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**Effects of the Relationship and Communication with the Immediate Supervisor on
Organizational Learning and its Outcomes, in the Texas Child Protective Services**

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**Effects of the Relationship and Communication with the Immediate Supervisor on
Organizational Learning and its Outcomes, in the Texas Child Protective Services**

by

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Dedication

This dissertation is dedicated to my husband, children, parents, CERI/BCFS family and my PhD cohort, for their constant support and unshaken belief in my ability to do it. Thank you for offering me all the help I needed to complete this program and fulfil my dreams. I couldn't have done it without all of you, and God.

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by

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Organizational learning (OL) theory suggests that learning is a critical prerequisite of organizational productivity and effectiveness in private and public organizations alike. In addition to theory, several empirical studies conducted in a variety of settings, including public entities, indicate that OL stimulates innovation, ethical practice, competent decision-making, and better client outcomes. Despite some promising findings, OL is not utilized as a strategy to enhance the organizational environment and performance in the public child welfare system. This is partially explained by the lack of theoretically-informed research that tests the effect of OL on performance indicators in child welfare. This study uses propositions formulated by Rashman, Withers and Hartley (2009), and Greiling and Halachimi (2013), in their OL models designed for public service entities, to test the effect of interpersonal relationships and communication on OL, service quality and service innovation, in a sample of Texas CPS caseworkers and their supervisors ($N = 335$). Structural equation modeling was used to test the

relationships between the individual-level and system-level latent variables (individual-level responses were aggregated to represent system-level constructs). Results indicated that positive relationships and communication with the immediate supervisor had a significant direct effect on OL and service quality and innovation. These variables also had a considerable indirect effect, through OL, on service quality and innovation. Additionally, OL had a large effect on service quality and innovation. The study used education, tenure, salary and intention to stay as control variables. Implications for research and child welfare administrative practice are discussed.

Keywords: Organizational Learning, Child Protective Services, Caseworkers, Supervisors, Relationships, Communication, Service Quality, Service Innovation, Service Performance

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Chapter One: Introduction

Rampant child abuse, neglect and exploitation, arising from complex family situations, are the main reasons why the child welfare system was created in the United States, through the mandates of the Social Security Act of 1930, the Child Abuse Prevention and Treatment Act of 1974 (CAPTA, Public Law 93-247), and the Adoption Assistance and Child Welfare Act of 1980 (Public Law 96-272). Despite financial and managerial challenges, poor client outcomes, and politically-influenced agendas, the child welfare system pursues a critical mission (Fang, Brown, Florence, & Mercy, 2012). In the state of Texas, the Child Protective Services (CPS) mission is to “protect and to act in the children’s best interest, [to] seek active involvement of the children’s parents and other family members, and to solve problems that lead to abuse and neglect”, a close to impossible task to achieve (Texas Department of Family and Protective Services [DFPS], Data Book 2014, p. 28).

Although a relatively small percentage of children are alleged victims of abuse in the state of Texas – about 3.76% (N = 273,091) in 2014 – the large number of reports requiring investigation places a heavy burden on CPS caseworkers (Texas DFPS, Data Book 2014, p. 27). Of the total number of reported abuse cases in 2014, 38.9% (N = 106,316) were confirmed investigations and 6.36%, (N = 17,378) resulted in children being removed from their homes. The wellbeing and safety of many children and families depend on the services provided by the Texas CPS staff.

CPS staff across the United States play a critical role in the lives of many children (over 3 million children were subject to a CPS response in 2013 according to U.S. Department of Health and Human Services [US DHHS], 2015). However, the child welfare system is oftentimes criticized for its ineffectiveness, bureaucracy and being a bad employer (Annie E. Casey Foundation [AECF], 2003).

Research evidence exists that Organizational Learning (OL) has potential to enhance organizational environments and positively impact organizational productivity and effectiveness (Senge, 2006; Valaski, Malucelli, & Reinehr, 2012). This study investigates processes and mechanisms taking place in the Texas CPS that could be linked to the organization's poor client and system-level outcomes (e.g., service quality). By applying the OL theoretical lens, the study creates additional empirical evidence that supports the use of OL as a strategy for pursuing organizational excellence and lasting institutional change in the CPS.

Professional Challenges of Child Welfare Staff

Child welfare workers across the United States leave their jobs because of high caseloads, inadequate supervisory support, low professional status, poor work environments, low wages, and work-family conflict (AECF, 2003). The statistics presented by the Texas DFPS Data Book (2014) reveal a 25.5% turnover rate among caseworkers, and a 6.3% turnover rate among their supervisors. As a result, one third of the Texas CPS employees have less than one year tenure.

While child welfare employees feel and act like they are not valued by the system, staff are the biggest resource of the system and the most meaningful representatives of

the civil society in the fight against child abuse. For example, in the state of Texas, the total budget of \$1,269,491,993 per year (DFPS Office of Finance, 2016), makes CPS one of the largest state organizations supported by taxpayers. Staff wages and benefits are the largest expense line items in the CPS budget (\$525,145,929). With 5,188 caseworkers and 3,743 supervisors, working in investigations, family-based safety services, conservatorship, foster and adoptive home development and kinship, trained and experienced staff are the most valuable resource utilized by the CPS to carry on its mission (Rycraft, 1994).

Compassion fatigue, secondary trauma, burnout, job disengagement and low morale are among the main struggles of child welfare workers (Conrad & Kellar-Guenther, 2006; Meyers & Cornille, 2002; Van Hook & Rothenberg, 2009). The emotionally challenging work and high employee turnover have been linked to poor organizational environments and meager outcomes in the served population (DePanfilis & Zlotnik, 2008; Strand, Spath, & Bosco-Ruggiero, 2010; Strolin, McCarthy, & Caringi, 2006; U.S. General Accounting Office, 2003). Poor organizational environments, such as an unwelcoming and a disengaged organizational climate, exacerbate the gap between expected client outcomes and existing client outcomes (Glisson & Green, 2011; Williams & Glisson, 2013). A study conducted by Williams and Glisson (2013) in 73 child welfare agencies showed that system-level variables (e.g., proficient organizational culture) can be moderators of the relationship between staff turnover and client outcomes. In this particular study, decreased staff turnover was linked to positive client outcomes only in agencies with proficient cultures, which means that staff turnover alone is not responsible

for negative client outcomes. The mechanisms that connect organizational-level and staff-level variables with client outcomes are not always explicit, however, research documents a strong link between them (e.g., Glisson & Green, 2011). Staff challenges are a source for organizational weakness and an important reason why children's evolving situations and individual needs are not consistently met (Ryan, Garnier, Zyphur, & Zhai, 2006; Waldfogel, 2000).

Educational Challenges of Child Welfare Staff

Learning has been determined to be a critical factor in ensuring the child welfare staff effectiveness on the job, the quality of the services they provide, and ultimately the clients' outcomes (Aarons et al., 2011; Zlotnik, 2003). The U.S. Government has acknowledged the need to have more educated and better trained CPS staff, through the provisions of Title IV-E of the Social Security Act. One of the objectives of Title IV-E is to improve the quality of care for children in foster care, and the U.S. Government proposed to address it by providing funds for CPS staff to get formal academic education. Title IV-E is the largest federal funding stream for child welfare activities and explicitly connects the quality of the services provided by the CPS with the service providers' education (Child Welfare and Adoption Assistance Act, 1980). University-agency (child welfare agency) partnerships created by the states, linking social work education and child welfare, improved the capacity of the CPS to conduct its activities. A total of \$286,000,000 Title IV-E funds were given to 49 states for short-term and long-term training reimbursement in 2002 (Ways and Means Green Book, 2003). The funds were used to upgrade the educational credentials of current and prospective CPS staff.

Research documenting the impact of the Title IV-E funds on the child welfare agencies' staff and client outcomes indicates that the University-agency educational partnerships are promising practices for addressing the staffing crisis in child welfare. Such partnerships were found to improve staff recruitment, professional skills and staff retention (Gansle & Ellett, 2003; U.S. General Accounting Office [GAO], 2003). However, studies also identify gaps in the way Title IV-E funds tend to the needs of CPS system. Individual-level interventions are not enough for triggering radical change in the child welfare system. Such a reform requires top-down and system-wide initiatives that would target internal systems, caseworkers' high caseloads and poor working conditions within CPS, in addition to the lack of focus on child welfare content within social work education programs (Zlotnik, 2003). Such a system-wide approach, focusing on individuals, workgroups, systems and overall organizational performance is OL.

Child Welfare Staff and Organizational Learning

One way of explaining why and how staff turnover and emotional distress impact the organizational environment and outcomes in the CPS is by applying the OL framework. The learning that takes place in an organizational context and for organizational purposes is referred to as "organizational learning" (Sun, 2003). OL scholars believe that the primary learning units in an organization are the individuals (Crossan, Lane, & White, 1999; Rashman, Winters & Hartley, 2009). In the case of public child welfare agencies, caseworkers and their supervisors are the frontline personnel who are in direct contact with the served population, and learn from their work and experience. Over time, their knowledge and experience is integrated into the workgroup,

and then, further advanced to the institutional level. The institutionalized knowledge, stored in the client records, organizational protocols and policies, becomes organizational knowledge. Such a learning process, initiated by employees and refined by workgroups within an organization, represents the way organizations learn and become more performant (Rashman et al., 2009).

In environments with high emotional distress and turnover rates, like the CPS, staff do not stay with the organization long enough to gain experience and knowledge that could be further integrated in group and organizational levels. Furthermore, learning progresses from individual to group level via communication and other social processes. Dialogue, story-telling, information sharing and social exchange that take place in a safe workgroup environment, contributes to the transfer of learning from individuals to groups. Constant personnel changes and an organizational environment that discourages social exchange, disrupt the organizational climate and learning flows (Kim, 1993; Yanow, 2000). In this context, if individual learning is the only path for the knowledge and experience to enter the organization, then frequent retirements, turnover, layoffs and downsizing in public child welfare organizations, inherently jeopardize their ability to learn (Argote & Miron-Spektor, 2011). Similarly, compassion fatigue, burnout, secondary trauma and work disengagement do not contribute to a productive social exchange. The skills, wisdom and practical knowledge gained by tenured child welfare staff are lost during turnover, and the organization loses the capacity to capitalize on its employees' knowledge. This way, the driving force for learning, innovation and

knowledge production in the respective organization is radically diminished (Damanpour, 1999; Rashman et al., 2009).

Organizational Learning and Organizational Performance

Researchers interested in the OL phenomenon believe that it represents a key to organizational survival, productivity and continuous success (e.g., Argyris & Schon, 1978; Dixon, 1999; Grant, 1996; March & Olsen, 1975; Senge, 2006; Valaski et al., 2012). By promoting learning in their organizations, managers ensure organizational thriving in a global, ever-changing world (Rebelo & Gomes, 2008; Weil, 1998).

Shoshana Zuboff, a Harvard Business School professor studying the interface of human and computer-mediated work, argues that the behaviors that define learning and the behaviors that define productivity are the same, since learning is at the heart of productive activity (Zuboff, S. in Marquardt, 1996).

Besides being an essential survival and productivity pre-requisite, OL also benefits employees, service recipients, and the entire civil society (Senge, 2006; Weil, 1998). Studies show that OL stimulates innovation, ethical practice, competent decision-making and better client outcomes (Aarons et al., 2011; Crossan & Apaydin, 2010; Damanpor, 1991; Murray & Donegan, 2003; Orthner, Cook, Sabah, & Rosenfeld, 2006). It is also known that employees who engage in learning experience less burnout, are more empowered and satisfied with their jobs (Curry, McCarragher, & Dellmann-Jenkins, 2005; Egan, Yang, & Bartlett, 2004; Jones, 2000; Marks & Louis, 1999), have increased motivation, higher self-determination and greater work satisfaction (Bontis, Crossan, & Hlland, 2002; Cohen & Austin, 1994; Fiol & Lyles, 1985; Kiedrowski, 2006).

Organizations that promote collective learning are better work environments and handle uncertain or unpredictable situations with greater competence (Schulz, 2001).

As a multi-level process, OL starts with frontline workers and clients, progresses through the group-level and becomes institutionalized at the system-level (Crossan et al., 1999). It capitalizes on individuals' experiences, cognitive capacity and social networks, builds on the workgroup social and hermeneutic processes and positively affects institutional dynamics, resulting in improved outcomes at every level in the organization (Rashman et al., 2009). There is a need for research evidence demonstrating that OL is an adequate framework for analyzing the multiple employee-level, workgroup-level and system-level challenges in the child welfare system.

Organizational Learning and Service Innovation

Bapuji and Crossan (2004) argue that OL impacts the organizational ability to innovate and adopt innovative practices. Numerous researchers and public policy designers believe that innovation in public services is “essential to meet the economic and social challenges of the 21st century” (Department of Innovation, Universities and Skills [DIUS] 2008, p. 8; Harris & Aldbury 2009; Patterson, Kerrin, & Gatto-Roissard, 2009). The pressures brought by global economic and social processes, scientific discoveries, and technologic advancement are translated into new duties and tasks for child welfare leaders and their employees (Poole, Mansfield, & Goud-Williams, 2006). To serve an increasingly diverse and demographically dynamic society, as well as economically and racially segregated communities, CPS must innovate (Hasenfeld, 2010). Major research developments in the behavioral sciences, neurobiology and social

sciences pressure all social services to increase their learning pace and adopt new technologies and techniques that would satisfy the population's growing needs (Brynjolfsson & McAfee, 2014). Technological progress demands change in the CPS infrastructure, work patterns, and processes (Hasenfeld, 2010). Employees at all levels are asked to think and act strategically, engage in interdisciplinary teams, adopt the perspectives of the diverse society they serve, learn new skills and technologies, as well as include service recipients at every stage of the service process (Carnochan, Samples, Myers, & Austin, 2014; Weil, 1998).

Besides innovativeness, the social services of the 21st century are summoned to adopt Evidence-Based Practices (EBP, Gambrill, 2006). EBP require organizations to be in a constant learning state, increase their learning capacity, and turn learning into a purpose in itself (Aarons, Hurlburt & Horowitz, 2011). Describing the context of the 21st century for organizations, Dixon (1999, p. 1) argues that “we have entered the Knowledge Age and the new currency is learning. It is learning, not knowledge itself, which is critical.” Organizations capable of embracing learning at institutional level develop the meaningful structures and mechanisms capable of integrating the professionals' experience with research developments and client perspectives, in their practice context (Gambrill, 1999).

The additional pressures brought by the 21st century did not remove the typical organizational requirements of productivity and meeting goals and objectives in the CPS. For example, two of the federal outcomes used to evaluate the child welfare services are “Children receive appropriate services to meet their educational needs; Children receive

adequate services to meet their physical and mental health needs” (Texas DFPS, Data Book 2014, p.30). While it is easy to identify the educational, physical and mental health needs of the clients, determining what are the “adequate” services to meet these needs, is less obvious. The cultural diversity, economic segregation, and evolving social norms require a constant development of new services that would parallel the growth of the knowledge base in the human behavior sciences (Waldfogel, 2000).

Social service innovation, although fraught with implementation difficulties, has been consistently linked to improved outcomes in the public field (Aarons, Hurlburt, & Horwitz, 2011; Aarons & Palinkas, 2007). However, current empirical research offers limited guidance to social work practitioners and public service professionals on the antecedents of innovation and organizational environments conducive to innovation in social service settings (Jaskyte & Kisieliene, 2006). Limited empirical research addresses service innovation in the context of the CPS and very few studies link OL to service innovation in public entities. This study investigates empirically the antecedents of service innovation in the Texas CPS and the link between learning at organizational level and innovating.

Organizational Learning and Service Quality

The quality of the social services offered by the child welfare system is an important element in ensuring that the needs of their clients are met (Glisson, 2002; Selber & Streeter, 2004; Waldfogel, 2000). In a summary of the critique brought to the CPS by child welfare analysts, practitioners, and the general public, Jane Waldfogel, Assistant Professor at the Columbia University School of Social Work, mentions service

delivery as one of its five main problems. She argues that families do not “receive the right type of services. Service delivery tends to be uneven across communities, [...] fragmented and delivered in separate locations by different professionals” (Waldfogel, 2000, p. 46). Casting a new vision for the CPS of the future, Waldfogel declared that CPS staff “need more highly developed skills—in assessment, service planning, service provision, and client engagement—than CPS [...] social workers typically possess today” (Waldfogel, 2000, p. 49). Skills development and knowledge growth come with learning.

Providing high quality services requires professionals working for the child welfare system to remain active learners for the rest of their career (Gambrill, 2006). For example, social workers, one of the fastest growing career tracks in the United States, are bound by the National Association of Social Workers (NASW) Code of Ethics, NASW Standards and State licensing codes, to be committed to life-long learning. The NASW Code of Ethics mandates them to display competence, develop and enhance their professional expertise and contribute to the profession’s knowledge base (1.04 Competence). NASW Standards require social workers to use “the best available scientific knowledge [...] as one basis for guiding professional interventions and effective therapies” (Barker, 2003, p. 149). Managers and administrators are pressured to provide opportunities for continuing education and staff development that address current and emergent knowledge, so that the most current, beneficial, and culturally appropriate services are provided (NASW Standards; 3.08 Continuing education and staff development). Staff selection criteria in the human services increasingly reflect the EBP

imperative, and include effective learning skills as a priority in their job descriptions (Aarons et al., 2011).

Child welfare has a critical mission to ensure the safety and healthy growth of the next generation of responsible and successful U. S. citizens. The CPS is also a public organization, supported by taxpayer's funds, with increased requirements for accountability and productivity. The problems identified above, such as the need for high quality services and customized responses to clients' needs require an organizational environment conducive to learning. Globalization, scientific developments, technological advancements, and the EBP model also require an organizational environment focused on learning, with explicit learning goals, objectives, and measured learning outcomes (Lipshitz, Popper, & Friedman, 2002; Nicolini & Meznar, 1995). Looking at the requirements placed by the century and the profession on the social service employees, it seems like "learning is the new form of labor" (Zuboff, S. in Marquardt, 1996).

Statement of the Problem

The OL research has yet to gain full recognition in the public human service field. However, practitioners and researchers in multiple fields have unanimously recognized its importance, and promising research findings exist. Limited preliminary evidence inspired practitioners and scholars to design interventions aiming at enhancing OL with the purpose of increasing organizational performance in human services (e.g., Austin & Harkins, 2008; Orthner et al., 2006). However, without a good understanding of OL mechanisms and processes, and variables impacting them at each level in an organization,

it is hard to recommend this strategy for any type of organization (Thomas & Allen, 2006).

Need for OL theory testing. Despite a developed and complex theoretical literature, the empirical literature investigating OL has not kept the pace with testing and validating it in organizational settings. An abundance of complex theoretical models hypothesize processes and relationships between individual, workgroup and institutional-level variables and OL. Most models are created for generic organizations, or private firms. Few models are developed or tested in specific organizational settings, such as public, private, or nonprofit settings. Even fewer models are tested in public child welfare organizations. Public organizations are known for their highly political, hierarchical, and tightly regulated environments, which can be detrimental to learning and creativity (Senge et al., 2000). It is critical to investigate and bring evidence that OL processes are taking place in public human service organizations. Additionally, empirical studies need to dissect the complexity of the theoretical models, focusing on each level of analysis, identifying the most critical variables for each level of learning. Research has to depict level-specific processes and variables that impact learning in various organizational contexts.

Empirical testing of OL theoretical models, in their multidimensionality and complexity can be overwhelming, and is beyond the scope of this study. It is possible that the multiple challenges associated with this daunting task resulted in such little empirical testing of theoretical models. This study takes a step-by-step approach to testing OL theory. It focuses on the individuals, members of an organization, and the processes they

create to allow OL to take place in their organization. Eventually, follow up studies will address the effects of group-level and system-level processes on OL and its outcomes in public organizations.

Need for understanding individual-level processes. Crossan and colleagues (1999) theorize that OL starts at individual level and progresses through the workgroup and institutional levels. The primary learners and “agents” of OL in organizations are individual employees, who are expected to incorporate their learning into group and institutional structures (Friedman, 2001; Rebelo & Gomes, 2008). Social constructionism and Bandura’s (1977) social learning theory emphasize the role of individual interactions, communication, social and hermeneutic processes as the basis for a productive OL. Additionally, Greiling and Halachimi (2013) as well as Rashman and colleagues (2009) theorize that relationships and communication are among the most critical OL enablers at the individual level. Limited empirical evidence validates these arguments and it is unclear whether OL is subject to influence by individual-level factors. It is important to determine the individual-level processes necessary for the initiation and sustenance of productive OL.

Need for depicting outcomes of OL. Research on outcomes of OL in public organizations, such as service innovation and service quality, is extremely scarce. This could be indicative of the field’s difficulty in operationalizing and measuring these concepts. It could also point to an overarching culture of compliance to standards and legal regulations, which can be detrimental to creativity in the field, and to the population using its services. As public services strive to implement EBP, social and organizational

scientists have to collaborate in an effort to clarify how, when and in what contexts OL leads to innovativeness and better quality services (Gambrill, 1999; 2006).

Need for effective interventions in the CPS system. In light of the challenges faced by the child welfare system and the potential benefits of OL to the organization and its clients, researchers have to address a knowledge gap and determine the feasibility and utility of OL for child welfare agencies. Limited research has studied the OL processes in the child welfare system, and no understanding exists about the benefits it might bring to the entire organization and its clients. The OL construct has not yet been applied to the study of organizational performance in the CPS. Public management research and social work science has to determine whether OL can be used as an effective management and performance tool in the child welfare system in the United States.

