

How Principles of High Reliability Organizations Relate to Corrections

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HIGH RELIABILITY ORGANIZATIONS are about the science of safety. Systems that are complex, with tightly coupled processes (such as air traffic control, nuclear reactors, wildfires, railroad freight, prison logistics) predict vulnerability for major system accidents.¹ Complexity is a function of the number of interactions in a given system as well as how veiled and difficult they are to understand. Tightness in the coupling is reflected in how fast cause and effect transpires through a system—systems with loose coupling have slack in one or more dimensions (time, space, distance). In the past couple of decades researchers²⁻⁶ have found that agencies that operate according to certain principles, henceforth referred to as High Reliability Organizations (HROs), both prevent accidents and perform distinctly better during system accidents than other organizations.

What makes reviewing these HRO principles relevant to corrections is that they appear to apply across increasingly diverse settings⁷ and most corrections systems arguably qualify as complex and tightly coupled settings. In addition, given the immediate intersection of trends in the field (e.g., downsizing⁸⁻¹²; EBP¹³⁻¹⁶; and widespread greater adaptation of business models¹⁷⁻¹⁹), any science or craft that presents methods for achieving greater reliability in corrections should hold some promise.

This brief review of HRO methodology will summarize some of the literature and provide an overview of the primary principles found to be guiding HROs today. It will then serve as a framework for looking at some of the particular current challenges corrections is facing, determining what, where, and how HRO strategies might be of some benefit or service to the field. Beyond the prominent issue of safety (whether in the courtroom, secure settings, or out in the community), there are also significant and growing concerns about the field's capacity to manage implementation,²⁰⁻²² complex processes,²³⁻²⁶ and crisis²⁷ (not directly related to safety but to organizational and system integrity, i.e., downsizing, loss of mission, etc.).

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HRO Research Summary

In the 1980s, HRO studies began to emerge in organizational research. Since its infancy, HRO has drawn inspiration from Charles Perrow's groundbreaking work in 1984 on Normal Accident Theory (NAT),¹ which described complexity and tightly coupled technological systems as characterizing hazardous and risky enterprises. In Perrow's NAT framework, systems such as chemical plants, marine traffic, and nuclear power plants are all quite vulnerable to trivial events cascading through the system in unpredictable ways that can ultimately cause very severe consequences. Though Perrow remains skeptical about the degree to which complete remedies exist for complex and tightly coupled systems,²⁸ HRO investigators²⁹ have enthusiastically committed themselves to illuminating what the common mechanisms are for producing reliability and reducing risk across hazardous and risky systems.

In 1987, Karl Weick⁵ pointed out how trial and error approaches, commonplace in less risky and demanding systems, are not viable in hazardous ones. Consequently other alternative strategies are employed to address what he termed the *problem of requisite variety*: when "the variety that exists in the system to be managed exceeds the variety in the people who must regulate it."⁵ (p112). Simply stated, in order to operate adequately, a complex system must be matched with a requisite and comparable level of variety of information, communication, and responsiveness within the organization managing the system. How non-technical or human systems have stepped into the breach to address this need for requisite variety is fascinating.

Researchers at Berkeley^{30, 31} and University of Michigan^{32, 33} determined that HROs such as nuclear power plants, aircraft carriers, and forest fire-fighting units have evolved structures that enable them to achieve well-coordinated centralization and decentralization^{30, 34, 35} effective decision-making. This balance in structure serves to enhance and optimize an agency's options (variety) when neither rules nor standardization are well-suited for addressing emergencies that have no clear precedent.³⁶ A variety of strategies have evolved that enable this unique flexible shifting from centralized to decentralized control. These have come under the attention of HRO investigators.

A couple of examples of these morphing structures are incident command systems (ICS) employed by fire departments and crew resource management (CRM) used by airlines. ICS are now widely used by police and firefighters of all types to quickly and efficiently erect a management structure³² in any emergency situation of sufficient size to ultimately draw upon multiple and diverse agency staff. The ICS originally was created as a state, local, and federal cooperative effort to reconcile management conflicts occurring in huge inter-jurisdictional fires occurring in the 70s in California. However, ICS were soon extended into an all-risk system for almost any kind of emergency.³⁷ Investigators have determined that ICS depend largely on three factors: 1) structuring mechanisms, 2) cognition management methods, and 3) constrained improvisation.

Structuring mechanisms allow staff to elaborate better solutions, seamlessly switch roles, migrate decision authority when appropriate, and reset the system thinking. Frequent role switching similar to what air traffic controllers routinely do with co-workers and their supervisors facilitates greater teamwork and broadens the perspective. Enabling decision-making to flexibly migrate to where the current informal expertise exists versus where the formal authority resides corrals more tacit knowledge and immediate, granular information into decision-making. Decentralizing decision-making, under non-routine decision-making conditions, assures "that individuals closest to the problem stimuli can react and make better decisions."^{30, 31} Finally, when relevant assumptions are suddenly overturned in the face of new evidence, mechanisms for immediately and collectively resetting or "refreshing" the basic strategic vision prove to be very helpful.

Cognition management methods promote developing operational representations necessary for team clarity and coherence. These same methods also promote shifting and nesting key staff responsible for directing and coordinating diverse staff, very similar to what air traffic controller systems must do to manage peak flows.³⁸ In HROs, it is critical to integrate information about

complex, highly interactive operations and performance into a single picture that is perpetually maintained— referred to in diverse HRO settings (such as aircraft carriers, nuclear plant control rooms, etc.) as “having the bubble.”³⁶ For example, someone ultimately must assume all responsibility for monitoring the flight deck of an aircraft carrier or the instrument panel in the control room of a nuclear plant and they therefore would “have the bubble.”

The final factor associated with ICS, *constrained improvisation*, calls for recognition and readiness to improvise, given the many unique and extreme possible emergency situations, but with limited tolerance for too much “freelancing.” In emergency situations tools may need to be improvised at the operations level. At a higher management level tactics and rules sometimes also need to be improvised in emergencies. By imposing prescribed limits for improvisation within a three-layer control system—Bronze = operational; Silver = Tactical; Gold = strategic—ICUs compartmentalize decision-making in a manner that accommodates some on-the-ground improvisation, but within prescribed limits.

Technically, ICUs are not HROs. ICUs and other similar adaptations (such as Crew Resource Management/CRMs) represent structural responses to potential or real disasters that have informed some of the organizational development of HROs. The latter go beyond these structural adaptations by inculcating principles that permeate an agency and culture in a manner that supersedes organizational structure.³⁶

The principles associated with high reliability were found in a variety of different types of organizations dealing with hazardous work. Roberts³ determined that built-in redundancy (e.g., buddy-systems, multiple means of communication) and conditioned sensitivity to possible failure in nuclear-powered aircraft carriers enhanced reliability. Babb and Ammons³⁹ similarly reported that training transport officers to anticipate the unexpected was related to high reliability in transporting prisoners. Research in chemical processing plants⁴⁰ demonstrated a relationship between coherent incident reviews and cyclic crises. In working with three major airlines, Gittel⁴¹ found measures of relational coordination significantly correlated to multiple measures of organizational performance. After reviewing the accident research on three distinctly different hazardous systems (air traffic control, nuclear power, and nuclear aircraft carriers) Reason, et al.⁴² learned that flexible authority structures (routine, high-temp and emergency) were common in all organizations and greatly facilitated communication switching from largely vertical to horizontal when necessary. In a systematic review of catastrophic accidents like Exxon Valdez, Challenger, 1999 Mar orbiters, Roberts and Robert⁴³ indicated that managerial causes such as lack of deference to expertise and oversimplification of processes contributed more system failure than design flaws. Heedful team interactions that reinforced a preoccupation with failure (e.g., well-timed extra briefings, staff access to multiple and redundant communication systems, etc.) and sensitivity to operations were attributed to minimal error on flight decks by Weick and Roberts.³² In investigating forest-fighting crew performance, Weick^{32, 44, 45} found resiliency based on learning and norms of respectful interaction to facilitate the avoidance of catastrophe.

