



Understanding Coping Mechanisms during the COVID-19 Pandemic: a Case Study of Stakeholders of the African Sisters Education Collaborative

Mary Cecilia Draru¹ · Tara Lopatofsky¹ · Kevin Karimi¹ · Mary L. Gautier¹ 

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Abstract

Background The African Sisters Education Collaborative (ASEC) operates education programs for women religious in ten countries of Africa south of the Sahara. As ASEC prioritizes strong relationships with partner institutions, understanding the impact of the COVID-19 pandemic on these stakeholders is central to providing effective interventions that will ensure continuation of its programs.

Purpose The purpose of this study was to obtain an organizational understanding of stakeholders' ministry/work stress and coping mechanisms during the initial phase of the pandemic. ASEC surveyed its more than 3,500 stakeholders to assess their ministry/work stress, sources of emotional well-being, and coping skills during the early months of the pandemic. The study was designed to provide information to help ASEC initiate a proactive response to the pandemic at an organizational level.

Methods ASEC prepared a brief online survey that was distributed from late April through mid-May 2020. Scales to measure emotional well-being, coping skills, ministry/work stress, and sources of pandemic support were researcher-designed. Lockdown status of the country at the time of the survey was used as a proxy measure of severity of the pandemic.

Results Religious sisters who have participated in ASEC's education programs experienced increased stress in their ministry/work settings, particularly in countries that were under lockdown at the time of the survey. Ministry/work stress was lessened by individual coping skills and sense of emotional well-being, as predicted by the balanced affect literature on ministry stress among religious workers. Working under lockdown, lower levels of ministry/work stress, and confidence in one's coping skills all positively impacted emotional well-being. In turn, emotional well-being was sig-

An organizational study conducted in ten countries of Africa south of the Sahara (Cameroon, Ghana, Kenya, Lesotho, Malawi, Nigeria, South Sudan, Tanzania, Uganda, Zambia) and a cross section of member institutions in Northeastern Pennsylvania—United States. This study was conducted by internal staff of the African Sisters Education Collaborative.

Extended author information available on the last page of the article

nificantly related to greater coping skills, which was also impacted by lower levels of ministry/work stress and greater sources of pandemic support.

Conclusions and Implications The pandemic has negatively impacted the ministries and work settings of these stakeholders, which has influenced their personal emotional well-being as well as their assessment of their coping skills. Positive attitudes about their ability to cope and their emotional well-being reduced their levels of ministry/work stress.

Keywords COVID-19 · Stakeholders · Africa · Coping skills · Emotional well-being

A majority of the people of Africa south of the Sahara (63%) are Christian and the number of Christians in the region is projected to double between 2010 and 2050 (Pew, 2011). Notably, Africa has the fastest growing Catholic population in the world and African women religious make up 11% of all Catholic women religious in the world in 2015 (Ngundo & Wiggins, 2017).

Part of the reason why Catholicism is increasing so rapidly has to do with overall population growth, but part of the reason is that the Catholic church has provided hospitals, schools, and other social services that the post-colonial governments in Africa have had a difficult time providing on a widespread scale. In particular, “Sisters have educated many of the presidents, corporate leaders, and influential people throughout the continent of Africa. They also run and staff many of the best hospitals and clinics” (Building the Global Sisterhood, 2015, p. 20).

Strengthening organizational relationships is essential for maintaining engagement among diverse groups that collaborate in pursuit of a common organizational goal, defined as “stakeholders” for the purposes of this paper. During unprecedented times, such as the emergence of a global pandemic, communication that includes monitoring of team cohesion and individual resiliency plays an important role in keeping such engagements in place and helping stakeholders to stay focused on their organizational relevance. The announcement of the outbreak of the coronavirus disease in late 2019 (COVID-19) presented individuals, organizations, and nations with a common global challenge. Organizations in general, and cross-national organizational partnerships in particular, are learning that ongoing communication with stakeholders and periodic assessments of their coping mechanisms during the COVID-19 pandemic is imperative to maintaining successful partnerships and organizational cohesion.

