Applying Principles from Safety Science to Improve Child Protection

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Child Protective Services Agencies (CPSAs) share many characteristics with other organizations operating in high-risk, high-profile industries. Over the past 50 years, industries as diverse as aviation, nuclear power, and healthcare have applied principles from safety science to improve practice. The current paper describes the rationale, characteristics, and challenges of applying concepts from the safety culture literature to CPSAs. Preliminary efforts to apply key principles aimed at improving child safety and well-being in two states are also presented.

Organizations in high-risk and high-profile industries such as aviation (Merritt & Helmreich, 1996), nuclear power (Terence & Harrison, 2000), and healthcare (Vogus, Sutcliffe, & Weick, 2010) have begun applying principles and concepts from safety science to improve practice and reduce the incidence of error leading to tragic outcomes (Weick & Sutcliffe, 2007).[1] State-level child protective services agencies (CPSAs) share many features in common with these and other high-risk, high-profile organizations. Although the task of ensuring the safety and well-being of children alleged to have been abused or neglected is very different from flying planes, producing electricity, or providing healthcare services, the results of error in the system are no less catastrophic. About 1,600 children die each year in the United States because of maltreatment (U.S. Department of Health and Human Services [DHHS], 2012).

The current paper applies principles and concepts from the safety culture literature to three aspects of CPSA practice that impact child welfare outcomes (e.g., sociopolitical context, organizational culture, and traditional social work practice perspective) and proposes a framework for advancing safety culture in CPSAs. A safety culture is one in which values, attitudes and behaviors support a safe, engaged workforce and reliable, error-free operations (Vogus, Sutcliffe & Weick, 2010). Safety cultures strive to balance individual accountability with system accountability and value open communication, feedback, and continuous learning and improvement (Chassin & Loeb, 2012). Early experiences from two states will be reviewed to highlight issues of implementation and sustainability.

Sociopolitical Context

All organizations work within a sociopolitical context that informs their goals, values, and operations (Hatch & Cunliffe, 1997). Because mistakes in high-risk industries such as aviation, nuclear

1 For purposes of this article, errors include mistakes in gathering or assessing available information, mistakes in planning, unintended failures of execution, and rule violations (Reason, 1990). Actions of sabotage—that is, violations with malicious intent—are excluded from our definition.

power, or healthcare often have high-profile consequences, a tension exists between hesitance to report errors to avoid media and other scrutiny and open, transparent reporting in the pursuit of "safer" practice (Morath & Turnbull, 2005). Studies of hospital nursing staff have found a positive association between organizational cultures characterized by reluctance to report errors and acknowledge mistakes and the frequency with which medical errors occur (Hofmann & Mark, 2006; Naveh, Katz-Navon, & Stern, 2005). Thus, organizational cultures that promote open, transparent, reporting have been shown to be safer.

A similar dynamic exists in CPSA practice. CPSAs' responsibility to protect vulnerable children has resulted in service systems shaped not only by genuine, well-placed interest in serving these youth but also by media attention, public outrage, and attempts at court-ordered reform (Geen & Tumlin, 1999). The social and political pressures of high-profile cases have been shown to affect both front-line workers and policy-level decisionmaking (Geen & Tumlin, 1999) and may, in certain circumstances, compel CPSAs to react defensively and to shift policy and practice to fend off the most recent crises created by the most recent high-profile case (Orr, 1999).

High-profile cases often fuel public perception that CPSAs have either failed in their duty to protect or have overstepped their authority (Gainsborough, 2009). On one end of the continuum are cases in which a maltreated child previously known to the system is not protected from subsequent abuse. On the other end of the continuum are cases in which CPSAs remove a child from his or her family and home prematurely or without good cause. Both scenarios can lead to intense media scrutiny and attention from policymakers and other key stakeholders. Although it is certainly the case that this scrutiny and attention is an inherent and potentially helpful part of the sociopolitical context within which CPSAs operate (Rainey, 2008), it is also the case that it can impede progress by discouraging, rather than encouraging, transparency in actions and reporting (Edmondson, 1999; Lachman & Bernard, 2006).