Purpose of the Study and Research Questions

Multiple theoretical models address the mechanisms and processes of learning in organizations (e.g., Crossan et al., 1999; Popper & Lipshitz, 1998) and only two models have been designed specifically for public organizations: Rashman et. all (2009) and Greiling and Halachimi (2013) models. Despite a significant body of theoretical literature, and a forty year history of the OL concept, limited empirical research validates the theory, and few empirical studies are conducted in public organizations. The current study tests a segment of the OL theory which stipulates that individual level variables impact OL and its outcomes in public human service organizations. The general research questions guiding the study are: Is there a direct relationship between individual level processes among CPS caseworkers and their supervisors (their personal relationships and

communication) and OL? Is there an indirect relationship between individual level processes among CPS caseworkers and their supervisors (personal relationships and communication) and service quality and service innovation, through OL? Finally, is there a direct relationship between OL and service innovation and service quality in the CPS?

By focusing on two individual level processes, and their impact on learning and the outcomes of learning in public human service organizations, the study advances the knowledge on OL processes and mechanisms in the public human services by:

Testing theory: Historically, OL scholars used theories and models developed for private firms to study processes that take place in human services. This practice does not take into consideration the different nature, goals and outcomes of private and public organizations. This study is an empirical test of theory developed specifically for public service entities, to explain under what circumstances OL processes take place in public organizations (Bapuji & Crossan, 2004; Crossan, Maurer, & White, 2011; Lawrence, Mauws, Dyck, & Kleysen, 2005). Although “learning is the new form of labor” in the 21st century (Zuboff, S. in Marquardt, 1996), little is known about the learning processes taking place in the child welfare system. To date, no OL theoretical models have been applied and tested in the CPS, and scarce research addresses the applicability of current OL models to child welfare agencies. This study addresses this research need by testing existing OL models in the CPS.

Building measures: The study develops a measure for OL and two learning outcomes specific to human service organizations: service innovation and service quality. The development of adequate measures for OL and its outcomes in the public services

contributes to the establishment of the relationship between OL and social service-specific performance outcomes. Such measures are useful to researchers, practitioners, and policy-makers for the measurement of public organizations' performance and service outcomes (Bapuji & Crossan, 2004; Rashman et al., 2009; Rebelo & Gomes, 2008).

Uncovering the links: Empirical studies indicate that OL positively impacts innovation and service quality in private firms (Damanpour, 1991; Senge, 2006) and little is known about whether it impacts these variables in human service organizations. The implied relationship between OL and service quality and innovation is theoretically grounded in the work of Fiol and Lyles (1985) who conceptualized OL as an error-detection and error-correction mechanism, leading to improved organizational action and behavior (Fiol & Lyles, 1985; Huber, 1991). High work quality in public service organizations is critical for better client outcomes and increased societal wellbeing (Selber & Streeter, 2004; Aarons & Palinkas, 2007). The current research study addresses the existing gap in the literature by uncovering the link between OL and these two performance outcomes in a child welfare organization.

Utilizing adequate research methods: The use of methodologies that take into account the latent nature of OL, and the socially constructed nature of learning will advance OL research and knowledge beyond determining associations between variables, into discovering causal relationships (Easterby-Smith & Lyles, 2011; Rashman et al., 2009). The multi-level nature of OL also imposes researchers to take into account individual, group and contextual characteristics when studying OL in human service settings. Research methods have to address the ways in which personal characteristics of

public servants impact OL and its outcomes. This study builds the evidence base on critical individual-level variables that impact OL in public human service organizations.

Studying leadership and power relations: The increased attention to power and politics in the social work and OL literature, derives from the acknowledgement that social relations, and learning processes, do not happen in a vacuum. On the contrary, they take place in a landscape of interests, differential power positions, and relations. Researchers are interested in finding out how power relations impact learning in organizations (Antonacopoulou, 2006; Crossan et al., 2011; Easterby-Smith Crossan, & Nicolini, 2000; Lawrence et al., 2005; Rashman et al., 2009; Stewart, 2001). Research suggests that barriers to learning, embedded in the organizational structure and culture, can only be overcome by the exercise of employee-focused leadership at all levels of the organization. This study performs an empirical test of the effect of the relationship and communication between frontline employees and their immediate supervisors on OL and its outcomes, thus advancing the knowledge on the role of leaders in the OL process (Crossan et al., 2011; Easterby-Smith et al., 2000; Lawrence et al., 2005; Rashman et al., 2009; Schilling & Kluge, 2009). The results of the study bring additional evidence to the applicability of OL theory to public human service organizations.

Rebelo and Gomes (2008) applied Kuhn's (1970) framework for analyzing the evolution of scientific paradigms to the OL concept. Kuhn believed that the evolution of any scientific construct follows three phases: (1) introduction and elaboration; (2) evaluation and augmentation; and (3) consolidation and accommodation. Despite the publication of several systematic reviews and one meta-analysis on OL, Rebelo and

Gomes (2008) believe that OL is situated in the first half of the second stage of the concept development (evaluation), mainly because conceptual clarifications and full recognition of the concept are still needed. Following Kuhn's (1970) model, Rebelo and Gomes (2008) advise OL scholars to invest in cumulative empirical research in order "to consolidate the concept" (p. 304).

Significance for Social Work, Research, and Child Welfare Administration

Social work. The results of the study further the knowledge base of the social work profession by addressing questions about the interactions and relationships between frontline personnel and their supervisors in the child welfare system. According to Kadushin's (1976, p. 21) famous definition, a supervisor's task is "[...] to direct, coordinate, enhance, and evaluate the on-the job performance of the supervisees for whose work he is held accountable. In implementing this responsibility, the supervisor performs administrative, educational and supportive functions in *interaction* with the supervisee in the context of a positive *relationship*. The supervisor's ultimate objective is to deliver to agency clients the *best possible service* [...]" (emphasis added). Social work and management research document the effects of relationships between caseworkers and supervisors in the child welfare system on several areas of the employee wellbeing and performance. Among the most cited outcomes are job satisfaction and retention (e.g., DePanfilis & Zlotnik, 2008; Strolin-Goltzman, Auerbach, McGowan, & McCarthy, 2007; Van Hook & Rothenberg, 2009). Appreciative and caring professional relationships increase job satisfaction and deter staff from considering job exit. The literature reveals the critical effects of their relationship on employee-level outcomes (retention,

satisfaction), however, the literature is silent about their effect on organizational-level outcomes and client outcomes.

Additionally, the social work literature is very clear that boundary violations, conflict of interest and dual relationships between caseworkers and their colleagues or supervisors are detrimental to clients and workers alike (NASW Code of Ethics, 1994; Reamer, 2003). However, research is less explicit about the impact of these variables on organizational processes and outcomes. This study investigates the effect of the relationship and communication between caseworkers and their supervisors, on system-level variables in the CPS.

Research. The study bridges empirical and theoretical knowledge gaps related to individual-level processes and mechanisms that impact OL and its outcomes in public service organizations. It offers an empirical test of a segment of theory found in two OL models designed for public service entities – Rashman et al. (2009) and Greiling and Halachimi (2013) – which hypothesize that positive personal relationships and communication are critical for the advancement of OL. The findings of the study inform the development of organizational interventions that have the capacity to impact learning and system-level outcomes in public child welfare organizations (e.g., Orthner et al., 2006).

Child welfare administration. The study uses an innovative approach to investigating internal processes and organizational performance in a well-established child welfare organization. OL is a management inspired construct and a novel way to research individual-level, group-level and system-level dynamics that impact

organizational performance and service outcomes in public organizations. The study results provide an explanation for the processes that precede service quality and service innovation in the CPS, potentially generalizable to the entire child welfare system of the United States. OL is a system-level variable that can offer an explanation for the link between organizational environment in the CPS and poor client outcomes, as mentioned by the U.S. Department of Health & Human Services (2011).

This study investigates several processes taking place in the child welfare system that affect the performance of the CPS as an organization. Statistics presented by the Texas DFPS Data Book (2014) reveal an overwhelming turnover rate among caseworkers and their supervisors, resulting in one third of the CPS employees having less than one year tenure with the organization. Processes taking place at employee-level, such as relationship-building and communication, have the capacity impact organizational-level outcomes and clients' wellbeing. It is critical to investigate these processes and create evidence that would inform strategies and interventions aiming at improving organizational environments, the service delivery process and client outcomes in the child welfare system (Williams & Glisson, 2013). The findings of this study have implications for administrative practice and resource allocation in the child welfare system (Collins-Camargo, Ellett, & Lester, 2012). The last section of the study offers recommendations to CPS administrators on organizational policies focused on supervisory roles and activities, professional boundaries, learning and employee development.

Chapter Two: Literature Review

The first section of the study introduced the critical mission of the child welfare system in the United States and the dominant issues affecting its performance. A non-tangible work technology and hard to operationalize institutional goals, coupled with difficult organizational environments and massive staff turnover, make the child welfare system a tough case. One remedy proposed by the management literature to the CPS issues is OL. In light of promising research findings on outcomes of learning in private organizations, the study proposes to apply and test OL theory in a public child welfare setting. This section of the study deepens into the theories informing the OL construct and empirical research that substantiates the research questions and hypotheses of the study.

An Integrated Ontological View of Organizational Learning

While organizational interventionists have introduced OL as a multi-faceted solution for numerous organizational challenges (e.g., Popper and Lipshitz, 2002; Senge, 2006), OL theorists are still debating about the nature and the conceptualization of the OL construct (Yanow, 2000). The debate is rooted in the constantly evolving definition of the *organization* and spans the semantic, ontological and theoretical domains (Cook & Yanow, 1993; Yanow, 2000). Defining the organization is challenging. Organizations today dominate life and society, take various forms, have increasingly looser boundaries and greater authority over the collective wellbeing.

Difficulties in defining OL. Argyris and Schon (1978), the fathers of the OL concept, along with many other OL scholars (Sun, 2003; Yeo, 2005), pointed to the need to define the organization before proceeding to a discussion about OL:

There is something paradoxical here. Organizations are not merely collections of individuals, yet there are no organizations without such collections. Similarly, organizational learning is not merely individual learning, yet organizations learn only through the experience and actions of individuals. What, then, are we to make of organizational learning? What is an organization that it may learn?

(Argyris & Schon, 1978, p. 9).

In the absence of a clear definition of the organization, it is difficult to study organizational properties and processes (Yanow, 2000). A good way of conceptualizing and defining the organization is through Morgan's (1986) metaphors. In his book *Images of organizations*, Morgan uses suggestive metaphors, such as: machines, brains, cultures, etc. Each metaphor represents a different way of conceptualizing organizations, and exposes certain aspects and characteristics of organizational life. The machine metaphor suggests that organizations are rational machines pursuing specific organizational goals that are dictated and established mainly by environmental shifts. The brain metaphor equates organizations with self-organizing organisms that change as a result of learning and undertaking corrective actions. The culture metaphor points to the socially constructed nature of organizations. All three metaphors are relevant for the study of OL, since it is a multidimensional concept that incorporates structural, cognitive, and cultural facets. Rashman et al., (2009) found that each ontological view results in a qualitatively

different definition of OL. Each lens “forces nature into the conceptual box” supplied by the ontological perspective (Kuhn, 1970, p. 5).

A multi-level approach to OL. Popper and Lipshitz (2002) explain how different organizational facets relate to learning. The *structural* facet is embedded in OL mechanisms: processes that detect and correct error, as well as enable learning by individuals and groups to occur (e.g., strategic planning, auditing, quality control, performance reviews, program evaluations; White, 2000). Structural OL mechanisms are necessary but not a sufficient condition for productive learning, they have to be supplemented by a *culture* that fosters inquiry, openness, and trust (Naot, Lipshitz, & Popper, 2004). Popper and Lipshitz (2002) use metaphorical language describing organizational structure as tangible “hardware” of OL and culture as its “software.” They believe that a culture conducive to OL appreciates transparency, integrity, issue orientation, inquiry, and accountability, values shared by the members of the collectivity and embedded in the everyday operations of an entity. Finally, in order for learning to take place, organizational members need to use their *cognitive* abilities to acquire knowledge, generate new insights, and share them with colleagues (Crossan et al., 1999; Huber, 1991; Kim, 1993).

Building on an integrated and multidimensional definition of the organization, Rashman and colleagues (2009) propose a broad definition of OL that encompasses several ontological lenses: “Organizational learning is a multi-level, dynamic process incorporating cognitive, behavioral and social elements” (p. 475). This definition clarifies that OL is a process that takes place over time, has multiple outcomes (cognitive,

behavioral, social) and operates at multiple levels in an organization (individual, group, organizational). Another broad and multi-faceted definition of OL has been formulated by Antonacopoulou (2006) as “a social process, which is affected by the contextual factors such as the organization structure, information, communication and control processes, which impact on the way individuals learn” (p. 458). Antonacopoulou adds the power dimension as one facet of OL (control processes), arguing that it is the organizational and contextual factors that shape an individual’s cognitive performance, and not vice-versa. This study builds on the OL definitions proposed by Rashman et al., (2009) and Antonacopoulou (2006) and fits them to the organizational context of the child welfare system: OL is a dynamic and multi-level social process, which is affected by contextual factors (organizational structure, culture, performance-control systems, employee development) that impact the way individuals learn. Most OL theorists agree that OL is complex and its deconstruction requires a combination of ontological lenses (e.g., Argyris & Schon, 1978; Crossan et al. 1999; Senge, 2006; Zollo & Winter, 2002), which in turn, requires a range of different methodologies for its study (Easterby-Smith, Crossan, & Nicolini, 2000).

Rebelo and Gomes’s (2008) plea to the academic community represents a perfect conclusion for this subsection. In their overview of the evolution of the OL concept, the authors noticed that scholars attempted to reduce the scope of OL, restricting it to one level of analysis, or one ontological facet of the organization. Through their work, they called the academic community to keep the amplitude of the OL concept, “consensually acknowledge the multilevel nature of the organizational learning concept” (p. 303), and

exploit its complexity in ways that would bring about change and development. The multi-level nature of OL warrants increased attention to each learning process and each level of learning in an organization.

Individual-Level OL Processes: Theory and Research

The OL field has been criticized for lacking solid theoretical grounding and a specific theory of OL (Crossan et al., 2011; Huber 1991; Rashman et al., 2009).

However, the scholars' opinions diverge, some arguing that there is no need for one separate theory, since multiple already existing theories can be used to explain OL (e.g. Nicolini & Mezner, 1995; Rebelo & Gomez, 2008), and others emphasizing the need for a unified OL theory (e.g., Crossan et al., 1999; Crossan et al., 2011). The current section reviews the main theories that inform the OL concept, and presents two theoretical models that illustrate how learning applies to public organizations (Crossan et al., 1999; Lawrence et al., 2005; Rashman et al., 2009).

It is widely agreed, by OL scholars, that learning can take place at individual, group, organizational, industrial or societal levels (Antonacopoulou, 2006; Bapuji & Crossan, 2004; Rashman et al., 2009; Yeo, 2005). OL transcends the different levels of learning, and is best understood when each level it applies to is examined separately, in combination with the theories that explain the mechanisms of learning at that specific level. Experiential learning best explains learning when applied to the individual level. Social constructionism and social learning theories elucidate group level processes. Institutional theory reveal the learning processes taking place at organizational, sectorial

and intra-organizational levels, and clarifies why some ideas and insights are being institutionalized, and others are not.

Individual-level processes. OL is described by theorists as a three-stage process taking place at individual, group and organizational levels (e.g., Crossan et al., 1999; Huber, 1991; Yeo, 2005; Zollo & Winter, 2002). The primary learning in organizations happens at individual level (Crossan et al., 1999; Rebelo & Gomes, 2008). Individuals are then expected to incorporate their new knowledge into the organization, thus acting as “agents” for OL (Friedman, 2001).

Crossan and colleagues (1999) believe that the initial OL psycho-social process takes place at individual level and is called intuiting. Intuition is a uniquely individual attribute and might represent the recognition of an old pattern, or a possibility for innovation (Crossan et al., 1999; Weick, 1996). Intuition is triggered by disjunctures, discrepancies, surprises, or challenges that require a response (Lant & Mezias, 1992). People respond either by drawing from their experience and recognizing patterns, which supports knowledge exploitation; or by focusing on the future and innovation, which support knowledge exploration.

Experiential learning theory. The intuition process described by Crossan et al. (1999) is highly similar to Kolb’s (1984) experiential learning process, featured in the Experiential Learning Theory (ELT; Dixon, 1999). ELT emphasizes the central role that experience plays in the learning process (Kolb, Boyatzis, & Mainemelis, 2001), and argues that knowledge is created through the “transformation of experience, from the combination of grasping and transforming experience” (Kolb 1984, p. 41). Individuals

have an experience (encounter, reading, movie, challenge), reflect upon it, form some abstract ideas about it and then test them in new situations, generating completely new experiences. Kolb believed that people grasp experience by either concrete experience or by abstract conceptualization, and transform experience through either reflective observation or active experimentation. Kolb distinguishes between “watchers” and “doers”. Watchers are people who internalize new information by thinking and analyzing it, and favor reflective observation (similar to knowledge exploitation). Doers are individuals who rely on their senses, immersing themselves in concrete reality, and prefer active experimentation (similar to knowledge exploration).

OL theories describe individuals as the “agents” and champion of learning (e.g., Friedman, 2001). Much like the fathers of the OL concept, Argyris and Schon, OL theorists agree that “organizations learn only through the experience and actions of individuals” (Argyris & Schon, 1978, p. 9). While the role of individuals is critical to the OL process, limited empirical research explores the effect of individual characteristics on OL, and few theoretical developments are focused on the role of individual learners in the OL process. The theoretical model built by Rashman et al. (2009), specifically for public service entities, highlights the role of individuals in the OL process.

Individuals in the OL process. The model developed by Rashman and colleagues (2009) emphasizes the role of the personal characteristics of the sources of knowledge (e.g., supervisors, experienced staff, instructors, trainers, etc.) and recipients of knowledge (e.g., front line workers, new staff, etc.) in the OL process (see Figure 1). Understanding the characteristics of the source of knowledge and the recipient of

knowledge, and their impact on learning, leads to a better understanding of the OL process, which is initiated and performed by individuals. Schneider (2014) lists motivation, readiness to learn, personal involvement, and learning capacities as critical knowledge recipient characteristics. Teaching competencies, techniques, and pedagogy are among the focal knowledge source characteristics (Schneider, 2014).

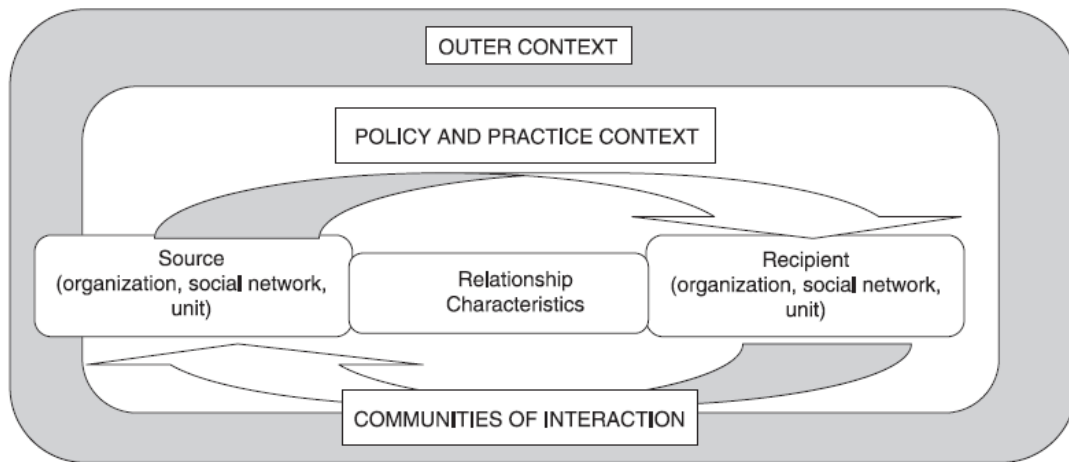


Figure 1. Organizational and inter-organizational learning (Rashman et al., 2009, p. 477).

Rashman et al. (2009) designed an integrated model that incorporates three critical elements: the source/recipient characteristics (cognitive, cultural, structural, etc.), relationship characteristics, and the contextual layer (policy, practice and global influences). Relationship characteristics are placed at the core of the model. Rashman and colleagues (2009) argue that their model, which is designed according to the stages and processes proposed by most OL researchers (e.g., Huber, 1991; Crossan, 1999; Nonaka, 1994; Zollo & Winter, 2002), is applicable to different levels of analysis. The authors argue that it is a generic model, designed for the public service fields, applicable to individuals, organizations and systems alike.

A critical element highlighted by Rashman et al. (2009) in their model is the relationship between the source and recipient of knowledge. The researchers argue that the quality and the characteristics of the relationship between the learners has a high potential for impacting OL. The concept of “relationships” transcends the individual level of analysis and moves into the dyad level.

The importance of personal relationships in the OL process is also acknowledged by Greiling and Halachimi (2013). Their model, graphically depicted by Figure 2, lists nine antecedents to OL, which act simultaneously to impact learning and its outcomes in public organizations.