The African Sisters Education Collaborative (ASEC) is a multi-national non-profit collaboration among U.S. Catholic institutes of women religious that sponsor institutions of higher education, national associations/conferences of Catholic women religious in Africa, and other partners to provide educational opportunities for women religious in Africa. ASEC offers applied skills training in computer technology, financial management, and administration (through its Sisters Leadership Development Initiative – SLDI) as well as scholarships and support for African women religious pursuing higher education (through its Higher Education for Sisters in Africa program – HESA) as well as other programs and initiatives. ASEC operates in ten

countries of Africa south of the Sahara, through partnerships with 24 institutions of higher education, 39 consultancy groups, and 10 national associations/conferences of women religious. Collaboration is a core value of ASEC and is vital to the organization's success in achieving its mission to "facilitate access to education for women religious in Africa that leads to the enhancement and expansion of the education, health, economic, social, environmental, and spiritual services they provide" (ASEC, 2020).

As ASEC prioritizes strong relationships with partner institutions, understanding the impact of devastating events such as the COVID-19 pandemic on its stakeholders is central to providing effective interventions that will ensure the continuation of its programs long term. For these reasons, in May 2020 ASEC initiated an empirical examination of its more than 3,500 stakeholders to assess their ministry/work stress, sources of internal resilience, and coping skills during the early months of the COVID-19 pandemic. The study utilized a brief online survey of 23 quantitative questions and one qualitative, free response question that was designed to provide information to help ASEC initiate a proactive response to the pandemic at an organizational level.

This case study of ASEC stakeholders, including ASEC partner institutions, program participants, and staff, has application for other organizational collaborations as well, as it demonstrates how resilience and coping mechanisms among stakeholders in a collaborative can be measured and documented to promote well-being and further a sense of mutual cohesion.

Related Literature

A large multi-national collaboration such as ASEC involves a multitude of stakeholders – defined as "any group or individual who is affected by or can affect the achievement of an organization's objectives" (Freeman, 1984, p.5). A stakeholder approach to strategic management "emphasizes *active* management of the business environment, relationships and the promotion of shared interests" (Freeman & McVea, 2001, p. 11). Stakeholder theory evolved in the organizations and communications literature to explain how organizations use communications before, during, and after a crisis to engage stakeholders and promote their support of the organization.

The importance of good communication with stakeholders during a time of crisis is twofold: First, stakeholders have a vested interest in the success of the organization, thus they may provide a network of support for each other during a crisis. Second, stakeholders are often affected negatively by a crisis and may withdraw their support if stakeholder relations are not strong. This could prolong or even worsen the crisis (Ulmer, 2001).

Academic literature on the impact of COVID-19 is currently evolving as the pandemic unfolds throughout the globe. However, many researchers are focusing their efforts in this area and the initial results of numerous studies are beginning to be released for public consumption. Available preliminary literature on the impact of COVID-19 in the areas of ministry/work stress, emotional well-being, and effective coping strategies provide the bases from which this study was designed.

Ministry/Work Stress and Personality Type

As of May 27, 2020, the World Health Organization (WHO, 2020) reported 83,913 cases of COVID-19 and 2,287 deaths from the disease in the African region alone. The ten African countries served by ASEC reported varying degrees of severity of number of identified cases at the end of May, 2020: Nigeria (8,344), Ghana (6,964), Cameroon (5,436), Kenya (1,348), Zambia (920), South Sudan (806), Tanzania (509), Uganda (341), Malawi (101), and Lesotho (2) (WHO, 2020). In general, the West African region experienced the highest proportion of cases of any region in Africa at that time. In addition, as of May 27, 2020, the United States had recorded the highest global impact from COVID-19 with 1,634,010 cases and 97,529 deaths. Containment and testing measures varied greatly by country, contributing to various degrees of impact on individual mental health, ministry/work, and coping abilities. Some countries had established total lockdown of their population, closing schools and imposing mandatory stay-at-home orders. Others were in partial lockdown, with schools closed and recommending stay-at-home and workplace closure for parts of the country. Others had no lockdown orders, leaving localities, schools, workplaces, and individuals to determine how best to protect themselves from the virus. A recent study administered to Anglican clergy during the COVID-19 pandemic found that lockdown contributed to work-related stress, while formal institutional support increased work-related psychological well-being and improved perceived ability to cope with crises (Village and Francis, 2021). It is anticipated that more severe lockdown measures would increase ministry/work stress among ASEC stakeholders.