Perhaps less hazardous but nevertheless complex and tightly coupled, the medical care industry has determined^{6, 46} that many errors in patient care relating to flawed patient information exchange can be effectively addressed through applications of HRO concepts. Subsequently the National Patient Foundation of the AMA has adopted and nationally piloted an extension of HRO findings in health care settings.^{47, 48} The NASA Office of Safety and Mission Assurance has instigated a routine survey (Performance Evaluation Profile) similar to the Navy’s Command Safety Assessment Survey predicated on five elements of HROs⁴⁹ that structure organizations for greater reliability⁴⁷ Libuser lists them as:⁵⁰

1. **Process auditing:** An established system for ongoing checks and balances designed to spot expected as well as unexpected safety problems. Safety drills and equipment testing are included. Followups on problems revealed in previous audits are critical.
2. **Appropriate Reward Systems:** The payoff an individual or organization realizes for

behaving one way or another. Rewards have powerful influences on individual, organizational, and inter-organizational behavior.

3. **Avoiding Quality Degradation:** Comparing the quality of the system to a referent generally regarded as the standard for quality in the industry and insuring similar quality.
4. **Risk Perception:** Includes two elements: a) whether there is knowledge that risk exists, and b) if there is knowledge that risk exists, acknowledging it, and taking appropriate steps to mitigate or minimize it.
5. **Command and Control:** Includes five processes: a) decision migration to the person with the most expertise to make the decision, b) redundancy in people and /or hardware, c) senior managers who see “the big picture,” d) formal rules and procedures, and e) training-training-training.

More recently HRO mechanisms have found their way into data processing⁵¹ and human resource system design.⁵² There is a growing trend showing the ascendancy of HRO principles across a progressively wider array of business contexts, many of which no longer share an association with hazardous work. However, according to a Fast Company article,⁵³ there is nevertheless a financial or social payoff for these latter sectors through the additional reliability and adaptability HRO principles promote.

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HRO Principles

In their book *Managing the Unexpected: Assuring High Performance in an Age of Complexity*, Karl E. Weick and Kathleen M. Sutcliffe³⁶ articulate five principles that they find in all HROs to varying degrees. These principles have formed a touchstone for some of the above subsequent research, system reengineering and newfound HRO applications. The five guiding principles are:

- **Preoccupation with Failure**
- **Reluctance to Simplify**
- **Sensitivity to Operations**
- **Commitment to Resilience**
- **Deference to Expertise**

The above principles tend to interpenetrate, inform, and influence one another. Similar to electrical currents in a power grid, specifying how these HRO principles are related to each other is difficult, yet they each “work” and together produce a crucial resource (in the case of HROs, mindfulness^{34, 54}). A brief description of each principle along with some examples of specific corrections operations that might fall under the influence of a respective principle follow.

Preoccupation with failure is central to HRO operations for several reasons. First, adopting the mindset that anything can go wrong at any time engenders in personnel a heedful orientation to their work, their co-workers, and themselves; it enables them to maintain the necessary edge of readiness. Second, when potential failure becomes part of the routine focus, errors are more readily detected early on, within their tightly coupled and fast interacting processes. When errors are identified earlier, their ultimate resolution is made easier and more certain. Third, clearly identified errors and failures provide grist for deeper shared learning in subsequent debriefing. Finally, cultivating a positive regard for failure detection promotes unique norms of practice that positively reinforce recognition and communication errors and even suspected errors. In an

HRO, the people detecting an error or problem own that problem, until they can find someone with greater expertise for remedying it.

Given the different motives for obsessing about failure, *preoccupation with failure in corrections* can take many possible forms. In institutions this principle recommends heedful shift changes and related briefings, the utmost care in staff hiring, training, and inmate intake processes, along with evervigilant inmate transport, classification, and sanctioning procedures. A fixation on failure in community or field supervision, on the other hand, shows up as fewer errorprone assessments, case plans, and poorly aligned case management efforts. It also includes less treatment expenditures that fail to successfully target criminogenic case priorities.

Reluctance to simplify is marked by an active appreciation for maintaining a full, albeit never complete, operational awareness. Holding a more accurate and nuanced picture of current operations is given a premium at all levels within an HRO. To this end, “boundary spanners” (persons with diverse experience, skepticism about party-line knowledge and abilities to incorporate updated and more diverse views) are valued, as well as truly deep (inter-functional) diversity in the work-force. Simplification translates to a loss of information, detail, and more diverse representations of what is going on. Loss in complexity reduces adaptability. The ability of staff to attend to more things, shift and maintain more interpretations of a given situation, and communicate more diverse ideas fosters adaptability. “To misread local innovations and workarounds as signs of inefficiency rather than effective adaptations (can) make the difference between profit and loss.”³⁶ (p12)

At the present, the benefits to be obtained from a *reluctance to simplify in corrections* are enormous. The research in the field of corrections is coalescing as never before. A knowledge base for Evidence-Based Practice (EBP)⁵⁵ now exists, with guiding principles^{13, 56, 57} unique to corrections. Agencies struggling to reconcile their existing practices with EBP are encountering many current correctional practices in which convenience or expediency have eviscerated any potential logical bearing on public safety (e.g., shipping inmates far from their families and homes, basing the focus of supervision on terms and conditions set by either judge or board, ignorant of the individual offender’s criminogenic needs). Furthermore, while the new EB practices and principles are based on sound scientific inquiry and evidence, they are not immune to poor translation and implementation themselves. A new science is emerging concerning the business of implementation^{21, 58} in general. Leading investigators in this research are quick to point out how most government implementation results in only “paper” nominal levels of implementation,²⁰ largely due to inadequate and oversimplified implementation strategies (e.g., train and pray). In an era of fastpaced information transfer, coupled with progressive and prolonged budgetary constraints, the evolution of corrections will be contingent on smart research translation, smart innovation, and smart implementation.

A *sensitivity to operations* is exemplified by a widespread concern for, if not awareness of, the granular details of routine operations. This is an ongoing and active concern for the unexpected, “latent failures”⁵⁹—the system loopholes where inconsistencies in staff supervision, performance reporting, key procedures, and briefings exist. “The big picture in HROs is less strategic and more situational than is true of most other organizations”³⁶ (p13). Moreover, HROs are aware of how inextricable the linkage is between sensitivity to operations and sensitivity to relationships—that most reasons for withholding information are relational (e.g., fear, indifference, ignorance).³⁶ Consequently, HRO managers place a great deal of emphasis on respectful communication that makes more, not fewer pertinent things discussable.

A *sensitivity to operations in corrections* includes a willingness to more frequently examine not only practices within our correctional systems but also our assumptions about these practices as well. Just as in any other field, corrections managers who have ongoing, granular familiarity with their respective operations will be more successful. In addition, corrections managers willing and able to question the received logic or assumptions within the operational processes they are responsible for may find new reason and opportunities for innovation and reengineering

these same systems. On one hand, collegial norms that are out of date and inconsistent with EBP will need to be diagnosed and brought to the “surface” for repair. In turn, staff will need to give birth to new norms, centering around transparency^{60, 61} and ongoing learning in order to sufficiently support EBPs throughout each system’s myriad of existing communities of practice.^{62, 63} All of these adaptations are virtually impossible without significant sensitivity to operations in corrections.

Deference to expertise enables higher-level decision-making at the line level. In HROs the lines of authority shift dramatically and effectively according to the tempo of operations. In normal activity, with reasonable slack in the system processes, decisions flow from the top. When operations shift into a high-paced tempo, decisions migrate to where the expertise is on the line level, closest to people who can capture the fullest picture of the enterprise. If activities escalate to an emergency state, pre-established emergency structures (e.g., ICUs) shift into practice to provide additional stability and efficiency. This essential flexibility with authority inherent in HROs provides a template for reconciling central versus local control issues and the ability to fluidly migrate authority to where the people with the most expertise exist.

