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BACKGROUND

Workforce recruitment and turnover problems in child welfare are identified as both causes and consequences of understaffing in agencies, which in turn increases caseloads and leads to the hiring of inexperienced staff who struggle to provide minimal services to children and families (Nissly, Mor Barak & Levin, 2005; Zlotnik, DePanfilis, Daining, & Lane, 2005). Under these workforce conditions, safety and permanency outcomes within the Adoption and Safe Families Act (ASFA) timeframes can be difficult to achieve. A number of studies identify a workforce crisis in public child welfare. Foremost is the challenge of retaining and recruiting employees and maintaining a stable workforce, as there is a continuous cycle of employees entering, exiting positions, and leaving remaining workers with high caseloads (Conrad & Kellar-Guenther, 2006). Other challenges include insufficient training and lack of supervisory support (Chen & Scannapieco, 2010); work burnout (Boyas & Wind, 2010); and staff work involving high levels of uncertainty and possible dangers (Regehr, Chau, Leslie, & Howe, 2002). Mindful of the national and state-level crisis related to workforce turnover, leaders in the state's Office of Children and Family Services (OCFS) prioritized workforce development in the federally required Program Improvement Plan (PIP). To help implement their plan, OCFS engaged leaders from the State Social Work Education Consortium (SWEC) in 2001. Together, the OCFS/SWEC team structured a comprehensive workforce initiative encompassing research, development, training, capacity building, and dissemination. The US Children's Bureau and the state's Office of Children and Family Services jointly supported a five year initiative beginning in 2003 that implemented and tested the design team model in five public child welfare agencies.

Conceptual framework: The design team model

The conceptual framework underlying design teams theorizes that both client and workforce outcomes respond to new organizational configurations that include innovative leadership and participatory management alongside new teaming arrangements for front-line professionals and their supervisors. Participatory management empowers employees to participate in organizational decision making, especially regarding issues impacting their areas of influence and responsibilities. Under optimal conditions, researchers suggest that teams provide important benefits, including higher productivity, better workplace quality, a more committed and engaged workforce, more efficient, high quality decision making, and improvements in desired performance outcomes

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and companion outcomes such as enhanced workforce retention (Bradshaw & Stasson, 1995; Conzemius & O'Neill, 2002; Hackman & Wageman, 2005; Rothwell, 1999; West, Borrill, & Unsworth, 1998).

Figure 1. Design Team Intervention Conceptual Framework
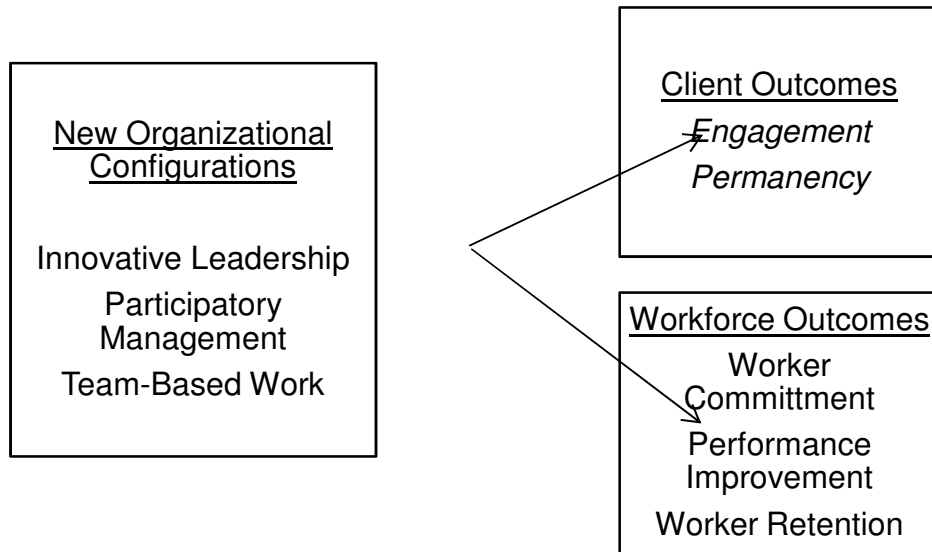
Furthermore, teams offer several advantages over individuals working alone. Teams have significantly higher skill variety, knowledge of clients, and job satisfaction; members also are more highly motivated than individuals working alone (Pounder, 1999). Motivation increases because individual efficacy and collective efficacy are developed as a team progresses and experiences success (Bandura, 1997). At the same time, team unity and cohesion increase, leading to a collective identity (Wenger, 1999). In short, teams can counteract worker isolation, boredom, disengagement, and alienation.

Teams can also address concerns at the organizational level. Successful teams engage in complex problem-solving and generate new knowledge, enable mentoring, coaching, and embedded professional development, and serve as vehicles for organizational learning and continuous quality improvement (Argyris & Schön, 1996; Conzemius & O'Neill, 2002; Rothwell, 1999; Senge, 1990). This is especially relevant to addressing child welfare workforce issues, where organizations play an

important role in turnover and retention. Recent research indicates there are multiple relevant organizational factors at play, including salary, workload, supervisory support, administrative support, co-worker support, working conditions, promotion potential, and organizational attachment (Calahane & Sites, 2008; Claiborne, et al., 2011; DePanfilis & Zlotnik, 2008; Dickinson & Perry, 2002; Ellett, 2000; Ellett, Ellett and Rugutt, 2003; Landsman, 2001; Nissly, Mor Barak & Levin, 2005; Strolin-Goltzman, et al., 2009; Zlotnik et. al, 2005).