Numerous psychological studies among religious workers of many different denominations have explored the connection between psychological type and work-related positive psychological health. For example, a study by Robbins and Francis (2010), administered the Francis Psychological Type Scale (Francis, 2005) alongside the Francis Burnout Inventory (Francis, Loudon, & Rutledge 2004) to samples of clergywomen in the UK to examine the relationship between psychological type and work-related stress. The study found a distinction between introversion and extraversion that functions as a stable predictor of individual differences in work-related psychological health. Another study among Catholic priests in Italy found that extraverts experience higher levels of personal well-being than introverts (Crea & Francis, 2021).

It is anticipated that ASEC stakeholders would experience a range of ministry/work-related stress, with extraverts likely to express lower levels of ministry/work-related stress than introverts. Because religious sisters in Africa are engaged in ministry to the poor and marginalized, primarily providing direct services in healthcare, pastoral work, and education, it is anticipated that these sisters would be more likely than other ASEC stakeholders to be subjected to higher levels of work-related stress. At the same time, African sisters who have participated in ASEC education programs (SLDI or HESA) may be better equipped than other ASEC stakeholders to handle work-related stress, as a result of the ASEC education programs they have had.

Emotional Well-Being

Frissa and Dessalegn (2020) posit that sub-Saharan Africa is particularly at risk for negative mental health impacts caused by the COVID-19 pandemic due to weak healthcare systems, as evidenced by previous studies conducted on the 2014–2016 Ebola epidemic (Shultz et al., 2016; O’Leary & Neria, 2018). It is suggested that effective interventions should be contextualized, with implementation of safeguarding measures for social, cultural, and coping resilience factors (Frissa & Dessalegn, 2020). The researchers also propose that community workers should be trained to provide basic mental health education and counseling services in their various localities to diminish negative mental health impacts.

There is a large body of existing psychological literature on the relationship between stress in work and emotional well-being, particularly among religious workers (Francis et al., 2009; Robbins & Francis, 2010; Robbins et al., 2012; Barnard & Curry, 2012; Robbins & Francis, 2014; Francis et al., 2015; Sterland, 2015; and Francis & Crea, 2015). This literature establishes that there is a balance of affect for religious workers between the stresses they experience in their ministry/work and their sense of emotional well-being (Bradburn, 1969; Veit & Ware, 1983). In other words, although they often experience great stress in carrying out their ministry, this stress is balanced by the greater sense of emotional well-being they experience as a result of engaging in ministry (Francis, et al., 2005). A recent paper by Francis, Crea, & Laycock (2017) summarizes the literature well and replicates the finding in a study among religious workers in Italy. Finally, this balanced affect literature is further validated in Francis, Crea, & Laycock (2021), which was conducted with a larger sample of Catholic priests and women religious in Italy.

It is anticipated that ASEC stakeholders would express a range of emotional states during this global pandemic. The literature on the relationship between COVID-19 lockdowns and mental health is unclear and still evolving, but one recent meta-analysis found that lockdowns had small positive effects on mental health symptoms (Prati & Mancini, 2021). It could be that those working in countries with stricter lockdown, which lessens their risk of exposure to COVID-19 through their ministry/work, would be more likely than other ASEC stakeholders to express greater levels of emotional well-being. Similarly, those who are not engaged directly in interpersonal ministry would be expected to be more likely than those whose ministry/work entails personal contact to express greater levels of emotional well-being. Finally, it is also expected that, due to balanced affect, more stressful ministry/work conditions could be associated with greater levels of emotional well-being.

Coping Skills

A recent study among Anglican clergy found that institutional support increases work-related psychological well-being and improves perceived ability to cope with crises (Francis, et al., 2018). Another recent study among priests and women religious in Italy finds that extraversion significantly increases personal happiness, which in turn increases satisfaction in ministry (Francis & Crea, 2018). It is anticipated that ASEC

stakeholders would vary in their coping skills, with African sisters who have directly participated in ASEC programs perhaps more likely than other ASEC stakeholders to exhibit stronger coping skills, in part due to the educational resources they have received from ASEC programs and in part due to ongoing contact and support they receive from ASEC. Likewise, it is anticipated that extraverts and those who report receiving support from multiple sources would report greater coping skills (Village and Francis, 2021), while those in more stressful ministry settings may be expected to express lower levels of coping skills.

The Present Study

The purpose of this study was to seek an organizational understanding of ASEC stakeholders' ministry/work experiences and their coping mechanisms during the COVID-19 pandemic. In addition, the study was intended to inform plans for providing a proactive response to an unprecedented worldwide phenomenon at the organizational level. Although this case study examines a single organization, the findings may be applied to other organizations, especially other collaborative organizations that are multinational in scope. Understanding how work-related stressors impact emotional well-being and how both of those affect the resilience of stakeholders is valuable knowledge for any organization that is seeking to cope with a crisis.