Organizational Culture

In addition to the open, transparent reporting required by the sociopolitical context within which organizations in high-risk, high-profile industries operate, specific organizational characteristics have been shown to be important for child welfare and other human services agencies (Cyphers, 2001). Over-emphasis on formal structure, regulations, and reporting relationships are less likely to result in innovative organizations that can sustain improvement (Kenny & Reedy, 2006; Poskiene, 2006). Conversely, organizations with cultures that value affiliation, trust, and support are characterized by work unit behaviors that promote teamwork, shared decisionmaking, and open communication (Hartnell, Ou, & Kinicki, 2011). Within child welfare agencies, better casework has been associated with organizational cultures that promote practice improvements (Glisson & Green, 2011).

An organization's culture also affects the perceptions of its workforce (Sparrowe, 1995). Cultures that prioritize efficiency, formal structure, and productivity over more team-supporting behaviors often develop a workforce with negative perceptions of organizational leadership, mission, and commitment to developing the workforce (Edmondson, 1999). Existing research has shown that in some CPSAs, organizational culture is characterized by poor communication and workload demands that caseworkers believe are unreasonable and present obstacles to keeping children safe (Yamatani, Engel, & Spejeldnes, 2009).

Traditional Child Protection Practice Perspective

CPSAs employ and prepare a workforce with a unique mission and set of personal and professional challenges. Child protection work involves making potentially life altering decisions affecting children and their families. The work is fraught with uncertainties and ambiguities, while requiring staff to make determinations of child safety and predict future harm. Despite playing a crucial role in protecting vulnerable children, front line positions are often filled by persons

who may have college degrees, but not necessarily in social work or related disciplines (Barth, Lloyd, Christ et al., 2008). Turnover is typically high in these positions, with approximately 30%–40% turnover within two years (U. S. General Accounting Office, 2003).

Basic training in child protection is likely to focus on agency policies and procedures, with the unintended consequence of implicitly encouraging staff to selectively attend to certain case information at the potential expense of other case-idiosyncratic and complex information requiring a novel response or more time to unravel (Munro, 2008). In short, the regulatory demands of jobs in child protection may discourage critical thinking about case complexities.

Traditional child protection work draws on social work approaches that place a great deal of emphasis on establishing rapport in order to successfully engage children and families. Because the nature of the relationship between caseworkers and children and families is inherently coercive, with an explicit or implied threat that children may be removed from the home, there can be tension between establishing rapport and protecting children and families (Rooney, 2000). This is further complicated by the fact that front line CPSA workers must often make quick decisions, often under difficult circumstances and with incomplete or insufficient information (Munro, 2008). Errors in judgment of child safety can lead to placing a child in out-of-home care unnecessarily or failing to remove a child from the home who is later harmed. Both types of error (e.g., false positives and false negatives) can have devastating consequences to the child, the family, and the credibility of the CPSA.

Safety Culture in the Context of Child Protection

The complexity of CPSA practice requires an integrated, systems-focused solution that—at all organizational levels—prioritizes the safety and well-being of children (Weigmann, 2002; Wiegmann, Zhang, Von Thaden, Sharma, & Gibbons, 2004). Other high-risk, high-profile fields such as the nuclear power industry (Terence & Harrison, 2000), aviation industry (Merritt & Helmreich, 1996) and

healthcare (Vogus, Sutcliffe, & Weick, 2010) have begun to focus on advancing a safety culture in their organizations. As described earlier, there is general agreement that safety culture have a shared belief in the value of safety and a commitment to the following principles (Halligan & Zecevic, 2011):

(1) Leadership commitment to safety;
(2) Prioritizing teamwork and open communication based on trust;
(3) Developing and enforcing a non-punitive approach to event reporting and analysis; and
(4) Committing to becoming a learning organization.

