

An Exploratory Study of Job Satisfaction at an East African Medical Research Center

Fransuave L. Moore¹, Emily P. Moody¹, Alexandra L. Wright², William N. Kisinza³, and

Malissa A. Clark¹

¹University of Georgia

²London School of Hygiene & Tropical Medicine

³National Institute of Medical Research, Amani Centre

Abstract

The aim of the current study was to explore job satisfaction at a medical research center in East Africa while it developed Good Laboratory Practice (GLP). GLP is a standard for a quality management system for non-clinical settings outlined by the World Health Organization. To understand a relatively under-researched context, a mixed methods design with an inductive approach was used to explore job satisfaction at the site. Of the 36 employees at the site, 30 volunteered to participate in the current study. Results suggest that job satisfaction can be seen through socioemotional needs, resource availability, cooperation, and skill, educational, and career development. The purpose of the study was to explore and determine possible sources of job satisfaction for this medical research center while it was undergoing organizational change.

Introduction

It is important to understand employee satisfaction during periods of organizational change because change can have negative effects on employees' attitudes and performance (Cullen, Edwards, Cameron Casper, & Gue, 2014). One example of organizational change is when organizations seek a new quality management system. In this paper, we focus on understanding employee job satisfaction at the National Institute of Medical Research - Amani Center, located in Tanzania, while the site was undergoing the development of Good Laboratory Practice (GLP). GLP is a set of standards for non-clinical settings outlined by the World Health Organization (Handbook: good laboratory practice [GLP], 2009). The goal of GLP is to promote safety, consistency, quality, and reliability of research laboratories through the creation of a quality system of management (Handbook: good laboratory practice [GLP], 2009). This can involve new organizational practices as well as improvement and increased accessibility to resources. GLP is particularly important in low and middle-income countries (LMICs) such as Tanzania due to the lack of quality research infrastructure and the proven positive impacts of quality research infrastructure (Beran, Byass, Gbakima, Kahn, Sankoh, Tollman, Witham, & Davies, 2017).

The aim of the current study was to explore job satisfaction at a medical research center while it was developing GLP to better understand employee job satisfaction as this organizational change occurred. Medical research centers in LMICs have impacts on the health of the local population through creation and distribution of medical resources such as mosquito bed nets, malaria trial vaccines, and others. Many would consider this important work and GLP improves the quality of this work. While GLP emphasizes the creation of a new quality management system and increasing the amount of resources (i.e., facilities, training, and research

tools) available to the employees, we wanted to explore employee job satisfaction because of the affects organizational change can have on the attitudes and performance of employees (Cullen et al., 2014). The research questions addressed in the present paper are:

Research Question 1: While a medical research center in sub-Saharan Africa is undergoing the development of GLP, are employees satisfied with their jobs during this organizational change?

Research Question 2: In what way(s) are employees satisfied or dissatisfied with their jobs?

Job satisfaction and constructs known to be correlated with job satisfaction were explored (i.e., occupational position, perceived organizational support (POS), and job control) by utilizing semi-structured, face-to-face interviews (Kawada & Otsuka, 2011; Riggle, Edmondson, & Hansen, 2009). The data discussed in this paper is focused on job satisfaction and perceived organizational support (POS). Job satisfaction has been defined as an attitude of enjoyment or fulfillment one has toward their job (Spector, 1997). We used a facet approach to determine job satisfaction in relation to work conditions. POS is defined as “an employee’s belief about the extent to which an organization cares about their well-being and values their contributions” (Eisenberger, Huntington, Hutchinson, & Sowa, 1986, p.501). POS differs from job satisfaction in that an employee can believe that their organization values their contributions and cares about their well-being, but not be satisfied with their job due to lack of organizational resources (Eisenberger & Stinglhamber, 2011). Both job satisfaction and POS are important measures when assessing an individual’s job attitude. Job satisfaction and POS are both correlated with job performance (Judge, Thoresen, Bono, & Patton, 2001; Riggle et al. 2009).

Methods

IRB approval was obtained by the University of Georgia and ethical approval was granted by the host institution.

Participants

The participants for this study were employees at a medical research center in East Africa. There were 30 employees from the site who volunteered to participate in the study out of a total of 36 full-time employees. All employees ranged in age from 18-65 ($N=23$ male, $N=7$ female), all were citizens of the East African nation where the site is located, and all had a primary language of Swahili. These individuals are unique in that they are employed by their government, have tenure, and their work has immediate effects on the surrounding population. These participants were selected as they were employed by the site which was undergoing the GLP project.