Organizational leaders are drawn to teams for another important reason. Bureaucracies, once viewed as technical solutions to myriad needs, are now considered hierarchical, rigid, impersonal organizations with top-down, compliance-oriented leadership and supervision. Lipsky's classic 1980 study of street level bureaucracies set the stage for countless studies of child welfare systems, school systems, mental health systems, health systems, and welfare systems. These diverse studies converge in one fundamental respect: classic public sector bureaucracy creates problems which must be addressed in order to improve outcomes. The design team intervention attempts to address these problems with bureaucracy thus attending to workforce turnover.

At the time of this study, only one team model, the "design team" model, had documented the impact of action research teams (Lawson, Anderson-Butcher, Petersen and Barkdull, 2003; Anderson-Butcher, Lawson, & Barkdull, 2002; Lawson, Petersen and Briar-Lawson, 2001). The primary aim was to design inter-organizational and inter-professional program and service interventions. To achieve this aim, teams representing middle managers, supervisors, and front-line professionals from multiple agencies serving the child welfare population were convened as design teams. These teams were structured to design new, intervention services that would address child welfare families' co-occurring needs such as substance abuse, depression, domestic violence, and persistent employment challenges. .

Design Team Intervention

The aim of the Design Team intervention is to enhance the quality of the workforce, specifically through improved job satisfaction and reduced turnover. Prior to the intervention, participating child welfare agencies did not use a systematic means for identifying and solving ongoing agency-wide issues. In addition, line staff were rarely consulted during decision-making processes and implementation procedures. The intervention introduced members of the agency to the participatory design team model in which all 'levels' of the agency identified and prioritized

issues, and were represented in the solution and implementation of the decision-making processes. The issues addressed by each agency varied and included the following examples: safety, job stress and burn-out, unclear job descriptions, on-call schedule, lack of recognition, and inconsistent supervision. The design team model has been described in detail in an extensive team facilitator's guide with technical assistance materials for team formation and development (Lawson & Caringi, 2008; Carinigi et al., 2008). A few salient details follow.

Typically, a member of the research team met with agency members at an all-staff meeting to introduce the design team concept. The affinity group process technique was used by asking each member to anonymously write three agency-wide problems: one problem per 'post-it' (Senge, 1990). Members then sorted, categorized, and prioritized the problems. Design team members were charged with the responsibility and given the authority for employing the priority list to create the solutions for these problems, and implement the solutions. An important aspect of the intervention was that the work of the design team was transparent and used feedback mechanisms to involve agency employees who were not participating as team members. Thus, the intervention provided a framework for teams to address agency specific issues impacting the workforce.

One design team was created in each agency. Although team member selection and participation mechanisms varied across agencies, all teams were structured in accordance with clear, firm specifications for representative diversity. Team members needed to mirror constituent departments (foster care, child protective services, etc.) as well as roles and responsibilities (new caseworker, senior caseworker, front-line supervisor, senior supervisor). Selection of members was mainly through self-volunteering. However, members who possessed special knowledge of the problem to be addressed or were from an underrepresented area of the agency were invited to join. Supervisory representation was a special priority. Intra-agency alignment would not likely eventuate without supervisors' expert knowledge, contributions, and genuine participation. Implementation of the design team's workforce and workplace recommendations would be enabled, constrained, or impeded by their supervisors.

Upper level management buy-in was a pre-condition for starting teams and included specific protocols for communication and decision making. Cross-case qualitative analysis used the naturally occurring team data to explore themes across the intervention sites using conceptually ordered displays that were built from with-in case pattern coding (Miles

and Huberman, 1994). Two themes are salient here, leadership and group norms. Every site had top-level leaders involved to some degree, however their involvement proceeded in different ways across the sites. In all cases, the local district Director or Commissioner was the first point of contact for the intervention. A standard protocol was implemented by the research team, who met with the leadership of each site first to explain the intervention and again once the team was formed. Top-level leaders were not members of the team and the team was accessible only through intermediaries. However, typically leaders were invited by the team to meetings as the work progressed. It is important to note that where adversity between agency leaders and team members occurred at start-up, relationships turned for the better later in the design team process. In fact, this positive trajectory was evident in sites where teams were able to organize and mobilize effectively, when teams could prioritize achievable retention-related improvement priorities and when leaders followed through with implementation supports and resources.

The second emergent theme was design team rules and norms that were evident across the study sites. In particular, confidentiality, being strength/solution-focused, and safety were considered essential norms in all sites. For example, one site focused on norms of respect and communication. Another site's norms concentrated on developing a cooperative commitment within units as well as teamwork. Other sites were more focused on safety norms within the team as well as professionalism, considered team rules and norms as an engine for improvement within their system, and focused on developing respect and communication norms among administrators, supervisors, and front-line workers.

While the team configuration was vital, it also was insufficient to achieve desirable improvement outcomes in some sites. It was assumed that supervisors would take the lead in guiding the implementation of design team solutions. However, team facilitators became aware that this was not occurring and supervisors needed coaching, even as some of them served as members on their agency's design team. Facilitated supervisor groups focused on developing a coherent supervisor/management team and skills to create agency-wide implementation systems team (for details see Claiborne & Lawson, 2011). Such enhanced participation promised to increase intervention alignment and coherence.