Central Research Questions

The central research questions examined in this study relate to the primary factors that underlie ministry/work-related stress during the COVID-19 pandemic and what factors contributed to a sense of emotional well-being and ability to cope.

1. How has the COVID-19 pandemic affected ASEC stakeholders' assessments of their place of work/ministry?
2. What were the principal factors that influenced ASEC stakeholder's sense of emotional well-being at the beginning of the COVID-19 pandemic?
3. What were the principal factors that affected ASEC stakeholder's assessment of their ability to cope at the beginning of the COVID-19 pandemic?

Hypotheses

H_{1a}: In crisis management in the COVID-19 pandemic, African sisters who have participated in an ASEC education program (SLDI or HESA) will report greater levels of ministry/work-related stress. **H_{1b}**: In crisis management in the COVID-19 pandemic, African sisters who are extraverts will express lower levels of ministry/work-related stress. **H_{1c}**: In crisis management in the COVID-19 pandemic, African sisters working in countries that are in partial or full lockdown will express greater levels of ministry/work-related stress compared to those who are working in countries that are not in lockdown. **H_{1d}**: In crisis management in the COVID-19 pandemic, African

sisters with greater coping skills and a greater sense of emotional well-being will express lower levels of ministry/work-related stress.

H_{2a}: In crisis management in the COVID-19 pandemic, African sisters who are extraverts will report a greater sense of emotional well-being. **H_{2b}**: In crisis management in the COVID-19 pandemic, African sisters who are working in countries that are in partial or full lockdown will report a greater sense of emotional well-being than those who are working in countries that are not in lockdown. **H_{2c}**: In crisis management in the COVID-19 pandemic, African sisters with greater levels of support from others will report a greater sense of emotional well-being. **H_{2d}**: In crisis management in the COVID-19 pandemic, African sisters with higher assessments of their individual coping skills and lower ministry/work stress will report a greater sense of emotional well-being.

H_{3a}: In crisis management in the COVID-19 pandemic, African sisters who are extraverts will report a greater sense of individual coping skills. **H_{3b}**: In crisis management in the COVID-19 pandemic, African sisters who are working in countries that are in partial or full lockdown will report a greater sense of individual coping skills than those who are working in countries that are not in lockdown. **H_{3c}**: In crisis management in the COVID-19 pandemic, African sisters with greater levels of support from others will report a greater sense of individual coping skills. **H_{3d}**: In crisis management in the COVID-19 pandemic, African sisters with higher assessments of their emotional well-being and lower ministry/work stress will report a greater sense of individual coping skills.

This study utilized a cross-sectional survey with mostly quantitative questions and one qualitative short answer response item. It was determined this design would best allow for the investigation of the study's central research questions and fulfill the study's purpose of gathering information for a proactive response to the crisis. Quantitative results were compared to qualitative responses to provide a more complete understanding of the impact of COVID-19 on stakeholders. Because the short answer response item was designed specifically to inform ASEC's internal proactive response to the pandemic and because qualitative analysis of the responses finds that they are largely consistent with the quantitative results, the qualitative analysis is not included in this report but is available from the authors upon request.

Methodology

Participant Selection

This study was conducted in the ten countries of Africa south of the Sahara in which ASEC has a presence (Cameroon, Ghana, Kenya, Lesotho, Malawi, Nigeria, South Sudan, Tanzania, Uganda, and Zambia) and among a cross section of ASEC member institutions in northeastern Pennsylvania. The study population was sourced from ASEC master lists of over 3,500 ASEC stakeholders, including staff from partner institutions, heads of those institutions, major superiors who have sent sisters to ASEC programs, instructors in ASEC programs, and ASEC program participants. To reach as many participants as possible at the grassroots and mitigate potential bias,

ASEC country directors and coordinators were also asked to contact ASEC participants who may not have recorded their current email address in the organization's central repository database.

