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Teachers' Quality of Work Life and Attitudes toward Implementing Psychosocial Intervention for Children Affected by Parental HIV/AIDS: Roles of Self-Efficacy and Burnout

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Abstract

Several studies have highlighted that facilitators' attitudes toward interventions are crucial for implementing innovative psychosocial interventions. However, in the emerging implementation science field, little research has examined how organizational and individual factors may influence teachers' positive attitudes and readiness toward evidence-based interventions. The current study investigated the association between teachers' quality of work life and their attitudes toward an innovative psychosocial intervention for children affected by parental HIV/AIDS; the study also probed the potential indirect roles of self-efficacy and burnout. A total of 157 teachers with different levels of involvement in the intervention study were recruited from 47 schools to participate in the investigation. Our results revealed that teachers' quality of work life was positively associated with their attitudes toward the intervention directly and indirectly through enhanced self-efficacy and reduced burnout. The findings highlight the importance of organizational and individual factors in successfully implementing innovative psychosocial interventions for vulnerable children in organizations such as schools. Researchers should work with organizations to provide the necessary quality of work life and sufficient training to semi-professionals in order to boost their self-efficacy, reduce their burnout, and improve their attitudes toward innovative intervention programs to achieve the expected effectiveness of the interventions, particularly in resource-limited regions such as central rural China.

Children of parents living with HIV/AIDS are likely to be exposed to accumulative risks, such as enduring financial hardship and discrimination, curtailed schooling, and reduced study performance (Chi & Li, 2013). Substantial intervention efforts have been devoted to attenuating the negative effect of parental HIV/AIDS on children's biopsychosocial

health. According to the recently published systematic review (Skeen et al., 2017) and meta-analysis (Chi et al., 2019), most psychosocial interventions are effective in enhancing children's developmental outcomes. However, how to disseminate such evidence-based interventions in resource-limited regions remains a major public health concern. This paper is aimed to provide preliminary findings on how organizational and human resources factors might influence implementation success.

Among existing intervention efforts, Li and his colleagues (2017) established the Child-Caregiver-Advocacy Resilience (ChildCARE) intervention to facilitate the development of resilience in children affected by parental HIV/AIDS in rural China. There are three intervention components (child intervention, caregiver intervention, and community intervention) in ChildCARE. Evaluation results obtained for the ChildCARE intervention indicated that the children who received the combined intervention at the child, caregiver, and community levels displayed a significant improvement in psychosocial well-being at 6- and 12-month follow-ups and a significant improvement in school-related outcomes over 18-months. The researchers trained graduate students as facilitators to deliver child intervention and school teachers as facilitators to deliver caregiver and community interventions. However, training of graduate students as facilitators may not be a sustainable approach if there is no funding support. The existing human resources (e.g., local school teachers) are more likely to maintain in a sustained intervention in the HIV-affected communities. Indeed, the developers of the ChildCARE intervention suggested that the future research agenda for ChildCARE should entail sustaining the intervention efforts by empowering the existing human resources (Harrison et al., 2017; Li et al., 2017; Chi & Li, 2016).

Success in the implementation of an evidence-based intervention requires attention to the staff and organization delivering the intervention (Glasgow et al., 2012). HIV/AIDS interventions in resource-limited regions could be delivered through the existing school system with local teachers as potential facilitators (Domitrovich et al., 2008; B. Wang et al., 2017), which was an approach to making programs fiscally affordable and sustainable (Atkins, MacKay, & Arvanitis, 1998). A health-related intervention designed to empower teachers in high-HIV-pandemic regions have demonstrated promising effects (e.g., Ferreira & Ebersohn, 2011).

Teachers' positive attitudes and readiness toward an intervention may significantly promote their optimal behaviors in implementing the intervention (Frambach & Schillewaert, 2002; Kitson et al., 2008), and the success of the interventions (De Mesquita & Drake, 1994). The literature has suggested that organizational factors, such as poor school setting and home/work imbalance, may challenge teachers' positive attitudes toward implementing health-related interventions (Darlington, Violon, & Jourdan, 2018; Domitrovich et al., 2010). Teachers with adequate job resources (e.g., worksite support and attendance at intervention-related training) can accept innovation and are motivated to learn new things and implementing the innovation at work (Bakker & Demerouti, 2014). Thus, the job characteristics including resources and demands are crucial organizational factors to improve the effectiveness of intervention delivery (Chan, 2002; Hakanen, Bakker, & Schaufeli, 2006; B. Wang et al., 2017). In the current study, we focused on a comprehensive

indicator of job characteristics, namely quality of work life, which has yet to be studied in the HIV/AIDS context.