The intervention provided each team with a master's level social work facilitator having organizational and team building experience. The facilitator took the team through a formal logic model process and met with

the team monthly for an average of six months to a year. Facilitators were responsible for building team member skills and establishing team cohesion, ensuring full member participation, developing an on-site co-facilitator, and maintaining a solution focus approach. The design team intervention is designed to move a loosely structured group toward a cohesive, functional team capable of successful collective action. An external "design team facilitator" helped teams form with the purpose of designing innovations to improve the quality, stability, and professionalization of the workforce through workplace optimization. Teams were structured as knowledge-generating mechanisms and team facilitators guided their work with a formal logic model that identified 1) the problem or need, its etiology and history, and effects; 2) a solution, including ideal situation and success indicators; and 3) its implementation, including barriers and barrier busters.

Design team facilitators, all of whom were professional social workers, combine group work skills with specialized knowledge and tools to advance team development (Rothwell, 1999). Facilitators' first task is to create safe, secure, nurturing environments in which individuals and entire teams can problem-solve, learn, and develop knowledge together. To achieve this, facilitators rely on specially-designed protocols for meetings and introduce important developmental and problem-solving tools (Lawson, Caringi, Strolin-Goltzman, Dorn & Sherman, 2008). For example, facilitators use social work psycho-educational skills to teach and use the following: team norms, team member expectations, rules, and protocols to create safety. The facilitator also helps teams understand and use procedures for confidentiality, blame-free, respectful communication, and basic team functioning.

Framework of the Research

The purpose of this study was to assess if public child welfare agencies using the design team intervention experience improvements in workers' job satisfaction and to explore the relationship between job satisfaction and turnover. Workers' intention to leave their job includes what actions workers may or may not have taken in leaving their job. Previous articles assessed only whether or not the worker is 'thinking' of leaving, whereas we included aspects of what actions workers have taken (indicating how serious they are about leaving). The hypotheses of this study are as follows: Hypothesis 1: Job satisfaction is significantly improved among public child welfare workers participating in the Design Team (DT) intervention. Hypothesis 2: Job satisfaction is significantly

related to lower turnover in public child welfare workers participating in the DT intervention.

METHODS

The evaluation employed an annual, longitudinal design. The effectiveness of the intervention to improve job satisfaction was measured by participants' survey responses from each site. Pre-test surveys were administered at each site when the design team attains "team coherency," which averaged six months. Design team facilitators made this decision based on their perception during team meetings using the following criteria:

- The team 'gels' – members develop trust with one another and exhibit confidence
- The team has developed an inventory of priorities from data
- The team is working through the priorities
- The team is developing logic models and getting things done
- The team is comfortable with information going from the team to the larger organization
- The team needs more data for greater coherence in their work

Sample and Data Collection

Twelve public child welfare agencies in the Eastern United States, identified by the state child welfare agency as having experienced 25 percent or more staff turnover for the last two consecutive years, were invited to participate in the study. This study focuses on the design team intervention in the four rural and one urban site who asked to participate. Child welfare caseworkers and their immediate supervisors were surveyed at the beginning of the intervention and again one year later.

Measures

This study focused on workers perceptions' of their job satisfaction and job turnover. A proxy dependent variable for turnover was utilized. To measure actual turnover, researchers would need to contact employees after leaving the agency. However, agencies did not allow former employee information to be released. Past research using intention to leave their job as a proxy for workforce turnover was measured by the item, "looked for another job in the past year." Those who had not looked for another job were coded as 0, and those who had were coded as 1 (Author, 2008). This method yielded important information; however in order to estimate how likely workers were to consider leaving their job, a

scale was developed that also measured workers' actual activity toward leaving their job (Auerbach, Zeitlin, Lawrence, Claiborne, & McGowan, 2013).

The variables were the following: "How often have you thought about leaving in the past year?" "How often have you spoken with your spouse about leaving?" "How often have you looked in the paper?" "How often have you searched the internet?" "How many phone inquiries have you made?" and "How many interviews have you had?" The scale has a possible range of 0 to 35 and had an alpha of .88.

We administered a slight modification of the Job Satisfaction Survey (JSS) to the workers in our survey. The JSS (Spector, 1985) is designed to measure job satisfaction in human service organizations by assessing nine aspects of job satisfaction: pay, promotional opportunities, supervision, fringe benefits, contingent rewards (appreciation and recognition), operating procedures, co-workers, nature of work, and satisfaction. It is a 36 item self-report questionnaire using a 6-point Likert scale with items ranging from 1=disagree very much to 6=agree very much. Reported reliability for this scale is high with total satisfaction Coefficient Alpha = .91 (n=2870). Coefficient Alphas for the subscales ranged from .60 (co-workers) to .82 (supervision). Our only modification was to use a 4-point rating scale ranging from 1=agree strongly to 4=disagree strongly. This modification was made so that the job satisfaction scale could use the same format as other scales in our survey. This modification did not affect internal reliability, as the total satisfaction coefficient alpha was .89. Subscales' Cronbach Alphas used on the study sample were similar to those reported above, ranging from .54 (operating procedures) to .80 (supervision). Scores on the sub-scales can range from lowest 4 to highest 16. The overall job satisfaction score ranges from lowest 9 to highest 144.