Data Collection

With input from ASEC staff, researchers constructed a questionnaire of 23 closed-ended items measuring stakeholder demographics, relationship with ASEC, current profession, length of time in ministry, and perceived sources of support during the COVID-19 pandemic. Among these were 13 Likert-scale items asking respondents to assess agreement or disagreement with statements about their coping skills, their emotional well-being, and their ministry/work situation during the COVID-19 pandemic. Finally, a single open-ended question at the end of the questionnaire asked respondents to explain how ASEC could best support them and their institution during the pandemic. This free response qualitative data was analyzed and compared with the quantitative data from the rest of the survey to provide further context for ASEC to use in designing a proactive organizational response to the pandemic. A copy of the complete questionnaire is included in Appendix I.

Data were collected online over a period of two weeks (end of April through mid-May 2020) through an electronic link supported by Survey Monkey. The link was distributed to ASEC partner representatives utilizing the email link distribution feature within Survey Monkey. All other stakeholders (e.g. program participants, visiting scholars, ASEC staff) received the Survey Monkey link via Mail Chimp, Gmail, or WhatsApp. The survey link was accessed most often through Mail Chimp, Gmail, and WhatsApp, according to the Survey Monkey data collector analysis.

At the end of the data collection period, a total of 1,529 respondents completed a survey, for a response rate of 40%. This response is well above the minimum of 349 respondents required for a confidence level of 95% and a confidence interval of ± 0.05 (Raosoft.com, 2020). All participants were required to provide their informed consent prior to completing the survey; 34 participants declined consent and were automatically disqualified from the survey. Another 77 respondents provided no data other than their informed consent and they were also eliminated from the sample, which resulted in a final sample size of 1,418. Additional data screening identified various levels of missing data on some variables, but there were no other cases with large numbers of missing data.

Measures

Several of the demographic variables that are typically included in analyses (i.e. sex, race, education, income) are not necessary here because they are assumed to be constant across this population of African sisters, all of whom have at least a certificate level (post high-school) of education and all of whom live simply and share resources within their religious community. Demographic characteristics measured in this analysis include respondent age (measured in years), years in ministry/work

(measured in years and months), and country of residence. Psychological type is a three-category self-identification (introvert, extravert, do not know), which was recoded into a dummy variable, with 1 indicating extravert and 0 indicating introvert.

Current relationship to ASEC consists of five categories of relationship, from which respondents are asked to select one response. This item was recoded into a dummy variable for ASEC program participant (SLDI or HESA): 1 = SLDI or HESA program participant, 0 = all other ASEC relationships. It is anticipated that ASEC program participants, partly due to the increased self-efficacy and competencies they gained as part of their education in their ASEC program (Karimi, 2020) might differ from those who have some other relationship to ASEC in their ability to cope with COVID-19 related stress.

Current profession consists of eight categories of occupation (administration, education, health care, pastoral work, social work, finance/accounting, student, other), from which respondents are asked to select one response. Because COVID-19 is primarily spread through direct contact with others, it is anticipated that those whose current profession involves frequent interpersonal contact would be at greater risk for contracting the virus and thus would exhibit greater levels of stress. This item was recoded into a dummy variable for personal contact profession (labeled interpersonal ministry in this analysis): 1 = education, health care, pastoral work, or social work; 0 = administration, finance, student, or other. It is anticipated that respondents who engage in interpersonal ministry might differ from those whose work does not involve personal contact with others in how well they are able to cope with COVID-19 related stress.

To examine country-level differences within Africa in handling the COVID-19 pandemic, respondents from each of the African countries were coded by the level of lockdown imposed in the country at the time the survey was distributed: 0 = No national lockdown, 1 = Partial lockdown (national stay-at-home recommendation and workplace closure recommended), or 2 = Full lockdown (national stay-at-home order and workplace closure), according to data reported by Reuters (2021). The countries that had no national lockdown order at the time of the survey include Cameroon, Ghana, Zambia, and Tanzania. Countries in partial lockdown at the time of the survey include Nigeria, Kenya, South Sudan, and Malawi. Countries in full lockdown at the time of the survey include Lesotho and Uganda. The variable was recoded into three dummy variables for full, partial, and no lockdown status for clearer comparisons.

Study participants were also asked to identify which, among seven listed items, were particular sources of support for them during the COVID-19 pandemic. The largest group of respondents identified an aspect of religious community life (i.e. personal prayer, spiritual support, community/family), with 72% selecting personal prayer, 59% selecting community/family and 55% selecting spiritual support among their greatest sources of support. This was followed by social support structures that are more external to religious community life, with 40% selecting social media, 33% selecting communication with one's institution/organization, 28% selecting co-workers, and 7% reporting access to counseling services as a source of support during the pandemic. Exploratory factor analysis, using polychoric correlations due to the categorical nature of these seven variables, revealed a single underlying factor solution (Ferrando & Lorenzo-Sena, 2017). Therefore, an additive scale of Pandemic Support

was constructed from all seven variables, which ranges in value from 0 to 7. Cronbach's Alpha for this scale is 0.811, which indicates a level of internal consistency reliability in excess of the threshold of 0.65 proposed by DeVellis (2003).