Deference to expertise in corrections is a principle that provides a remedy for some of the negative aspects of command and control organizations, without eliminating the benefits. This principle provides a key for when the chain of command in corrections can and should fluctuate so that deeper expertise can be drawn into operational decisions related to implementation (high-tempo activity) and crisis (emergency tempo). In institutional and residential settings, often it is the line staff who have the deeper feel for the current climate and culture of the setting. Therefore, mechanisms that deliberately and flexibly migrate authority for decisions to line staff with the expertise can help assure that the best understanding of a particular operation’s granular reality is involved in certain kinds of critical decisions. Escape proceedings, riot control, and mass transfers of inmates are a few examples where line personnel potentially may have considerable expertise that can be effectively tapped through pre-arranged ad hoc management supervision structures that kick into place only under emergencies. Implementation of unique and new protocols such as offender screening (DNA, custodial levels or risk levels), search techniques, custody level adjustments, and inmate transfers reflect potentially high-tempo institutional activities, where closer reliance on line expertise may benefit the agency. Client staffings, drug or specialty court hearings, PSI formulations, and revocation hearings all represent opportunities where field supervision staff might also be more empowered to make or contribute in key case (or policy) decisions. Additional opportunities may exist for tapping line PO expertise when norms of greater transparency for casework are in place, and open recognition of expertise and skills in EBPs such as Motivational Interviewing, cognitive-behavioral coaching, social network enhancement, etc. are attained.

Commitment to resilience builds “informed gumption” on the part of staff. Staff that keep errors small, frequently learn from their errors, and know how to improvise when necessary tend to keep systems functioning well: Robert Pirsig ended up most simply defining quality in his treatise on that topic, *Zen and the Art of Motorcycle Maintenance*⁶⁴ as processes that involve gumption. There is this aspect of taking enough pride in what we are doing so that one improvises when necessary or learns to take responsibility for evident errors until someone comes along who is better qualified. Errors are not ignored. Moreover, when errors or out-of-the-ordinary circumstances are encountered, as stress levels go up, staff learn the importance of resisting the temptation to narrow their focus to tunnel vision and instead, go the extra distance to take in more cues and information for subsequent problem-solving.

Both organizations and individuals can be described as resilient.⁵⁴ Resilient individuals have transformed themselves and cultivated a basis for judgment of their own decisions and for transformation of the organizations that they belong to.⁶⁵ HROs learn to rely upon this kind of innovative or adaptive expertise. A resilient organization is open to error and whatever it can learn from its various manifestations.

A *commitment to resilience* in corrections manifests in a willingness to become more transparent

and to engage in career-long learning. A certain expertise is required on the part of correctional officers in order to sort out patterns within various “incidents” in a correctional setting and determine when a subsequent “disturbance” or riot might be due to occur. In a similar fashion, parole and probation officers sensitive to small failures and backsliding on the part of individuals on their caseloads are in a stronger position to predict and intervene prior to full relapses. Correctional staff are surrounded by life-long learning opportunities; how resilient they are is a function of whether they see and engage these opportunities.

The five above principles associated with HROs are interdependent. A heedful agency that shares and maintains a steady concern for failure is likely also to be prone to avoiding oversimplification. Organizations that more flexibly tap their existing expertise would generally be apt to learn quickly from mistakes and therefore be more resilient. And, it would follow that the opposite would be true as well (that is, agencies that can only tap their expertise very rigidly would be less inclined to learn from their mistakes). Consequently, which principle an organization explores and builds upon first may not be all that crucial. What is important is determining if the benefits from adopting HRO principles outweigh the costs.

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Conclusion

Inmate disturbances escalate into uprisings and riots in at least a few prisons in the U.S. each year. Management of inmates is a tightly coupled process, within a complex interpersonal environment. Every 10 years or so there is a major catastrophic riot: Attica, NY (1971); Santa Fe, NM (1980); Lucasville, OH (1993). In addition, every year a very limited number of individuals on probation or parole supervision in the community commit heinous, terrible high-profile crimes. The above syndromes, not to mention escapes, disease epidemics, and a few others should qualify corrections as a high-hazard industry. Isn't it time therefore to systematically consider and integrate some of these HRO principles more deeply into the correctional enterprise? If the latter associated financial, credibility, and liability costs for maintaining non-reliable systems aren't sufficient incentive, consider the opportunity costs.

The U.S. is moving into an era of unprecedented budgetary constraints. A process of downsizing for the country's corrections systems is likely and in fact already a reality for some states for a variety of reasons.⁶⁶ At the very same time that these changes are taking place, there is a movement underway within the field towards EBP and new abilities to more effectively correct risk factors in the populations under supervision. After almost 20 years, this movement is beginning to gain some momentum and quite possibly a critical mass in understanding and implementation capacity.^{19, 67, 68} What are the odds that adopting HRO principles can assist corrections in navigating these difficult transitions? There should be little doubt that managing smaller but more homogeneously high-risk populations successfully, with reliable implementation of interventions that effectively reduce subsequent recidivism would be a real value-added proposition to society and its future.

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Endnotes

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Turnover Intention Among Probation Officers and Direct Care Staff: A Statewide Study

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UP UNTIL NOW there has been no readily available, cost-effective mechanism to fully and empirically analyze actual, voluntary turnover among Texas probation personnel. The Texas State Auditor's Office (2007) reported a 10.8 percent statewide voluntary turnover rate (excluding involuntary separations and retirements) among all state agencies, except institutions of higher education, during fiscal year 2007. However, that report did not provide any information about the voluntary turnover rate of Texas adult probation personnel. Despite no systematically documented statewide turnover rate for Texas probation, there is much evidence that high levels of employee turnover, and its attendant causes, are critical issues faced by probation executives.

Florida probation agencies, for example, reported a turnover rate of approximately 30 percent in 1995 (Simmons, Cochran, & Blount, 1997). In a 2000 report, the Texas Juvenile Probation Commission reported a 19.7 percent turnover rate among the State's juvenile probation officers in 1999. The Commission also reported a 31.4 percent turnover rate for juvenile detention and corrections officers (Texas Juvenile Probation Commission, 2000). In addition, despite the absence of extensive national reports addressing probation officer turnover, members of the National Institute of Corrections agreed that the loss of qualified officers was a major concern (National Institute of Corrections, 1994).

Voluntary turnover can be attenuated by identifying and addressing its underlying causes. Failure to identify and address the underlying causes of voluntary turnover could impede the promotion of public safety, which is the primary mission of the Texas probation system. To that end, this study, funded by the Texas Probation Advisory Committee (PAC) was commissioned to conduct a web-based, a state-wide survey targeting all line probation officers and all direct-care staff.¹ It comprehensively investigated: 1) any determinant factors that shape turnover

intention; and 2) pay satisfaction's influence on organizational outcomes, such as overall job satisfaction, organizational commitment, and turnover intention.

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Literature Review

Both institutional and community corrections agencies have been concerned with, and paid significant attention to, voluntary turnover, which, in a probation setting, may result in increased caseloads for the remaining staff. This may lead to a deterioration in supervision, low morale, increases in unnoticed violations, absconders, recidivism, and increased expenditures related to the recruitment and training of replacements (Simmons et al., 1997).

As an underlying cause of voluntary turnover, organizational commitment as the emotional link between employees and their organization refers to the strength of their identification with, and involvement in, the organization (Meyer & Allen, 1997); an employee who is committed to his or her organization is more likely to both work towards the organization's goals and stay with the organization (Mowday, Porter, & Steers, 1982). Organizational commitment has been found to be associated with both turnover intention and actual turnover (Griffeth, Hom, & Gaertner, 2000). Most recently, Moynihan and Landuyt (2008), in their analysis of turnover intention among 34,668 employees of 53 different state agencies in Texas, found increased organizational commitment reduced turnover intention.