Statistical Treatments

There are important differences between the urban and rural locations, including the evaluation approach. The sample size for all four rural sites was 83 respondents. Two of the four rural sites did not complete the intervention due to internal agency conflict, specifically leadership clashes related to the purpose and use of the design team intervention. The final evaluation consisted of the pre-post sample from two rural sites and waves 1 and 2 from the urban site. The sample size for the two rural sites was 54 respondents. Because of the size of the urban site and its high turnover, we were unable to track the same workers from pre- to post-test data collection. As a result, only wave data is available,

which provides a snap shot of the site at two time points. The urban site was tested on two occasions comparing two independent samples before and after intervention. The urban site pre-test measure at wave 1 sample size was 139; the post-test measure at wave 2 was 144 respondents.

Hypothesis 1 in the rural sites was tested using paired samples t-tests for assessing job satisfaction changes over time. In the urban site, hypothesis 1 was tested using independent samples t-test to assess changes in job satisfaction.

Hypothesis 2 was tested using a structural equation model (SEM) to test for statistically significant relationships of key factors of job satisfaction to turnover. The purpose of the SEM analysis was to determine how workers' level of job satisfaction is related to their intention to leave. As a result, the presence of one latent construct, intention to leave, was tested. Only the post-test survey results for both sites were used in the SEM analysis. Location was entered into the model as an endogenous variable to assess for its impact on intention to leave. The result was statistically non-significance coefficient (-1.6, p=.15), which indicates there was no difference between rural and urban respondents on intention to leave their job.

The combined rural and urban data was used in the analysis; the post-data rural sites and wave 2 urban site samples. The SEM provides a predictive model as to how factors such as job satisfaction contribute to intent to leave. The latent variables intent to leave is the dependent variable. Agencies can use this model to develop plans to decrease attrition. The pre / post t-test simply tests if there was statistically significant change (type I error) over time. It is an attempt to test if the intervention improved workers job satisfaction. Therefore, the independent variable is the intervention and job satisfaction is the dependent variable.

The sub-scales of job satisfaction (supervision, benefits, nature of work, etc.) were tested in the model. Joreskog (1993) describes three uses for Structural Equation Model (SEM): strictly confirmatory (SC), alternative models (AM), and model generating (MG). In this research the model generating form of SEM was utilized to determine how workers' level of job satisfaction is related to the intention to leave. The model generating form of SEM allows for re-specification if certain criteria are upheld. These include being theoretically sound, the final model fitting the data well, and the final model being "reasonably parsimonious" (Auerbach et al, 2013; Auerbach, 2010; Joreskog, 1993; Kline, 2011, p. 8). Another advantage of SEM is that missing values can be accounted for in the model through the use of full maximum likelihood (FML). In this research

the model generating form of SEM was utilized to determine how workers' level of job satisfaction is related to the intention to leave.

Because of its incorporation of routines to analyze categorical dependent variables, MPlus 5.1 (Muthen & Muthen, 2008) was utilized to test the model. Weighted least squares using a diagonal weight matrix (WLSMV) were utilized to estimate the model. This type of estimation is recommended when categorical dependent variables are present in a model (Muthen & Muthen, 2008). This method of estimation also utilizes an adjusted chi-square test statistic for more accurate results (Hipp & Bollen, 2003). Missing data is handled by MPlus through the use of full information maximum likelihood (FIML) as an estimator. This method makes use of all available data points, even for cases with some missing responses. Goodness-of-fit indices included the model chi-square, the comparative fit index (CFI, Bentler, 1990), Tucker-Lewis index (TLI, Tucker & Lewis, 1973), and the root mean squared error of approximation (RMSEA, Brown & Cudeck, 1992). The total number of cases analyzed in the model was 195, in keeping with Kline's (2011, p.12) recommendation that the total number of cases analyzed should be around 200.

FINDINGS

Demographics

Overall, the urban and rural samples were similar demographically on age, gender and experience (see Table 1). The vast majority of the rural respondents (80.7%) were women and 19.3 percent were men. They ranged in age from early 20s to over 60, but almost a third was between 32-45 years (31.6%) and the same proportion was 45-65 years. The mean age for this population was 41.4 years (S.D. = 11.3). Almost all (97.3%) defined themselves as white, 1.4 % as Native American, and 1.4% as Hispanic or Latina/o. Their salaries ranged from under $25,000 to over $55,000, but the largest proportion (58.7%) earned $35,000 - $45,000. Annual household income was higher, with 25.9% reporting incomes over $70,000; 31% reported incomes from $55,000-$70,000 and 21.6% reported incomes from $25,000-$40,000. The majority of the staff reported having child care responsibilities (56.8%), and 25% reported having elder care responsibilities.

The vast majority of the urban sites respondents (wave 1= 79.4% wave 2 = 81.7%) were women. Participants ranged in age from early 20s to over 60, but almost a third were between 31-43 years (31.6%), and the same proportion was 45-65 years. The mean age for this population was 38.9 years (S.D. = 11.5) for wave 1 and 36.4 years (S.D. = 10.0) for wave

2. Over half in both waves (54.4% and 53.3%) defined themselves as African-American, 16% in wave 1 and 21.5% in wave 2 defined themselves as Caribbean, 12% in wave 1 and 8.9% in wave 2 defined themselves as Latino(a), and 9.6% and 6.6% (wave 1 and wave 2 respectively) defined themselves as white. Salaries ranged from under $25,000 to over $50,000, the largest proportion (wave 1= 51.6% and wave 2 = 42.8%) earned $35,000 - $45,000. Annual household income was higher with almost 52.2% and 55.4% (wave 1 and 2 respectively) reporting annual household incomes over $50,000.