Five original items pertaining to attitudes about ministry/work stress (i.e. "My ministry/work is stuck and without alternatives", "My organization is overwhelmed by the needs created by the pandemic", "I am not performing at my best", "My ministry/place of work does not have sufficient supply to meet the needs of those we serve", and "My ministry/place of work involves performing high risk tasks") had Likert-type scale response categories (1=*strongly disagree* to 4=*strongly agree*). Exploratory factor analysis revealed a single underlying factor related to these items. The scale for ministry/work stress ranges in value from 5 to 20. Cronbach's Alpha for this scale is 0.670, which indicates a level of internal consistency reliability in excess of the threshold of 0.65.

This analysis also included two other additive scales: an emotional well-being scale and a coping skills scale. The scales were created from eight original items with Likert-type scale response categories (1=*strongly disagree* to 4=*strongly agree*). Items in the emotional well-being scale were recoded so that stronger agreement with the statement indicated better emotional state. Exploratory factor analysis revealed a single underlying factor related to emotional well-being and another underlying factor related to coping skills. The scale for emotional well-being consists of four items (i.e. "I have experienced depression" (recoded), "I have experienced loneliness" (recoded), "I have experienced loss and grief" (recoded), "I have experienced fear and anxiety" (recoded)) and ranges in value from 4 to 16. Cronbach's Alpha for this scale is 0.742, which indicates a level of internal consistency reliability in excess of the threshold of 0.65.

The scale for coping skills consists of four items (i.e. "I have adequate skills in crisis management", "I have enough coping skills", "My ministry/work environment enables me to be productive", "My personality helps me cope") and ranges in value from 4 to 16. Cronbach's Alpha for this scale is 0.707, which also exceeds the reliability threshold of 0.65.

Results and Discussion

Participants

The study attracted stakeholders from all targeted programs, with 97% identifying as religious and 3% identifying as lay persons. The largest participation came from current residents of Kenya, Tanzania, Nigeria, Uganda, and Ghana, with each of these countries recording more than 100 participants. The country with the least participation was South Sudan, recording only two participants. Thirty-one participants reported their current country of residence as "Other," due to changes in religious assignments and job placement. Countries of residency described as "Other" included Argentina (1), Central African Republic (1), Ethiopia (1), France (1), India (2), Indonesia (1), Italy (1), Republic of Benin (1), Rwanda (1), South Africa (2), Togo (6), United Kingdom (2), United States (17), and Zimbabwe (11).

The average age of respondents is 41 years, with participants ranging from 22 years to 79 years. Participants were also asked to report the number of years they have served in their current ministry/place of work. Most commonly, participants reported they had served in their ministry/place of work for three years, with an overall average of ten years. Eight in ten respondents (82%) participated in an ASEC education program, either currently or previously enrolled in SLDI or HESA. Among those who know their psychological type, a little more than half (53%) self-identified as extravert and just under half (47%) self-identified as introvert. See Table 1 for descriptive statistics of all variables used in these analyses, including the four scales described above.

Dependent Variables

To evaluate the perceived impact of the COVID-19 pandemic on stakeholders, three of the scales described above (Ministry/Work Stress Scale, Emotional Well-Being Scale, Coping Skills Scale) were employed as outcome measures. These scales allow for an examination of which of the various stakeholder characteristics, lockdown status of their country of ministry, perceived levels of support, their sense of emotional well-being, and their coping skills affect their evaluation of stress in their ministry/work. Similarly, further regressions explore how these same stakeholder characteristics, lockdown status of their country of ministry, perceived levels of support, and perceived ministry/work stress affect their sense of emotional well-being and their perceived coping skills during the pandemic.