Employees were able to volunteer to participate in the study by writing their name and a time they were able to be interviewed then placing this in a secured box. Due to our study being affiliated with the GLP project, employees at the lab were encouraged to participate. In addition, we provided an incentive of a small monetary raffle with three randomly selected participants from the study. Informed consent was gained during a general session when we arrived at the site and was presented prior to each semi-structured interview and survey.

Procedure

Two members of the research team spent the first ten days familiarizing themselves with the employees to create a greater sense of trust. Then, the research team held a general session with the site's employees and described the study and informed individuals that they could volunteer for the study via an anonymous sign-up sheet located in a common area. For the initial

phase of data collection, each individual was interviewed in a closed off office. During each session, researchers administered informed consent, and after gaining consent, began the semi-structured interview. After the completion of an interview, the researchers gave the survey to the individual and left the office for 15 minutes or until the participant had completed the survey. During this process, two questions were removed from the interview transcript due to varying levels of employees' grasp of the concepts being portrayed in Swahili. This was most likely due to a translational failure.

After the data collection process started, questions pertaining to GLP were added to the semi-structured interviews to gather information directly on employee's perspectives regarding the GLP project. 14 participants received questions pertaining to GLP.

After 28 of the semi-structured interviews were completed, a focus group discussion was held with questions rooted in responses from the interviews and surveys thus far. This provided further insight into topics participants discussed during the semi-structured interviews. Snacks were provided to encourage participants to attend the large focus group discussion.

After the semi-structured interviews were transcribed from their original Swahili, they were translated into English. For the focus group, an individual provided real time translation which was recorded via an audio recorder. The translator's real-time English interpretation was later transcribed. Once all responses for the interviews, surveys, and focus group discussion were collected and transcribed into English, data analysis was started. Data analysis was conducted in MAXQDA and Microsoft Excel.

Measures and materials

All materials were translated from English into Swahili and then administered in Swahili. For this process, we had to make changes to questions that contained English words that did not

have a perfect Swahili translation. For example, there is not a direct Swahili translation for “well-being,” therefore we substituted this for “general satisfaction”. After creating this variant of an item from either self-created questions or those from established measures, we were able to meaningfully translate into Swahili and back to English for analysis.

The research team worked on the translation of material through an iterative process. We considered it a critical part of the study. First, we worked with a native Swahili speaker with a PhD in Language and literacy, and a research background in language ideologies. Then, we had these translations reviewed by another primary Swahili speaker to discuss interpretations. This allowed us to make slight revisions. Lastly, an individual fluent in Swahili and English with a working background of medical research centers, including the site we conducted the study, reviewed the materials. This allowed us to make edits and avoid jargon to allow our translations to better fit the site. This overall process made us confident in the translation of the materials.

The primary data collection tool was a face-to-face, semi structured interview. Questions used in the present study were from the Global Job Satisfaction Survey (Quinn & Shepard, 1972), the Index of Organizational Reactions (Smith, 1976), Perceived Organizational Support (Eisenberger et al., 1986), and questions created specifically for this study based on a literature review. An example question is “Do you feel as though the lab and its employees care about your general satisfaction at work?” loosely translated from POS (Eisenberger et al., 1986, p. 502). This would then be followed by a question such as, “What makes you feel this way?” Secondary data collection tools included a survey and a large focus group discussion. The survey contained Likert-scale questions administered to each individual after the completion of their semi structured interview. The surveys were utilized to triangulate data and verify information explored in the semi-structured interviews and therefore contained the same measures and

similar questions to those in the semi-structured interviews. A large focus group discussion with twenty-two of the thirty participants consisted of open ended questions rooted in responses from the semi-structured interviews. The focus group was utilized to further discuss relevant topics in an open setting that can be more culturally conducive when collecting data such as job satisfaction.

Results

The exploration of the job satisfaction of the employees at the NIMR site led to three major themes which include: high levels of POS, expression of cooperation being correlated to satisfaction, and a general desire for further education and training.

Perceived Organizational Support

Participants expressed high levels of POS. Table 1 lists example questions and representative comments on the topic of POS separated into categories and subcategories. For example, when a participant was asked, “Do you feel as though the [mosquito testing] lab and its employees care about your general satisfaction at work?”, 20 participants said they believed their co-workers did care, four participants said they did not think their co-workers cared all the time or that the level was average, one participant stated that they did not think their co-workers cared at all, and five participants did not provide a decisive response.