Table 1. Overall Demographic Description of the Sample.

	Urban		Rural	
	n	**%**	**n**	**%**
Gender				
Male	224	806	16	19.3
Female	54	19.4	67	80.7
Race/ethnicity				
African-American	140	53.9	0	0
African	14	5.4	0	0
Caribbean	49	18.6	0	0
Hispanic/Latino (a)	27	10.4	1	1.4
White	18	6.9	72	97.3
Asian	8	3.1	0	0
Native American	4	1.5	1	1.4
Current Income				
$25,000 or Less	2	.82	4	5.6
$25,001-$30,000	2	.82	17	23.6
$30,001-$35,000	4	1.6	35	48.6
$35,001-$45,000	115	46.9	14	19.4
$45,001-$50,000	52	21.2	0	0
More than $50,000	70	28.6	2	2.8
Total Family Income				
$25,000 or Less	1	.45	1	1.4
$25,001-$30,000	1	.45	16	22.5
$30,001-$35,000	5	2.2	14	19.7
$35,001-$45,000	62	27.8	17	23.9
$45,001-$50,000	34	15.3	17	23.9
More than $50,000	120	53.8	6	8.5
Having Parental Responsibilities				
Yes	172	61.6	42	56.8
No	107	38.4	34	43.2
Having Elder Care Responsibilities				
Yes	87	31.5	18	24.3
No	189	68.5	56	75.7
Education				
High School	6	2.2	0	

Associate Degree	1	.36	15	20.8
Some College	7	2.5	2	2.8
Bachelor's Degree	104	37.6	13	18.1
Some Graduate Work	58	20.9	6	8.3
MSW	56	20.2	6	8.3
Other Graduate Degree	45	16.2	30	41.7

Roles and Tasks

Overall, the rural and urban respondents' job roles and tasks showed they were experienced groups, with mean time spent in their current child welfare position being 5.9 years in the rural sites and 9.7 and 9.4 years in the urban site (wave 1 & 2 respectively).

A total of 7.3% of the rural respondents were supervisors, and the remaining (92.7%) were caseworkers. Just over 8% had MSW degrees. The largest proportion of workers (41.7%) indicated they had "Other Graduate Degrees." Almost 37% of the respondents were in Child Protective Services units; 10% percent in Foster Care; 52% percent in what was termed "Prevention;" 14.0% in Adoption; 6% in Family Preservation; 8% in Court Units.

The urban respondents in wave 1 totaled 30.2% as supervisors, and the remaining (69.8%) were caseworkers. In wave 2 a total of 19% were supervisors and the remaining 81% were caseworkers. In wave 1 just over 23% had MSW degrees. The largest proportion of workers (38.3%) indicated they had a "bachelor's degree." In wave 2, 17.9% had MSW degrees. The largest proportion of workers in wave 2 (37.9%) indicated they had a "bachelor's degree." The majority of the respondents in both wave 1 (93.3%) and wave 2 (89.9%) were in Child Protective Services; 3.4% (wave 1) and 7.6% (wave 2) of the respondents were in Family Preservation units; 3.4% and 4.2% (wave 1 & 2 respectively) were Child Evaluation Specialists; .8% (wave 1) and 4.2% (wave 2) were in Court Units; and 5% (wave 1) and 1.7% (wave 2) were in Foster Care units. No respondents reported working in Prevention, Adoption or other units.

As has been documented repeatedly in prior research on child protective services (McCarthy, 2002), the largest portion of the respondents' time was spent on paperwork (37.8%); less than a quarter, 20.3%, of their time was spent in direct client service. The mean caseloads reported by the rural caseworkers were as follows: 25.2 children, 17.3 foster parents, 16.3 families and 9.7 investigations. Mean caseloads reported by urban caseworkers were: 38.2, 34.4 (wave 1 & 2

respectively) children; 2.6, 2.2 (wave 1 & 2 respectively) foster parents; 17.2, 15.4 (wave 1 & 2 respectively) families; and 17.2, 8.1 (wave 1 & 2 respectively) investigations.

Overall, these numbers seem reasonably consistent with the caseload standards proposed by the Child Welfare League of America (CWLA, Day, 2002), but it is risky to give too much credence to these figures because it is unclear how the workers were counting people in each of the different roles or in what capacity they were meeting with them. The one count that does seem particularly valid is the mean number of investigations per month (9.7 rural and 8.1 urban wave 2), which is very consistent with the CWLA standard. The urban wave 1 mean number of 17.2 investigations is unusually high and may be related to greater scrutiny after a tragic event of a child death which occurred.

The urban county had a slightly higher number of MSWs (17.9%) compared to the rural county (11.1%). The two samples differed in racial/ethnic identity, with the urban county having mostly workers of color (93%) and the rural counties mostly white (97.3%). These findings are confirmed by previous research done on these localities (Strolin-Goltzman, Auerbach, McGowan, & McCarthy, 2008; McGowan, Auerbach, & Strolin-Goltzman, et al., 2009).