Three different dimensions of organizational commitment—*affective, continuance, and normative commitment*—were developed by Allen and Meyer (1990). All of the three dimensions of organizational commitment are considered to contribute to reducing turnover intention and actual turnover. Each is useful in predicting what may cause an employee to remain committed to an organization and also predicting what will cause an employee to leave.

Affective commitment is defined as an employee's emotional attachment to, identification with, and involvement in an organization. Employees commit to the organization because they *want to*. In contrast, continuance commitment is defined as the extent to which an employee perceives high costs, such as socio-economic costs, as a consequence of leaving the organization. Here, employees remain with the organization because they *need to*. The *continuance commitment* construct has two sub-dimensional constructs: *high personal sacrifice* and *lack of alternatives* (Meyer and Allen, 1997; Powell & Meyer, 2004). *High personal sacrifice* refers to the commitment related to personal accumulated investments: it develops when an employee realizes that he or she would lose accumulated investments by leaving the organization, and therefore the employee needs to stay with the organization. On the other hand, the *lack of alternatives* denotes the commitment related to an employee's lack of employment alternatives, which increase the costs associated with leaving the organization.

Finally, *normative commitment* represents an employee's feeling obligated to continue employment: employees stay with the organization because they *ought to*. For example, an employee remains committed to an organization mainly out of moral obligation to its mission or developed by the organization's investment resources, such as training. Among the three dimensions of organizational commitment, existing literature has empirically supported the contention that affective commitment, compared to normative and continuance commitments, has the strongest correlations with turnover intention and actual turnover (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). In other words, employees with strong affective commitment to the organization are more valuable employees for any organization.

Compared to organizational commitment, job satisfaction is a link between an employee and his or her job, resulting from the appraisal of the job and job experience. An employee's affective reactions to his or her job based upon the level of congruence between an employee's job expectations and the actual situational attributes present is generally defined as job satisfaction, which differs from organizational commitment (Cranny, Smith, & Stone, 1992). A substantial body of literature has reported that job satisfaction is negatively related to turnover intention and

has its negative effect on turnover intention (Tett and Meyer, 1993). However, a growing body of recent theoretical and empirical research supports the notion that organizational commitment, especially affective commitment, is a better predictor of turnover intention than job satisfaction (Griffeth et al., 2000).

Job stress has been found positively correlated with turnover intention (Begley & Czajka, 1993). Among its various definitions, job satisfaction can be succinctly defined as the lack of incongruity between individuals and their physical or social environment (Chesney & Rosenman, 1980; Whitehead, 1987). In conjunction with the person-environment fit perspective of job stress, job stressors have been concisely defined as “circumstances which place unreasonable or distinctive demands on an individual, and are usually capable of producing emotional and psychological discomfort” (Grossi & Berg, 1991, p. 76). The definition reflects that the conditions of situations or events are stressors, and consequently produce job-related stress. Existing literature suggests that role structure—role overload, role conflict, and role ambiguity—is an important source of job stress (Cherniss, 1980; Whitehead, 1987). Furthermore, dangerousness of the job in the probation setting was found to be an additional stressor to the role structure problem (Sheeley, 2008).

Organizational justice is related to fairness perception (Cropanzano & Greenberg, 1997). Basically, if organizational injustice is perceived, one feels relative deprivation, or a feeling of discontent, which in turn may lead to a range of attitudinal and behavioral effects, including higher turnover intention or actual turnover (Hendrix, Robbins, Miller, & Summers, 1998). Organizational justice conceptually includes two aspects of justice: *distributive justice* and *procedural justice*. Distributive justice is the degree of fairness in distributing rewards (Price & Mueller, 1986), while procedural justice is the degree of fairness in the procedures used for distribution (Folger & Greenberg, 1985). Both distributive justice and procedural justice are based upon employee judgments regarding the fairness of outcomes and the fairness of procedures. Empirical research has supported the important theoretical link between organizational justice and its organizational outcomes: turnover intention is an aspect of motivation that was found to be influenced by an employee’s perception of organizational fairness (Acquino, Griffeth, Allen, & Hom, 1997; Hendrix et al., 1998).

As a provision of instrumental and emotional assistance, social support can be drawn from both supervisors and fellow officers. It can function as a successful coping factor to alleviate job stress, preventing job dissatisfaction, enhancing high levels of organizational commitment, and reducing turnover intention. According to Cullen and his associates (1985), successful social support at work depends on the quality of interpersonal support from superiors and fellow line officers. There is substantial, empirical evidence indicating that support from supervisors is essential for line officers to achieve positive, job-related attitudinal and behavioral out-comes (Jurik & Halemba, 1984).

Participatory management seeks to balance the involvement of superiors and subordinates in information-sharing, decision-making, and problem-solving related to production and quality control (Wagner, 1994). “Reinventing Government,” borne out of the National Performance Review (NPR), criticized malfunctions of hierarchical, centralized bureaucracies, since bureaucratization reduces workers’ control over the means of production and alienates line workers from the decision-making process (Vernon & Byrd, 1996). Hence, a participatory climate allowing for employees’ participation in decision-making is more beneficial than a rigid, autocratic structure for enhancing employee job satisfaction, in turn leading to less turn-over intention (Slate, Vogel, & Johnson, 2001).

Participatory climate is related to empowerment; it is a non-traditional organizational culture with an emphasis on facilitating, coaching, and consulting employees to facilitate a sense of control and self-efficacy (Robbins, Chatterjee, & Canda, 1998). Low empowerment leading to loss of a sense of control and self-efficacy contributes not only to poor quality job performance, but also to a low level of desire to remain (Hammer, Landau, & Stern, 1981; Mowday et al., 1982). Empirically, Koberg, Boss, Senjem, & Goodman (1999) found a negative relationship between empowerment and turnover intention. Recently, Moynihan and Landuyt (2008) also

found that a sense of empowerment reduces turnover intention.

Regarding pay satisfaction, there are two theoretical grounds: equity theory (Adams, 1963) and discrepancy theory (Lawler, 1971). Although Lawler's discrepancy theory expanded Adams' equity theory by incorporating the concept of valence (how much one values the reward), both theories are essentially based on predicting pay satisfaction and explaining its organizational outcomes. Basically, if the employee's ratio of input (e.g. effort) to output (e.g. pay level and benefits) is significantly different from a referent other's ratio, he or she tends to feel underrewarded, and judges that he or she is not being treated fairly, potentially leading to a range of negative attitudinal and behavioral effects (Cropanzano & Greenberg, 1997; Vandenberghe & Tremblay, 2008). In other words, pay satisfaction is a matter of matching actual pay level with the pay level one expects to receive in comparison with those of a referent other. Empirical research has strongly established an important theoretical link between pay satisfaction and turnover (Heneman & Judge, 2000), and has found pay satisfaction a significant predictor of turnover intention and actual turnover (Miceli, Jung, Near, & Greenberger, 1991).

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Pilot Study

Lee and Beto (2008), with the assistance of Christie Davison, Executive Director of the National Association of Probation Executives, conducted a pilot study that explored voluntary turnover rates among Texas line probation officers from 2004 to 2006. They sampled four adult probation departments in Texas. Based on responses from the four departments, line officers' average turnover rate in each fiscal year was estimated to be 17 to 24 percent. Interestingly, voluntary turnover rates increased steadily during the study period: 17 percent for FY 2004, 20 percent for FY 2005, and 24 percent for FY 2006. Their findings suggest that probation agencies have not only experienced high turnover, but have failed to resolve the underlying problems associated with voluntary turnover.