When the question, “Do you feel as though the [mosquito testing] lab and its employees care about your general satisfaction at work?” was followed by the probe of, “What makes you feel this way?”, 12 participants stated that it was due to cooperation that they felt as though their co-workers cared about their satisfaction at work. This prompted us to further explore the cooperation aspect in relation to job satisfaction in our analysis.

Another question we asked regarding POS was if participants received feedback on tasks; 27 participants stated that they did. The two most common sources of feedback were from leaders during quarterly one-on-one performance appraisals and after the completion of specific tasks. During the focus group, the question, “What are some ways your co-workers can give better feedback on completed tasks to others and yourself?” was discussed. Methods to improve the deliverance of feedback while being respectful toward coworkers was a general theme that lined most participant’s responses.

In response to four different questions, 11 participants mentioned that there was a lack of resources. This was primarily seen through lack of available facilities for them to conduct their work, not sufficient payment for their work, and late payment. Example comments include, “Whenever I want to do research and there are no facilities available,” “You might be in need of funds, but you receive them late,” and “Generally, salaries are not sufficient.”

Figure 1 – Perceived Organizational Support

Sub-category	Question	Probe	Example Comment	# of participants
Care	Do you feel as though the lab and its employees care about your general satisfaction at work?	-	"Yes"	20
Cooperation	Do you feel as though the lab and its employees care about your general satisfaction at work?	What makes you feel this way?	"Because of the cooperation we have here."	12
Feedback	Do you receive feedback on tasks?	-	"Yes"	27
Resources	Do you feel satisfied with your job?*	What aspects of your job are you the least satisfied with?*	"Yes, but there is a lack of some facilities which could help me perform all my activities."	11

*This question elicited the most responses for the given sub-category. While the example comment is representative of the # of participants included in the sub-category, some of the participants included gave their response to various other questions.

Cooperation and satisfaction

Throughout the semi-structured interviews, cooperation was continually mentioned as being correlated with satisfaction. Table 2 lists the questions that received the most responses pertaining to the theme of cooperation being correlated with satisfaction. When asked questions designed to probe their satisfaction, a total of 20 participants stated that cooperation was the reason.

When asked to elaborate upon a particular aspect about their job that they enjoyed, 8 participants stated that it was cooperation. An example comment is, “Yes, I am happy the way we are cooperating” (participant 19, female).

In addition, when asked to describe a positive interaction a participant typically has with their superior(s), 10 participants described this positive interaction as one involving a cooperation aspect. For example, one participant described a positive interaction as, “Cooperation. The way we cooperate has made many things possible” (participant 22, male). A unique response to the same question that included the cooperation aspect was, “Sometimes researchers tend to think they are better than another department, which is not true because as I have said, we all depend on one another” (participant 20, female).

The cooperation aspect also emerged through the question of, “Do you feel satisfied with your job?” followed by the probe of, “What aspects of your job are you the most satisfied with?” 10 participants indicated that the particular aspect of their job they were most satisfied with was cooperation. An example comment was, “I feel good because of the cooperation I receive from my bosses and my fellow workers” (participant 2, male).

Table 2 - Cooperation and satisfaction

Category	Sub-category	Question	Probe	Example Comment	# of participants
Job satisfaction	Cooperation	Are there any particular aspects about your job that you enjoy?	If so, can you elaborate?	"Yes, I am happy the way we are cooperating."	8
Job satisfaction	Cooperation	Do you interact with your superiors?	Can you tell me about a positive interaction?	"Cooperation. The way we cooperate has made many things possible."	10
Job Satisfaction	Cooperation	Do you feel satisfied with your job? *	What aspects of your job are you the most satisfied with?*	"I feel good because of the cooperation I receive from my bosses and my fellow workers."	10

*This question elicited the most responses for the given sub-category. While the example comment is representative of the # of participants included in the sub-category, some of the participants included gave their response to various other questions.

Education & Training

During the semi-structured interviews, twenty-two participants mentioned interest in educational support, skill development, and/or career development. In addition, this was a topic discussed during the focus group.

When participants were asked if there were any skills for their position they had yet to learn, 11 participants stated that they would like to pursue further education or simply learn more (see Table 3). A response from one participant that is representative of this theme was, "In case I have a chance to learn more I would like to go for further studies" (participant 3, male). There were three participants who stated that they had previously received educational support, with the example response being: "My bosses are the ones who took me to college" (participant 11, male).