Job Satisfaction

Hypothesis 1 asked, "does job satisfaction significantly improve among public child welfare workers participating in the Design Team intervention?" To asses change over time in each site, paired samples t-tests were performed on the rural sample and independent samples t-tests on the urban sample. Table 2 shows job satisfaction aggregated scores for each wave and the degree of change from wave 1 to wave 2 for the two rural and urban sites. The findings confirm the first hypothesis. The results for overall job satisfaction and almost all of the nine sub-scales are higher for wave 2 in both the rural and urban samples. Pay received the lowest ranking for both rural and urban respondents, while nature of work and communications received the highest scores. Rural respondents ranked co-workers, operating procedures and contingent rewards higher than did the urban respondents. Urban respondents ranked promotion, benefits and supervision higher.

Overall job satisfaction significantly improved after the intervention at both sites, as did benefits, contingent rewards, operating procedures, nature of the work, and communication. Co-workers significantly improved in the rural sites, but not the urban. Pay and promotion significantly

improved in the urban sites, but not the rural. Supervision significantly improved in the urban site, but significantly decreased in the rural sites.

Table 2. Change in Job Satisfaction Mean Scores: Urban and Aggregate Two Rural Sites

| Total & Sub-Scales	Rural			Urban		
	Wave 1	Wave 2	t	Wave 1	Wave 2	t
Overall Job Satisfaction	89.37	99.4	5.1***	80.7	96.1	6.8***
Pay	7.1	8.8	3.1	6.9	7.7	2.3*
Promotion	7.9	8.6	1.5	8.0	10.1	6.6***
Supervision	12.9	11.6	2.8**	11.7	13.1	4.5***
Benefits	9.7	10.4	1.3***	9.3	11.5	6.5***
Contingent Rewards	8.6	11.6	6.0***	7.7	9.6	5.1***
Operating Procedures	9.0	10.5	3.7***	7.6	8.4	2.6*
Co-Worker	10.0	12.3	6.2***	10.5	10.0	1.5
Nature of Work	12.1	12.7	1.9*	10.9	13.7	7.0***
Communication	10.2	12.6	4.8***	8.7	10.7	5.0***

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

Intention to Leave and Job Satisfaction: Structural Equation Model

Hypothesis 2 asked, "is job satisfaction significantly related to turnover in public child welfare workers participating in the Design Team intervention?" To assess turnover, the Intention to Leave scale was used. It has a possible range of 0 to 35 and an alpha of .88 for this sample. The overall mean for the combined wave 2 sample (n = 195) was 11.6 (sd 9.7). For intent to leave, once again, the variables were: "How often have you thought about leaving in the past year?" "How often have you spoken with your spouse about leaving?" "How often have you looked in the paper?" "How often have you searched the internet?" "How many phone inquiries have you made?" and "How many interviews have you had?" The only sub-scale of job satisfaction that fit the model was satisfaction with nature of work. Results of the SEM with categorical factors on the samples are displayed in Figure 2, where circles represent latent variables and squares indicate observed endogenous variables. The absence of a line connecting variables indicates no direct effect. Chi-square is affected by sample size; large samples (200 or more) are more likely to be significant while small samples are more likely to lead to the incorrect decision to accept a model. CFI and CLI values above .90 suggest an acceptable model fit (Kline 2011). RMSEA values between .05 and .08 are considered

acceptable. Models with values above .10 represent a poor fit. The model fits the data well for both samples as indicated by various fit indices, (X^2 = 26.4; df = 17; p = .15). The Chi-squares indicate that the sample model did not differ significantly from the hypothesized population model. The root mean square error of approximation (RMSEA) was .04. The Comparative Fit Index (CFI) and the Tucker-Lewis Index (TLI) were both .99.

Figure 2. Structural Equation Model: Intention to Leave Child Welfare, Job Satisfaction Sub-Scales, & Action Taken in Job Search

SEM (n = 195)