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Statewide Turnover Intention Study

Data Collection, Recruitment Procedures, and Data Confidentiality

The current study was conducted utilizing Angelo State University's web-based survey targeting all line probation officers and all directcare probation staff in all 122 probation departments across Texas. However, since two departments were found to have only one employee, responsible for both line-officer and director duties, they were removed from the total 122 departments being targeted, and the total number of departments surveyed was reduced to 120. The survey period began March 31 and ended April 18, 2008. Guided by the previous theoretical and empirical literature, the survey used 24 organization-related items, including turnover intention. In addition, 8 individual demographic and work experience items were asked. Substantial efforts were made by the PAC and department directors to elicit voluntary subject cooperation, encourage a high response rate, and thus enhance the validity and reliability of the survey. Standard survey methodology, pre-announcements of the upcoming study, and an encouraging cover letter were combined with the consent form. Participation was voluntary and respondents were promised confidentiality.

During the three-week survey period, a total of 108 departments responded.² The individual directors from the remaining 12 departments were contacted. The non-response of 12 departments' employees was determined to be due to a lack of Internet capacity to access the survey web site. For the 12 departments without Internet access, the same questionnaire used for the web-based survey was mailed to each department on April 18, 2008. Mailings included a consent form, and a cover letter emphasizing that survey participation was voluntary and that responses were collected anonymously. Each respondent was provided with a pre-addressed, stamped envelope in order to return the survey directly to the researcher.

Of the usable sample of 3,234 responses from 120 adult probation departments,³ 2,653 responses were obtained from line officers and 581 from direct-care staff. Unfortunately, there is no available official information on the baseline population of both groups to calculate each group's response rate. However, using the total number of all probation officers, including supervisors and managers (N = 3,520), the response rate for the 2,653 line officer group should be well over 75.4 percent. [Table 1](#) provides the demographic breakdown of the respondents.

Measurement of Variables & Descriptive Analyses

Along with 8 individual demographic and work experience variables used, 24 organizational variables were measured based on a respondent's experience over the six-month period preceding the beginning date of the survey. Turnover Intention is the main dependent variable; the remaining 23 organizational variables are independent. A review of the literature indicates that these independent variables have been theoretically and empirically proven to be important correlates with turnover intention and actual turnover. All scale items were measured using the five-point Likert scale (1 = *strongly disagree*; 2 = *disagree*; 3 = *neither*; 4 = *agree*; 5 = *strongly agree*). Cronbach's Alpha for each additive scale ranged from 0.71 to 0.94, above the minimal level of acceptability ($\alpha = 0.70$), indicating all 24 scales are valid and reliable.

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Findings

Turnover Intention

Understandably, there might be a reasonable suspicion that turnover intention might not necessarily manifest in actual turnover. However, turnover intention has been found to be the best predictor and the most immediate precursor of the actual turnover. For example, Steel and Ovalle (1984), in their meta-analysis, found that turnover intention was better than job satisfaction and organizational commitment in predicting actual turnover. Furthermore, Hom and Griffeth (1995) found that among 35 variables presumably related to actual voluntary turnover, turnover intention had the strongest association with actual voluntary turnover. As the main dependent variable in this study, a respondent's intention to leave was measured using the four items developed by Shore and Martin (1989).

The respondents' turnover intention is mixed, with an overall average mean of 2.55 on a 1-5 point Likert scale. However, many respondents indicated a strong inclination to leave their department in all questions. The second item in [Table 2](#), for example, demonstrated that 41.3 percent reported their turnover intention: 30.3 percent were having serious thoughts about leaving in the near future and another 11 percent were actively seeking employment elsewhere. The findings from [Table 2](#) indicate that large portions of the line probation officers and direct-care staffs have high levels of inclination to leave in the near future.

Organizational Commitment

The three dimensions developed by Allen and Meyer (1990) that characterize an employee's commitment to the organization include affective, continuance, and normative commitment. However, there has been recurring criticism of poor discriminant validity between normative commitment and affective commitment (Jaros, Jermier, Koehler, & Sincich, 1993; Meyer & Herscovitch, 2001). Mainly due to its strong association with affective commitment, normative commitment is not considered a unique predictor of turnover intention and actual turnover. This study, therefore, only adopted affective and continuance commitment constructs.

As for affective commitment, the respondents displayed an overall average mean of 3.17 on the 5 items.⁴ This mixed result therefore does not support any one particular view. However, many respondents reported lower levels of emotional attachment to, identification with, and involvement in their department. For example, 26.6 percent of the respondents did not want to spend the rest of their career in their current department, and 29.5 percent did not feel a strong

sense of belonging to their department. Continuance commitment includes three items eliciting reports of high personal sacrifice and three items testing for lack of alternatives.⁵ Existing literature (Meyer & Allen, 1997; Meyer et al., 2002) has empirically supported the contention that affective commitment, compared to normative and continuance commitments, correlates most strongly with turnover intention and actual turnover: Employees with strong affective commitment to the organization are more valuable employees for any organization.

Compared to the average mean of high personal sacrifice (3.21) and lack of alternative (Mean = 3.26), the average mean of affective commitment (3.17) was slightly lower. Unfortunately, this finding appears to indicate that the main reason why respondents are committed to their departments is awareness of the costs associated with leaving: high personal sacrifice (their personal accumulated investments) and lack of alternative (limited employment opportunities), rather than affective commitment (their strong emotional attachment to, identification with, and involvement in the department). For example, 49.7 percent of the respondents would stay with their department because their lives would be too greatly disrupted if they left, and 46.2 percent would stay due to the scarcity of available alternatives.

Job Satisfaction

There are two measures of job satisfaction: overall job satisfaction and satisfaction with specific aspects of the job such as pay, supervision, promotion, co-workers, and the job itself. Overall job satisfaction was included in the study because Griffeth et al. (2000), in their meta-analysis, suggested that overall job satisfaction is a better indicator than job-facet satisfaction in predicting turnover, although both are related to turnover. However, the facet approach is useful to define which parts of the job produce satisfaction or dissatisfaction, as a useful tool to help an organization identify areas of dissatisfaction that it can improve (Spector, 1997).

Overall job satisfaction was assessed using the five items developed by Brayfield and Roth (1951). Based on the additive scale produced by the five items used, respondents reported a moderately high level of job satisfaction (Mean = 3.52). Specifically, more than half agreed that: "I am seldom bored with my job" (55.6 percent); "I like my job better than the average worker does" (56.6 percent); "I find real enjoyment in my job" (59.6 percent); "Most days I am enthusiastic about my job" (58.6 percent); and "I feel fairly well satisfied with my job" (60.1 percent).

The Job Satisfaction Survey (JSS) by Spector (1997) measured the respondents' nine facets of job satisfaction. The nine facets comprise pay, promotion, supervision, fringe benefits, contingent rewards (satisfaction with rewards, not necessarily monetary, given for good performance), operating procedures (satisfaction with rules and procedures), co-workers, nature of work (satisfaction with the type of work done), and communication. This study originally employed both the four items of pay satisfaction in the JSS and the five items of pay satisfaction from the Index of Organizational Reactions developed by Dunham and Smith (1979). Dunham and Smith's (1979) pay satisfaction scale reflects a better understanding of the nature and domain of multi-dimensional pay satisfaction than Spector's unidimensional pay satisfaction scale (Williams, Malos & Palmer, 2002). Hence, the study adopted only Dunham and Smith's pay satisfaction scale for statistical analysis.

