experience, which generated expectations and obligations based on the pattern of contributions and receipts. For example, a highly reciprocal relationship might lead to better communication and understanding if a shipment is delayed due to unforeseen circumstances. Once the relationship is set in motion at the beginning of the process model, it will continue to play a role in every future interaction. We can consider the ongoing social exchanges as a cycle of interactions and evaluations like those found in Propositions 11, 12 and 13. In general, a negotiator will tend to reduce their contributions if they are not being reciprocated over time, to increase their contributions if they are lagging behind their counterparty, and to maintain or increase their contributions when they consider the relationship to be reciprocal.

*Proposition 15: Social exchange contributions and receipts between the negotiator and counterparty will continue across future meetings and negotiations. High quality reciprocal relationships will be linked with higher future contributions and receipts.*
In addition to the implications for the ongoing relationship, there may be ancillary outcomes based on the negotiator’s evaluation of social exchange contributions and receipts. Assuming that a high quality reciprocal relationship is established, or perhaps in a case where the counterparty goes above and beyond to expedite the delayed shipment (thereby generating a ‘taking imbalance’ for the negotiator who benefits from their goodwill), the negotiator might repay them with contributions outside the scope of the original negotiation. For example, the negotiator could introduce the counterparty to an important government official at an industry event, or they could make positive recommendations about the company to potential customers. The long term investment in a relationship could produce returns – tangible or intangible – years down the line as a result of actions that would never have taken place without attention to the balance of social exchange contributions and receipts.

*Proposition 16: The ongoing social exchange relationship will potentially generate additional valuable outcomes via business referrals and introductions.*

Social Exchange Process Model for Negotiation

Based on the theory development above and my propositions regarding social exchange processes in negotiation, Figure 2 provides an overview of my suggested process model.

As shown in this model, the pre-negotiation phase will set some expectations for the upcoming social exchange relationship even before the parties first interact. When the negotiator
and counterparty initially get together – whether in a social setting or at the beginning of the negotiation – they will quickly make assessments about the other side based on early contributions and receipts. This evaluation may lead them to adjust their expectations and strategies for the negotiation phase, or it could be so unacceptable that they choose to walk away from the negotiating table. Within the negotiation itself, the two parties will use social exchange to share information and hopefully to reach an agreement. The outcomes at this stage will be more concrete in terms of distributive and integrative aspects of the deal. In addition, the relationship will continue beyond the end of the negotiation in the form of future encounters, perhaps including further negotiations or industry networking. As we seek to track the development of negotiation relationships, we need to always refer back to the central principle of SET, that there are two sides to the exchange and we need to consider both contributions and receipts at each stage. Negotiators are likely to evaluate their relationship with the counterparty by examining these two components jointly, looking at the pattern of give and take to interpret whether the exchange is reciprocal or not. This will be the primary determinant of how successfully the relationship progresses across the phases of the process model.

**Expected Contributions**

In this essay, I make several contributions to the negotiation literature. With regards to theoretical contributions, I extend the application of SET from team processes to negotiation processes. By doing so, I create an opportunity to better understand how negotiators evaluate their interactions and relationship with a counterparty. I outline how social exchange contributions and receipts form a basis for evaluating the quality of the relationship between an individual negotiator and the counterparty. As for practical contributions, I shift the focus from looking at each negotiating party in isolation to examining perceptions of the relationship itself.
Negotiation is a dynamic process and this research points negotiators towards the many phases of the negotiation where they can have an influence. Hopefully this will encourage negotiators to consider the give and take of their interactions and will lead to more successful integrative bargaining due to increased awareness of relationship dynamics.

**Future Research Directions**

I am interested in building on this theory paper in several different ways. First, as it is still necessary to explicate the social exchange processes underlying negotiation in more detail, I see great potential in conducting qualitative research to obtain a clearer picture of exactly how negotiators experience these dynamics. I believe there would be great value in investigating the meaning of contributions and receipts to negotiators by carrying out interviews and/or using a case study approach to surface the most important themes.