When asked, "Are there are skills for your position that you have not yet learned?", 15 participants stated interest in developing their skills. An example comment was, "It is important

that I learn more to catch up to the changes” (participant 22, male). Of these 15 participants, six participants mentioned a specific skill or skill set that would be beneficial to their position or career aspirations if they were able to develop it. An example comment being, “Yes I need more experiences, for example in data entry I would like to know more about data analysis and data cleaning, these are some of the things which I need to learn” (participant 20, female). On the other hand, 5 participants stated that there were not any new skills they needed for their position.

In addition, in response to the question of, “Is there a job you would rather be doing?”, asked during the semi-structured interviews, 5 participants stated that they would like to develop their career. An example comment being, “Yes, I want to advance more in this career” (participant 17, female). During the focus group discussion the following question was asked, “What are some ways your job could better help you grow professionally?”, the participants broadly discussed how it was up to management to identify the gaps of employees skills and knowledge and that having training or educational enrollment opportunities would be beneficial.

Table 3 - Education & training

Sub-category	Question	Probe	Example Comment	# of participants
Educational support	Are there any skills for your position that you have not yet learned? *	-	"In case I have a chance to learn more, I would like to go for further studies."	11
Skill development	Are there any skills for your position that you have not yet learned? *	-	"It's important that I learn more to catch up to the changes"	15
Career development	Is there a job you would rather be doing? *	-	"Yes, I want to advance more in this career"	5

*This question elicited the most responses for the given sub-category. While the example comment is representative of the # of participants included in the sub-category, some of the participants included gave their response to various other questions.

Relevant themes that were mentioned by at least two participants during the semi-structured interviews include: appreciation of new buildings and facilities’ impact on job duties,

satisfaction with salary, dislike of lack of recognition, dislike of harsh language, and dislike of lack of time respect. Additionally, the results from the surveys aligned with the results from the semi-structured interviews, which allowed us to confirm the data collected from the semi-structured interviews, making us confident in the results.

Overall, job satisfaction at the site can be seen through POS, cooperation, and skill, educational, and career development. Levels of POS were stated to be high among participants, with the exception of a perception of a lack of resources. Cooperation was expressed by participants as being correlated with their satisfaction. Participants indicated that they desired more or improved education and training opportunities.

Discussion

This study provides a unique exploration of job satisfaction in the under-researched context of medical research centers in sub-Saharan Africa while they undergo organizational change. The results of the study suggest that job satisfaction can be seen through POS (i.e., socioemotional needs and resource availability), cooperation, and skill, educational, and career development.

Prior research shows POS and job satisfaction are positively correlated (Eisenberger & Stinglhamber, 2011). One way POS affects job satisfaction is that POS meets the employees' workplace socioemotional needs (Eisenberger et al., 1986). Socioemotional needs in the workplace include things such as caring, approval, and affiliation. Participants expressed that their co-workers cared about their satisfaction at work. Cooperation was emergent and could imply a level of affiliation as employees recognized that they are part of a larger, cooperating system. Participants stated that they received feedback both on tasks and during a quarterly performance appraisal, which could indicate various levels of approval. The fulfillment of an

employee's socioemotional needs can be correlated with high levels of job satisfaction (Eisenberger & Stinglhamber, 2011).

During the semi-structured interviews, participants stated that they felt as though their co-workers cared about the participant's general satisfaction at work. Theoretically, job satisfaction is affected by POS through the socioemotional need of care. These results support the idea that when an employee feels as though their co-workers care about their satisfaction at work, it creates a positive perception that is correlated with job satisfaction (Eisenberger & Stinglhamber, 2011).

Throughout the interviews in response to various questions, job satisfaction was discussed by participants as being correlated with cooperation. Co-worker's willingness to cooperate and its effects on an individual employee's job satisfaction is a relatively under-researched topic. However, we found cooperation to be an important result of the study because it was a widely stated response in the semi-structured interviews for questions originally designed to inquire about a participant's job satisfaction.

Feedback is also a source of POS (Hutchinson & Garstka, 1996). Receiving feedback is important as effective performance appraisal systems are shown to increase job satisfaction (Burke, Weitzel, & Weir, 1978). While we did not analyze the performance appraisal system at the site to determine if it was effective, there were both informal and formal performance appraisals in place. Feedback in relation to POS requires that there is a level of sincerity, or namely, if a supervisor does give positive or favorable feedback, it is important for all feedback to be consistent with the supervisor's actions, otherwise the facade for POS is diminished (Eisenberger & Stinglhamber, 2011). This can be noted from a focus group question pertaining

to feedback where participants discussed the importance of delivering feedback in ways that are respective of the socioemotional needs of their co-workers.