Among the nine specific job satisfaction items, pay and promotion were identified as unsatisfied job aspects (Mean = 2.44 and 2.33, respectively). Regarding pay satisfaction, only 10.3 percent reported their pay level was good; only 13.5 percent indicated their pay level was either adequate or more than adequate given the cost of living in their area, and only 15.4 percent reported that their pay level had a favorable influence on their overall attitude toward their job. Similarly, regarding promotion satisfaction, only 14.1 percent perceived much chance for promotion in their department; 25.2 percent felt those who performed well on the job had a fair chance of being promoted, and 16.2 percent reported high levels of satisfaction with their chances for promotion. Taken together, while the respondents had moderately high levels of overall job satisfaction, pay and promotion are the parts of the job that substantially contribute to dissatisfaction.

Job Stress

Job stress was assessed using the five items developed by Crank, Regoli, Hewitt and Wolfe (1989). Job stressors included three role structures (role overload, role conflict, and role ambiguity) and dangerousness of the job. *Role overload* refers to having too much to do in the amount of time or the lack of available resources for completing workload demands, and was measured using five items developed by Peterson and his associates (1986). The other two role characteristics are *role conflict* (conflicting requests from different people) and *role ambiguity* (unclear expectations in fulfilling a role); both role characteristics were measured using the nine items adopted from Lambert, Hogan, Paoline and Clarke (2005). Finally, *dangerousness of the job* was assessed using five items adopted from Cullen, Link, Cullen and Wolfe (1989).

Respondents displayed an average mean of 3.12 for their job stress level and therefore did not support any one particular view. However, 46.8 percent of the respondents reported that they were usually under a lot of pressure at work, whereas 29.9 percent reported that they were not under pressure. Among the job stressors, role overload (Mean = 3.09) was found to be the strongest stressor, closely followed by dangerousness of the job (Mean = 2.88) and role ambiguity (Mean = 2.77). The level of role ambiguity (Mean = 2.17) suggests that uncertainty about what actions are expected was not found to be particularly stressful. Overall, these findings suggest that role overload, such as excessive paperwork and expectations to complete job duties in too little time, substantially contribute to stress-induced role characteristics. In addition, like a prison setting, the dangerousness of the work needs to be recognized as a substantial stressor in adult probation.

Organizational Justice

Developed by Price and Mueller (1986), five items were utilized to measure the respondents' perception of fairness of outcome, which is *distributive justice* (perceived fairness of outcome). *Procedural justice* (fairness of the procedures in distributing outcomes) was assessed through the use of six items adopted from Lambert, Hogan and Griffin (2007). Respondents reported an average mean of 2.55 for their perception level of distributive justice, suggesting relatively negative judgments regarding the fairness of distributing rewards, such as pay and promotion. In addition, their perception of procedural justice (Mean = 2.86) is considered mixed and therefore does not support any one particular view. However, 49.9 percent of respondents perceived that promotions are given based on who you know rather than what you know. Overall, these findings indicate a perceived lack of fairness in distributing rewards such as pay and promotion, as well as a lack of fairness in promotional procedures.

Participatory Management

The study included both *participatory climate* and *empowerment*, which have been recognized as important elements of participatory management. Developed by Slate et al. (2001), seven items were employed to measure the respondents' perception of how welcome participation in decision-making is in their probation department. Despite no indication of one particular view (Mean = 2.89), individual item analysis demonstrated substantial evidence that the respondents' opinions were not sought and respected by management. For example, nearly 50 percent of the respondents felt they had no opportunity to have a say in the running of their agency on matters that concern them, 41.4 percent indicated unsatisfactory response or feedback to their input, and 53.2 percent did not feel involvement in the writing of policies. This evidence indicates that about half of respondents perceive that they work in a non-participatory management environment.

Empowerment was assessed through the use of the Index of Empowerment developed by Spreitzer (1995), which comprises 12 items. The Index of Empowerment measures four dimensions of empowerment (*meaning, competence, self-determination* and *impact*). These four dimensions, reflecting an employee's orientation to his or her work role, were combined into an overall measure of empowerment. Respondents reported an average mean of 3.64 for their level

of empowerment, suggesting that they believe they have a moderately high level of empowerment in their department.

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Analytical Scheme

In addition to the descriptive analysis, two analytical methods were employed in this study: hierarchical multiple regression and structural equation modeling analysis. First, hierarchical multiple regression was employed to identify which predicting variable(s) were significant determinants of turnover intention. However, structural equation modeling analysis using *Amos* was employed to examine indirect, direct, and total effects of the predicting variables, especially pay satisfaction, on turnover intention in the hypothetical model.

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Hierarchical Multiple Regression Model Analysis

[Table 3](#) presents the results of two multiple regression analyses for line probation officers. Equation 1 examined only the impact of individual variables on turnover intention. Among the eight individual variables, six variables were found to have statistically significant effects on a respondent's turnover intention. However, despite the good model fit statistics, only 9 percent of the variance in turnover intention was accounted for by Model. Turnover intention in Equation 2 was regressed on both individual and organizational variables. Fourteen variables based upon each statistically significant high partial correlation were included in Equation 2: four individual status variables and ten organizational variables. In comparison with Equation 1, gender and the number of children at home were excluded from the final best-fit equation after organizational variables were included in Equation 2.

Of particular interest in these separate equations was determining whether organizational variables better predicted turnover intention of line probation officers than individual variables. The proportion of variance explained by Equation 2 is almost 6.8 times higher than that explained by Equation 1. This finding implies that organizational variables, rather than individual status variables, play greater roles in predicting an officer's turnover intention. Not tabulated here, two multiple regression analyses for direct-care staff show the consistent finding ($R^2 = 0.074$ in Equation 1 and $R^2 = 0.564$ in Equation 2).

Two additional findings were important. First, affective commitment has the strongest direct effect on turnover intention, followed by high sacrifice, commitment, overall job satisfaction, and pay satisfaction. Second, among the individual status variables, only the standardized coefficient for age in the multiple regression for line officer exceeded the cut-off point of ± 0.1 , whereas only tenure for direct-care staff group was found to exceed the cut-off point. That is, unlike other individual variables, age and tenure substantially contribute to predicting turnover intention of both groups, respectively; younger respondents⁶ and those with less tenure⁷ were more likely to express greater turnover intention.

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Structural Equation Modeling (SEM) Analysis

To both practitioners and researchers, pay satisfaction has long been a topic of interest. Along with affective commitment, overall job satisfaction, has long been a topic of interest. Along with affective commitment, overall job satisfaction, and high sacrifice commitment, pay satisfaction was found to have a direct effect on turnover intention of both groups. However, the hierarchical multiple regression analyses used are limited in measuring only the direct effects of the predicting variables on turnover intention (Hair, Black, Babin, Anderson & Tatham, 2006) and they cannot provide any results for indirect effect and total effect (direct and indirect), for each of the significant four organizational predictors of turnover intention. Hence, based upon a

hypothetical, causal link from pay satisfaction to turnover intention, comparing indirect, direct, and total effects of pay satisfaction, overall satisfaction, high sacrifice commitment, and affective commitment on turnover intention could be helpful in identifying underlying reasons and developing important managerial strategies for preventing and curbing turnover-related problems.

Theoretical and Empirical Ground for Hypothetical SEM

Before specifying theoretical grounds and a hypothetical causal model, we should note that any individual status variables were not included as control variables in the causal model. There are two reasons behind the exclusion. First, age, gender, education level, and tenure have been found to correlate with turnover (*e.g.*, Cotton & Tuttle, 1986, Griffeth et al., 2000). However, the results from multivariate regression analyses were considered inconsistent across the two groups and do not support the previous empirical literature. Second, individual status variables, in comparison with organizational variables, had a substantially weak or negligible contribution to associating and predicting turnover intention. Hence, the exclusion could lead to the simplest of explanations of complex turnover intention processes.

Due to the lack of literature on pay satisfaction and its organizational outcomes, it is difficult to identify a causal model of voluntary turnover processes from pay satisfaction, and to explain causal relationships among a subset of the variables. Therefore, considerable research based upon the theoretical ground and empirical findings was required to identify the causal relationships of pay satisfaction, overall satisfaction, high sacrifice commitment, affective commitment, and turnover intention.