Quality of work life refers to the individuals' judgments regarding the extent to which the work is meeting their needs and make them feel satisfied (Hart, 1994). A High quality of work life is reflected in an employee's job clarity, low stress experienced at work, career development, perceived supervisor's support, and benefits (Saraji & Dargahi, 2006). A high quality of work life can improve teachers' job satisfaction and job involvement (Hart, 1994) and influence their involvement in organizational innovation (Aarons, 2005; Domitrovich et al., 2008; Prilleltensky, Neff, & Bessell, 2016). Teachers who report a high quality of work life usually have sufficient resources facilitating various job tasks, and they are likely to have positive attitudes toward innovative programs, even if adopting such programs may engender new challenges.

A high quality of work life could be indirectly related to individuals' attitudes toward innovation implementation through decreased burnout (Domitrovich et al., 2008; Forman, Olin, Hoagwood, Crowe, & Saka, 2009). Burnout is the critical psychological syndrome (i.e., emotional exhaustion, depersonalization, and reduced personal accomplishment) that usually appears when people experience heavy work stress (Cordes & Dougherty, 1993; Maslach, Schaufeli, & Leiter, 2001). Empirical research has revealed that school administrators should provide sufficient job resources (e.g., job autonomy) to reduce teachers' burnout, which could otherwise lead to negative attitudes toward students and schools (Chang, 2009; Russell, 1987). Therefore, enhancing teachers' quality of work life could be crucial for reducing their burnout, consequently improving their attitudes toward innovation implementation.

Another potential pathway linking quality of work life and teachers' positive attitudes toward innovation is self-efficacy. Self-efficacy refers to an individual's belief in their ability to perform a given task (Albert, 1977; Betz & Hackett, 1981). A high quality of work life is positively associated with self-efficacy, fulfill individuals' psychological needs (e.g., the need for competence and autonomy), and encourage adopting an innovation (Bakker & Demerouti, 2017; Du, Li, & Zhang, 2018; Schwarzer & Hallum, 2008). Research indicated that individuals with a high level of self-efficacy reported low job stress and burnout, and exhibited improved job performance (Pas, Bradshaw, Hershfeldt, & Leaf, 2010; Pfitzner-Eden, 2016; Yu, Wang, Zhai, Dai, & Yang, 2014). In the context of HIV, teachers must have professional efficacy as well as specific self-efficacy in providing psychosocial support to vulnerable children affected by parental HIV/AIDS. A high quality of work life may enhance both their professional efficacy as well as their specific efficacy in providing psychosocial support to children in adversity (Domitrovich et al., 2016), which are further related to teachers' increased support behaviors toward vulnerable children (Ferreira & Ebersohn, 2011).

In the current study, we examined the association between quality of work life, self-efficacy, burnout, and teachers' attitudes toward implementing an innovative psychosocial intervention, ChildCARE in an HIV-affected community. We hypothesized that the quality of work life would be positively associated with teachers' attitudes toward intervention.

Furthermore, we hypothesized three potential indirect pathways through which quality of work life could affect teachers' attitudes: reducing burnout, increasing self-efficacy, and a sequential pathway from increasing self-efficacy to reducing burnout (Figure 1). Moreover, we hypothesized that facilitator teachers would have more positive attitudes toward future intervention implementation compared with non-facilitators teachers.

Method

Participants

Our sample consisted of 157 teachers from the 47 local schools that participated in the ChildCARE trial (Li et al., 2017). More than half of teachers were female (69.1%, 105/157) and married (88.9%, 136/157). These teachers had different levels of involvement in the ChildCARE trial. All the teachers provided assessments on students' academic performance and socioemotional development and received training on questionnaire administration. Approximately 13.7% of the teachers (n = 21) were hired as facilitators for the community and caregiver interventions and received facilitator training.