Second, given that we have measurement scales based on SET and designed for leader-member dyads (LMX) and team settings (TMX), but that these instruments do not fit the negotiation context, I think it would be helpful for future research to develop a negotiation-specific exchange construct. The qualitative research mentioned previously would be a way of generating appropriate items, and it would be possible to test the validity of a new scale empirically.

Third, the different stages of the negotiation process also offer attractive avenues for future research. For example, I have always wondered about the efficacy of structured social events (e.g. dinners, golf outings) in advance of negotiations. My process model provides an initial framework for examining how the social exchange contributions and receipts at this early stage could form opinions and influence outcomes at later stages of the relationship.
Alternatively, I could explore how successful relationship-building at the negotiation phase pays dividends in the future through mechanisms such as networking and referrals.

Finally, if the negotiation involves parties with different cultural backgrounds, this will add an extra layer of complexity to the understanding of exchange processes. Cultural values can affect people’s beliefs, goals and norms, so they may change how the negotiation is interpreted (e.g. Chang, 2003; Adair & Brett, 2004; Adair & Liu, 2011). Cultural differences can potentially complicate matters (Adler & Graham, 1989) and relationship-building may be jeopardized unless participants can find a common ground for cooperation (Imai & Gelfand, 2010). It will therefore be important to study the influence of cultural values on the social exchange process model.
ESSAY 3 REFERENCES


<table>
<thead>
<tr>
<th>Team Definition</th>
<th>Applicability to Negotiation Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) composed of two or more individuals</td>
<td>YES – at least two individuals negotiating</td>
</tr>
<tr>
<td>(b) who exist to perform organizationally relevant tasks</td>
<td>YES – each party is negotiating to improve their organization’s position</td>
</tr>
<tr>
<td>(c) share one or more common goals</td>
<td>YES – negotiating for beneficial exchange of goods / services (e.g. buyer and seller)</td>
</tr>
<tr>
<td>(d) interact socially</td>
<td>YES – interpersonal interactions during most negotiations</td>
</tr>
<tr>
<td>(e) exhibit task interdependencies</td>
<td>YES – driven to negotiate due to need for cooperation in pursuit of goals</td>
</tr>
<tr>
<td>(f) maintain and manage boundaries</td>
<td>YES – negotiation parties set rules, constraints, content of negotiation</td>
</tr>
<tr>
<td>(g) are embedded in an organizational context</td>
<td>YES – each party represents organizational interests, negotiation itself as a context</td>
</tr>
</tbody>
</table>
TABLE 2: TMX FOUNDATIONS IN SOCIAL EXCHANGE LITERATURE

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Key Concept</th>
<th>Definition / Clarification</th>
<th>Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blau (1955, 1964)</td>
<td>Social exchange</td>
<td>“voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others”</td>
<td>Outputs &amp; Inputs</td>
</tr>
<tr>
<td>Homans (1958)</td>
<td>Social exchange</td>
<td>“an exchange of goods” – including material and non-material types</td>
<td>Rewards &amp; Costs</td>
</tr>
<tr>
<td>Thibaut &amp; Kelley (1959)</td>
<td>Dyadic interdependence</td>
<td>“the ways in which the separate and joint actions of two individuals affect the quality of their lives and the survival of their relationship”</td>
<td>Rewards &amp; Costs</td>
</tr>
<tr>
<td>Gouldner (1960)</td>
<td>Norm of reciprocity</td>
<td>“people should help those who have helped them, and people should not injure those who have helped them”</td>
<td>Benefits &amp; Repayments / Reciprocation</td>
</tr>
<tr>
<td>Adams (1963, 1965)</td>
<td>Equity theory</td>
<td>“whenever two individuals exchange anything, there is the possibility that one or both of them will feel that the exchange was inequitable”</td>
<td>Outcomes &amp; Inputs</td>
</tr>
<tr>
<td>Graen et al. (1973-76)</td>
<td>Leader Member Exchange (LMX)</td>
<td>“a relationship-based approach to leadership” where “leaders develop differentiated relationships with direct reports” (Graen &amp; Uhl-Bien, 1995)</td>
<td>Leader Contributions &amp; Member Contributions</td>
</tr>
<tr>
<td>Seers et al. (1989, 1995)</td>
<td>Team Member Exchange (TMX)</td>
<td>“the reciprocity between a member and the peer group”</td>
<td>Contributions &amp; Receipts</td>
</tr>
</tbody>
</table>
FIGURE 1: SOCIAL EXCHANGE AND NEGOTIATION CONTINUA