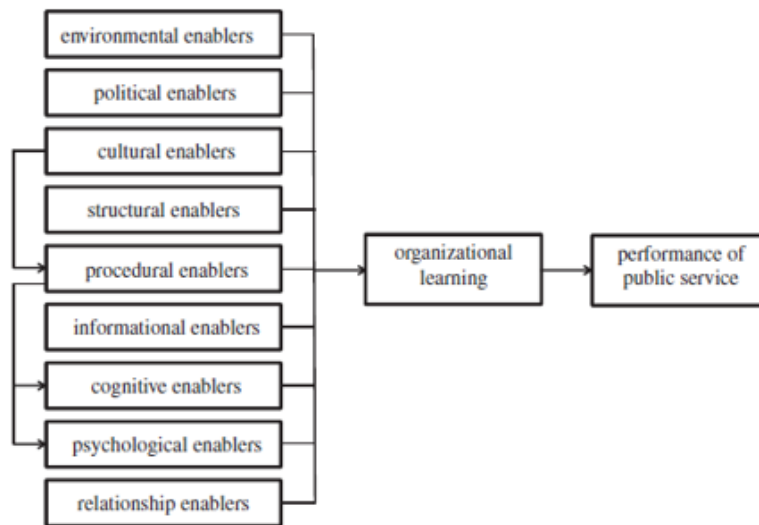


Figure 2. OL model for public entities (Greiling & Halachimi, 2013, p. 399).

Three out of nine antecedents to OL, relate to personal characteristics of learners, including their cognitive, psychological and relationships characteristics. Relationships are again strategically placed at the foundation of the OL process, and are connected to all other eight enablers of OL. It is important to note that both theoretical models,

Rashman et al. (2009) and Greiling and Halachimi (2013), acknowledges the importance of the personal characteristics of learners (e.g., cognitive enablers) and the quality of their relationship for the OL process.

The inherent assumption in the OL theory and research is that individual learning leads to organizational learning (Antonopoulou, 2006; Friedman, 2001). This assumption implies that individuals are personally interested in learning, have the necessary skills and cognitive abilities to learn and apply their new knowledge to their work (Antonopoulou, 2006; Yeo, 2005). However, individual learning is shaped significantly by external factors, characteristics of the work group, power dynamics, social dynamics, and in some respects, is as good as the context in which it takes place (Antonopoulou, 2006; Lawrence et al., 2005; Rashman et al., 2009; Stewart, 2001).

Relationships with supervisors and OL. The OL theoretical literature mentions leadership and supervisory support as critical for the OL process (e.g., Nonaka, 1994; Vince & Broussine, 2000). Vera and Crossan (2004) argue that organizational leaders have the ability to affect and shape OL in their organizations. They believe that the avenue used by the learning process to progress from individual level to the group and ultimately institutional level, is the organizational leadership (including supervisors, middle-level managers and the top level management team). OL theoretical models accentuate the inter-level dialogue and the role of the middle managers as catalysts of the learning process (Nonaka, 1994; Vince & Broussine, 2000). Hannah and Lester (2009, p. 35) conceptualize leaders and managers as “social architects and orchestrators of emergent processes relevant to [organizational] learning,” who have the capacity to

intervene at multiple levels. At the micro level leaders develop learners by fostering their readiness to learn and promoting their learning. At the mezzo level leaders promote and facilitate effective knowledge-centric social networks. And at the macro or systems level leaders scan, sanction and institutionalize critical emergent knowledge using their authority and management practices (Hannah & Lester, 2009).

The relationships between supervisors and supervisees are also investigated by the Leader-Member Exchange theory (LMX), formulated by Graen and colleagues (Dansereau, Cashman, & Graen, 1973; Dansereau, Graen, & Haga, 1975; Graen, 1976). LMX focuses on the dyadic relationship between a supervisor/leader and a team member, and posits that the quality of their relationship predicts positive outcomes at the individual, group and organizational levels. LMX is grounded in the social exchange theory and role theory, and suggests that supervisors and supervisees develop a relatively stable interpersonal relationship in the context of their work environment (Gerstner & Day, 1997; Wat & Scaffer, 2009). Low quality relationships are characterized by the exercise of formal organizational authority, while high quality relationships involve exchanges of resources that go beyond the mandatory (Wat & Scaffer, 2009).

Berson, Nemanich, Waldman, Galvin, and Keller (2006) reviewed the empirical and theoretical research linking leadership and OL, and found support for specific leadership behaviors and interventions that enhance OL processes at individual, group and organizational levels. For example, managerial attitude toward change, effective working relationships and interactions between employees and their leaders facilitate exploration and innovation (Damanpour, 1991; Dougherty & Hardy, 1996; Tierney,

Farmer, & Graen, 1999). Transformational leadership behaviors support integration and lead to knowledge seeking and processing (Amitay, Popper, & Lipshitz, 2005; Madzar, 2001). Friendly relationships and participative leadership style support exploitation and information sharing (Edmondson, 1999; 2003; Larson, Foster-Fishman, & Franz, 1998). Individual and organizational leadership is also associated with learning network evolution, performance improvement and implementation of innovation (Aarons, Hurlburt, & Horowitz, 2011; Damanpour, 1991; Hanssen-Bauer & Snow, 1996; Pisano, Bohmer, & Edmondson, 2001).

Some empirical literature connects positive relationships with supervisors and learning in private firms. For example, Joo (2010) linked supervisory support to OL and turnover intention and found that the quality of the relationship one had with his direct supervisor explained 43% of the variance in organizational commitment (intention to stay) in a sample of diverse industries employees. Supportive supervision combined with a learning-oriented culture was a strong antecedent for one's intention to remain with the organization they worked for. Dougherty and Hardy's (1996) study of 15 private firms found that effective working relationship between staff and senior leaders, along with the involvement of middle managers in strategic planning, were positively related to learning and institutionalizing knowledge. Collinson and Cook (2004), in a study of factors that motivate or restrain the dissemination of teachers' learning in school settings, found that friendly relationships and verbal reactions of their colleagues facilitated knowledge transfer and learning, while "not knowing others well" was a barrier to learning. Edmondson (1999, 2003) found that feelings of psychological safety, ease of speaking

up, boundary spanning and team leader coaching, generally connected with the type of relationship one has with the supervisor, increase learning behaviors.

Both empirical and conceptual research indicates that interpersonal relationships within an organization can play an important role in bringing people together, creating an environment conducive to learning and championing organizational knowledge creation (Brodtrick 1998; Lawrence et al. 2005; Nonaka 1994; Storck & Hill, 2000).

Supervisors in the child welfare system. Despite a relatively well-developed theoretical and empirical literature linking supervisory relationships and learning in private firms, the empirical literature investigating these variables in the public child welfare system is scarce. The literature focused on supervision in the child welfare field mainly links it to caseworker turnover, burnout and compassion fatigue (Child Welfare League of America [CWLA], 2003; Ferguson, 2002; GAO, 2003; Stamm, 2002).

Adequate administrative, supervisor and co-worker support were identified as critical factors affecting retention in the CPS (DePanfilis & Zlotnik, 2008; Van Hook & Rothenberg, 2009). Child welfare workers also reported lower turnover intentions when they were able to invest in meaningful relationships at their work place (AECF, 2003). For example, Van Hook and Rothenberg (2009) examined levels of satisfaction, burnout and vicarious trauma among child welfare staff members, using a survey research method. Respondents with high levels of burnout and trauma indicated their need for administrative support. Public service researchers found that Colorado CPS caseworkers who felt supported by their colleagues and had a high quality professional interaction with colleagues, had higher levels of compassion satisfaction (defined as the level of

satisfaction helping professionals find in their job and the degree to which they feel successful in their jobs; Conrad & Kellar-Guenther, 2006). DePanfilis and Zlotnik's (2008) systematic review of the child welfare literature identified supervisory and co-worker support as an important factor affecting retention among CPS staff.

The empirical literature doesn't explicitly link supervisory relationships with OL and its outcomes in the CPS. This is a gap in the literature addressed by this study. The following section lays out the mechanisms and psycho-social processes involved in learning and knowledge creation at group-level.

Group-Level OL Processes: Theory and Research

The level of complexity involved in learning increases as the number of individuals grows. According to Crossan et al. (1999), the individual-level intuiting process moves into the group-level interpreting process, which initially is an individual act, and later becomes a group act (Crossan et al., 1999). Interpreting happens with the help of metaphors, referred to, in the OL literature, as shared mental models (e.g., Kim, 1993), which are implicit or explicit, deeply held personal beliefs and assumptions of how the world works (Senge, 2006; Stewart, 2001). People use metaphors to make sense of their intuition and to share it with others. As a result, they start explaining their ideas, through words and actions. This learning process is defined by Crossan et al., (1999) as "interpreting". It goes from preverbal to verbal, bridges the individual and group levels, and results in the development of shared mental models (cognitive maps) which guide behavior (Kim, 1993). In stage two of OL, people move from intuition and individual interpretation to group interpretation and meaning negotiation (Crossan et al., 1999;

Stewart, 2001). Draft and Weick (1984) see interpretation as the collective process of translating events and developing meanings consistent with prior understanding of the environment. It is a process happening at conceptual rather than operational level (Kim, 1993). Through dialogue, conversation and negotiation, groups develop cognitive maps, shared meanings and mental models about the various domains in which they operate (Crossan et al., 1999).

Social constructionism. Social constructionism helps explain the interpretation process at the group level. Social constructionists specify that people operate from multiple subjective realities, and use dialogue and interaction to co-construct and enact those realities within their contexts (Franklin, 1995; Witkin, 2011). Social processes are the basis for knowledge creation and language is its main constitutive force (Burr, 2003). Just like human beings, organizations, and other open systems, act and enact their environments, being continuously transformed through their actions (Nicolini & Meznar, 1995). At the individual level, people use language to coordinate actions and create shared meanings. At the organizational level, power, domination and influence become the focus and aim of the collective process (Burr, 2003). Learning is a situated and collaborative process (Sun, 2003). A person's behavior, environment, and personal qualities all reciprocally influence each other. The nature of the professional field in which individuals and organizations operate, and from which they extract data, is also crucial to understanding the interpretive process and the shared mental models of the group (Mahler, 1997).

Social learning theory. Social learning theory (SLT) posits that people can learn through direct experience or by observing the behaviors (or consequences of behaviors) of others. Although a cognitive process, learning happens through social interaction, which transforms the learner from a passive knowledge recipient into an active knowledge generator, through reciprocal determinism. In other words, individual learning affects group learning, and vice-versa, through mutual influence on internalized mental models (Kim, 1993). Learning takes place during dialogue, discussion, negotiation, exchange of ideas, observation of colleagues and groups. SLT stipulates that most complex behaviors are learned through modeling, which makes the process of knowledge and skill acquisition shorter (Bandura, 1977). Interpreting is a social activity that creates and refines common language, clarifies images, and creates shared meaning and understanding (Hurst, Rush, & White, 1989). The interpretive process turns into an *integrative* process as shared meanings become embedded into the workgroup.

Interpersonal communication in OL. Communication is a critical element in the OL processes. Through dialogue, conversation, and storytelling individuals interpret and integrate their experiences, develop new meanings and contribute to interactive learning, problem-solving and innovating (Stewart, 2001; Weick & Roberts, 1993; Yeo, 2005). Integration starts with developing shared understanding among the team members, moves through mutual adjustments, and ends in coherent and coordinated group action.

Dialogue, communication and formal and informal interaction taking place between individuals in a workgroup were found to enhance OL (Araujo, 1998; Brown & Duguid, 1991; Gherardi, Nicolini, & Odella, 1998; Lee & Cole, 2003; Marquardt, 1996;

Moynihan & Landuyt, 2009; Senge, 2006; Popper & Lipshitz, 2000; Tsai, 2002; Weil, 1998). Decuyper, Dochy, and Van den Bossche (2010) designed a theoretical model of effective team learning and identified dialogue and balanced communicative behaviors (sharing, co-construction, and constructive conflict) as critical for effective learning.

Several empirical studies, mainly conducted in private firms, support the connection between the communication among learning agents, OL and its outcomes. Pisano et al. (2001), in a study of firms aiming to adopt new technology, found that cross-functional communication between workgroups accounted for the firm-level differences in learning and thus, in performance. Lenox and King (2004) studied 494 manufacturing facilities within the information and communications technology industry and found that managers can develop the absorptive capacity (learning capacity) of their organization by communicating and providing information to their employees. Hanssen-Bauer and Snow (1996), in a study of a learning network of firms, found that supportive professional input offered by colleagues and supervisors facilitated learning network growth and evolution. Finally, Austin and Harkins' (2008) case study of an urban middle school serving an under-privileged community, also indicated that positive workgroup professional interaction facilitated OL.

Communication with the supervisor and OL. Hannah and Lester (2009) argue that communication and social interaction are effective tool used by organizational leaders to proactively create the necessary conditions to encourage learning. Through communication, leaders help followers to interpret, integrate and align their shared mental models with the goals of the organization (Berson et al., 2006).

Parker, Axtell, and Turner (2001), in an empirical study conducted in a large glass manufacturing company, found that a high quality communication (operationalized as the perceived degree to which communication allowed them to do their job effectively) and supportive supervision were positively associated with individual-level performance outcomes, such as observing safety rules and procedures at work. Daniel Michael (2012), in a study of 243 supervisors and professional financial services employee dyads, found that high quality relationships between leaders and member, positively impacted supervisory communication, which in turn was positively related to job satisfaction, turnover intentions, and task performance. Kramer's (1995) longitudinal study of supervisor-supervisee communication during job transfers yielded similar results. Results indicated that the relationship between supervisors and supervisees impacted their communication patterns. Supervisees who reported having "middle-group" relationships also reported the highest amount of communication, which was associated with the most positive job adjustment.

While empirical evidence connects supervisor-supervisee communication with individual-level outcomes in private firms, the literature is silent about these links in public child welfare organizations. The literature is also silent on the impact of supervisor-supervisee communication on organizational-level outcomes in the child welfare. Communication was identified as the most critical leadership skill of the 21st century (Delahoussaye, 2001a; 2001b) and empirical research has to investigate the role of the communication between frontline personnel and their supervisors in the child welfare system. This study addresses a gap in the literature by testing the effect of the

relationship and communication between caseworkers and their immediate supervisors, on OL and its outcomes in the CPS.

System-Level OL Processes: Theory and Research

Learning takes place in organizations, as well as by organizations (Popper & Lipshitz, 1998; Stewart, 2001; Sun, 2003). Learning in organizations is initiated by employees and workgroups who learn in their work context (Sun, 2003). Learning by the organization is less tangible. As the knowledge progresses through the individual and workgroup levels, it acquires more legitimacy and needs to become routinized (Edmondson, Bohmer, & Pisano, 2001). Crossan et al., (1999) argue that institutionalization is the process of ensuring that routinization occurs and the organization has learned.

Institutionalization embeds learning that has occurred at individual and group levels into the systems, structures, procedures, practices, and strategy of an organization (Argyris & Schon, 1978; Kim, 1993). It is necessary in order to reap the benefits of what has already been learned. By doing that, organizations leverage the learning of individual members and workgroups (Crossan et al., 1999). The main objective of institutionalization is to ensure that the organization continues to produce and perform, while staying prepared for the dynamic changes and challenges presented by the external environment (Schneider, 2014; Yeo, 2005).

Institutional theory. DiMaggio and Powell's (1983) institutional theory is a good framework to understand the institutionalization process. The theory posits that once an organizational field arises (e.g., human services), powerful forces constrain it to become

homogenous. The process of becoming homogeneous is called *isomorphism*, “a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions” (DiMaggio & Powell, 1983, p. 149).

Organizational homogeneity leads to greater organizational legitimacy. And the environment requires legitimacy in exchange for resources. Coercive, mimetic and normative forces govern the relationship of the organizations with their environment. Coercive isomorphism stems from political influence and the requirement of legitimacy, mimetic isomorphism results from standard responses to uncertainty and normative isomorphism is associated with professionalization (DiMaggio & Powell, 1983).

Organizations whose outputs, goods and services are difficult to measure (like human service organizations), instead of being held accountable for their effectiveness, are held accountable for the degree to which they conform to the expectations about how they should behave, and what are their processes and structures (Hasenfeld, 2010). The uncertain and indeterminate nature of the human services’ technology makes meaningful OL difficult. In an always changing macro system, which is close to a constant state of crisis, public human service organizations can’t take their legitimacy for granted.

Organizational immediate and distant outer context is important for effective learning to take place (Antonopoulou, 2006; Schneider, 2014). As the environment changes, the learning that has been previously institutionalized may no longer fit the context; there may be a gap between what the organization needs to do and what it does (Crossan, Lane, White, & Djurfeldt, 1995; Crossan et al., 1999). The challenge for organizations is to manage the tension between the embedded institutionalized learning

from the past (the feedback process) and the new learning that must be explored (the feedforward process). *Feedback* processes exploit or use what has already been learned, through refining, choosing, producing, efficiency, selection, implementation, and execution (March, 1991). *Feedforward* processes embed new ideas and actions produced by the individual, into the group and organizational levels, through searching, variation, risk taking, experimentation, play, flexibility, discovery, and innovation (March, 1991).

System-level organizational characteristics. Organizational system-level characteristics (e.g., culture, climate, structure, communication systems) can act as catalysts or barriers to OL and its outcomes (Bapuji & Crossan, 2004; Schilling & Kluge, 2009). Vera and Crossan (2004, p. 231), in their article on strategic leadership and organizational learning, describe the relationship between system-level characteristics and OL as dynamic and interdependent. They state that the organization's "inner environment affects the learning process, [...] making learning more or less likely to occur. At the same time, the learning process can bring about change to the inner environment."

Both cultural and structural organizational features were found critical for the advancement of learning in organizations (Popper & Lipshitz, 1998). Structural characteristics, such as decentralized and informal hierarchies were found to best support certain forms of explorative learning and knowledge creation (Finger & Brand, 1999; Nonaka, 1994; Tsai, 2002). The structures found in local governments and public human service organizations, usually characterized by relational and hierarchical power structures as well as formalized communication channels and protocols, are known to

impede knowledge creation and transfer (Mahler, 1997; Newell, Huang, & Galliers, 2003; Vince, 2000).

Power and politics in OL. Some scholars suggest that OL theory has limited explanatory power because it pays insufficient attention to the formal and informal power in the OL process (Coopey & Burgoyne, 2000; Easterby-Smith, Snell, & Gherardi, 1998). An emerging body of literature suggests that OL is highly political and serves as an effective management tool (Antonacopoulou, 2006; Coopey & Burgoyne, 2000; Crossan et al., 2011; Nicolini & Mezner, 1995; Stewart, 2001). For learning to take place in an organization, mezzo and macro level parameters (work group level and institutional level) need to be aligned in a way that they would promote learning. When structural, cultural, strategic, managerial and political elements are congruent, productive learning will take place (Schneider, 2014; Senge, 2006).

Lawrence and colleagues (2005) argue that power relations and politics in an organization are critical for the evolution of the OL psycho-social processes. Building on the premise that OL is a fundamentally political process, Lawrence et al., (2005) determined that only certain ideas and innovations successfully go through the OL process and ultimately become institutionalized. They argue that power and politics provide the social energy that transforms the insights of individuals into group ideas, and the ideas of groups into institutionalized practices.

Empirical studies support the proposition that political processes and power shifts are important parts of OL. Newell et al. (2003) found that shifts in relative power and role boundaries were critical to sharing knowledge between professional groups. Elena

Antonacopoulou (2006), in a qualitative study of bank managers attitudes towards OL, unpacks the psycho-social nature of the phenomenon and reveals the political forces that shape learning practices in the organization. She believes that power and politics are endogenous and exogenous environmental forces that affect all individual and organizational learning.

Researchers argue that it is important to study OL as a process and end in itself, as well as a means to achieve other outcomes (Greiling & Halachimi, 2013; Nicolini & Meznar, 1995). The learning process is important for organizations because it unpacks the basic assumptions held by the members of the organization, and clarifies the stages of organizational transformation and becoming. Learning outcomes (what is achieved as a result of the learning process) are also an important aspect of OL. Learning outcomes are a rationalized and epistemologically accepted way of viewing OL. Theorists and practitioners alike need to observe the impact of learning on organizational outcomes and performance, to acknowledge its utility for the organization.

OL Outcomes

Theoretical and empirical research connects OL with performance at all levels of analysis. At the individual level, OL enhances creativity (McFayden, Semadeni, & Cannella, 2009), job satisfaction (Austin & Harkins, 2008), empowerment (Marks & Louis, 1999), and job retention (Curry at al., 2005). At the group level, learning increases productivity and workgroup effectiveness (Gabris & Nelson, 2013; Nembhard & Tucker, 2011). Finally at system-level, learning is associated with improvements in financial performance (Lopez, Peon, & Ordas, 2005, McHargue, 2003), competitive advantage

(Bapuji & Crossan, 2004; March, 1991; Schneider, 2014), innovation (Crossan & Apaydin, 2010; Damanpor, 1991) and high product or service quality (Argyris & Schon, 1978; Finnigan Daly, & Stewart, 2012). While OL is frequently cited in the corporate field as an antecedent of innovation and quality improvement (e.g., Damanpour, 1991, Easterby-Smith Antonacopoulou, Simm, & Lyles, 2004), research on OL outcomes in public service entities is scant. The scarcity of research is partially due to the difficulty of conceptualizing organizational performance in public services. The organizational goals of public entities are radically different from those of private firms, and require goal-specific performance indicators (Andrews, Boyne, & Walker, 2011; Boyne, 2002). The soft technologies used during the service-delivery process, the ambiguous goals and political turmoil present in the outer organizational environment make conceptualization and measurement of public service performance difficult (Hasenfeld, 2010). Osborne and Brown (2011) and Rashman et al. (2009) believe that the adoption of inappropriate organizational performance models by the public service field, and specifically models developed in the corporate and manufacturing fields, make the conceptualization and measurement of organizational performance difficult.