Procedure

The ChildCARE program was designed to deliver intervention at three levels: child, caregiver, and community (Li et al., 2017). We collaborated with local school systems to recruit and train a few teachers as facilitators for caregiver interventions and community intervention. Trained local teachers facilitated 10 hours of structured group activities for caregivers on positive parenting and self-care, and to conduct monthly home visits and organize activities over 2 years to empower local communities (Li et al., 2017). The interventions for caregivers and communities were added to the scope of teachers' extra work.

The ChildCARE trial involved seven waves of data collection from children, parents, and teachers (one baseline and six post-intervention follow-ups). A total of 157 teachers from 47 studied schools answered a confidential survey during the final follow-up. Written informed consent was obtained before survey administration. Teachers completed the questionnaires independently and returned them to the researchers. They subsequently received a gift (e.g., notebook) as a token of appreciation for their participation. The research protocol was approved by the Institutional Review Boards of University of Macau, University of South Carolina, and Henan University.

Measures

Demographic characteristics—Teachers provided their demographic information, including age, gender, years of teaching, marital status, attitude toward the training, and whether they had worked as facilitators for the ChildCARE intervention trial.

Quality of work life—To measure teachers' quality of work life, we selected nine items from the Quality of Worklife Questionnaire developed by the National Institute for Occupational Safety and Health (NIOSH, 2002) in the United States. These items were used to evaluate various job characteristics, including role clarity, workload, challenges at

work, fair and adequate wages, promotions, growth in professional trajectories, fairness, and positive superior–subordinate relations. Example items are: “The chances for promotion are good” and “I have too much work to do everything well.” Each item was rated on 4-point scale ranging from 1 (“not at all true”) to 4 (“very true”). After accounting for the reverse items (i.e., workload and challenges at work), a higher total score on the scale indicated a higher quality of work life (Cronbach’s $\alpha = .75$).

Self-efficacy—We adopted 10 items from the 43-item School Counselor’s Self-Efficacy Scale (Bodenhorn & Skaggs, 2005) to assess the extent to which teachers felt confident in providing psychological support to children affected by parental HIV/AIDS. All 10 items were selected on the basis of their relevance to our project (e.g., personal confidence to develop and/or support students’ coping mechanisms for dealing with crises in their lives). Participants’ responses were measured on a 4-point scale ranging from 1 (“not confident”) to 4 (“highly confident”). A higher total score on the scale indicated a higher level of self-efficacy (Cronbach’s $\alpha = .96$).

Burnout—We applied the Chinese version of the Maslach Burnout Inventory-Educators Survey to measure teachers’ burnout symptoms (Maslach, Jackson, & Leiter, 1996; Wu, Zeng, Qin, & Zheng, 2003). The scale contains 22 items assessing 3 dimensions of burnout: emotional exhaustion (e.g., “I feel emotionally being drained from my work”), depersonalization (e.g., “I don’t really care what happens to some students”), and personal accomplishment (e.g., “I deal very effectively with the problems of my students”). Teachers indicated the frequency of occurrence of each description on a 7-point scale ranging from 0 (“never”) to 6 (“every day”). After accounting for the reverse items, a higher total score on the scale indicated a higher level of burnout (Cronbach’s $\alpha = .86$).

Teachers’ attitudes toward future innovative interventions—We adapted the Chinese version of the Evidence-Based Practice Attitude Scale (EBPAS) to assess teachers’ attitudes toward adopting a future innovative intervention such as Child CARE (Aarons, 2005; Qiao et al., 2018). The EBPAS includes 15 items comprising 4 subscales: appeal (e.g., “if you received training in a therapy or intervention that was new to you, how likely would you adopt it if it was intuitively appealing”), requirements (e.g., “I would adopt evidence-based practices if it were required by agency/supervisor/government”), openness (e.g., “I like to use new types of therapy/ interventions to help my students”), and divergence (e.g., “I know better than academic researchers how to care for my students”). Participants’ answers were provided on a 4-point scale ranging from 1 (“not at all”) to 4 (“to a great extent”). We reverse-coded each item in the divergence subscale before summing up the overall EBPAS score. High EBPAS scores indicated more positive attitudes toward future intervention programs such as the ChildCARE (Cronbach’s $\alpha = .78$).