Table 1 Descriptive Statistics

	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>M</i>	<i>SD</i>
SLDI/HESA participant (dummy)	1,418	0	1	0.82	0.38
Current age in years	1,397	22	79	40.84	9.71
Years in ministry/work	1,361	0.5	57	10.09	9.04
Interpersonal ministry (dummy)	1,405	0	1	0.41	0.49
Partial Lockdown (dummy)	1,369	0	1	0.44	0.50
Full Lockdown (dummy)	1,369	0	1	0.15	0.35
Extravert (dummy)	1,217	0	1	0.49	0.50
Ministry/Work Stress Scale	1,126	5	20	12.83	2.93
Emotional Well-Being Scale	1,189	4	16	10.35	2.61
Coping Skills Scale	1,208	4	16	11.99	2.12
Pandemic Support Scale	1,418	0	7	2.95	2.16

Note: *N*=Number of cases
M=Mean *SD*=Standard Deviation

Ministry/Work Stress

The data demonstrate that these African sisters were addressing substantial stress in their ministry/work lives at the beginning of the COVID-19 pandemic. The median score on the ministry/work stress scale was 13 out of a maximum of 20. To explore the factors that may have been contributing significantly to this ministry/work stress, Table 2 presents four regression models for ministry/work stress. All four models support the hypothesis that being engaged in ASEC's education programs (compared to other ASEC stakeholders) was associated with increased ministry/work stress (H_{1a}). Models 2 and 3 support the hypothesized negative association between being an extravert and ministry/work stress (H_{1b}). Model 3 adds the dummy variables for partial lockdown and full lockdown, but this model does not support the hypothesized positive relationship between lockdown status and ministry stress (H_{1c}). In this model, being in partial or full lockdown (as compared to no lockdown) had no significant effect on ministry stress. The demographic variables of age, years in ministry, and being engaged in an interpersonal ministry also had no significant independent effect on ministry/work stress in these models. Note, however, that only 2–3% of the total variation in ministry/work stress is explained by the variables in Models 1, 2, and 3.

Model 4, adding the three scales for pandemic support sources, coping skills, and emotional well-being, increased the explained variation in ministry/work stress to 21%. Tests for collinearity indicated no substantial collinearity: none of the variables had a VIF above 1.5. Being an SLDI or HESA participant retained its positive association with ministry/work stress, while being an extravert was no longer significant in this model. Lockdown status of the country was associated with increased ministry/work stress in this model, with both partial and full lockdown (relative to no lockdown) associated with greater ministry/work stress (H_{1c}). Finally, both the coping skills scale and the emotional well-being scale have a negative association with ministry/work stress (H_{1d}). In other words, being an educated religious sister working

Table 2 Multiple Regression of Selected Items on Ministry/Work Stress Scale

	Model 1		Model 2		Model 3		Model 4	
	β		β		β		β	
SLDI or HESA participant	0.162	**	0.156	**	0.135	**	0.095	**
Current age	-0.007		-0.015		0.001		0.008	
Years in your ministry/work	0.027		0.032		0.010		0.016	
Interpersonal ministry	-0.019		-0.014		-0.021		-0.003	
Extravert			-0.068	*	-0.073	*	-0.032	
Partial lockdown					-0.029		0.058	+
Full lockdown					0.008		0.062	*
Pandemic Support Scale							0.043	
Coping Skills Scale							-0.084	**
Emotional Well-Being Scale							-0.427	**
Adjusted R ²	0.02		0.03		0.02		0.21	
N	1,077		1,020		985		915	

** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

in a country under partial or full lockdown increases ministry/work stress, which is alleviated significantly in those with greater coping skills and those with a greater sense of emotional well-being (i.e., balanced affect).

Emotional Well-Being

These African sisters were approximately at midpoint on the emotional well-being scale, with a median score of 10 out of 16. To explore the factors that may be contributing significantly to their sense of emotional well-being, Table 3 presents four regression models for emotional well-being. Models 1, 2, and 3 support the hypothesis that being an extravert is associated with greater emotional well-being (H_{2a}). These models also show a negative association between ASEC program participation and emotional well-being and a positive association between age and emotional well-being. Models 2, 3, and 4 support the hypothesized positive association between lockdown status and emotional well-being (H_{2b}). Model 2 adds the dummy variables for partial lockdown and full lockdown and shows that being in partial lockdown (as compared to no lockdown) had a significant positive effect on emotional well-being, but being in full lockdown did not have a significant independent effect. Model 3 adds the pandemic support scale and supports the hypothesized positive relationship between greater levels of pandemic support and emotional well-being (H_{2c}). Once again, no more than 4% of the total variation in emotional well-being is explained by the variables in Models 1, 2, and 3.