Principle 1: Leadership is Committed to Safety

Successfully enabling a safety culture means that leadership will make safety a priority and establish a context that fosters open communication in the public agency (Vogus, Sutcliffe, & Wick, 2010). To enable a safety culture, effective leaders must advocate on behalf of their staff and their advocacy must emerge from understanding what is required to conduct high-quality child protection investigations and issues faced by staff at the ground level. The perspectives of front-line staff and supervisors should be well-understood and inform advocacy efforts. Effective leaders demonstrate their commitment and support to their staff through words and actions, not only training. This might include relying upon veteran highly competent investigators to serve as mentors to junior staff, and allowing opportunities for new staff to shadow skilled investigators (E. Munro, personal communication, June 29, 2012). Organizational leadership must trust their staff in order for their staff to trust them and shape the context in which a safety culture can develop and thrive.

In child protection, given the large number of investigations of maltreatment, a child death is a relatively rare event. Complacency regarding the quality of investigations may only be disrupted when a tragic outcome occurs. An organization with leadership committed to safety keeps potential failures in the foreground, and maintains continuous vigilance for organizational weaknesses that may

contribute to future adverse events (Weick & Sutcliffe, 2007). This means encouraging the free flow of information, including listening to staff concerns and providing responsive feedback on actions taken by agency leadership.

Principle 2: Prioritize Teamwork and Open Communication

Transparent and open communication both vertically and laterally is essential to the development of a less defensive organizational culture in which difficulties in practice can be discussed candidly. Safety efforts must focus not only on correcting errors in practice, but also anticipating and preventing future errors that could lead to a tragic case outcome. Critical thinking, particularly in the context of a team or workgroup, reinforces appreciation of case complexities, including conflicting views and interests of various family members and other stakeholders. Group discussion has the potential to uncover individual biases that can interfere with sound decisionmaking (Munro, 2008). In addition, valuable expertise is often found among experienced peers, not necessarily in the organization's hierarchy (Weick & Sutcliffe, 2007).

The high-risk, high-profile organizations referenced earlier in this paper have already identified the value of teamwork. In healthcare, teamwork has been associated with better patient outcomes, higher staff and patient satisfaction and a higher perception of overall quality (Singer & Vogus, 2013). These findings have led to an increased emphasis on team-based care and the broad dissemination evidence-based teamwork training programs.

Principle 3: Develop and Enforce Non-Punitive Approaches to Event Reporting and Analysis

Processes identified in other high-risk, high-profile organizations that foster more competent practice include the development of strategies for identifying, reporting, and managing practice errors. Also included are clear rules that distinguish reportable, non-punishable errors from missteps that are subject to penalties, and clear guidelines for reporting near misses (Reason, 1997; Weick & Sutcliffe, 2007).

Policymakers have the ability to direct resources and develop policy to support an organization's move away from "shame and blame" and toward processes that balance system and individual accountability (Dekker, 2007). The current approach to remediation and punishment limits opportunity for learning and improvement. Aviation and healthcare now understand this dynamic and have invested in confidential reporting systems and peer review processes (Larson & Nance, 2011). However, it is important to note that both industries also have federal legislation protecting the inquiry process. Pilots and clinical providers have a level of protection when they report their mistakes. Healthcare providers have additional layers of protection provided by their medical malpractice insurer and the hospital's risk mitigation processes. Unlike CPSA staff, healthcare providers are often shielded from at least some personal risk and public scrutiny (Larson & Nance, 2011).

Further, traditional reliance on serious incident reporting must be augmented by a blameless, confidential, reporting system (Gambrill & Shlonsky, 2001). Confidential, but not anonymous, reporting of error allows a system to uncover latent threats to safety. Systems from the highest levels will need to ensure confidentiality to maximize reporting. Confidential reporting should be an option for caseworkers and all other stakeholders who engage in direct practice, including private providers, foster parents and families of origin.