Greiling and Halachimi's (2013) OL theoretical model proposes a remedy to this flaw in the literature and pleads for a more complex understanding of OL and public entity performance (see Figure 2). They state that OL "should be seen as a means and not as an end" (Greiling & Halachimi, 2013, p. 395), a means to achieve organizational performance and accountability, which fosters responsiveness, efficiency, and effectiveness in public services. Their model lists relational, psychological, cognitive,

informational, procedural, structural, cultural, political and environmental enablers as critical antecedents for OL. The researchers also argue that environmental enablers, such as the competition from private companies and the demands of the civil society, pressure public entities to learn and innovate. External pressures have the capacity to increase organizational effectiveness by changing service delivery content and structure, as well as challenge citizens, service users and individual employees to innovate and initiate change (Halachmi & Holzer, 2010).

Service innovation. The organizational capacity to innovate is a well-researched topic in the OL literature. Hemmelgarn, Glisson and James (2006) argue that learning and innovation are both technical and social processes, which makes them more likely to occur simultaneously in environments that support both facets. Bapuji and Crossan (2004) state that organizations differ in their ability to innovate and improve performance based on their level of learning. The structural facets found to support innovation were organizational size, availability of resources and committed leadership. Larger organizations, with more resources dedicated to learning and creating, were more likely to innovate and adopt innovative practices (e.g., Aarons et al., 2011; Brown, 2007; Damanpour, 1991). OL and the adoption of innovation (e.g., EBP) was more likely to occur in entities with leadership committed to learning (Vera & Crossan, 2004; Yeo, 2005). Other organizational properties that support innovation are organizational culture and inner environment (McCharen, Song, & Martens, 2011). For example, Finnigan et al., (2012) analyzed OL processes that take place in schools under sanction in a large urban school district in the United States. They used mixed methods to evaluate the

efforts of the educators in adopting reform strategies (adopt and implement innovation), as well as the extent to which these schools' organizational cultures and climates are conducive to OL. Results showed limited evidence of OL, a superficial use of reforms, lack of a sound diagnosis of root causes of low performance, and limited staff engagement in the learning processes. Schools mostly relied on knowledge exploitation, rather than on exploration, which resulted in a recycling of previous practices, instead of adoption of innovative practices. In part, the limited OL was the result of structures and environmental characteristics within these schools that inhibited a learning-oriented approach to innovation adoption and reform.

Empirical research conducted in the human services supports the link between OL and innovation. A study led by Rauktis, McCarthy, Krackhardt and Cahalane (2010) on factors which facilitated the adoption of an innovative child welfare intervention (Family Group Decision Making) in Pennsylvania found that successful adoption and implementation of the program required additional resources such as more staff, money and more training (individual and group learning activities). The authors recommend implementing innovative interventions in organizations that already have the resources and structures necessary for the adoption of innovation. McCharen and colleagues (2011) found that an organizational culture that supports OL is conducive to innovation and knowledge creation in public school settings. These findings are mirrored by those of Jaskyte and Dressler (2005) who surveyed 19 centers of the Association of Retarded Citizens in a Southern state (643 workers; 38.4%) and found that low cultural consensus was a significant predictor of innovativeness. The members of organizations with less

cultural consensus reported more organizational innovativeness. Pokharel and Hult (2010) explored the link between financial performance, learning and innovation, in a sample of 331 social workers, nested in 84 local departments of social services in Virginia. They found that different types of learning (conscious, façade, absent, and unaware) led to different performance outcomes. Conscious learning was the only kind of OL that predicted financial performance and innovation. Finally, Brown (2007) examined the adoption of an innovative intervention in the child welfare system in the United Kingdom (Family Group Conferencing), and found that individual resistance and lack of resources hindered the system-wide adoption of the intervention. Results suggested that a cultural shift, including championing the innovative practice, persuading individuals and allocating extra resources, was necessary for a successful system-wide adoption of the innovative practice.

Although some empirical knowledge exists about the links between OL and innovativeness, as well as individual and organizational characteristics and innovativeness, many studies are plagued with methodological and conceptual flaws. Innovation is rarely defined and its definition is not field-specific. Osborne and Brown (2011) argue that *service* innovating is very different from *product* innovating, which would take place in a manufacturing setting. Services, as opposed to products, are intangible processes, inseparable from consumption, perishable at the moment of production, and are produced during the interaction of the providers and consumers (Damanpour, 1991; Osborne & Brown, 2011). Organizational type or sector are critical moderators of the relationship between organizational characteristics and innovation. For

example, Damanpour (1991) in a meta-analysis of determinants and moderators of innovation, found that emphasizing “standardization of work processes” was beneficial for innovation in manufacturing settings, while “direct supervision” facilitated innovation in service settings. Researching antecedents of innovation in public human service organizations is a gap in the current literature (Pettigrew, 2005). This study addresses this research need by investigating the link between individual-level and organizational-level variables, and service innovation in the Texas CPS.

Service quality. Argyris and Schon (1978), the fathers of the OL concept, conceptualized OL as an error-detection and correction process. Learning organizations communicate about errors, detect, analyze, and correct errors quickly, learn from their mistakes, and boost their organizational performance (Van Dyck, Frese, Baer, & Sonnentag, 2005). Such an understanding of OL triggered research on how learning could improve the quality of services provided by public human services. Studies found that individual-level and organizational-level variables, such as culture, climate, leadership, relationships and communication, impact learning and quality of services in organizations (e.g., Cho, Kim, Park, & Cho, 2013; Tucker & Edmondson, 2003). Learning is also a critical antecedent of superior service quality in the private sector (Chang, 2005; Corbett & Angell, 2011; Hays & Hill, 2001). For example, Cho et al. (2013) found significant causal relationships between a learning-oriented culture, organizational learning, and service quality, in a sample of private Korean firms.

Under specific conditions, learning is also a critical antecedent of service quality in human service settings. A study of learning processes in a hospital setting determined

that learning at organizational level, followed by increased quality of healthcare services “occurs when the worker [...] takes action to address underlying causes” of a work-related problem (Tucker & Edmondson, 2003, p. 10). Such action “include: communicating to the person or department responsible for the problem; bringing it to managers’ attention” (Tucker & Edmondson, 2003, p. 10). Epstein, Galindo and Sheldon (2011) examined how district and school leadership actions impact the quality of the family and community programs offered in 407 schools nested in 24 districts. Findings indicated that principals’ support, operationalized as time offered by school principals to the project, verbal encouragement and allocated funds, and district assistance (workshops, funding, recognition, evaluations, and ideas for best practices) contributed significantly to basic program implementation and to advanced program quality. These findings were mirrored by Thompson (2004), who also found that leaders’ support was crucial for successful adoption of OL strategies designed to enhance service quality in school settings (operationalized as a more welcoming school campus climate).

The literature lacks empirical investigation of the link between OL and service quality in public child welfare organizations. One explanation might be the unfeasibility of such empirical studies and difficulties with data collection. This study responds to the need for such empirical tests by investigating the relationship between individual-level constructs, OL and service quality in the Texas CPS.

Summary of the Literature Review, Research Questions and Hypotheses

This section of the study reviewed the main theories of OL and empirical research that substantiates the theories. Experiential learning theory was applied to the OL

individual level processes and explained how people's life experiences influenced their learning. Social constructionism and social learning theories elucidated group level processes in OL, and the value of dialogue, communication and interaction in employee dyads and workgroups. Institutional theory clarified the OL processes taking place at organizational, sectorial and intra-organizational levels. Power and politics were also explored as the catalysts in the process of institutionalization of ideas and insights, and shaping learning in public service organizations. Unfortunately, the complexity and multidimensionality of OL theory has prevented researchers from empirically testing it. The majority of OL empirical research focuses on one level of analysis and is conducted in private firms. Few empirical tests of the OL theories are conducted in public human service organizations. The purpose of this study is to initiate a stream of research that would test OL theory in a public child welfare organization. The scope of the study is to test the relationship between two critical individual level variables – relationships and communication with the immediate supervisor – and three system-level variables – OL, service quality and service innovation – in the Texas CPS.

Rashman et al. (2009) and Greiling and Halachimi's (2013) designed theoretical models for OL in public organizations. Both models build on learning theories and emphasize the individuals' characteristics and relationships as critical factors for the advancement of OL in public organizations. Due to the socially constructed nature of learning, the quality of the relationship between team members and consequently, their communication, are critical means of knowledge generation and transfer (Kim, 1993). The OL model proposed by Rashman et al., (2009) highlights the centrality of the

relationship between the source of knowledge and the recipient of the knowledge in the OL process. The authors believe that such interpersonal connections are emergent, informal social networks, where learning is not separate from work. Such relationships support knowledge sharing and transfer and create shared perspectives (Bate & Robert, 2002; Rashman et al., 2009; Reagans & McEvily 2003). Hogan and Kaiser (2005 p. 173) argue that the “talent for building and maintaining relationships”, including “peer and boss relations” and “managing diversity” is one of the main leadership competencies related to increased employee and team functioning, as well as positive organizational outcomes. Greiling and Halachimi’s (2013) model also posits that interpersonal relationships are among the nine antecedents of OL and its outcomes (see Figure 2). Relationships are the first antecedent to productive OL. The researchers also argue that OL needs to be studied as a means and not an end in itself, since it is conducive to organizational performance.

Empirical research that investigates antecedents of OL in public service organizations is sparse. Most OL studies are conducted in private firms and focused on factors that facilitate or inhibit learning. However, the empirical literature review identified that relationships and communication with the immediate supervisor are critical variables that impacted learning and performance in organizations. Individual characteristics of learners were found to impact their ability to innovate and drive change (Busch & Hostetter, 2009; Collinson & Cook, 2004; Vera & Crossan, 2004; Wu et al., 2005). Positive relationships and communication were determined to boost learning in individuals and teams (Berson et al., 2006; Dougherty & Hardy, 1996). The literature

also reports that system-level, structural and social design organizational features, such as OL, greatly influence organizational outcomes (Popper & Lipshitz, 2002). Promising evidence emerged in the last 20 years linking OL to service quality and innovativeness (e.g., Rauktis et al., 2010; Thompson, 2004).

Drawing on the empirical and theoretical literature review, and specifically on the OL models designed by Rashman et al. (2009) and Greiling and Halachimi (2013) for public service agencies, the study proposes to address the following research questions:

RQ1: Do individual level processes, such as personal relationships and communication, between Texas CPS caseworkers and their supervisors have a direct effect on OL, service quality and service innovation?

RQ2: Do individual level processes, such as personal relationships and communication, between Texas CPS caseworkers and their supervisors have an indirect effect on service quality and service innovation, through OL?

RQ3: Does OL have a direct effect on service quality and service innovation?

Based on the reviewed theoretical and empirical research, this study hypothesizes the following relationships:

H1: Personal relationships have a positive direct effect on OL, service quality and service innovation.

Empirical evidence indicates that positive personal relationships result in improved communication, learning and overall quality of work. Collinson and Cook (2004), in a study of factors that motivate or restrain the dissemination of teachers' learning in school settings, found that friendly relationships and verbal reactions of their

colleagues facilitated knowledge transfer and learning, while “not knowing others well” was a barrier to learning. Daniel Michael (2012), in a study of 243 supervisors and professional financial services employee dyads, found that high quality relationships between leaders and members, positively impacted supervisory communication, which in turn was positively related to job satisfaction, low turnover intentions, and task performance (task performance was reported by supervisors and operationalized as expected general performance on tasks).

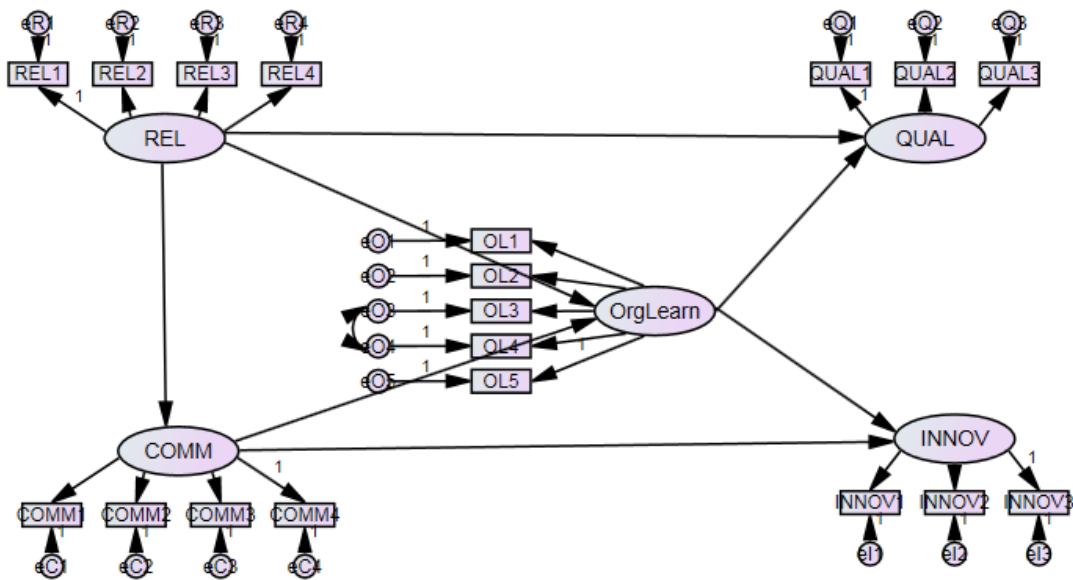


Figure 3. The proposed research model.

The literature focused on supervision in the child welfare field mainly links relationship quality to staff turnover and mitigating burnout and compassion fatigue, factors which affect staff performance, and ultimately client outcomes in the CPS (Ferguson, 2002; GAO, 2003; Stamm, 2002). Some empirical evidence that provides support for this hypothesis is offered by Conrad and Kellar-Guenther’s (2006) study of

Colorado CPS caseworkers. Individuals who reported feeling supported by their colleagues and had a high quality professional interaction with them, had higher levels of compassion satisfaction (defined as the level of satisfaction helping professionals find in their job and the degree to which they feel successful in their jobs). Perceived success in their job was an indicator of positive client outcomes obtained as a result of professional activity. Adequate administrative, supervisor and co-worker support were identified as critical factors affecting retention in the CPS (DePanfilis & Zlotnik, 2008; Van Hook & Rothenberg, 2009). Organizational leaders (including supervisors, middle-level managers and the top level management team) are also the avenue used by the learning process to progress from individual level to the group and ultimately institutional level (Vera & Crossan, 2004).

H2: Personal relationships have a positive indirect effect on service quality and service innovation, through OL.

LMX theory posits that the quality of the relationship between a leader and a member of an organization predicts positive outcomes at the individual, group and organizational levels (Dansereau, Graen, & Haga, 1975; Graen, 1976). Some empirical evidence is presented by Berson et al.'s (2006) systematic review, in support of this theory. For example, effective working relationships and interactions between employees and their leaders facilitated such learning behaviors as exploration and innovation (Damanpour, 1991; Dougherty & Hardy, 1996; Tierney et al., 1999). Enhanced learning behaviors are also associated with performance improvement and implementation of

innovation (Aarons et al., 2011; Damanpour, 1991; Hanssen-Bauer & Snow, 1996; Pisano et al., 2001).

H3: Communication has a positive direct effect on OL, service quality and service innovation.

Theory and empirical evidence identifies communication as a critical element in the OL processes, contributing to interactive learning, problem-solving and innovating (Stewart, 2001; Weick & Roberts, 1993; Yeo, 2005). Austin and Harkins' (2008) case study of an urban middle school serving an under-privileged community, indicated that positive workgroup professional interaction facilitated OL. These findings were mirrored by Thompson (2004), who also found that leaders' support and communication was crucial for successful adoption of OL strategies designed to increase service quality in a school setting (defined as creating a more welcoming school campus climate). Pisano et al. (2001), in a study of firms aiming to adopt new technology, found that cross-functional communication between workgroups accounted for the firm-level differences in learning and in performance (performance was defined as successful adoption of innovative cardiac surgery technology).

H4: Communication has a positive indirect effect on service quality and service innovation, through OL.

In a meta-analysis of determinants and moderators of organizational innovation, Damanpour (1991) concludes that "direct supervision" facilitated innovation in service settings and that "successful adoption of innovations depends largely on the leadership, support, and coordination managers provide" (Damanpour, 1991, p. 559). A study of

learning processes in a hospital setting suggested that communication with the supervisor leads to OL, which in turn, impacts the quality of the services. Tucker and Edmondson (2003) found that learning at organizational level, followed by increased quality of services offered by the hospital, “occurs when the worker [...] takes action to address underlying causes” of a work-related problem by “communicating to the person or department responsible for the problem; bringing it to managers’ attention” (Tucker & Edmondson, 2003, p. 10).

H5: OL has a positive direct effect on service quality and service innovation.

OL is a frequently cited antecedent of innovation and quality improvement (e.g., Argyris & Schon, 1978; Damanpour, 1991, Easterby-Smith et al., 2004). McCharen and colleagues (2011) found that an organizational culture that supports OL is conducive to innovation and knowledge creation in public school settings. Pokharel and Hult (2010) explored the link between financial performance, learning and innovation, in a sample of 331 social workers, nested in 84 local departments of social services in Virginia. They found that conscious OL predicted innovation. Learning is also a critical antecedent of superior service quality in the private sector (Chang, 2005; Corbett & Angell, 2011; Hays & Hill, 2001).

This study contributes to the knowledge base of the public service and social work professions by advancing the general understanding on processes and variables linking individual and system-level constructs in public institutions. Results will shed light on the relationship between individual-level variables, OL, and outcomes of learning in public child welfare settings. As public service organizations are moving

towards EBP via outcome-based accountability, research must uncover these links before formulating an action plan, giving recommendations for improvement, or designing interventions that promote OL in public entities (Gambrill, 1999; Jacobs, 2003; Perlmutter, Bailey, & Netting, 2001).

Chapter Three: Methodology

The first two chapters of the study established the importance of empirically testing the OL theory in the child welfare system. Additionally, the chapters indicated that it is critical to examine the effect of individual-level variables on OL and its outcomes, to understand how and where to intervene and create positive change in the child welfare system. This study investigates the direct and indirect effect of the relationship and communication between caseworkers and their immediate supervisors, on OL, service innovation and service quality in a large, public child welfare agency. This exploratory study uses self-reported data collected from the employees of the Texas CPS to answer the proposed research questions.

This study uses a referent-shift consensus model to estimate organizational-level constructs based on individual-level responses. The referent-shift consensus model measures organizational-level constructs by asking individual employees to evaluate those constructs. This way, system-level variables are not composed directly from the individual-level constructs but from an altered version. For example, instead of asking respondents whether they are using data to improve the quality of their work, the item asks respondents whether their workgroup or organization uses data to improve the quality of their overall services. The altered version of the individual-level construct is aggregated to the organizational level, after employing statistical methods to establish sufficient correlations among responses (Van Mierlo, Vermunt, & Rutte, 2009).

Data Collection and Sample

Data for the study came from the 2014 Survey of Employee Engagement (SEE), implemented by the Institute for Organizational Excellence, a research entity of the University of Texas at Austin School of Social Work. The Institute of Organizational Excellence provides survey services mostly to state and local government agencies throughout the United States, with the goal to encourage organizational research and continuous learning (Institute for Organizational Excellence, n. d.; Lauderdale, 2001). The SEE is a research tool used by the Institute of Organizational Excellence to assess fundamental aspects of organizational functioning, organizational climate, barriers to change and strengths (SEE Department of Family and Protective Services, 2014).

A total of 71 SEE items ask respondents for their perceptions of their organizational environment and resources, as well as their own engagement and job satisfaction (e.g., fairness, diversity, communication systems, supervision, ethics, etc.). Employees are asked to rate the Likert-type items on a five-point scale ranging from *Strongly Disagree* (1) to *Strongly Agree* (5). Twenty additional items, identified by the Texas DFPS as critical for the organization, were added to the SEE. The items tapped into the employees' perceptions of supervision quality and support from upper management.

Data were collected from March 3rd, 2014 through March 28th, 2014. Texas DFPS employees were asked to complete anonymous electronic surveys by accessing a link sent to all Texas DFPS employees via email. Paper surveys were also available at

each site. The survey yielded a high response rate (69%, N = 7,845), one of the highest rates since 2004, the first year when SEE was implemented in this organization.

The sample used in this study was selected based on geographic location and job titles indicated by the respondents. The selected geographic location was Region 7 of the Texas DFPS (the Austin area). OL is a process that is contingent upon individual, group-level and systemic circumstances and focusing the analysis on a specific geographic area was necessary for an accurate depiction of the OL process and factors that influence it. Region 7 is centrally located, home to the Texas capitol city, rich in educational resources, and highly scrutinized by media and public attention. These external factors exert a major pressure on the CPS system in that region, and simultaneously, represent a catalyst for the learning process. A total of 335 respondents indicated that their job title was “caseworker” and that they worked in Region 7 of the Texas CPS.

Control Variables: Measurement and Operationalization

Education, organizational tenure, intention to stay and salary are used as control variables in the study. The effect of these variables on individual and group learning has been determined by previous empirical research (e.g., Busch & Hostetter, 2009; Wu et al., 2005). Isolating the effect of these variables on the relationship and communication with the supervisor contributes to a better understanding of the context in which these variables impact learning, as well as how the tested relationships vary depending on individual employee characteristics.