Chi-Square= 26.4; p = .15
CFI = .99; TLI .99; RMSEA = .04
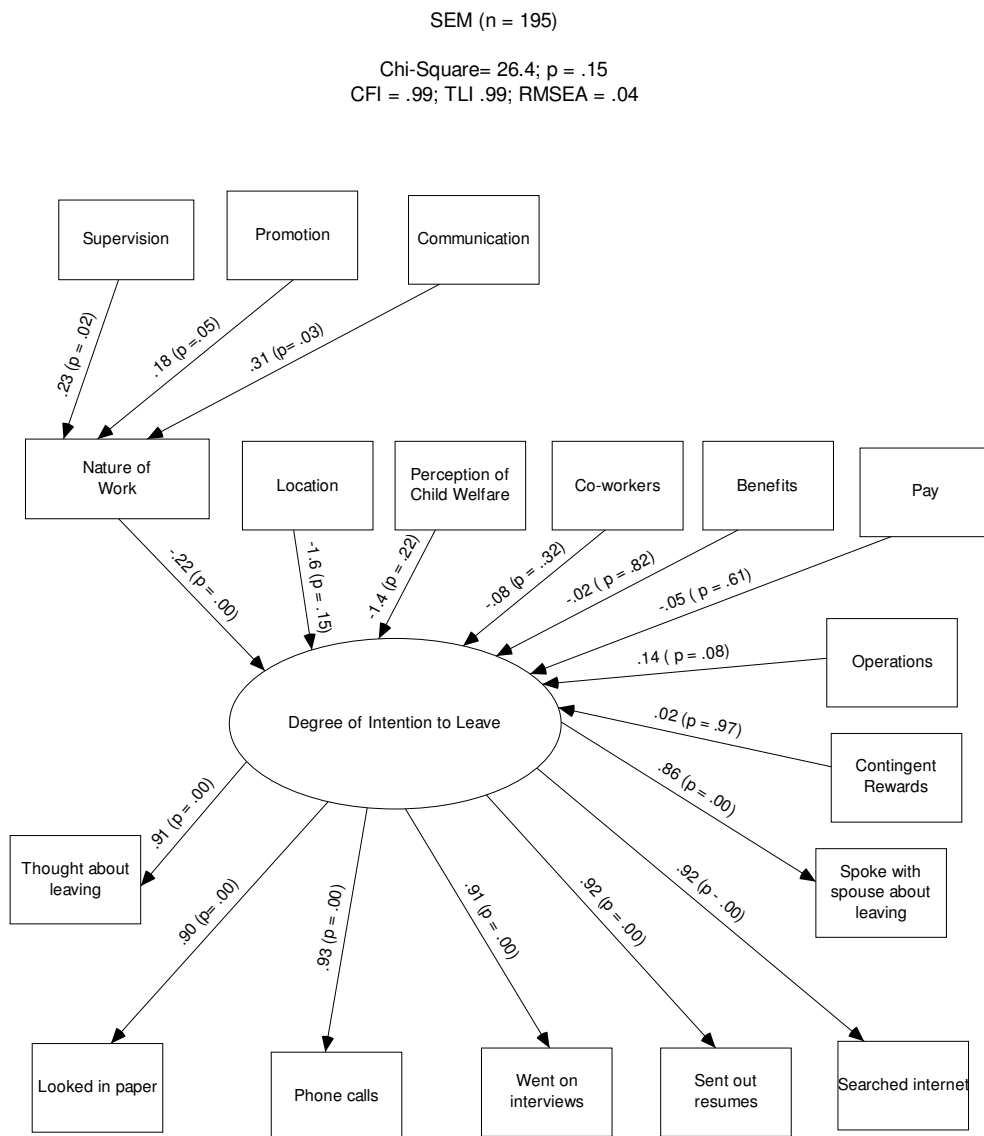
The second hypothesis that job satisfaction is related to turnover (measured by the latent construct of *intention to leave)* was confirmed by the standardized parameter estimates between these concepts displayed in Figure 1. This indicates that satisfaction with the *nature of the work* was related to (-.22, p =.00) *intention to leave*. In fact, satisfaction decreases as worker intention to leave increases. On the other hand, the standardized parameter estimates for operations was not as strong (.14, p =.08). The Figure also displays the parameter estimates of the observed dependent endogenous indictors on the latent construct intention to leave. For example, "phone call" and "sent out resumes" have standardized parameter estimates of .92 and .93, respectively, on *intention to leave*. The exogenous independent indicators "location," (0 = urban 1 = rural) parameters was -.16 (p =.15) on *intention to leave*. This indicates that the urban workers were more serious about their intentions to leave. The top of the figure displays three job satisfaction sub-scales related to nature of work, supervision, promotion and communication. All three have significant coefficients: .23, .18, and .31, respectfully. Instead of having a direct impact upon intention to leave, they indirectly affect *intent to leave* through *nature of work*.

This finding suggests that enhancing the quality of supervision, communications and promotion improves how workers perceive the nature of their work. In previous studies it was found that workers are less likely to leave if they are promoted after three years on the job. Our findings also indicated that there was improvement in both promotion and communications for both the rural samples. The urban sample's perception of supervision also improved. Although a direct causal link to the intervention cannot be made, this indicates that the intervention may have an impact on decreasing workers' intention to leave.

DISCUSSION & IMPLICATIONS FOR PRACTICE

Findings in the study support both hypotheses. One important finding is the strong increase in satisfaction with the nature of work between pre-post measures. This factor is also strongly related to turnover in that workers not satisfied with the nature of work are more likely to leave. Although not conclusive, the fact that eight of the nine sub-scales showed statistically significant improvement may indicate that the intervention had some impact. In counties with active design teams, the percentage of workers who said they were looking for another job declined, indicating a positive effect on workforce turnover. Survey results indicated a significantly greater level of overall satisfaction for both the urban and rural sites. Both sites experienced significantly greater

satisfaction with communication, operating procedures, contingent rewards, benefits, and finding work to be meaningful and enjoyable. The structural equation findings showed that supervision, promotion and communication indirectly affected *intent to leave* through *nature of work*. Findings from this study revealed that a worker's dissatisfaction with the nature of the work was significantly related to their intention to leave the child welfare workforce. This finding is supported by earlier research (Landsman, 2001) and has implications for practice within child welfare organizations. Additionally, previous studies found that workers are less likely to leave if they are promoted after three years on the job (McCarthy, 2002). Although a direct causal link to the design team intervention cannot be made, this indicates that the intervention may have a positive impact on decreasing workers' intention to leave. Our findings indicate that enhancing the quality of supervision, agency-wide communications and promotion opportunities improves workers sense of enjoyment, pride and meaningfulness in their work, which reduces intentions to leave the job.