- **Economic Exchange**
  - Transactional
  - Specific Value

- **Distributive Negotiation**
  - Transactional
  - Competitive

- **Social Exchange**

- **Non-Economic Exchange**
  - Relational
  - Intangible

- **Integrative Negotiation**
  - Relational
  - Cooperative

- **Mixed Motive**

- **Typical Relationships**

FIGURE 2: SOCIAL EXCHANGE PROCESS MODEL FOR NEGOTIATION

- **Pre-Negotiation**
  - Negotiator Characteristics
  - Contextual Factors
  - Counterparty Characteristics

- **First Impressions**
  - Negotiator Contributions
  - Counterparty Contributions

- **Negotiation**
  - Negotiator Contributions
  - Counterparty Contributions

- **Next Meeting**
  - Negotiator Contributions
  - Counterparty Contributions

- **Outcomes**
APPENDIX A – TMX SCALES

### 10-ITEM TMX SCALE (Seers, 1989)

<table>
<thead>
<tr>
<th>TMX Contributions</th>
<th>TMX Receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How often I suggest better work methods to others</td>
<td>4. Other members recognize my potential</td>
</tr>
<tr>
<td>3. I let others know when they affect my work</td>
<td>2. Others let me know when I affect their work</td>
</tr>
<tr>
<td>6. How flexible I am about switching jobs with others</td>
<td>5. Other members understand my problem</td>
</tr>
<tr>
<td>8. How often I volunteer extra help</td>
<td>7. How often I ask others for help</td>
</tr>
<tr>
<td>9. How willing I am to finish work assigned to others</td>
<td>10. How willing others are to finish work assigned to me</td>
</tr>
</tbody>
</table>

### 13-ITEM TMX SCALE (Seers et al., 2001; 2014)

<table>
<thead>
<tr>
<th>TMX Contributions</th>
<th>TMX Receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I communicate openly with other members of my division about what I expect from them</td>
<td>2. Other members of my division communicate openly with me about what they expect from me</td>
</tr>
<tr>
<td>3. I frequently provide support and encouragement to other members of my division</td>
<td>4. Other members of my division frequently provide support and encouragement to me</td>
</tr>
<tr>
<td>5. I frequently recognize the efforts of other members of my division</td>
<td>6. Other members of my division frequently recognize my efforts</td>
</tr>
<tr>
<td>7. I frequently take actions that make things easier for other members of my division</td>
<td>8. Other members of my division frequently take actions that make things easier for me</td>
</tr>
<tr>
<td>9. When other members of my division are busy, I often volunteer to help them out</td>
<td>10. When I am busy, other members of my division often volunteer to help me out</td>
</tr>
<tr>
<td>11. I frequently suggest ideas that other members of my division can use</td>
<td>12. Other members of my division frequently suggest ideas that I can use</td>
</tr>
<tr>
<td>13. How would you characterize your working relationship with other members of your division in general?</td>
<td></td>
</tr>
<tr>
<td>TMX Contributions</td>
<td>TMX Receipts</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>1. I communicate openly with other members of my team</td>
<td>5. Other members of my team communicate openly with me</td>
</tr>
<tr>
<td>2. I provide support and encouragement to other members of my team</td>
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</tr>
<tr>
<td>3. I recognize the efforts of other members of my team</td>
<td>7. Other members of my team recognize my efforts</td>
</tr>
<tr>
<td>4. I take actions that make things easier for other members of my team</td>
<td>8. Other members of my team take actions that make things easier for me</td>
</tr>
</tbody>
</table>