Education. Theory argues that personal characteristics of organizational members affect their own learning, OL and the outcomes of learning (Argote & Miron-Spektor,

2011; Baer, Oldham, Jacobsohn, & Hollingshead, 2008). Education (also sometimes operationalized as training, personal development, professional competence and knowledge) is a factor found to contribute to team learning and organizational performance in both private firms and public human services. Busch and Hostetter (2009), in a qualitative study focused on factors impacting OL, conducted in 42 nonprofit and private child and family services organizations, found that willingness to get educated was among the learning facilitators, while resistance to learning were the barriers to OL. Similar findings were reported by Collinson and Cook (2004), who examined factors that motivate or restrain the dissemination of teachers' learning in public schools. One factor found to facilitate knowledge dissemination, and thus OL, was the individual level of competence. A barrier to learning dissemination was teachers' lack of knowledge. Glisson and James (2002) found that education was the only variable significantly related to work attitudes at the individual level of analysis, in a study of case management teams in a state-wide child welfare system. Finally, Bantel and Jackson (1989) and Smith (2005) reported that organizations with more educated employees, who also had a diverse functional expertise, were more innovative.

In this study, education was operationalized as the highest level of education completed by the employee at the moment of taking the survey. Respondents chose among seven categories: (1) did not finish high school, (2) high school diploma (or GED), (3) some college, (4) associate's degree, (5) bachelor's degree, (6) master's degree and (7) doctoral degree. Education was expected to positively impact the relationship and communication with the immediate supervisor, and consequently, OL and its outcomes.

Tenure. No empirical research was found that investigated the effect of organizational tenure on OL. However, a few studies, conducted in private firms, address the link between tenure and organizational performance (operationalized as either innovativeness or generic firm performance). For example, Wu et al. (2005) found a curvilinear relationship between organizational tenure and organizational innovativeness (measured as patent filing) in a sample of 399 biopharmaceutical companies. A U-shaped relationship between leadership tenure and an organization's financial performance was found by Miller and Shamsie (1999). Bontis, Crossan and Hulland (2002) found a significant negative relationship between employee tenure and her/his perception of the firm's performance, in a sample of 32 Canadian firms. No findings exist about the effect of employee tenure on individual learning, group processes or OL.

In this study, employee tenure was operationalized as the length of service with the Texas CPS. Respondents chose among six categories: (1) Less than 1 year, (2) 1-2 years, (3) 3-5 years, (4) 6-10 years, (5) 11-15 years and (6) 16 or more years. Organizational tenure was expected to positively impact the relationship and communication with the immediate supervisor, and consequently, OL and its outcomes.

Intention to stay. The empirical literature connects intention to stay with productive OL, positive relationships and effective communication among employees (e.g., DePanfilis & Zlotnik, 2008; Joo, 2010; Van Hook & Rothenberg, 2009). Employee turnover jeopardize the organizational ability to learn, since individual learning is the avenue to organizational learning (Argote & Miron-Spektor, 2011). The skills, wisdom

and practical knowledge gained by tenured child welfare staff are lost during turnover, and the organization loses the capacity to capitalize on its employees' knowledge.

The item tapping into the employees' intention to stay is "I plan on working for this organization in 1 year". Positive answers were coded 1 and negative answers were coded 0. Intention to stay is expected to positively impact the relationship and communication with the immediate supervisor, and consequently, OL.

Salary. Several empirical studies conducted in private firms, mostly manufacturing or sales, found that compensation was positively associated with firm performance (e.g., Kato & Long, 2006; Mehran, 1995). However, no empirical studies have tested this relationship in public human services, and no researchers studied the relationship between compensation and OL. This study uses annual salary as a control variable, aiming to identify whether financial compensation might play a role in the Texas CPS learning and performance. Annual salary was operationalized as a continuous variable that allowed respondents to choose between the following ranges: \$15,000 to \$25,000; \$25,000 to \$35,000; \$35,000 to \$45,000; \$35,000 to \$45,000; \$45,000 to \$50,000; \$50,000 to \$60,000; \$60,000-\$75,000 and more than \$75,000.

Independent Variables: Measurement and Operationalization

Five scales were developed to test the hypotheses of the study. Scales measured the respondents' perceptions of their relationship with their immediate supervisor, their communication, OL, service innovation and service quality in the Texas CPS. Table 1 provides the items used for designing each scale. Theoretical sources and Exploratory Factor Analysis (EFA) were used for the development of the scales. For example, the OL

scale was developed according to the provisions of experiential learning, social learning, social constructionism and institutional theories.

Relationship with the immediate supervisor. Theoretical and empirical research points to the critical role of relationships and social interaction between team members and their leaders, in the learning and knowledge creation processes. The concept of “relationship” transcends the individual level of analysis and moves into the dyad level. The perceived and subjective nature of the construct makes it hard to operationalize. Leader-member exchange theory (LMX) is used for the operationalization of the “relationship with the immediate supervisor” construct.

LMX focuses on the dyadic relationship between a supervisor/leader and a team member, and posits that the quality of their relationship predicts positive outcomes at the individual, group and organizational levels. Low quality relationships are characterized by the exercise of formal organizational authority, while high quality relationships involve exchanges of resources and mutually rewarding benefits (Wat & Scaffer, 2005).

LMX is a multidimensional construct and several measurement instruments have been developed over time to measure leader-member relationship. LMX scales include such dimensions as respect, trust, mutual obligation, affect, loyalty, perceived contribution, etc. (Dienesch & Lieden, 1986; Graen & Uhl-Bien, 1995). One of the most widely used scales, LMX-7, developed by Graen and Uhl-Bien (1995) is focused on several key-elements of the leader-member relationship, such as perceived positive/fair appreciation by the supervisor, confidence/trust between member and supervisor, and perceived understanding of the member’s needs. LMX argues that the relationship

between the supervisor and team member can be measured from either the leader or the member's perspective, however, measurement instruments that focus on the members' perspective are more reliable (Gerstner & Day, 1997).

The items used in the current study to assess the leader-member relationship are based on the members' perspective, and use a four-item scale to measuring it. Items asked caseworkers to rate their relationship with their immediate supervisor in terms of the fairness of the exchange, overall trust, and perceived personal investment of the supervisor in the supervisee's safety. Responders showed their level of agreement with the following statements: "I believe my direct supervisor treats me fairly", "There is a basic trust among employees and supervisors", "My supervisor gives me the opportunity to do my best work" and "My direct supervisor takes my personal safety seriously." The variable is expected to have a positive effect on OL, communication with the immediate supervisor, service quality and service innovation. It is also expected that relationships will have a positive indirect effect on service quality and innovation, through OL.

Communication with the immediate supervisor. Communication is mentioned in both conceptual and empirical literature as the driving force for learning in organizations. Empirical studies indicate that communication impacts learning, innovation and performance in private firms and human service organizations (Austin & Harkins, 2008; Lenox & King, 2004; Pisano et al., 2001). It is also an effective tool used by organizational leaders to encourage learning, stimulate employee performance, job adjustment, satisfaction and deter from job exit (Hannah & Lester, 2009; Michael, 2012; Parker, Axtell, & Turner, 2001).

Table 1

Items Used for Designing the Scales of this Study

Scale	Items
Relationship with the Immediate Supervisor (REL)	<ol style="list-style-type: none"> 1. REL1: I believe my direct supervisor treats me fairly. 2. REL2: My direct supervisor takes my personal safety seriously. 3. REL3: There is a basic trust among employees and supervisors. 4. REL4: My supervisor gives me the opportunity to do my best work.
Communication with the Immediate Supervisor (COMM)	<ol style="list-style-type: none"> 1. COMM1: My direct supervisor shares relevant information with me in a timely manner. 2. COMM2: My supervisor provides me with a clear understanding of my work responsibilities. 3. COMM3: My supervisor gives me accurate feedback about my performance. 4. COMM4: I am satisfied with the opportunities I have to give feedback on my supervisor's performance.
Organizational Learning (OL)	<ol style="list-style-type: none"> 1. OL1: I am encouraged to learn from my mistakes. 2. OL2: I have access to information about job opportunities, conferences, workshops, and training. 3. OL3: Training is made available to me so that I can do my job better. 4. OL4: Training is made available to me for personal growth and development. 5. OL5: I believe we will use the information from this survey to improve our performance.
Service Innovation (INNOV)	<ol style="list-style-type: none"> 1. INNOV1: My organization develops services to match the needs of our customers/clients. 2. INNOV2: I am encouraged to come up with better ways to serve my customers/clients. 3. INNOV3: I know how to elevate concerns or ideas for improvement.
Service Quality (QUAL)	<ol style="list-style-type: none"> 1. QUAL1: My work group regularly uses performance data to improve the quality of our work. 2. QUAL2: Our organization is known for the quality of service we provide. 3. QUAL3: My work group is actively involved in making work processes more effective.

Effective communication between supervisor and supervisee is described by the empirical and conceptual literatures as bidirectional, meaningful, timely, relevant, and with substance.

The scale items evaluated whether the communication between caseworker and supervisor was bidirectional (both caseworker and supervisor give feedback to each other) and whether it was meaningful, timely and relevant. The items tapping into the direction of the communication were “My supervisor gives me accurate feedback about my performance.” and “I am satisfied with the opportunities I have to give feedback on my supervisor’s performance.” Other items included: “My supervisor provides me with a clear understanding of my work responsibilities.” and “My direct supervisor shares relevant information with me in a timely manner.” Aggregated responses indicated whether the caseworkers’ communication with the immediate supervisor was perceived as positive and of high quality. The variable is expected to have a positive direct effect on OL, service innovation and service quality. It is also expected that communication will have a positive indirect effect on service quality and service innovation, through OL.

Dependent Variables: Measurement and Operationalization

Measuring OL. How to measure OL is one of the continuing debates in the field, because of the socio-cognitive nature of the learning process (Easterby-Smith et al., 2000). Most measures developed in the private and public service fields have individuals as the primary units of analysis. Among the most popular standardized tools for measuring OL are the Organizational Learning Questionnaire (Templeton, Lewis, & Snyder, 2002), and the Dimensions of Organizational Learning Questionnaire (Watkins

& Marsik, 1993). Both measures emphasize structural and cultural aspects of OL, as well as the connection between OL and organizational performance. This study developed a 5-item scale to measure OL in the Texas CPS. The scale includes the cultural, structural and performance-based facets reflected in the measurement instruments designed by Templeton et al. (2002) and Watkins and Marsik (1993). In addition to the OL facets popular in the private field, the study adds one other facet that is critical to the human services field – staff-development. Personnel is the greatest resource utilized by human service organizations to achieve their mission (Hasenfeld, 2010). An OL measure applied to the human service field must capture this critical characteristic (Bess, Perkins, & McCown, 2010).

Structural OL facets. The structural, or institutional aspects of OL include systems that capture and share learning (Orthner, Cook, Sabah, & Rosenfeld, 2003; Watkins & Marsik, 1993). Such systems provide employees access to information and are designed to enable employees to acquire and distribute knowledge (Lopez, Peopn, & Ordas, 2004). The OL scales designed by Templeton et al. (2002) and Orthner et al. (2003) both include an evaluation of such organizational systems. Additionally, Templeton et al. (2002) include “environmental awareness” as an important factor which indicates that learning is taking place at organizational level. Employees’ awareness of the learning systems and opportunities available for learning is a valid and relevant way of evaluating organizational systems designed to capture and share learning.

The items tapping into the Texas CPS caseworkers’ knowledge of systems that capture and share their learning are: “I have access to information about job

opportunities, conferences, workshops, and training” and “Training is made available to me so that I can do my job better.” High employee ratings of these two items are indicative of the presence of effective structural OL facets.

Cultural OL facets. An organizational culture allowing employees to learn by experimenting is a culture that allows them to learn from their mistakes (March, 1991). Experiential learning from errors is a critical part of an organizational culture conducive to learning. Such a culture, as opposed to a punitive one, fosters innovation and experimentation as a result of employee’s initiatives and applied experiences (Naot, Lipshitz, & Popper, 2004; Popper & Lipshitz, 2002).

The item reflective of an error-tolerant cultural facet is “I am encouraged to learn from my mistakes.” Moynihan and Landuyt (2009), in their study of OL processes in public agencies in the State of Texas, used the same dimension as part of their OL measure. Their tool included experiential learning from errors as a critical part of the OL process in public service agencies. Other instruments that highlighted a safe organizational environment that encouraged learning from mistakes were Garvin, Edmondson and Gino’s (2008) OL survey and Orthner et al.’s (2003) Organizational Learning Assessment Scale.

Performance-oriented OL facets. Multiple researchers argue that OL is a productive process resulting in action and performance improvement (e.g., Lipshitz et al., 2002; Moynihan, 2005; Nicolini & Meznar, 1995). Fiol and Lyles (1985) conceptualized OL as an error-detection and error-correction process. Finally, Huber (1991, p.89) believed that “an entity learns if, through its processing of information, the range of its

potential behaviors is changed,” which indicates that positive change is an outcome of learning.

Several OL measures highlighted performance as an indispensable attribute of a learning organization. Bowen, Rose and Ware (2006) created the School Success Profile-Learning Organization which included the organizational action domain (collective efforts made to address organizational goals) as a way to evaluate the organizational progress resulting from learning. Watkins and Marsik’s (1993) OL measure connects seven OL domains (e.g., learning opportunities, collective vision, etc.) with two specific organizational performance indicators, such as new knowledge creation and financial performance (Marsick & Watkins, 2003).

While performance in private firms is mainly related to financial gain or increased production and market share, in public organizations performance indicators don’t always include profit gains or even knowledge creation (Minow, 2000). The aim of public services is to produce public goods and social value (Boyne, 2002), and this characteristic of public human service organizations leads to a more complex definition of performance. In public human services, performance indicators might include quality of the provided services, new services developed that match the needs of the population, effectiveness, efficiency, equity, accessibility and a series of positive client outcomes (Amirkhanyan, Kim, & Lambright, 2008; Andrews, Boyne, & Walker, 2011; Hasenfeld, 2010). This study uses an item that taps into employees’ general perception of workplace performance: “I believe we will use the information from this survey to improve our

performance.” Positive responses indicated that productive learning took place in the Texas CPS.

Staff development in OL. Human service organizations deliver their main product (social services) through trained personnel. An OL measure designed for human services needs to assess how well the organizational systems respond to the learning needs of its employees. For example, Bess et al., (2010), in their OL measure designed primarily for human service organizations, included learning practices, staff empowerment and staff development as indicators of productive learning. For the purpose of this study, and measuring OL in the Texas CPS, an item reflective of an employee-centric organization was included: “Training is made available to me for personal growth and development.” Positive responses indicated that the organization allocates resources to staff development, thus acknowledging the benefits of learning and encouraging its employees to grow.

OL is a multidimensional construct that requires measurement of various aspects of organizational life and functioning. The structural, cultural, performance and staff development facets are critical, theory-based components of OL in human service entities.

Measuring service innovation. This paper adopts an incremental-continuous view of innovation in public services, which emphasizes the gradual development of new services that meet the evolving needs of the served population. Osborne and Brown (2011) differentiate between an incremental-continuous innovation mode, and a radical-transformative one. Although both types of newness are necessary, most innovation-

focused studies conflate them, creating some confusion in public service research (Osborne & Brown, 2011; Mulgan & Albury, 2003). Westall (2007, p. 4) defines the incremental-continuous innovation as “changes in products, services and processes [...] to meet new needs in new ways.”

Innovation can be an emergent or a planned process (Osborne & Brown, 2011). In the public services, it can be initiated by a political decision, employees, or concerned citizens (Halachmi & Holzer, 2010). A study conducted by Walker, Jeanes and Rowlands (2002) found that 97% of innovative projects implemented in the English housing associations (new services or new users), were developed domestically. Researchers plead for an integrated and interactive approach to viewing innovation in public services (Jelinek & Schoonhoven, 1990), that would take into account the individuals’ agency, creativity and role in the innovation process, as well as the organizational initiatives (Bartlett & Dibben, 2002; Windrum, 2008).

In this study, the service innovation construct is derived from three items reflective of the continuous innovation perspective and the innovative capacity of individual employees. The item “My organization develops services to match the needs of our customers/clients” taps into the structural and institutional aspects of the innovative process, while the second and third statements indicate to the personal agency of individual employees that leads them to innovate in their work context: “I am encouraged to come up with better ways to serve my customers/clients,” and “I know how to elevate concerns or ideas for improvement.” Multiple researchers use self-reported measures to study innovation (e.g., Shalley, Gilson, & Blum, 2009), due to

individual employees being the best evaluators of their own innovative activity (Amabile & Mueller, 2008).

Measuring service quality. Although innovation and quality, in the public services, have been oftentimes treated as synonyms, Hartley (2005) noted that this is a research flaw, since this is not always the case. New doesn't always mean better. Studies that generalize the innovation phenomenon do not acknowledge the potential for negative effects of innovation and the burden it creates for public service managers (Osborne & Brown, 2011). Innovation and service quality are distinct constructs and the effect of OL on each construct needs to be evaluated separately.

Selber and Streeter (2004) argue that an important perspective to take into consideration when evaluating quality in human services is that of service providers (public agencies' staff). Staff's perception of service quality represents an important indicator of the community's attitudes about the quality of services provided to them (in their case, the services provided by the juvenile justice system). Selber and Streeter (2004) used the Gap Model (Parasuraman, Berry, & Zeithaml, 1985) to conceptualize service quality as the midway between "what is expected and what is actually delivered on both the customer and provider sides" (p. 33). Glisson and James' (2002) study of child welfare and juvenile justice services also measured service quality by tapping into the case managers' perceptions of their services provided to clients. Individual expectations and perceptions of staff and employees are an acceptable way to measure service quality in the public sector.

This study used a referent-shift consensus model for designing a measure for service quality. The referent-shift consensus model is used to estimate an organizational-level construct, based on individual-level responses (Van Mierlo, Vermunt, & Rutte, 2009). Service quality control and quality improvement are activities performed over time, at higher levels in the organization, rather than at employee level, top-down rather than bottom-up activities. The items used for the service quality scale ask individuals to estimate whether their workgroup, or their organization would engage in service quality improvement activities. Items asked respondents to show their level of agreement with the statements: “My work group regularly uses performance data to improve the quality of our work,” “Our organization is known for the quality of service we provide” and “My work group is actively involved in making work processes more effective.” The third item acknowledges the process-related nature of social services, and taps into the employee’s perception of work process quality, suggesting that work process quality is equally important to service quality. The data collected at individual level was aggregated to represent an organizational-level outcome.

Data Analysis Plan

Data analysis was performed using SPSS 24. Preliminary analysis included screening data for missing values and distribution normality. Descriptive characteristics of the sample are documented in Chapter 4, followed by bivariate and multivariate analysis.

The study uses Structural Equation Modeling (SEM) using AMOS version 24, with Maximum Likelihood (ML) estimation, to test the proposed hypotheses (Joreskog &

Sorbom, 1996). This technique allows for the analysis of aggregated or group-level variables and the complete simultaneous tests of all the relationships between multiple observed or latent variables (Byrne, 2010; Tabachnick & Fidell, 2012). Figure 3 shows the proposed structural model.

Anderson and Gerbing's (1988) two-step analysis tested the measurement model via Confirmatory Factor Analysis (the relationships between the observed and latent constructs), and the structural model (the hypothesized relationships among model variables). Covariances between the observed variable residuals were added where theoretically appropriate, or content overlap was determined.

The next section of the study describes the data analysis process, the decisions that were made during data analysis and the results of the hypothesis testing.

Chapter Four: Analysis and Results

This chapter describes the preliminary, descriptive, bivariate and multivariate analysis and procedures used for answering the study's research questions. Results are provided in table format and detailed answers to the research questions and hypotheses are presented at the end of this chapter. A summary of the findings is also provided.

Preliminary Data Analysis

Missing Data Analysis conducted on the sample of 335 Texas CPS caseworkers revealed that the variables included in the analysis had missing data from .6% to 5.7% per variable. Little's MCAR test was conducted to test the null hypothesis, in this case, that data is missing completely at random. The non-significant Chi-Square value, $\chi^2 = 711.4$, $df = 695$, $p = .324$ indicated that the test failed to reject the null hypothesis and that in this data set, missing data is completely random. Missing data were treated via means imputation with SPSS 24, a generally acceptable procedure for data sets with 5% to 10% missing values, according to Cohen and Cohen (1983). A further evaluation indicated that means imputation did not change the variables' original mean values and standard deviations. Means imputation was used with the purpose of obtaining Modification Indices (MI) – a statistic produced by AMOS only when analyzing complete datasets. Additionally, after the completion of the analysis with the complete dataset, the structural model was tested on the raw dataset with missing values, to avoid potential data bias due to means imputation.

Skewness and kurtosis analysis indicated that data were in general normally distributed, with most variables being non-skewed and moderately kurtotik. Absolute

skewness values reached 2.1 and kurtosis values reached 4.8. Based on skewness and kurtosis analysis, no data transformation was necessary.

Univariate Analysis: Descriptive Characteristics of the Sample

The sample used in the statistical analysis and hypothesis testing was comprised of caseworkers employed in Region 7 of the Texas CPS, the greater Austin area (N = 335). Table 2 presents the demographic characteristics of the sample. Most respondents were female (N = 277, 85%), with diverse ethnic backgrounds. More than a half of the surveyed caseworkers (N = 190, 57.6%) self-identified as Anglo-American/White, 23% were African-American (N = 76), 15.8% self-identified as Hispanic (N = 52), only 10 individuals (3.0%) indicated their ethnic background was Multiracial or Other and less than 1% identified themselves as Asian/Pacific Islander or Native American.

The caseworkers in the sample were young. One third of them (N = 103, 30.9%) were under 30 years of age, 37.5% (N = 127) were between 30 and 39 years old, 17.4% (N = 58) were between 40 and 49 years old, 12.3% (N = 41) were between 50 and 59 years old and only 1.8% (N = 6) were above 60 years of age.