Principle 4: Become a Learning Organization

Caseworkers need to be able to learn from their mistakes and have access to expertise and state of the art knowledge in the field. Defensive cultures do not support the open discussion of issues faced in the field, mistakes made by staff, or potential solutions. Learning from mistakes is especially important to new staff to develop the skills necessary to do their jobs well, to understand that job performance is rarely error-free, and that not all errors are fatal. Without the ability to learn from mistakes, subpar practice habits are likely to develop if not caught and corrected. Well-intentioned personnel can become desensitized to deviations from standards which are

reinforced informally by supervisors or peers who may reward the wrong kind of excellence (such as routinely closing case investigations more quickly than policy requires, regardless of case complexity). This can lead to the evolution of an informal chain of decisionmaking that operates outside the organization's/agency's policies and procedures (Rzepnicki et al., 2012).

The ability, time, and encouragement to think critically are essential to the establishment of a learning environment. Relevant competencies include challenging assumptions, identifying and reflecting on anomalies, and considering potential adverse consequences of possible courses of actions. All employees, from line staff to top-level administrators are watchful for conditions or activities that can have a negative impact on agency operations, the conduct of investigations, or the well-being of children. Agency managers and supervisors acknowledge that there are times when the flexible application of agency procedural rules is appropriate in novel or highly complex circumstances.

Finally, CPSAs share responsibility for involving policymakers, stakeholders and the media in the system's development. Success and failures must be openly discussed, and to involve full stakeholder participation in the development of solutions. This is a process that involves a commitment to reflection and feedback, and is more than just learning, it is "a continuing effort to pinpoint subtle details, (and to) uncover capabilities that had gone uncovered" (Vogus, Sutcliffe, & Weick, 2010).

Paying continuous attention to key process indicators in order to catch problems early before serious problems arise is essential to the creation of and sustainability of a learning organization. However, no matter how good or careful our child welfare programs are, we will never be able to totally eliminate child fatalities (Perrow, 1984). Our best hope is to reduce serious injuries and deaths of children, and to learn from negative events when they occur. Below are few examples from Illinois and Tennessee where elements of safety science are beginning to be implemented.

Current Applications

The Illinois Experience

In an effort to move closer to becoming a safety culture where the potential for tragic case outcomes, including child deaths, is diminished, the Office of Inspector General (OIG) for the Illinois Department of Children and Family Services (DCFS) has been working to improve child protection decisionmaking.

State leadership expressed a *commitment to safety* through legislation that created the OIG in 1993. A statutory amendment added in 2008 requires the OIG to remedy patterns of error or problematic practices that compromise child safety as identified in death and serious injury investigations (20 ILCS 505/35.5, 35.6. 35.7). Each year, OIG staff conduct approximately 90 investigations of child fatalities in families known to DCFS (Office of Inspector General, DCFS, 2013). Based on investigation results, the office has the authority to make recommendations for change to the DCFS director, as well as pursue pilot projects, training, and supportive consultation to improve practice. The Inspector General is well-suited to lead such efforts, with a master's and doctorate in social work, many years of experience in a range of child welfare positions, and qualified personnel who include many social workers and former child protection staff. She and her investigators maintain frequent and regular communication with regional DCFS staff through phone and on-site visits. They are sympathetic to the complexities of practice and have been able to earn the confidence of many regional managers and supervisors upon whom they must rely to ensure that practice improvements are implemented.

Teamwork and open communication between the OIG, DCFS staff and administrators have been is emphasized in the error reduction initiative. For example, an in-depth, mixed-methods study of child maltreatment investigations was initiated when it was recognized that many child homicides had had previous contact with DCFS involving allegations of cuts, welts, and bruises in infants and very young children (Office of Inspector General, DCFS, 2013). Results of data analyses were communicated to each regional office in writing and