The design team intervention shows promise for improving turnover; it directly focuses on improving supervision skills and attends to interpersonal and inter-agency communications. Furthermore, while promotion was not an intentional element of the intervention, personal development was an unanticipated benefit of the design team process. Team members from all sites spontaneously reflected that they learned the dynamics of working towards solutions, learned to use data to identify priorities for action, and changed their perception of management when team solutions were brought forward and implemented, with support from the leadership. Participants who were promoted attributed skills attained in the design team as contributing to their advancement.

An essential aspect of the intervention was agency-wide participation in identifying and prioritizing organizational issues for the design team to address, as well as agency-wide member representation, and transparency and feedback systems established with non-team member workers. These practices created a means for discussion of and input on issues and decisions effecting workers, thus supporting democratic practices and establishing communication systems that engaged all levels of the organization in the work of the agency.

The relationship between a supervisor and caseworkers is crucial in retention (Strolin, McCarthy, Caringi, 2006). A major function of the facilitator was to gain members' commitments to the work, especially the development of a team. Trust-building and skill development were important priorities as the group learned to function as a collective, gained help in managing differences and conflict, and began to experience a

sense of being empowered (Claiborne & Lawson, 2011). An empowered team is one in which supervisors and workers equally participated in decisions and implementation processes. The empowered design team and engagement by all workers, through communication and feedback systems, allowed for greater autonomous action. Claiborne et al. (2011) found that worker autonomy, in which employees have the freedom to complete tasks without 'over supervision', was found to be significantly associated with agency commitment.

The complexities of formulating a team include consistent exposure to information and practice in team building techniques, decision-making techniques, use of time, problem solving, conflict resolution, productive communication skills, and leadership (Hackman, & Wageman, 2005). Such work calls for dedicated attention and resources (usually in the form of staff time and outside consultation) that may be underestimated by both management and workers. One purpose of design teams is to enhance the way agencies conduct business. Individuals spanning agency units and hierarchy are included in the process to identify and understand the issues, and recognize agency procedures so that the full scope of issues and solutions are investigated, thus avoiding unwanted consequences. This approach asks workers to become invested in making a difference in the agency. Many may need assistance in extending their perceptions beyond only issues that impact direct work with their clients, listening to each other, and engaging in beneficial dialogue.

Innovation in agencies requires top leadership support (Aarons, Hurlburt & Horwitz, 2011). Although the participatory design team model, as an innovation, does not include top leaders as design team members, it does require that teams have independent authority to make decisions and conduct implementations. Therefore, it is crucial that agency leaders are committed to 'staying the course' with the teams, providing guidance and encouragement, and allocating necessary resources. Mid-level managers may need specialized assistance in being a team member (vs. lone decision-maker), building teams within and across units, and in learning skills for implementing agency policy and program changes.

The use of a facilitator in the design team model also has implications for practice with work groups or teams in child welfare organizations. The facilitator's goal is to ensure team members' progress in three domains: 1) team building to a level that establishes group collectivity for carrying out tasks, 2) establishing solution-focused problem solving and appropriate strategies employed for carrying out implementations, and 3) enhancing the knowledge and skills members require to complete tasks and implementations (Hackman, & Wageman,

2005). In highly bureaucratic organizational cultures, external facilitators may be necessary to build the experience for working as a team in solution focused ways.

Future research can build on these implications. For example, if design teams can have positive effects on workforce outcomes, then what organizational conditions are necessary for successfully implementing design teams? Are some organizations more ready for design teams than others and if so, what factors contribute to this readiness? In addition, a longitudinal study would help in understanding the impact of design team interventions over time. Do such teams sustain themselves, under what conditions, and with what measurable impact on an organization and its workforce? The importance of team-based organizational interventions is a rich area for future consideration, and state and local child welfare policy and policymakers have a role to play.

Limitations

Limitations must be noted regarding the study. A common limitation of field studies, the lack of a control or comparison group, makes it difficult to determine if findings over the 12-month period can be directly related to the design team. Therefore, it is difficult to dismiss rival hypotheses or explanations such as other factors (the economic climate and natural variation in worker perceptions over time) contributing to change. As a result, the findings of the study need to be replicated to increase internal validity. Consequently we are not able to generalize the results. Another limitation is missing data. Some respondents did not respond to every question, so some items were tabulated with less than the total number of respondents. Further, for some items, respondents could provide several ratings for one question. Thus, an item's responses may not total 100%. The second caveat is the limitation of self-reported perceptions. This study presents participants' perceived realities, which may depart from actualities. For example, respondents' reported on perceptions of their caseload sizes and the amount of time they spend performing tasks. It's possible that their actual caseload sizes and the amount of time they spend in activities are different. Finally, participants may have responded in socially desirable ways that conceal their true feelings. For example, some respondents may be apprehensive about revealing their desires for a new job. Other more objective measures could reveal a different picture. These limitations, while unavoidable in this kind of research design, should be acknowledged.

CONCLUSION

Design teams offer a model for implementing a team based, learning organization practice within child welfare agencies. Teams can be used to address agency policy and practice, to improve workforce turnover, and to support democratic practices which engage all levels of the organization in the work of the agency. It is important to note that design teams are not a panacea for the multitude of challenges facing child welfare agencies. Factors that influence the impact of this intervention include agency context and timing of the intervention within organizational life cycle. The findings from this study appears to have a positive connection to overall worker job satisfaction and bringing greater job enjoyment and meaningfulness (nature of their work), and thus has strong potential to improve worker turnover.

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