The sample was also educated, with an overwhelming majority holding Bachelor Degrees (N = 262, 78.9%), twenty percent (N = 69, 20.8%) holding Master's Degrees and only one individual with a Doctoral Degree (.3%).

Over a half of the caseworkers in the sample had less than 2 years of service with the Texas CPS: 28.2% had less than one year of service (N = 94) and 22.2% have been employed for 1 to 2 years (N = 74).

Table 2
Descriptive Characteristics of the Sample (N = 335)

Variable name	N (%)
Sex (Female)	277 (85.0)
Race	
(1) African American	76 (23.0)
(2) Hispanic	52 (15.8)
(3) Anglo-American/White	190 (57.6)
(4) Asian/Pacific Islander/Native	2 (0.6)
(5) Multiracial/Other	10 (3.0)
Age	
(1) 16 to 29	103 (30.9)
(2) 30 to 39	127 (37.5)
(3) 40 to 49	58 (17.4)
(4) 50 to 59	41 (12.3)
(5) 60 and above	6 (1.8)
Education	
(1) Bachelor's Degree	262 (78.9)
(2) Master's degree	69 (20.8)
(3) Doctoral degree	1 (0.3)
Tenure	
(1) Less than 1 year	94 (28.2)
(2) One to two years	74 (22.2)
(3) Three to five years	67 (20.1)
(4) Six to ten years	59 (17.7)
(5) Eleven to fifteen years	22 (6.6)
(6) Fifteen and more years	17 (5.1)
Intention to stay with CPS over 12 months	
Yes	278 (84.0)
No	53 (16.0)
Annual salary	
15,000-25,000	2 (0.6)
25,000-35,000	136 (41.1)
35,000-45,000	166 (50.2)
45,000-50,000	16 (4.8)
50,000-60,000	0 (0.0)
60,000-75,000	6 (1.80)
More than 75,000	1 (0.3)

The other half were tenured staff, with 20.1% (N = 67) having 3 to 5 years of service, 17.7% (N = 59) serving for 6 to 10 years with the CPS, 22 respondents (6.6%) served for

11 to 15 years in this organization and 17 individuals (5.1%) had been with the Texas CPS for over 15 years. The vast majority of the subjects were loyal to their employer and intended to stay and work for the Texas CPS longer than 12 months (84.0%, N = 278).

Annual salaries in the sample ranged from 15,000 US dollars to more than 75,000 US dollars. Two individuals indicated that they earn somewhere from \$15,000 to \$25,000 per year (.6%). Most of the respondents earned a yearly salary of either \$25,000-\$35,000 (N = 136, 41.1%) or \$35,000-\$45,000 (N = 166, 50.2%). A small proportion of the respondents earned from \$45,000 to \$50,000 (N = 16, 4.8%), and only 7 individuals (2.1%) earned more than \$50,000 annually.

Bivariate Analysis: Correlations and Exploratory Factor Analysis

Bivariate analysis included correlations and Exploratory Factor Analysis (EFA). Table 3 presents the results of Pearson's correlations analysis. Bivariate analysis indicated strong statistically significant associations between all the hypothetically related variables. Correlations values were positive, ranging from .32 to .84, all of them statistically significant at $p < .001$.

The results of the EFA are presented in Table 4. Principal component analysis with Varimax rotation indicated that the 19 variables included in the analysis loaded on three main factors with Eigenvalues above 1.0. Scree plot and rotated component matrix results indicated that the three factors accounted for a total of 54.35% variance among the study variables. The first factor's conceptual content was closely associated with "supervisory interactions" and included the eight variables that hypothetically measure the relationship and communication with the immediate supervisor.

Table 3

Pearson's Correlations Results (r)

Variable name	1	2	3	4	5
Organizational Learning					
OL1	1				
OL2	.397***	1			
OL3	.403***	.615***	1		
OL4	.437***	.570***	.829***	1	
OL5	.324***	.371***	.426***	.463***	1
Relationship with the immediate supervisor					
REL1	1				
REL2	.727***	1			
REL3	.637***	.593***	1		
REL4	.727***	.694***	.650***	1	
Communication with the immediate supervisor					
COMM1	1				
COMM2	.718***	1			
COMM3	.744***	.841***	1		
COMM4	.595***	.586***	.593***	1	
Service Quality Improvement					
QUAL1	1				
QUAL2	.397***	1			
QUAL3	.443***	.384***	1		
Service Innovation					
INNOV1	1				
INNOV2	.427**	1			
INNOV3	.370**	.423**	1		

* $p < .05$, ** $p < .01$, *** $p < .001$

All eight items had high factor loadings, ranging from .58 to .85. Factor 1 accounted for a total of 48.01% variance among the study variables, with an Eigenvalue of 9.12. The factor also had the largest number of items loading on it, which partially explains the high proportion of variance that it accounts for.

Table 4

Factor Loadings for the Variables used in this Study

Variable name	Factor 1	Factor 2	Factor 3
I believe my direct supervisor treats me fairly.	.858		
My direct supervisor takes my personal safety seriously.	.805		
There is a basic trust among employees and supervisors.	.642		
My supervisor gives me the opportunity to do my best work.	.823		
My direct supervisor shares relevant information with me in a timely manner.	.850		
My supervisor provides me with a clear understanding of my work responsibilities.	.860		
My supervisor gives me accurate feedback about my performance.	.859		
I am satisfied with the opportunities I have to give feedback on my supervisor's performance.	.587		
I am encouraged to learn from my mistakes.		.444	
I have access to information about job opportunities, conferences, workshops, and training.		.689	
Training is made available to me so that I can do my job better.		.853	
Training is made available to me for personal growth and development.		.841	
I believe we will use the information from this survey to improve our performance.		.402	
My organization develops services to match the needs of our customers/clients.			.520
I am encouraged to come up with better ways to serve my customers/clients.			.784
I know how to elevate concerns or ideas for improvement.			.416
My work group regularly uses performance data to improve the quality of our work.			.506
Our organization is known for the quality of service we provide.			.589
My work group is actively involved in making work processes more effective.			.800
Eigenvalue	9.12	1.90	1.20
Variance Explained (%)	48.01	10.01	6.32
Cumulative Variance Explained (%)	48.01	58.02	64.34

The second factor contained five items and conceptually described “organizational learning.” The five items were theoretically related and loaded highly on factor 2, ranging from .40 to .85. Factor 2 accounted for a total of 10.01% variance among the study variables, with an Eigenvalue of 1.90.

Six items loaded on Factor 3, with loadings ranging from .41 to .80. Factor 3 was conceptually related to “social services performance” and included the six items that hypothetically measured service innovation and service quality in the Texas CPS.

Although the EFA only extracted three general factors from the available data, Confirmatory Factor Analysis (CFA) has been further utilized to test the proposed measurement model and determine the validity of the model and study hypothesis.

Multivariate Analysis: Test of the Measurement Models

The SEM analysis was performed using AMOS version 22, with Maximum Likelihood (ML) estimation. To determine the fit of the measurement models included in the analysis, Confirmatory Factor Analysis (CFA) was conducted separately for all theoretically informed latent variables: organizational learning, relationship with the supervisor, communication with the supervisor, service quality and service innovation. Models were considered to have acceptable fit if the Comparative Fit Index (CFI) and the Tucker-Lewis index (TLI) $\geq .90$ (Bentler & Bonett, 1980; Hu & Bentler, 1995), the root-mean-square error of approximation (RMSEA) was $<.07$, and the normed chi-square (CMIN/DF) < 5.0 (Schumacker & Lomax, 2004). The chi-square goodness of fit test was also provided (with statistical significance of the p value), although, with larger samples and complex models, it tends to always be statistically significant, indicating a poor

model fit. Modification Indices (MI) were examined to determine whether additional parameters would improve model fit. Only those changes were performed that yielded a Parameter Change value equal to or greater than .10.

Organizational learning. CFA was conducted to test the measurement model for OL. Multivariate normality distribution analysis indicated non-normal data distribution with highest critical ratio values at C.R. = 28.05 (a value higher than 5.0 is considered non-normal). Inspection of the Mahalanobis distance (D^2) revealed no outlying cases. Examination of parameter estimates for the OL measurement model indicated that all five exogenous variables had a statistically significant loading on the latent factor (the loadings were between .47 and .90). The model fit was poor ($\chi^2 = 18.3$; $df = 5$; $p = .002$; CMIN/DF = 3.67; RMSEA = .090; CFI = .981; TLI = .962).

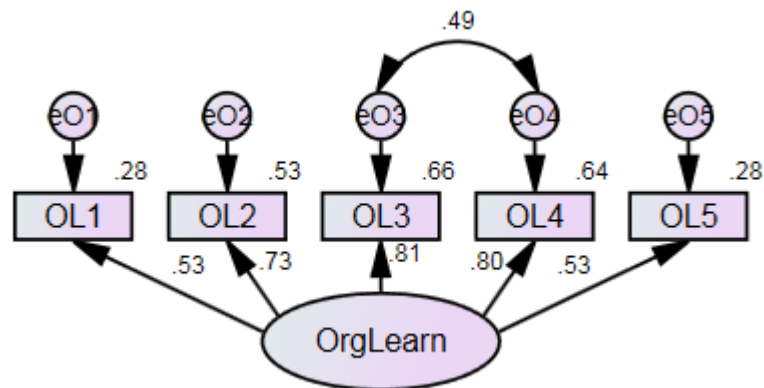


Figure 4. Organizational learning measurement model with standardized estimates.

Evaluation of MIs indicated that the covariance of error terms eO3 and eO4 would improve model fit due to their conceptual overlap (“training for a better job performance” and “training for personal growth”). After the covariance of the two error terms, fit indices showed considerable improvement in the model, indicating an excellent

model fit ($\chi^2 = 8.9$; $df = 4$; $p = .063$; $CMIN/DF = 2.23$ $RMSEA = .061$; $CFI = .993$; $TLI = .983$). As depicted in Figure 4, all factor loadings remained high and statistically significant.

Relationship with the immediate supervisor. Multivariate normality distribution analysis of the measurement model indicated non-normal data distribution with highest critical ratio values at C.R. = 19.4 (a value higher than 5.0 is considered non-normal). Inspection of the Mahalanobis distance (D2) revealed no outlying cases. Examination of parameter estimates for the relationship with the immediate supervisor measurement model indicated that all four exogenous variables had a statistically significant loading on the latent factor (the loadings were between .73 and .86, as depicted by Figure 5). The model yielded an overall excellent fit ($\chi^2 = 2.95$; D.F = 2; $p = .229$; $CMIN/DF = 1.47$; $RMSEA = .038$; $CFI = .999$; $TLI = .996$).

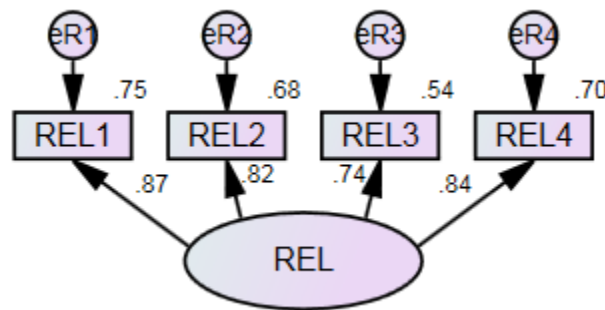


Figure 5. Relationship with the immediate supervisor measurement model with standardized estimates.

Communication with immediate supervisor. Multivariate normality distribution analysis indicated non-normal data distribution with highest critical ratio values at C.R. = 22.1 (a value higher than 5.0 is considered non-normal). Inspection of the Mahalanobis

distance (D2) revealed no outlying cases. Examination of parameter estimates for the communication with immediate supervisor measurement model indicated that all four exogenous variables have statistically significant loadings on the latent factor, with factor loadings exceeding .65.

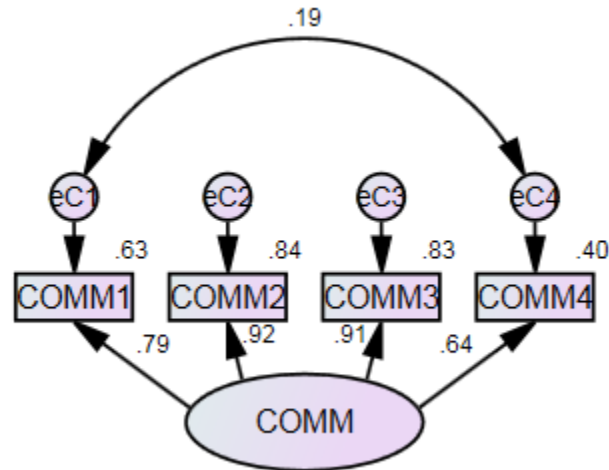


Figure 6. Communication with the immediate supervisor measurement model with standardized estimates.

The model fit indices revealed a low fitting model ($\chi^2 = 9.91$, $df = 2$; $p = .007$; $CMIN/DF = 4.95$; $RMSEA = .109$; $CFI = .991$; $TLI = .972$). Evaluation of MIs suggested that the covariance of error terms eC1 and eC4 would improve the model fit, due to their content overlap (“sharing relevant information” and “giving feedback”). Because the additional parameter reduced the degrees of freedom of the model from 2 to 1, the system did not calculate model fit indices. However, available estimates indicated that model fit was improved ($\chi^2 = .226$; $df = 1$; $p = .635$). Additionally, as depicted in Figure 6, all factor loadings remained high and statistically significant.

Service quality. Multivariate normality distribution analysis indicated normal data distribution with highest critical ratio values at C.R. = 2.64. Due to a limited number of sample moments available, fit indices and modification indices were not calculated for the service quality measurement model. However, examination of parameter estimates indicated that all three exogenous variables have statistically significant loadings on the latent factor, ranging from .57 to .65, as shown in Figure 7.

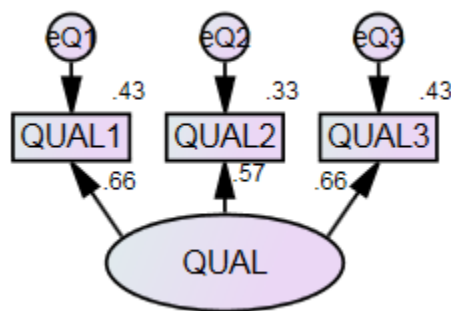


Figure 7. Service quality measurement model with standardized estimates.

Service innovation. Multivariate normality distribution analysis indicated non-normal data distribution with highest critical ratio values at C.R. = 7.36 (a value higher than 5.0 is considered non-normal). Inspection of the Mahalanobis distance (D2) revealed no outlying cases. Due to a limited number of sample moments available, fit indices and modification indices were not calculated for the service innovation measurement model. However, examination of parameter estimates indicated that all three exogenous variables have statistically significant loadings on the latent factor, ranging from .60 to .68, as shown in Figure 8. Table 5 presents the standardized factor loadings for all the measurement models mentioned above.

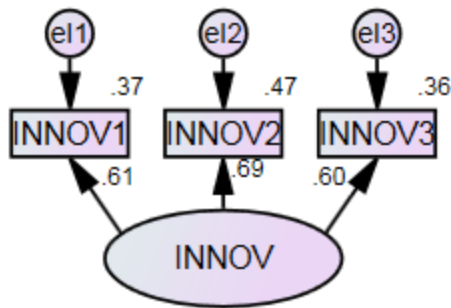


Figure 8. Service innovation measurement model with standardized estimates.

The full measurement model. The test of the full measurement model revealed a marginally fitting model ($\chi^2 = 459$, $df = 140$; $p < .001$; CMIN/DF = 3.28; RMSEA = .083; CFI = .921; TLI = .903; ECVI = 1.50). Evaluation of model estimates indicated that the covariance between the error terms eC1 and eC4 was no longer statistically significant, and was deleted from the model. Examination of MIs suggested that the covariance of error terms eC3 and eC2 would yield a Parameter Change of .12, and improve model fit, because of their content overlap (“providing clear understanding” and “giving accurate feedback”). The covariance of the above mentioned error terms resulted in an improvement in model fit ($\chi^2 = 401$, $df = 140$; $p < .001$; CMIN/DF = 2.87; RMSEA = .075; CFI = .935; TLI = .921, ECVI = 1.50) and all other hypothesized covariances remained statistically significant.

Examination of the standardized estimates indicated an unusually large standardized covariance value between the latent constructs Relationship and Communication with the immediate supervisor (1.03) as well as the latent variables Service quality and Service innovation (1.01), as depicted in Figure 9. Although

standardized values over 1.0 can sometimes be valid (Joreskog, 1999), they may also indicate a potential specification issue, conceptual overlap, or a correlation near 1.0.

Table 5

Factor Loadings from the Test of the Measurement Models

Latent factor and indicators	Factor loading
<i>Organizational learning</i>	
OL1	.530 ^a
OL2	.729***
OL3	.813***
OL4	.802***
OL5	.530***
<i>Relationship with immediate supervisor</i>	
REL1	
REL2	.866 ^a
REL3	.823***
REL4	.735***
	.838***
<i>Communication with immediate supervisor</i>	
COMM1	.792 ^a
COMM2	.907***
COMM3	.922***
COMM4	.635***
<i>Service quality</i>	
QUAL1	.659 ^a
QUAL2	.570***
QUAL3	.656***
<i>Service innovation</i>	
INNOV1	.609 ^a
INNOV2	.687***
INNOV3	.601***

Note. Standardized coefficient and associated p-value reported.

^a Statistical significance of the loading was not tested since loading was fixed at 1.00 to set the scale of the latent factor.

*** $p < .001$

Relationship and communication with the immediate supervisor, are constructs plagued with measurement difficulties due to their interdependency and conceptual overlap. Since a work relationships inherently involves interaction and social exchange (Graen & Uhl-Bien, 1995), which are usually materialized into dialogue, verbal exchanges and staff supervision meetings, it is natural for the two constructs to be highly correlated. Few empirical studies are able to differentiate between the constructs (e.g., Conrad & Kellar-Guenther, 2006), and those that do differentiate, indicate a very high correlation between them (e.g., Sharma & Patterson, 1999).

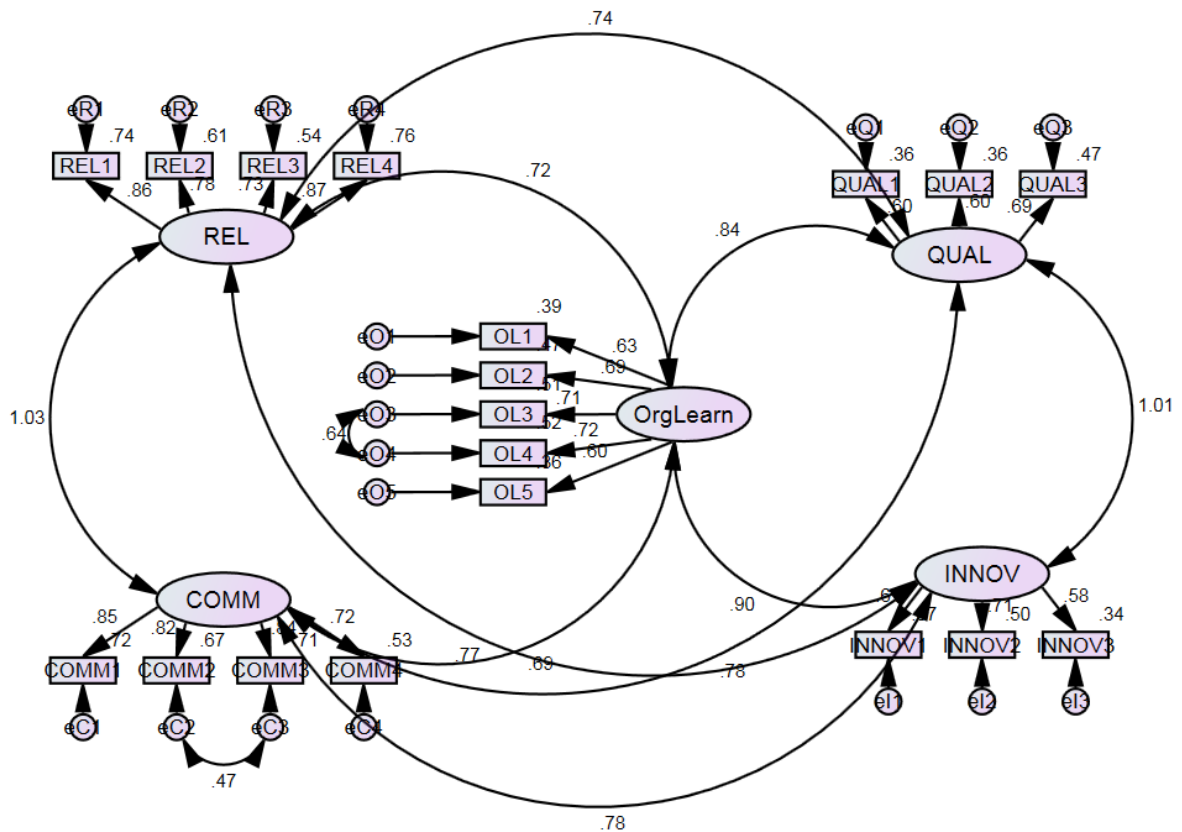


Figure 9. The full measurement model with standardized estimates.

Service quality and service innovation are also highly interdependent, as suggested by recent empirical and conceptual research (e.g., Danjum & Rasli, 2012; Sok & O’Cass, 2015; Yaslioglu, Caliskan, & Sap, 2013). As Sok and O’Cass (2015) study results suggest, service innovation (a combination of exploration – exploitation) is the basis for and driver of high quality services.