Data analysis

First, we examined the differences between the facilitator and non-facilitator groups regarding background characteristics and primary study variables by using a chi-square test (for categorical variables) or *t* test (for continuous variables). Second, we employed Pearson’s and Spearman’s correlation to examine the associations between the demographic

variables and the main study variables (i.e., quality of work life, self-efficacy, burnout and attitudes toward intervention implementation). Third, we estimated a path model to examine the three potential pathways through which quality of work life affects teachers' attitudes. Five goodness-of-fit indices were used to evaluate the model fit. A model was considered to fit the data sufficiently when the chi-square-to-degree-of-freedom ratio (χ^2/df) was less than 3, Comparative Fit Index (CFI) and Tucker Lewis fit index (TLI) was more than 0.9, and root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) was less than 0.08 (Wen, Hau, & Marsh, 2004). We applied bootstrapping estimates along with bias-corrected 95% confidence intervals (CIs) generated from 1000 resamples (Mackinnon, Lockwood, & Williams, 2004). If the derived 95% CIs did not include zero, we considered that the proposed indirect effects existed (Mackinnon et al., 2004). All data analyses were conducted by using SPSS 20.0 or Mplus 7.0.

Results

Table 1 presents the descriptive statistics for demographic variables and the four main study variables. The average age of the recruited teachers was 37.70 years, and their average years of teaching was 16.61 years. Moreover, 66.4% of the teachers were determined to hold a bachelor's degree. The results did not show any significant differences regarding demographic variables between the facilitator and non-facilitator groups. However, it revealed a significant difference regarding teachers' attitudes ($t = 2.18, p < .05$) in the two groups. Specifically, compared with non-facilitators, facilitators had more positive attitudes toward the ChildCARE intervention.

Correlational analysis revealed significant and substantial relationships among the four study variables (Table 2). Furthermore, teachers' age was negatively associated with burnout ($r = -0.18, p < .05$). Teachers' education level was negatively associated with quality of work life ($r = -0.18, p < .05$) and self-efficacy ($r = -0.17, p < .05$), and positively associated burnout ($r = 0.20, p < .05$). Considering their significant effects, we controlled for age, gender, education level, years of teaching, teachers' willingness to participate in psychological training, and training attendance in the path analysis.

The various goodness-of-fit indices suggested a good model fit ($\chi^2/df: 7.13/10 = 0.71$; RMSEA = 0.00; CFI = 1.00; TLI = 1.06; SRMR = 0.04). The final model with standardized coefficients is presented in Figure 2. Table 3 presents a summary of the direct and indirect effects. The total effect of quality of work life on teachers' attitudes was significant. Although the direct effect of quality of work life on teachers' attitudes was not significant, the total indirect effect of quality of work life on teachers' attitudes was significant. Quality of work life had a significant indirect effect on teachers' attitudes through self-efficacy, burnout, and a sequential pathway from self-efficacy to burnout.

Discussion

Using a sample of teachers who were involved in the ChildCARE trial, we examined the psychological processes underlying the relationship between quality of work life and teachers' attitude toward intervention implementation. We found that, after controlling

the confounding variables (i.e., age, gender, education level, years of teaching, teacher willingness to participate in psychological training, and training attendance) in the path analysis, quality of work life can positively and indirectly affect teachers' attitudes toward intervention implementation by boosting self-efficacy and reducing burnout.

The findings reveal that teachers with high quality of work life are more likely to have positive attitudes toward innovation and to adopt the innovation, which is consistent with the findings of previous studies (Aarons, 2005; Domitrovich et al., 2008; Prilleltensky et al., 2016). In school settings, implementing an innovative program usually adds to a teacher's workload, whereas insufficient job resources could result in disengagement from stressful work (Bakker & Demerouti, 2014; Hakanen et al., 2006). Therefore, teachers may have negative attitudes toward such a program and be reluctant to integrate the program into their daily educational activities if they are not provided with adequate job resources to cope with the extra workload. Thus, providing key resources, such as intervention-relevant training and worksite supports, to teachers could improve their positive attitudes.