Compensation Satisfaction and Organizational Justice

Previous literature has indicated that pay satisfaction not only has a direct effect (Miceli et al., 1991) but also an indirect effect on turnover intention, through overall job satisfaction and organizational commitment (Lum, Kervin, Colark, Reid, & Sirola, 1998). More specifically, Vandenberghe and Tremblay (2008), in their study of the effects of pay satisfaction and organizational commitment on turnover intention, found that both affective and high-sacrifice commitments had intervening effects that account for the association between pay satisfaction and turnover intention. These empirical findings indicate that pay satisfaction has both a direct and indirect effect on turnover intention, through overall job satisfaction, high-sacrifice commitment, and affective commitment.

However, pay satisfaction cannot be explained by pay level itself. It includes four correlated but distinct dimensions: pay level, benefits, pay raises, and pay structure/administration (Heneman & Schwab, 1985). Therefore, incorporating benefits satisfaction into pay satisfaction may provide a better understanding of the nature and domain of pay satisfaction.⁸ This insight should enable the incorporated model to better predict pay satisfaction's influence on its organizational outcomes.

Organizational justice was included in this hypothetical causal model to probe causal relationships of pay satisfaction, overall satisfaction, high-sacrifice commitment, affective commitment, and turnover intention. Consistent with the theoretical link between pay satisfaction and its organizational outcomes, empirical research has supported the important theoretical link between organizational justice and its organizational outcomes. Specifically, overall job satisfaction (Hendrix et al., 1999), organizational commitment (Martin & Bennett, 1996), and turnover intention (Acquino et al., 1997; Hendrix et al., 1999) are aspects of motivation influenced by employee judgments regarding the fairness of outcomes and the fairness of the procedures.

Furthermore, these findings suggest that incorporating organizational justice into compensation satisfaction provides a better understanding of the nature and realm of compensation satisfaction, and enables the incorporated model to better explain compensation satisfaction's influence on its organizational outcomes. Like compensation satisfaction, organizational justice was

hypothesized to have a direct and indirect effect on turnover intention, through overall job satisfaction, high-sacrifice commitment, and affective commitment.

Guided by the previous theoretical and empirical literature, we hypothesized that the latent construct of compensation satisfaction combined pay satisfaction and benefits satisfaction, which was found by the previous theoretical and empirical findings to be correlated. We hypothesized that the second latent construct—organizational justice—bound distributive justice and procedural justice. An exploratory factor analysis examined whether all items in pay satisfaction, benefits satisfaction, distributive justice, and procedural justice can be explained by the two latent constructs—compensation satisfaction and organizational justice. Results demonstrate that the four-factor model (pay satisfaction, benefits satisfaction, distributive justice, and procedural justice) would be better than the hypothesized two-factor model (compensation satisfaction and organizational justice).

However, as noted by Hair et al. (2006), “exploratory factor analysis can be conducted without knowing how many factors really exist or which variable belongs with which constructs” (p. 773). For this reason, therefore, the result from the exploratory factor analysis should be tested by confirmatory factor analysis, to examine whether the four-factor model may be proven empirically. The results of our confirmatory factor analysis do not support the four-factor model developed by exploratory factor analysis.⁹ Instead they confirm the hypothesis that there were two distinct constructs—compensation satisfaction and organizational justice—in which pay satisfaction and fringe-benefits satisfaction measured compensation satisfaction, while distributive and procedural justice measured organizational justice. Therefore, the results from the confirmatory factor analysis support the good discriminant validity of the two constructs (compensation satisfaction and organizational justice).

Overall Job Satisfaction, Organizational Commitment, and Turnover Intention

In a causal link between job satisfaction and organizational commitment, the dominant theoretical view has assumed that an employee’s emotional state and attitude toward a specific job necessarily precedes his or her psychological state and attitude towards the organization (Mowday et al., 1982). This assumption implies that overall job satisfaction causally precedes organizational commitment. Some research (such as Vandenberg & Lance, 1992) has found an opposite causal sequence and supported the causal ordering from organizational commitment to overall job satisfaction. Nonetheless, many empirical studies (such as Mueller, Boyer, Price, & Iverson, 1994) indicate that organizational commitment may be a more immediate influence on turnover intention than job satisfaction.

In a causal ordering from organizational commitment and turnover intention, Meyer and Allen (1997) have reported that organizational commitment is negatively related to turnover intention, and is also an antecedent to turnover intention. In a causal link between higher sacrifice commitment and affective commitment, McGee and Ford (1987) and Meyer, Allen, and Gellatly (1990) provided a theoretical explanation suggesting that an employee’s awareness of the costs associated with leaving the organization leads to a higher desire to continue to work, which in turn may lead to a greater degree of emotional attachment to, identification with, and involvement in the organization. Despite a lack of empirical research to test the causal link, intuitively it appears to manifest through examination of the causal precedence of high sacrifice commitment over affective commitment.

Given the accumulated theoretical explanation and empirical findings, we developed a hypothetical model to examine the causal relationship of both compensation satisfaction and organizational justice with overall satisfaction, high sacrifice commitment, affective commitment, and turnover intention. Extending the previous literature, the following four specific hypotheses were developed:

H₁: Compensation satisfaction and organizational justice each have a direct effect on overall job satisfaction, high sacrifice commitment, affective commitment and turnover intention.

H₂: Compensation satisfaction and organizational justice each have an indirect effect on turnover intention through overall job satisfaction, high sacrifice commitment, and affective commitment.

H₃: Overall job satisfaction has a direct effect on high sacrifice commitment, affective commitment and turnover intention, and also has an indirect effect on turnover intention through high sacrifice commitment and affective commitment.

H₄: High sacrifice commitment has a direct effect on affective commitment and turnover intention, and also has an indirect effect on turnover intention through affective commitment.

The final model in [Figure 1](#) provided a better fit than the hypothesized model. In the hypothetical model, however, organizational justice was not a significant predictor of overall job satisfaction ($p = 0.80$), high sacrifice commitment ($p = 0.17$) and turnover intention ($p = 0.48$). Hence, the three paths (organizational justice → overall job satisfaction; organizational justice → high sacrifice commitment; and, organizational justice → turnover intention) were eliminated and the original model was reanalyzed in the final version. The results indicate that the hypothesized model fits the data very well, but the final model, after leaving out the three insignificant paths, best fits the data.¹⁰ [Figure 1](#) presents the significant paths of the final structural model.

The effects of compensation satisfaction and organizational justice are positively correlated at 0.73. As predicted, compensation satisfaction had its significant direct effect on overall job satisfaction (0.36), high sacrifice commitment (0.32), affective commitment (0.08), and turnover intention (-0.30). However, organizational justice had its significant direct influence on only affective commitment and had an insignificant direct impact on overall job satisfaction, high sacrifice commitment, and turnover intention. This finding suggests that when an employee believes that he or she is fairly treated by the organization, he or she is more likely to have a greater degree of emotional attachment to, identification with, and involvement in the department. However, the perceived fairness cannot directly lead to higher levels of overall job satisfaction and high sacrifice commitment, and lower levels of turnover intention. Hence, the hypothesis (H₁) is only partially supported.

As hypothesized (H₂), compensation satisfaction had its indirect effect on turnover intention through overall job satisfaction, high sacrifice commitment, and affective commitment. Specifically, compensation satisfaction had an indirect or mediated influence on high-sacrifice commitment through overall job satisfaction (0.03); on affective commitment through overall job satisfaction and high sacrifice commitment (0.15); and on turnover intention through overall job satisfaction, high sacrifice commitment, and affective commitment (-0.23). However, organizational justice had its indirect or mediated effect on turnover intention only through affective commitment. Therefore, the hypothesis (H₂) is only partially supported.