A logical next step for models needing respecification due to poor discriminant validity, conceptual overlap or highly correlated latent factors, is to perform a post hoc model modification to develop a better-fitting model based on the characteristics of the data (Chan, Lee, Lee, Kubota, & Allen, 2007). A good strategy is collapsing the highly correlated variables into fewer factors (Kenny & McCoach, 2003). Fewer factors will contribute to a more parsimonious model. Relationship and communication were combined into one latent factor indicating supervisory interactions and service quality and service innovation into another latent factor indicating overall service performance in the Texas CPS, Region 7 (see Figure 10).

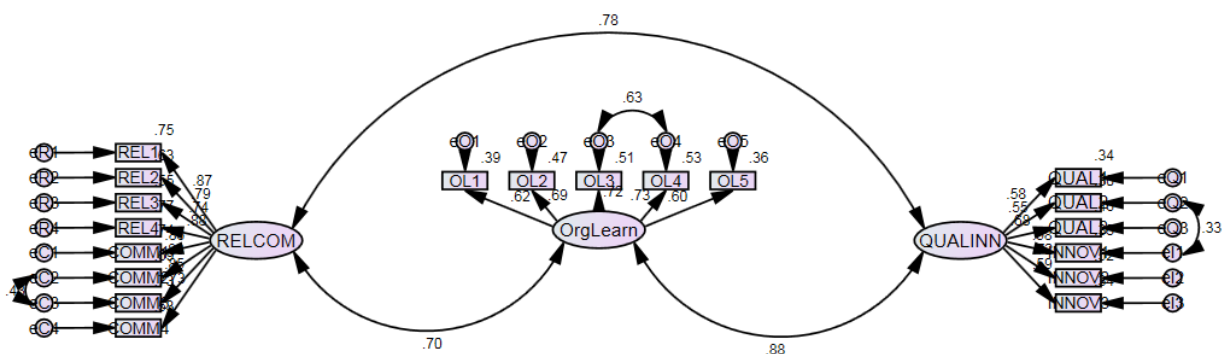


Figure 10. Respecified measurement model with standardized estimates.

Table 6

Factor Loadings from the Test of the Full Respecified Measurement Model

Latent factor and indicators	Factor loading
<i>Organizational learning (ORGLEARN)</i>	
OL1	.624 ^a
OL2	.726***
OL3	.715***
OL4	.686***
OL5	.604***
<i>Relationship and communication with immediate supervisor (RELCOM)</i>	
REL1	.866 ^a
REL2	.791***
REL3	.739***
REL4	.877***
COMM1	.858***
COMM2	.833***
COMM3	.854***
COMM4	.730***
<i>Service quality and innovation (QUALINN)</i>	
QUAL1	.584 ^a
QUAL2	.550***
QUAL3	.682***
INNOV1	.576***
INNOV2	.724***
INNOV3	.587***
Covariance Estimates	Non-Standardized Estimates (S.E.)
ORGLEARN <--> RELCOM	.292*** (.043)
ORGLEARN <--> QUALINN	.250*** (.036)
QUALINN <--> RELCOM	.372*** (.050)
eC3 <--> eC2	.153*** (.026)
eO3 <--> eO4	.248*** (.037)
eQ2 <--> eI1	.243*** (.048)

Note. Standardized coefficient and associated p-value reported.

^a Statistical significance of the loading was not tested since loading was fixed at 1.00 to set the scale of the latent factor.

*** $p < .001$

The respecification of the measurement model had a positive effect on model fit, indicating that collapsing the two pairs of latent variables was the right strategy ($\chi^2 = 419$; $df = 147$; $p < .001$; CMIN/DF = 2.85; RMSEA = .075; CFI = .933; TLI = .922; ECVI = 1.51). Respecification removed the large covariance between the variables and led to conceptual parsimony of the model. Examination of MI suggested that covarying the error terms eQ2 and eI1 would improve model fit, based on their conceptual similarities (“developing services” and “service quality”).

The additional covariance improved the fit of the measurement model ($\chi^2 = 387$, $df = 146$; $p < .001$; CMIN/DF = 2.65; RMSEA = .070; CFI = .940; TLI = .930; ECVI = 1.42), leading to a more parsimonious model, as indicated by the reduction in the χ^2 value from 419 to 387, and the reduction in the ECVI value from 1.51 to 1.42. All factor loadings and covariances of the measurement model were statistically significant, as shown in Table 6.

Multivariate Analysis: Test of the Structural Model

After establishing the validity of the respecified measurement model, a full path analysis was conducted to test the hypotheses of this study. Following the hypotheses formulated in chapter two, relationship and communication with the immediate supervisor were included in the model as predictors of organizational learning and service quality and innovation. Organizational learning was included in the model as a predictor of service quality and innovation. Organizational tenure, education, intention to stay and annual salary were used as control variables, as depicted by Figure 11. This way, the

analysis reflected a rigorous test of factors and processes contributing to OL as well as service quality and innovation in the Texas CPS, Region 7.

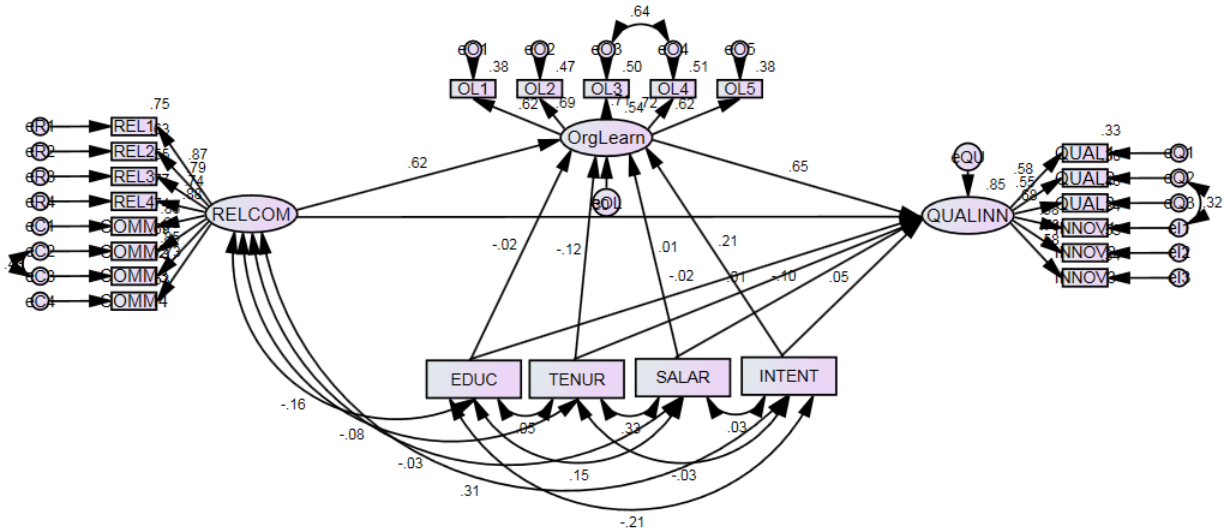


Figure 11. The respecified structural model with standardized estimates.

The model fit indices of the proposed structural model indicated a highly fitting model ($\chi^2 = 481$; $df = 210$; $p < .001$; $CMIN/DF = 2.29$; $RMSEA = .062$; $CFI = .935$; $TLI = .922$; $ECVI = 1.83$). Evaluation of MIs indicated no further changes were needed. However, the examination of the model's estimates determined that five of the model's paths did not reach statistical significance: OrgLearn \leftarrow EDUC ($p = .622$), OrgLearn \leftarrow SALAR ($p = .829$), QUALINN \leftarrow EDUC ($p = .592$), QUALINN \leftarrow TENUR ($p = .533$) and QUALINN \leftarrow INTENT ($p = .295$). Additionally, five covariances lacked statistical significance as well: SALAR \leftrightarrow INTENT, TENUR \leftrightarrow EDUC, INTENT \leftrightarrow TENUR, RELCOM \leftrightarrow TENUR, RELCOM \leftrightarrow SALAR. All the non-contributing paths and covariances were removed from the model. As a result of this action, the model

fit was slightly improved ($\chi^2 = 486$, $df = 220$; $p < .001$; CMIN/DF = 2.21; RMSEA = .060; CFI = .936; TLI = .927; ECVI = 1.79).

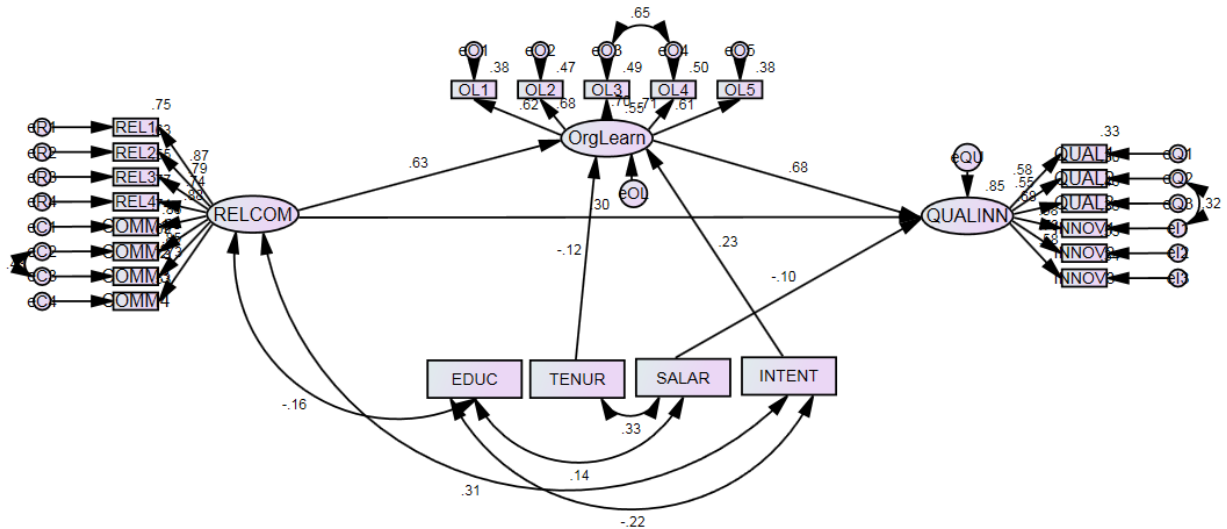


Figure 12. The final respecified structural model with standardized estimates.

The model fit of the final structural model indicated an excellent fit despite the statistically significant χ^2 value, which usually is a sign for a poorly fitting model. In complex structural models, χ^2 values tend to always be statistically significant and are not a reliable indicator of model fit, $\chi^2 = 486$, $df = 220$; $p < .001$ (Kenny & McCoach, 2003). The CMIN/DF value of less than 5 indicates a well-fitting model, CMIN/DF = 2.21. RMSEA values of less than .07 indicate high model fit (Browne & Cudeck, 1993), additionally, the upper confidence interval of the RMSEA index does not exceed .08, which is indicative of the reliability of this index (Hu & Bentler, 1995), RMSEA = .060, C.I. = .053, .067. The comparative fit indices that compare the structural model of interest with an alternative model (null or independence models), consistently indicate a high model fit, CFI = .936, TLI = .927. The examination of the expected cross-validation

index (ECVI) determined a reduction in value, from 1.83 for the proposed structural model to 1.79 for the final structural model, which indicated a better fitting and more parsimonious model. Additionally, the 90% confidence interval (C.I = 1.61, 1.99) confirmed the precision of the estimate. The high fit of the final structural model, depicted in Figure 12, indicates that the population covariance matrix is consistent with the sample covariance matrix, thus the proposed causal model is valid in the population that comprises our sample (see Table 7 for model fit comparisons).

Table 7
Model Fit Comparison

Model	χ^2	<i>df</i>	<i>P</i>	CMIN/DF	RMSEA (C.I.)	CFI/ TLI	ECVI (C.I.)
The proposed measurement model	401	140	<.001	2.87	.075 (.066, .083)	.935/ .921	1.50 (1.33, 1.69)
The respecified measurement model	387	146	<.001	2.65	.070 (.062, .079)	.940/ .930	1.42 (1.26, 1.61)
The respecified proposed structural model	481	210	<.001	2.29	.062 (.055, .070)	.935/ .922	1.83 (1.65, 2.03)
The final respecified structural model	486	220	<.001	2.21	.060 (.053, .067)	.936/ .927	1.79 (1.61, 1.99)
The final respecified structural model with raw data (with missing values)	484	220	<.001	2.20	.060 (.053, .067)	.937/ .921	1.92 (1.74, 2.12)

All the paths and covariances included in the final structural model were statistically significant, in the same direction with the hypothesized relationship, as indicated in Table 8. The test of the final structural model with raw, untreated data yielded results that closely mirrored the results obtained with the dataset treated via mean

imputation (see Table 8 for model fit indices). These results provide empirical support to the hypotheses of the study.

Hypothesis Testing through Structural Equation Modeling

Due to model respecification and collapsing four latent factors into two, the initial hypotheses of the study had to be modified to reflect existing constructs in the model (see pages 53 – 57 for the initial hypotheses). The hypotheses were reformulated to the following:

H1 (modified): Personal relationships and communication between caseworkers and supervisors have a positive direct effect on OL, service quality and innovation.

H2 (modified): Personal relationships and communication between caseworkers and supervisors have a positive indirect effect on service quality and innovation, through OL.

H3 (modified): OL has a positive direct effect on service quality and innovation in the Texas CPS.

The results of the study provide support for the modified hypotheses. Table 8 presents the standardized path and covariance coefficients, as well as Pearson's correlations that aid in the determination of the strength of the relationships between variables. Based on Cohen's definition of effect size (Cohen, 1988; Cohen, 1992), the relationships and communication with the immediate supervisor have a large positive direct effect on OL (ORGLearn <--- RELCOM, $\beta = .627$, $r = .698$), and a large positive direct effect on service quality and innovation (QUALINN <--- RELCOM, $\beta = .295$, $r = .773$). Relationships and communication with the immediate supervisor also

significantly impact OL ($B(S.E.) = .365(.047)$, $p < .001$) and service quality and innovation ($B(S.E.) = .197(.054)$, $p < .001$). One unit increase in reported relationship and communication above the average, increased OL by .365 units. Similarly, every one unit increase in reported relationship and communication above the mean, caused a .197 units increase in perceived service quality and innovation. Respondents who evaluated their relationship and communication with their immediate supervisor as more positive, consistently reported higher levels of OL and higher service quality and innovation in the CPS. This finding supports Hypothesis 1 of the study.

Table 8
Standardized and Unstandardized Estimates of Paths, Covariance Coefficients and Pearson's Correlations for the Final Respecified Structural Model

Path	Standardized Coefficient	Unstandardized Coefficient (S.E.)	p-value	Correlation Pearson's <i>r</i>
ORGLearn <--- RELCOM	.627	.365 (.047)	<.001	.698
ORGLearn <--- TENUR	-.116	-.039 (.016)	.015	-.116
ORGLearn <--- INTENT	.228	.306 (.069)	<.001	.424
QUALINN <--- ORGLearn	.685	.785 (.120)	<.001	.894
QUALINN <--- RELCOM	.295	.197 (.054)	<.001	.773
QUALINN <--- SALAR	-.095	-.065 (.027)	.018	-.121
Covariance	Standardized Coefficients	Unstandardized Coefficient	p-value	
TENUR <--> SALAR	.325	.394 (.069)	<.001	
EDUC <--> INTENT	-.217	-.033 (.008)	<.001	
SALAR <--> EDUC	.137	.047 (.018)	.007	
RELCOM <--> EDUC	-.164	-.058 (.020)	.004	
RELCOM <--> INTENT	.314	.096 (.019)	<.001	

Note. p-value associated with the unstandardized coefficient is reported.

Findings also provide support for Hypothesis 2, which states that relationships and communication with the immediate supervisor have a positive indirect effect on service quality and innovation, through OL. The results indicate a medium-large effect size, which equals $.627 * .685 = .429$. The total effect of relationships and

communication on service quality and innovation equals $.429 + .295 = .724$. The presence of a medium-large effect size might suggest that OL is a partial mediator between relationship and communication and service quality and innovation, however this requires further investigation, which is beyond the scope of this study.

The study results also support Hypothesis 3, which indicates that OL has a positive direct effect on service quality and innovation (QUALINN \leftarrow ORGLEARN, $\beta = .685$, $r = .894$). OL is also a significant predictor of service quality and innovation (B(S.E.) = $.785(.120)$, $p < .001$), one unit increase in perceived OL was associated with a $.785$ units increase in service quality and innovation. Caseworkers who reported higher OL levels at their workplace, also evaluated the CPS services as higher quality and innovativeness as high. OL had the largest effect on perceived service quality and innovation, in the hypothesized model.

Not all control variables included in the model had the hypothesized effect. Surprisingly, education did not have a statistically significant effect on any variable included in the model. Organizational tenure had a small negative effect on OL (ORGLEARN \leftarrow TENUR, $\beta = -.116$, B(S.E.) = $-.039(.016)$, $p = .015$, $r = -.116$) and a small negative indirect effect on service quality and innovation ($\beta = -.079$). The tenured CPS staff reported lower levels of learning in their organization and lower service quality and innovativeness than the new hires. Intention to stay with the CPS for longer than twelve months had a medium-large direct effect on OL (ORGLEARN \leftarrow INTENT, $\beta = .228$, B(S.E.) = $.306(.069)$, $p < .001$, $r = .424$) and a small positive indirect effect on service quality and innovation ($\beta = .156$). The individuals who were loyal to the CPS,

evaluated the learning and the services offered by their workplace significantly higher than the individuals determined to leave the system. Finally, salary had a small negative effect on service quality and innovation (QUALINN <--- SALAR, $\beta = -.095$, B(S.E.) = $-.065(.027)$, $p = .018$, $r = -.121$). With every \$10,000 increase in reported salary, perceived service quality and innovation decreased by $-.065$ units. Better paid staff indicated lower service quality and less innovativeness in the Texas CPS than the lower paid staff.

The next section of the study discusses in detail the implications of these findings for the CPS caseworkers, administrators and the organization as a whole, while drawing parallels to existing research. The discussion section also proposes policy improvements, staff retention strategies and mobilization of resources within the CPS. Research areas that need further empirical investigation are also introduced.

Chapter Five: Discussion

This study investigated the effect of the relationships and communication with the immediate supervisor on the OL process taking place in Region 7 of the Texas CPS, and system-level outcomes, such as service quality and innovation. Greiling and Halachimi (2013) as well as Rashman et al. (2009) in their theoretical models explaining learning processes in public entities, included relationships and communication among the critical antecedents of OL. The results of this empirical study provide evidence that supports the propositions found in both theoretical models and reveal strong positive effects between the relationship and communication with the immediate supervisor, OL and service quality and innovation in the Texas CPS Region 7. Additionally, results indicate that organizational tenure and salary have a negative effect on OL, service quality and innovation, while the intention to stay with the CPS has a positive effect on OL and its outcomes in the CPS. The implications of these findings for research, policy and practice are discussed below.

Research Questions Answered and Comparison with Existing Research

Three research questions guided the literature review and the statistical analysis of this study: Is there a direct relationship between individual level processes among CPS caseworkers and their supervisors (their personal relationships and communication) and OL? Is there an indirect relationship between individual level processes among CPS caseworkers and their supervisors (personal relationships and communication) and service quality and service innovation, through OL? Finally, is there a direct relationship between OL and service innovation and service quality in the Texas CPS? The results of

the statistical analysis give firm answers to these research questions and confirmed the hypotheses of the study.

Much like in the private sector, positive relationships and communication between staff and supervisors are important precursors of OL in the Texas CPS. This finding is consistent with empirical studies conducted in private firms and a few public entities (Berson et al., 2006; Edmondson, 2003; Nonaka, 1994; Vera & Crossan; 2004; Vince & Broussine, 2000; Joo, 2010; Wat & Scaffer, 2009). Previous empirical studies found that friendly relationships and participative supervision style support knowledge exploitation and information sharing (Edmondson, 1999; 2003; Larson et al., 1998). Dialogue and communication was also found to enhance OL (Austin & Harkins, 2008; Brown & Duguid, 1991; Michael, 2012; Gherardi et al., 1998; Lee & Cole, 2003; Moynihan & Landuyt, 2009; Senge, 2006; Tsai, 2002; Weil, 1998). Limited research has focused on relationships and communication in the CPS and their impact on OL. The current study contributes to this body of research by uncovering the link between supervisory relationships and communication and OL in the Texas CPS.

In addition to being important precursors of OL, positive relationships and communication between CPS staff have a direct effect on service quality and innovation. This finding is consistent with research conducted in human service settings, indicating that service delivery and performance is strongly connected to the staff's individual characteristics, behaviors and relationships (Cohen & Austin, 1994; Hasenfeld, 1992; Selber & Streeter, 2000). Services are produced by individuals and their production is inseparable from their consumption, making quality control and assurance a difficult task

for supervisors (Selber & Streeter, 2000). However, the results of this study suggest that a positive relationship and effective communication between immediate supervisors and staff could be a first step in ensuring high quality services and innovativeness in the CPS.

Consistent with the literature investigating OL processes in public and private entities, this study found that the OL process taking place in the Texas CPS is an antecedent of high service quality and innovation (Bapuji & Crossan, 2004; March, 1991; Schneider, 2014; Crossan & Apaydin, 2010; Damanpor, 1991; Argyris & Schon, 1978; Finnigan et al., 2012; Easterby-Smith et al., 2004). Additionally, this result is congruent with the theoretical and empirical literature that supports the view that innovation is one of the main benefits of OL (Forrester, 2000; Rauktis et al., 2010; McCharen et al., 2011; Jaskyte & Dressler, 2005). The finding that OL processes that are taking place in the Texas CPS, are critical antecedents of service quality and innovation in the CPS, represents a significant contribution to the OL and public service literature.