Another way POS affects job satisfaction is through the availability of resources (Rhoades & Eisenberger, 2002). If an employee believes their organization is able to provide resources an employee needs to successfully complete job tasks, they are likely to be more satisfied with their job. During the semi-structured interviews, participants commented on the lack of resources such as facility availability, sufficient payment, and late payment. If employees feel as though the site is unable to provide adequate resources for them to complete their work, they are likely to believe there is a lack of organizational support for them. Improving these resources as well as others would be associated with increased perceived organizational and job satisfaction. When the site develops GLP, they are likely to have improved capacity, and namely, more resources. This might shift employee perspectives on the amount and quality of resources being provided by the organization for them to effectively complete their work.

Participants stated that they desired opportunities to develop their skills, which is a part of GLP. It is likely employees' concerns pertaining to skill development will mostly be addressed after the completion of GLP. However, GLP primarily trains employees pertaining to new organizational and management practices that were implemented through GLP. Therefore, participants that expressed interest in developing a new, particular set of skills that might be more closely associated with educational training, or training for a new job role would not be addressed by GLP. Given this, job satisfaction in relation to opportunities for skill development are likely to be minimal. Providing skill development opportunities, or namely training, shows an employee that the organization is invested in them, and this invest is correlated with increased POS by an employee (Rhoades & Eisenberger, 2002).

Participants stated that they desired more educational support and career development opportunities. Educational support and career development are unlikely to be addressed by GLP as they are not included in the W.H.O's guidebook on GLP (Handbook: good laboratory practice (GLP), 2009). Prior research suggests perceived organizational investment in employees, such as educational support or opportunities for growth are positively correlated with performance (Kuvaas & Dysvik, 2009). Additionally, organizational rewards such as career development opportunities have been shown to be positively correlated with POS (Rhoades & Eisenberger, 2002). In the present study, participants clearly indicated a desire for greater educational support and career development opportunities to develop themselves so that they can perform better. Thus, receiving organizational support for educational opportunities and career development could prove mutually beneficial for both employees and the organization.

Limitations

An important limitation we faced when designing and completing analysis for this study was the lack of research on workplaces in the same geographically region, specifically on the topic of job satisfaction. Wallis, Cole, Gaye, Mmbaga, Mwapasa, Tagbor, and Bates discussed that "Although the average growth rate of scientific production in Africa is faster than world's growth rate of scientific research, African Union countries only produce 2% of the world's total scientific output" (2017, p. 2). While looking for comparable research done in a similar context on the topic of job satisfaction, few previous studies were found. This limitation led us to take an inductive, exploratory approach for the current study, but still proved to be a limitation during the design and analysis processes.

Language was a limitation in our study. All data collection was conducted in Swahili and while the individual administering the semi-structured interviews and surveys was fluent in

Swahili, there were still complex topics that were not fully discussed between the participants and interviewee. Language came as a challenge when interpreting data. While using field-specific research terms, constructs, or phrases in any context can be difficult for a non-expert to understand, using them in a culture that is foreign presents several challenges. Two questions were removed from the semi-structured interviews as we noticed there were inconsistencies between participants' responses during the interviews versus on the surveys. This was due to translational failures where the two questions were not fully understood. Utilizing surveys alongside semi-structured interviews to triangulate and find inconsistencies as well as consistencies proved useful in addressing some of the language limitations.

Future research studies can further explore job satisfaction at other medical research centers in Sub-Saharan Africa. This would provide more data to expand upon the findings presented in this study. Future research can investigate new themes of job satisfaction in similar contexts and explore the dynamic between job satisfaction and various aspects of a GLP project. Two important themes that would be useful to research more would be cooperation in relation to job satisfaction as well as education and training.

Conclusion

To conclude, participants expressed satisfaction with their jobs while the site undergoes the organizational change of GLP. Employee job satisfaction was seen through POS (i.e., caring, affiliation, and approval of co-workers and the organization) and when co-worker cooperation is high. To ensure participant's satisfaction, the site can pay attention to the quality and availability of resources, skill development opportunities, educational opportunities, and career development opportunities for employees. Job satisfaction can be best described by Cranny, Smith, and Stone as, "how people feel about their jobs and how it affects their performance." (1992, p. 5). If the

aim of GLP is to improve the organizational capacity of a site, it is important to understand the satisfaction of employees to understand their attitudes toward their jobs and the organizational change to know possible implications this has on their ability to effectively utilize a site's newfound capacity to produce research.

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