through in-person meetings with OIG staff. Discussions with regional administrators and managers addressed findings related to local practice strengths and weaknesses. Following the discussions, on-site training of all child protection personnel conducted by the OIG focused on critical thinking, the use of a brief checklist to guide interviews with medical professionals, and the application of empirical knowledge to practice. Periodic feedback was provided to the teams as new performance data were collected, followed by tailored consultation to promote further improvement (Office of Inspector General, DCFS, 2012, 2013). In addition, a periodic FAQ newsletter was made available to child protection units across the state to clarify common areas of misunderstanding (a description of this investigation can be found in Office of Inspector General, DCFS, 2007, 2009, 2012, 2013; Rzepnicki et al., 2012). Problem-based learning was encouraged within the teams through the use of redacted cases that prompted critical discussion and group problem solving. This work represented some initial steps to becoming a *learning organization*. Key to the effort was an emphasis on helping staff understand that mistakes are inevitable, that there is value in using them as opportunities for learning, and that critical reflection on the sources of error can inform improvements not only in their own decisionmaking, but also at multiple points within the CPSA (Munro, 2008).

The error reduction initiative focusing on decreasing child fatalities continues with projects aimed at improving outcomes for pregnant and parenting teen wards and cases where mental health issues play a big role (Office of Inspector General, DCFS, 2013). It is evident that steps toward a fully functioning safety culture involve a protracted and incremental process. Much more work needed, since the results of efforts to date have resulted in uneven performance across the state. Attention has not yet been devoted to *developing a nonpunitive approach to event reporting* and further development of strategies to better support supervisors and front line investigators are essential. Without these organizational improvements, changes in individual behavior are not likely to persist.

The Tennessee Experience

Tennessee, like many states, is challenged to ensure the quality and safety of its child protection services. Frustration and concern have led to various initiatives, plans, advisory panels, oversight groups and reporting requirements. In spite of these efforts over many years, Tennessee's partners in child protection—medical practitioners, members of law enforcement, and educators—have expressed limited confidence in the system's ability to keep children safe. Media reports on child deaths have led to a legal challenge to open the Tennessee Department of Children's Services (DCS) case records to the press in cases of fatality or near fatality, in the belief that public pressure will bring about needed changes.

In 2011, demonstrating leadership's *commitment to safety*, DCS partnered with Vanderbilt University's Center of Excellence for Children in State Custody to introduce safety science concepts to DCS, with learning activities structured on the Institute for Healthcare Improvement's Collaborative Model for Breakthrough Improvement.

To support this departmental initiative, DCS hired Master's degree-level staff licensed as mental health practitioners in 2011. Beginning in the summer of 2012, these staff started conducting root cause/event analyses in child fatality cases with direct involvement from responsible front-line staff and supervisors. These *non-punitive* analyses and are being used to develop action plans and identify trends in order to facilitate *organizational learning* and increase the likelihood that future injuries or deaths can be prevented. For example, root cause/event analyses of infant deaths led to the identification of a number of interrelated factors creating barriers to identification and mitigation of environmental hazards. These factors directly informed the development of a new "safe sleep" initiative to prevent sleep-related infant deaths.

The department is also working with its university partners to adapt a previously validated safety climate survey for the child welfare system (Vogus & Sutcliffe, 2007). The information generated by this survey will assist the Department in its efforts to identify and

prioritize organizational changes needed to produce "collective mindfulness" among agency staff. Surveys of this kind are now widely used in other industries to measure staff perceptions. Like all measurement, assessments of organizational culture exist to facilitate communication (Lyons, Epstein, & Jordan, 2010). Results from this survey will help establish a language for driving culture change.

Conclusion

The quality of child protection work depends to a large extent on characteristics of the work environment and workforce, especially the critical thinking skills of caseworkers and supervisors. Defensive practice may develop within CPSAs as a response to social, political and media pressures to avoid tragedies. Defensiveness can create environments in which "shame and blame" displaces learning from mistakes. While mistakes are inevitable, CPSAs must begin to incorporate principles from safety science known to promote organizational cultures in which individuals acknowledge mistakes, learn from their peers and improve their critical thinking skills. In an increasingly complex world, it is essential to adopt a systems approach to understand how errors and breakdowns in organizational communication and quality control occur and how to support sound decisionmaking. CPSA leaders must move the organization beyond a culture of blame to embrace transparent, and open communications, build inclusive partnerships among stakeholders in child protection, and to set aside differences to make progress on the common goal of ensuring child safety.

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