The findings of this study also explain the effects of potential confounding variables on the main dependent variables of the study. Education, tenure, salary and intention to stay with the CPS were included in the statistical analysis as control variables. Surprisingly, and contrary to other empirical studies (e.g., Busch & Hostetter, 2009; Collinson & Cook, 2004), education did not have an effect on OL or service quality and innovation. A potential explanation for this finding is that CPS is a rigid system with fixed protocols, policies and regulations concerning service provision, that do not leave room for variation and creativity. Thus, staff with higher educational credentials do not have the possibility to leverage their skills and credentials in the CPS

environment. As a consequence, education is an unused asset and does not contribute to OL processes or service performance in this organization.

Consistent with some OL research, tenure had a negative effect on OL and service performance (e.g., Bontis, Crossan & Hulland, 2002). While other studies indicate that tenured staff are critical for learning and accumulating knowledge (Damanpour, 1991), they also caution that highly tenured staff might fall into the trap of following rules and routines without a desire for learning or challenging the status quo. Another explanation for a negative relationship between tenure and OL might be that tenured staff have repeatedly attempted and failed to obtain system change and, as a result, they responsibly report lower learning and service performance in the CPS. This finding also suggests the possibility of a curvilinear relationship between tenure and OL and its outcomes, which needs to be tested via statistical means (e.g., Wu et al., 2005).

The intention to stay with the CPS longer than a year had a positive direct effect on OL and perceived service quality and innovation. This finding is consistent with OL research and studies conducted in public entities (Argote & Miron-Spektor, 2011; DePanfilis & Zlotnik, 2008; Joo, 2010; Van Hook & Rothenberg, 2009). Employees vested in the organization evaluated the learning and the services provided by the CPS higher than the staff desiring to leave. In the context of this finding, a motivated and loyal CPS workforce is critical for enhanced OL and improved service quality and innovation.

The statistical analysis also controlled for the effect of staff's salaries on the study's dependent variables and found that pay had a small negative effect on service quality and innovation. The effect of pay on perceived organizational outcomes in the

CPS, has not been studied previously and no research exists to compare this finding with. However, a valid explanation in the context of this study is that caseworkers with higher salaries, which could indicate towards their higher educational credentials, longevity with the CPS or seniority in the organization, are able to compare the actual services delivered by CPS with services that would be based on standards of quality and outcome-focused planning. If higher paid staff see a discrepancy between actual and desired services, and are dissatisfied with the actual CPS services, then they will report lower quality and innovativeness than staff who are paid less.

Another important finding of this study is the empirical validation of the propositions found in the OL models designed by Rashman et al., (2009) and Greiling and Halachimi (2013) for public entities. The two models indicated that interpersonal relationships and communication are important antecedents of OL in public services and this study provides empirical support to those propositions. OL is a multi-level process that starts with the individual and progresses through the group and system levels. Interpersonal relationships and communication are significant individual level processes that impact learning and system-level outcomes in the Texas CPS.

Implications for Social Work, Research and Child Welfare Administration

The conclusions of this study are relevant for researchers, public service administrators, frontline CPS personnel, their supervisors and in general for individuals who desire to enhance learning processes, service quality and service innovation in their human service organizations. Below are several implications of these findings, pertinent

to critical topics in social work science and practice, CPS administration, public service and management.

Individuals and systems. While the social work science and literature primarily discusses the way systems and infrastructures impact individuals, this study shows that there is a considerable feedback process linking individuals to system-level variables. This idea is congruent with Giddens' (1984) structuration theory and implies that individuals are powerful agents of systemic and structural change. Structuration theory, organizational change theory and OL theory provide solid theoretical foundations to be built on while researching and proposing ways in which individuals, or employees of a public service organization, could contribute to systemic change. For example, lessons from the organizational change theory teach us that a visionary leader, ongoing communication, an organizational culture open to learning and policies that create synergy towards change are key to successful new initiatives (Stollar, Poth, Curtis, & Cohen, 2006). These lessons are extremely relevant for the CPS, an organization that struggles with the need to start a reform for the last two decades (Waldfoegel, 2000). The results of this study suggest that in the Texas CPS, the immediate supervisors of frontline personnel might represent a group with great potential to impact system-level processes and outcomes. Supervisors trained in visionary leadership, relationship-building and effective communication could influence a critical mass of employees that would be able to generate learning, propose policy changes and promote an organizational culture focused on inquiry, quality improvement and innovation. There is a need for

reconceptualization of supervision in social work, with an added emphasis on system-level processes and outcomes that can be impacted by frontline personnel.

Supervision in the CPS. The strong positive effect of relationship and communication with the immediate supervisor on OL in the Texas CPS, requires thoughtful reconsideration of the importance of interpersonal relationships and communication in that environment. Relationships and communication at work are critical for work performance, organizational outcomes, personal wellbeing and workplace retention (DePanfilis & Zlotnik, 2008).

This finding challenges the social work literatures that conceptualize supervision either as a training process, or as a client and outcome-focused intervention (e.g., Harkness & Poertner, 1989). It suggests that supervision has a potential for more than this. It has a potential for professional growth, organizational learning and becoming, and improving clients' outcomes. The traditional supervisor-supervisee relation, in the context of the CPS, is mainly focused on performance monitoring, activity documentation and protocol-following. Supervision that encourages learning and excellence in service-provision has to replace the supervision that focuses on avoiding to harm the system and its clients. Supervision has to undergo a paradigm change from a process of information transfer to a mutual information sharing process, from a teaching process to a learning process, from a prescriptive action to a generative process, from a performance monitoring activity to a mutually beneficial, exploration-focused, growing experience for both the supervisor and the supervisee.

The social work literature abounds in supervision models (e.g., Bernard & Goodyear, 1992; Kadushin & Harkness, 2002; Lowy, 1983; Olsen & Stern, 1990; Tsui, 2005). The supervision models that emphasize a collaborative, peer to peer, relational supervision have the greatest potential in achieving the most outcomes. For example, Kadushin and Harkness (2014) in their book *Supervision in Social Work* thoroughly review the research that documents the administrative, educational and supportive functions of supervisors. The administrative function is directed towards ensuring organizational effectiveness, the educational function is focused on staff training and development and the supportive function is concerned with relationship-building. This study suggests that such a model that conceptualizes supervision as an effort to impact multiple organizational levels through nurturing, learning and managing, has a great capacity to generate positive outcomes in the CPS system.

Retention in the CPS. Low workforce retention is one of the greatest issues in the CPS, affecting the organization's effectiveness and client outcomes, and numerous research studies have identified supervisory support and communication as critical factors affecting retention among CPS staff (DePanfilis & Zlotnik, 2008; Conrad & Kellar-Guenther, 2006; Williams & Glisson, 2013). However, much of this knowledge remains unutilized today. The CPS administration has to start building capacity in its supervisors to support, empower and ultimately, retain their staff. One way of doing that is to focus on the supervisors' communication skills. Studies indicate that when CPS caseworkers had a high quality professional *interaction* at work, they were more likely to stay with the CPS (DePanfilis & Zlotnik, 2008; Conrad & Kellar-Guenther, 2006). Michael (2012)

mentions that one of the most critical and overlooked skill of supervisors is communication. Survey data indicate that communication is also the skill with the largest gap between perceived importance and actual level of competency (Delahoussaye, 2001). Supervisors and middle-managers need to focus their efforts on productive and effective communication at the micro-level, with the purpose of developing learners, fostering their readiness to learn and promoting their learning. At the mezzo level they need to promote and facilitate effective knowledge-centric social networks and workgroups. And at the macro level, supervisors and managers have to sanction and institutionalize critical emergent knowledge using their authority and best management practices (Hannah & Lester, 2009). A learning-focused supervision, coupled with employee-focused communication and support, will have a much higher chance to retain CPS staff than formalized trainings and supervision-as-usual.

Service performance in the CPS. The findings of this study revealed a very strong connection between the interpersonal relationships and communication among CPS staff and service quality and innovation in the CPS. Analyzed through the prism of Harkness and Poertner's (1989) conceptual review of social work supervision and Moynihan and Pandey's (2010) study on drivers of service quality in public organizations, this finding calls for a reconceptualization of quality control systems in the CPS. Harkness and Poertner (1989, p. 117) state that "researchers should observe and analyze behavior that links supervisory and subordinate practice with improved caseload outcomes" and "supervisory practices [has to be] contrasted on the basis of client outcomes." Moynihan and Pandey's (2010) study indicates that the main drivers of

service quality in public entities are not service protocols, rewards and sanction mechanisms, or employees' expectations of self-gain. It is altruism. To achieve high service performance and positive clients outcomes in the CPS, the organization has to develop service performance systems that "appeal to a sense of public service motivation" (Moynihan & Pandey, 2010, p. 859). In a field such as child welfare, where mistakes can have dire human consequences, becoming more innovative may require some major form of motivation (Brown, 2007). In the context of this study's findings, positive, safe and friendly relationships among CPS staff might represent that driver or motivation for delivering high quality services to CPS clients. Fostering friendly relationships and a value-based supervision has to become a major focus for CPS administrators. The peer-to-peer interaction, dialogue and consultation create learning among CPS staff and might increase service quality. The questions asked in a non-threatening way, diverse schools of thought and a safe-space for exploring new ideas triggers creativity and might result in service innovation. Empowered staff will be more loyal to the organization and have greater longevity in the system, thus positively impacting learning, retaining knowledge and skill, and being more able to increase service quality. Staff retention is critical for the functionality of the CPS, the learning that takes place in the system and service effectiveness. A learning focused supervision, a loyal and empowered workforce, and organizational protocols and systems that take into account staff's motivators and altruism will yield better service quality and greater innovativeness in the CPS.

OL in the CPS and *post hoc* analysis

The 2014 Annual Report and Data Book prepared by the Texas DFPS indicates that in 2014 the Texas CPS began a process of transformation with a focus on high-quality outcomes for children and families. The “transformation aims to create an environment where CPS staff are proud of their job and want to stay” (Texas DFPS, 2014, p. 16). Texas DPFS lists improved recruitment and hiring, trainings, information systems, decision-making tools, data analysis and usage, quality assurance, program evaluation, policy development, and legislative support among the main activities proposed by this change effort. The CPS transformation is also characterized as a “bottom-up process that gives regional staff a strong voice.” Altogether, the strategies and initiatives proposed by the Texas DFPS are identified in the OL literature as antecedents of OL (e.g., Crossan et al., 1999; Greiling & Halachimi, 2013; Rashman et al., 2009, etc.). However, the Texas DFPS Data Book fails to mention how the change effort is systematized into key areas of intervention. This study used an original OL measure that combined structural, cultural, performance-orientation and employee development facets. The measure was theory-based and performed well in this study’s sample, which suggests that these are relevant aspects of learning in the Texas CPS. Structure, culture, performance and staff development could represent the four key areas that Texas CPS need to focus on during its transformation.

The Texas CPS transformation is a well formulated initiative and strategy aiming at improving work processes and outcomes, however, the CPS remains to be a very large public organization, with all the consequences of this reality. In a dynamic and intensive

field of work like the human services, where work technologies are uncertain and quality control mechanisms cannot be easily applied to the service production process (Selber & Streeter, 2000), learning is a critical means of ensuring high service performance. However, large bureaucracies are designed to perform routine activities, they do not assimilate novelty and change easily (Lam, 2000).

Table 9
OL measurement model with standardized estimates for all Texas CPS Regions

Model	χ^2	df	P	CMIN/DF	RMSEA	CFI/ TLI	Sample Size (N)
Region 1 Lubbock	18.8	4	.001	4.70	.140	.969/.922	191
Region 2 Abilene	4.30	4	.365	1.07	.028	.999/.997	103
Region 3 Arlington	48.6	4	<.001	12.1	.129	.972/.931	671
Region 4 Tyler	19.3	4	.001	4.82	.140	.974/.934	197
Region 5 Beaumont	13.7	4	.008	3.43	.134	.961/.903	136
Region 6 Houston	37.7	4	<.001	9.44	.117	.971/.928	618
Region 7 Austin	8.9	4	.063	2.23	.063	.993/.983	335
Region 8 San Antonio	14.8	4	.005	3.70	.079	.988/.970	438
Region 9 Midland	7.60	4	.106	1.90	.109	.978/.944	77
Region 10 El Paso	11.6	4	.021	2.90	.141	.973/.932	96
Region 11 Edinburg	17.8	4	.001	4.44	.099	.987/.968	353

Any change initiatives in the CPS have to be created with great attention to the CPS culture and the institution itself (Strolin-Goltzman, Auerbach, McGowan, & McCarthy, 2007). Learning within a bureaucracy is usually highly fragmented and only becomes integrated knowledge at the top of the hierarchy. The same is valid for the Texas CPS. A post hoc analysis driven by the question whether OL takes place in the same way in different Texas CPS Regions, indicated that it does not. Table 9 shows that the model fit of the OL measure used in this study oscillates from region to region, from high to low. Additionally, when applied to other CPS Regions, the structural model that performed

well in Region 7, has an average fit in Regions 3 and 6, and a low fit in Regions 1, 4, 8 and 11 (Regions 2, 5, 9 and 10 do not have the sample size recommended for SEM analysis, see Table 10). Two possible explanations are that OL either takes place in a different way in each region, or that the regions differ in the way they support the learning processes in their local offices. An example that supports the first explanation is that Regions 1, 4 and 11 are mostly rural and OL might take a different shape there due to less resources, poorer infrastructure and differences in proximity between CPS offices. Usually, public services lack spare resources, which slows down learning. Urban regions are richer in informational and educational resources, which favors OL (Greiling & Halachimi, 2013). Additionally, increased public scrutiny leads to higher accountability and a more dynamic learning process.

The second explanation of regional differences in OL is supported by several studies which argue that public organizations are fragmented, slow to incorporate new knowledge and as a result, slow to learn (Kim, 1993). Learning is a highly situated and collaborative process (Sun, 2003) and fragmentation allows for differences in approaching and executing policy related to learning. It is possible that regional leadership supports and promotes OL at a different pace and with varying levels of intensity. However, OL has to be actively promoted and pursued by the individuals working at the top of the CPS hierarchy, to encourage participation and engagement of the individuals working at the bottom of the CPS system (Epstein, Galindo, & Sheldon, 2011).

Table 10
Model Fit Comparison between all Texas CPS Regions

Model	χ^2	<i>df</i>	<i>P</i>	CMIN/DF	RMSEA (C.I.)	CFI/ TLI	ECVI (C.I.)	Sample Size (N)
Region 1 Lubbock	553	220	<.001	2.51	.089 (.080, .099)	.886/ .869	3.501 (3.15, 3.88)	191
Region 2 Abilene	477	220	<.001	2.17	.107 (.094, .120)	.819/ .792	5.78 (5.20, 6.43)	103
Region 3 Arlington	1006	220	<.001	4.57	.073 (.069, .078)	.913/ .900	1.67 (1.52, 1.82)	671
Region 4 Tyler	614	220	<.001	2.79	.096 (.087, .105)	.882/ .864	3.79 (3.75, 4.10)	197
Region 5 Beaumont	604	220	<.001	2.74	.114 (.103, .125)	.817/ .790	5.30 (4.79, 5.87)	136
Region 6 Houston	1005	220	<.001	4.56	.076 (.071, .081)	.898/ .883	1.81 (1.65, 1.97)	618
Region 7 Austin	486	220	<.001	2.21	.060 (.053, .067)	.936/ .927	1.79 (1.61, 1.99)	335
Region 8 San Antonio	949	220	<.001	4.31	.087 (.081, .093)	.871/ .852	2.42 (2.21, 2.65)	438
Region 9 Midland	445	220	<.001	2.02	.116 (.100, .132)	.791/ .760	7.33 (6.58, 8.17)	77
Region 10 El Paso	462	220	<.001	2.10	.108 (.094, .121)	.832/ .806	6.04 (5.43, 6.73)	96
Region 11 Edinburg	766	220	<.001	3.48	.084 (.078, .091)	.905/ .890	2.49 (2.26, 2.74)	353

In the context of the two possible explanations for variations in model fit, it is imperative that the CPS start supporting the OL process through an integrated strategy, a step-by-step implementation guide, spare resources and political will to pursue learning (Brown, 2007). The Texas CPS transformation has to take into account the characteristics of the CPS system during the implementation of the transformation agenda, since systems tend to protect themselves against threats to its integrity and routine-based activities.

Bovens, Schillemans and Hart (2008) suggest that OL in the public sector will only

happen when a sense of safety exists that minimizes the chances of defensive routines taking over.

Limitations of the Study

Limitations include an available sample, consisting of Texas CPS employees willing to take the survey. Additionally, the self-reported nature of the data implies that answers are valid only to the extent that the responses closely mirror the attitudes and perceptions of the respondents. Cross-sectional data also limit the extent of the inferences that can be drawn.

Another limitation of the study is the low discriminant validity between two pairs of variables: relationships and communication with the supervisor, and service quality and innovation. The two pairs of factors had to be collapsed to better fit the measurement and structural models. After collapsing the two pairs of variables, the model performed well in the study's sample.

Finally, the study did not include group-level and system-level variables that are considered antecedents of OL, as controls in the structural model. Testing the impact of group-level and organizational-level variables on OL and its outcomes was outside the scope of this study. However, the missing variables might account for some variance in the dependent variables, thus they might impact the validity of the findings. Despite these limitations, the study addressed an absence of literature on OL in the CPS and the impact of individual-level variables on OL and service quality and innovation in a large public organization. The results of this study could apply beyond the current sample, to a

population of CPS frontline personnel and their supervisors working in a primarily urban region of the United States' CPS system.

Future Directions for Research

Researchers interested in the OL phenomenon and public human service organizations, as well as administrators concerned with the service performance of the CPS, have to continue testing the theoretical models designed by Greiling and Halachimi (2013) and Rashman et al., (2009) for OL in public entities. The effect of group-level and system-level characteristics on OL and its outcomes remains to be tested. This knowledge would allow researchers to formulate multi-level, evidence-based OL interventions that target critical areas and would benefit the CPS and other public entities.

Additionally, it is important to understand what regional differences exist in the CPS that do not allow for a homogenous OL process to take place across regions. Employing methodologies that take into account group membership and the contributions of regional-level variables to OL, would allow for inferences to be drawn about the effect of regional differences on learning and service performance. Hierarchical linear modeling is an appropriate quantitative technique for studying hierarchical concepts, such as OL and explore regional differences in OL in the Texas CPS (Raudenbush & Bryk, 2002).

It is important to discover what other performance indicators are affected by OL, in addition to service innovation and quality. Performance in the CPS is mainly formulated in terms of children's safety, families' wellbeing and achieving permanency. As the CPS moves toward EBP, via outcome-based accountability, it is imperative that

research addressed the link between OL and these critical client outcomes (Gambrill, 1999; Jacobs, 2003; Perlmutter et al., 2001).

This study shows that there is a considerable feedback process linking CPS personnel's interactions and OL at their workplace. Research needs to specify what type of relationships and communications are most beneficial for workplace learning and whether there are other behaviors and activities that personnel could perform to enhance learning and service performance in the CPS. Child welfare workers need to be proactive in creating an environment that positively impacts their own work performance and clients' outcomes (Glisson & Green, 2011).

Supervision is an important activity in the context of CPS. This study discovered that the relationship and communication with the supervisor are powerful elements affecting the performance of the entire organization. Future studies need to explore how supervisors can enhance learning and service performance at their workplace, what supervisory characteristics are associated with better learning and service performance, and what supervisory actions support OL and performance in public entities.

The OL measure designed for this study performed well in the available sample. To validate this measure in public organizations, it is necessary to test it in other public human service organizations in the United States. The development and utilization of measures that contribute to establishing the relationship between OL and organizational performance outcomes would help researchers, practitioners, and policy-makers to improve public service organizations (Bapuji & Crossan, 2004; Rashman et al., 2009; Rebelo & Gomes, 2008).

Conclusions

Results from this study showed that positive relationships and communication between CPS caseworkers and their supervisors contributed in a significant way to OL processes, service quality and innovation in Region 7 of the Texas CPS. Additionally, the study brings evidence that supports OL as a process that enhances service quality and innovation in the Texas CPS. Service performance in public human service organizations ultimately translates into overall organizational effectiveness and positive client outcomes. OL and its effect on system-level outcomes in the CPS has rarely been studied. This empirical study created much needed empirical evidence that supports the use of OL as a strategy for pursuing organizational excellence and productivity in the child welfare system.

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VITA

Constanta Belciug was born in Chisinau, the Republic of Moldova, a former Soviet Union republic situated in Eastern Europe. Belciug earned her bachelor's degree in foreign languages from the Moldova State University in 1999, and speaks Romanian, Russian, English, French and German. In 2008, she went back to school to pursue Social Work education. In 2010 she obtained her master's degree in Social Work from Moldova State University, specialized in Studies of Childhood and Children's Rights. Three years later, in July 2013, Belciug obtained a master's degree in Social Work from a joint academic program led by the College of Theology and Education in collaboration with Baylor School of Social Work. The same year, Belciug's quest for knowledge and solutions to the social struggles of her country led her to the University of Texas at Austin School of Social Work, where she came to pursue her PhD and learn about effective social interventions and productive human service organizations that serve children, youth and families. In October 2015 she was appointed Executive Director for Children's Emergency Relief International, an organization that she has been affiliated with for the previous ten years, in her country of origin.

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