More importantly, our findings suggest that a high quality of work life alone may not necessarily improve teachers' attitudes. Improving teachers' self-efficacy and reducing their burnout symptoms can explain the potential mechanism through which quality of work life influences teachers' attitudes. If the quality of work life is not adequate for teachers, they may not believe they are capable of adopting the innovation (low self-efficacy), and the extra workload increases the possibility of burnout (Russell, 1987; Schwarzer & Hallum, 2008). Accordingly, even if a school administration decides to adopt an innovation, the successful implementation of the innovation is unlikely if teachers have low self-efficacy and high burnout and hold negative attitudes toward it. Furthermore, high quality of work life and boosted self-efficacy can be protective factors that reduce potential burnout (Bandura, 1997; Klassen et al., 2012). In future implementation research, we suggest that researchers pay attention to these two crucial protective factors that have the potential to influence teachers' attitudes and the success of intervention implementation.

We also observed differences in teachers' attitudes toward the intervention between the facilitator and non-facilitator groups. This finding empirically supports that the level of involvement of teachers in the intervention can be associated with their attitudes toward implementing the intervention (Aarons, 2005). Non-facilitators received administrative training without directly involved in the intervention training. Thus, they might have insufficient knowledge about the intervention and less likely to recognize the importance and usefulness of ChildCARE in their work with children affected by parental HIV/AIDS. The findings suggest that both mere exposure effect and dose effect matters in predicting positive attitudes toward an innovative intervention.

Several limitations of this study should be noted. First, this finding may lack generalizability beyond rural communities in central China because of cultural and regional differences. Second, we did not include the ChildCARE intervention outcomes because of feasibility reasons. We used different facilitators in the three intervention components, thus it is unable to separate the specific effect of teachers being a facilitator from other intervention

components. Third, social desirability might exist in teachers' reports regarding their attitudes.

In conclusion, in resource-limited regions, if researchers or communities decide to implement psychosocial interventions for vulnerable children in a school setting and consider teachers as the optimal candidates to facilitate the intervention, they should evaluate and enhance the sufficiency of existing quality of work life, boost teachers' self-efficacy, reduce the potential for burnout, and provide sufficient training and support to teachers. These efforts may improve teachers' attitudes and willingness to adopt evidence-based interventions and increase the likelihood that the interventions succeeding.

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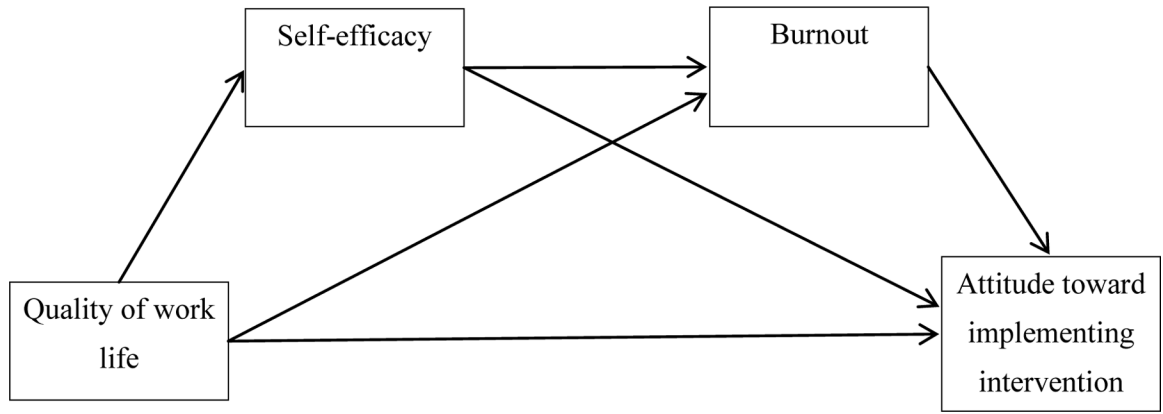