As predicted, overall job satisfaction had a direct effect on high sacrifice commitment, affective commitment, and turnover intention. Also, it had an indirect effect on turnover intention through high sacrifice commitment and affective commitment. Likewise, high sacrifice commitment had a direct effect on affective commitment and turnover intention and had its indirect effect on turnover intention through affective commitment. These findings suggest that the hypotheses (H₃ and H₄) are fully supported.

[Table 4](#) summarizes structural equation modeling estimations of indirect, direct, and total effects of each independent variable on overall job satisfaction, high sacrifice commitment, affective commitment, and turnover intention.

Affective commitment had the strongest direct effect on turnover intention. In comparing the direct effects of compensation satisfaction, organizational justice, overall job satisfaction, and high sacrifice commitment on affective commitment, overall job satisfaction was found to have the largest direct and indirect effect, followed by organizational justice. However, compensation

satisfaction and high sacrifice commitment had negligible direct effects on affective commitment. These findings suggest that overall job satisfaction is a key influence on affective commitment, followed by organizational justice and compensation satisfaction.

Of particular interest was to compare the total effects of compensation satisfaction, organizational justice, overall job satisfaction, high sacrifice commitment, and affective commitment on turnover intention. Although affective commitment had the strongest direct effect on turnover intention, compensation satisfaction had the largest total effect (indirect and direct) on turnover intention. Affective commitment had the second largest total effect (only direct) on turnover intention, closely followed by overall job satisfaction. The total effect of high sacrifice commitment on turnover intention is less important than that of the other variable.

Taken together, compensation satisfaction, especially pay satisfaction,¹¹ is a pivotal organizational influence on turnover intention and is much more important than affective commitment, overall job satisfaction, and high sacrifice commitment in reducing high levels of turnover intention.

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Discussion and Conclusion

A review of the literature suggests that present probation systems fail to resolve high levels of employee turnover rates. Since voluntary turnover can be prevented by identifying its underlying reasons and addressing identified causes, reducing high levels of staff turnover should be a top priority for probation administrators. Unfortunately, no readily available, cost-effective mechanism has been implemented in Texas probation to fully and empirically analyze actual, voluntary turn-over. In response, the study investigated: 1) any determinant factors that shape turnover intention; and 2) pay satisfaction's influence on turnover intention.

Results from the descriptive analyses indicate that large portions of the line probation officers and direct-care staff have high levels of inclination to leave. Among all organizational factors used, pay and promotion are the most negatively perceived work-related areas. Moreover, the average mean of organizational commitment was lower than that of overall job satisfaction, suggesting that employees have a stronger psy-chological/emotional attachment to their job and job experience than to their department.

Findings from the hierarchical multiple regression analyses indicate that organizational factors, rather than individual status factors, contribute more to predicting the employees' turnover intention, suggesting that the organization is the underlying cause for employee turnover intention. For both line probation officers and direct-care staff, affective commitment, high sacrifice commitment, overall job satisfaction, and pay are the main predictors of turnover intention. Among the four main predictors, affective commitment has the strongest direct effect on turnover intention. In addition, among all individual factors, those in the young age group and short tenure group are more likely to feel inclined to leave their job. Specifically, being in the 20-34 age group of line officers is the strongest predictor of turnover intention, whereas tenure, particularly the 0-3 years of tenure group of direct-care staff, is the strongest predictor of inclination to quit.

Finally, SEM analysis compared total effects of compensation satisfaction (pay and benefits), overall job satisfaction, lack of alternatives, high sacrifice, and affective commitment on turnover intention. Results from the structural equation modeling indicate that the total effect of compensation satisfaction on turnover intention is much greater than the total effect of affective commitment. Overall, these findings suggest that while affective commitment has the strongest direct effect on turnover intention, the total influence of compensation satisfaction, especially pay satisfaction, is much more important than that of affective commitment in reducing high levels of turnover intention and subsequent voluntary turnover. Therefore, it can be concluded that pay satisfaction is the strongest underlying cause of high turnover intention in Texas probation, followed by affective commitment.

Based on these accumulated findings, policy recommendations are provided. Most important, probation administrators should be made aware of the transition from individual to organization factors, especially the significance of pay satisfaction, as the most influential underlying causes leading to high voluntary turnover rate. Only small numbers of the line probation officers and directcare staff sampled were satisfied with the pay they received. Hence, probation administrators should recognize chronic negative organizational outcomes caused by inadequate salary and should present a united front to increase compensation for probation employees. Moreover, probation administrators should make a concerted effort to convince their legislatures to significantly increase probation funding.¹² Inherent traps in the vicious cycle of low pay satisfaction, high turnover intention, and high voluntary turnover may possibly diminish promotion of public safety, compromising the mission of the probation system.

Second, increasing compensation is important, but on its own does not necessarily guarantee an employee's long-term commitment to probation's mission. As noted, affective commitment in both line officers and direct care staff was the strongest predictor of turnover intention, suggesting that affective commitment is the most immediate precursor of turnover intention. From the perspective of probation managers, employees with strong affective commitment to the organization are more valuable employees. However, 3,234 respondents reported that the main reason for commitment to their department is an awareness of the costs associated with leaving—their personal accumulated investments and limited employment opportunities—rather than strong emotional attachment to, identification with, and involvement in their department.

In recognizing existing low levels of affective commitment, probation administrators should identify the underlying causes and develop strategies to increase employees' emotional attachment to, identification with, and involvement in their department. An employee who doesn't have an emotional connection to the organization's mission may start thinking about leaving. Therefore, every department should have a clearly articulated mission, vision, and values that are supported and reinforced by management.

Third, younger personnel and those with fewer years of service are more likely to feel inclined to leave their probation jobs than older employees and those with more tenure. High turnover intention was most prevalent among line probation officers whose age ranged from 20 to 34 years. Surprisingly, this age range group accounts for 42.8 percent of the line probation officers sampled. Likewise, high turnover intention was most prevalent among directcare staff whose tenure range was somewhere between 0-3 years (45.6 percent of the direct-care staff sampled). Given the highest turnover intention among younger age and tenure groups, we highly recommend that probation administrators recognize the unique characteristics of the younger employee and devote considerable attention and resources to this new generation, which has a much lower affective commitment and much higher turn-over intention than other groups.

Inevitably, the role of probation managers is extremely important in providing organizational stimulus for this new generation of employees to encourage their feelings of belonging and to establish their emotional attachment to, identification with, and involvement in their department. Specifically, management needs to focus on developing mentoring relationships with new employees. Also, management should change supervisory and managerial roles and styles from a traditional, autocratic organizational climate to one of facilitating, coaching, and consulting with the new generation. To facilitate this shift in managerial roles, probation departments should devote considerable attention and resources to the selection, development, and training of managers.

Finally, in the not too distant past, probation administrators did not experience the need to actively recruit staff. It was not uncommon to have a number of highly qualified applicants for each available position. This is no longer the case, and probation departments find themselves competing with other social service and law enforcement agencies for prospective employees from a dwindling labor pool. Probation administrators should become less passive and more active in recruiting new employees by attending job fairs at colleges and universities, developing close relationships with faculty members of criminal justice programs, and mentoring senior-level students in area high schools with the hope of having them return to the community after

29. The Supreme Court's decision in *Kimrough v. U.S.*, 128 S. Ct. 558 (2007), which granted federal judges the discretion to give reasonable, shorter prison sentences to crack cocaine offenders and thereby reduce the disparity between sentences for crack cocaine and powder cocaine, along with a ruling by the Federal Judicial Center (FJC) that these sentences can be challenged retroactively, could change both the length of the average sentence for crack cocaine convictions and the number of persons received into PCS. The FJC has estimated that at least 19,000 current prisoners convicted of crack cocaine charges could be eligible for sentence review.

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How Principles of High Reliability Organizations Relate to Corrections

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