Figure 1. The Proposed Mediation Model

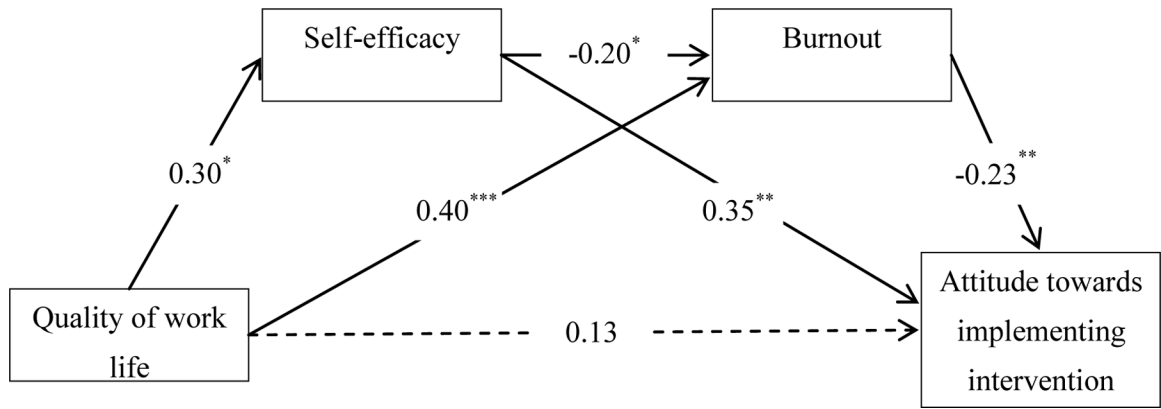


Figure 2. Final Mediation Model
* $P < .05$, ** $P < .01$, *** $P < .001$.

Table 1

Description of demographic information and major study variables

	Overall	Facilitator group	Non facilitator group
N ^a	157	21(13.7%)	132(86.3)
Age (Mean, SD)	37.70(8.10)	38.45(6.30)	37.35(8.19)
Gender ^b			
Male	49(31.4%)	7(14.9%)	40(85.1%)
Female	107(68.6%)	14(13.3%)	91(86.7)
Education level ^c			
Secondary vocational school	5(3.2%)	1(20%)	4(80%)
Junior college degree	46(29.5%)	9(19.6%)	37(80.4%)
Bachelor's degree	105(67.3%)	11(10.9%)	90(89.1%)
Years of Teaching (Mean, SD)	16.61(8.52)	16.71(6.57)	16.43(8.68)
Marital Status ^d			
Ever married	140(89.2%)	20(14.7%)	116(85.3%)
Never married	17(10.8%)	1(5.9%)	16(94.1%)
Attitude (Mean, SD)	3.06(0.29)	3.19(0.29)	3.04(0.33) *
Quality of work life	2.93(0.42)	3.21(0.47)	2.89(0.39)
Self-efficacy	3.26(0.47)	3.45(0.41)	3.24(0.48)
Burnout	27.03 (18.01)	22.52(19.08)	27.78(17.91)

Notes:

* $P < .05$.^a: 4 participants did not report whether they were facilitators^b: 1 participant did not report gender^c: 1 participant did not report educational level^d: 5 participants were divorced or widowed

Table 2

Bivariate correlation between main study variables

Variable	1	2	3
1. Quality of work life			
2. Self-efficacy	0.39**		
3. Burnout	-0.51**	-0.32**	
4. Attitude	0.38**	0.43**	-0.38**

Note. $N=157$.* $P < .05$,** $P < .01$,

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Table 3

Direct and indirect effects of quality of work life on teacher's attitude towards implementing intervention

Model paths	Parameter estimate	SE	Bias-corrected CI (95%)	
			Lower	Upper
Direct effect	0.121	0.084	-0.035	0.294
Indirect effect: Q B A	0.086	0.033	0.026	0.156
Indirect effect: Q S A	0.096	0.580	0.018	0.242
Indirect effect: Q S B A	0.013	0.008	0.003	0.045
Total indirect effect:	0.194	0.070	0.077	0.349
Total effect	0.316	0.096	0.122	0.491

Note. Q = quality of work life; S = self-efficacy; B = burnout; A = attitude towards implementing intervention;