Model 4 adds the scales of coping skills and ministry/work stress, which increased the explained variation in emotional well-being to 23%. None of the demographic variables retained significance in Model 4, but being in partial or full lockdown (compared to no lockdown) were significantly associated with greater emotional well-being. The pandemic support scale was no longer significant in this model, but greater coping skills significantly increased emotional well-being ($\beta=0.101$, $p<0.01$). The

Table 3 Multiple Regression of Selected Items on Emotional Well-Being Scale

	Model 1		Model 2		Model 3		Model 4	
	β		β		β		β	
SLDI or HESA participant	-0.057	+	-0.074	+	-0.078	+	-0.041	
Current age	0.092	*	0.073	+	0.059		0.038	
Years in your ministry/work	-0.021		-0.008		-0.010		-0.014	
Interpersonal ministry	0.025		0.034		0.032		0.036	
Extravert	0.074	+	0.075	+	0.071	+	0.046	
Partial lockdown			0.165	**	0.166	**	0.175	**
Full lockdown			0.051		0.052		0.074	+
Pandemic Support Scale					0.059	+	0.048	
Coping Skills Scale							0.101	**
Ministry/Work Stress Scale							-0.413	**
Adjusted R ²	0.01		0.04		0.04		0.23	
N	1,066		1,028		1,028		915	

** $p<0.01$, * $p<0.05$, + $p<0.10$

ministry/work stress scale was also significant ($\beta = -0.413$, $p < 0.01$), with lower levels of ministry/work stress associated with greater emotional well-being. Model 4 supports the hypothesized balanced affect between ministry/work stress and emotional well-being (H_{2d}).

Coping Skills Scale

These African sisters reported moderate coping skills, with a median score of 12 out of 16 on the coping skills scale. Table 4 presents four regression models for the coping skills scale. Models 1, 2, and 3 support the hypothesis that being an extravert is associated with a greater sense of individual coping skills (H_{3a}). ASEC program participation (as either an SLDI or a HESA participant), years in ministry, and type of ministry/work that involves direct interpersonal ministry (i.e., education, healthcare, pastoral work, or social work) had no significant impact on coping skills, but age had a slightly positive association with coping skills. Model 2 adds the lockdown status of the country and shows some support for the hypothesized positive association between lockdown status and coping (H_{3b}). Model 3 adds the scale of pandemic support, which supports the hypothesized positive association between pandemic support and coping skills (H_{3c}). Each of the three models explains no more than 2% of the total variation in coping skills.

Model 4 adds the scales of emotional well-being and ministry/work stress, which increases the explained variation in coping skills to 5%. None of the other variables except pandemic support retained significance in Model 4, but emotional well-being and ministry/work stress both support the hypothesized balanced affect relationship between stress and well-being (H_{3d}). Emotional well-being is associated with greater coping skills and lower ministry/work stress is also associated with greater coping skills.

Table 4 Multiple Regression of Selected Items on Coping Skills Scale

	Model 1		Model 2		Model 3		Model 4
	β		β		β		β
SLDI or HESA participant	-0.029		-0.012		-0.017		0.023
Current age	0.064	+	0.049		0.031		0.023
Years in your ministry/work	0.025		0.042		0.040		0.063
Interpersonal ministry	-0.031		-0.024		-0.028		-0.046
Extravert	0.064	*	0.067	*	0.061	+	0.048
Partial lockdown			-0.003		-0.001		-0.027
Full lockdown			0.067	*	0.070	*	0.047
Pandemic Support Scale					0.084	**	0.085
Emotional Well-Being Scale							0.125
Ministry/Work Stress Scale							-0.100
Adjusted R ²	0.01		0.01		0.02		0.05
N	1,087		1,050		1,050		915

** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

Conclusion and Implications

The purpose of this study was to seek an organizational understanding of ASEC stakeholders' experiences and coping mechanisms during the COVID-19 pandemic in order to prepare a proactive response to this unprecedented phenomenon at the organizational level. The findings of this study suggest that the pandemic has had a significant impact on stakeholders, particularly in their ministry/work settings. Being an SLDI/HESA participant significantly increased ministry/work stress and decreased perceived emotional well-being slightly. Working in a country under lockdown increased ministry/work stress, while positive attitudes about their ability to cope and their emotional well-being reduced their levels of ministry/work stress. Working in a country that is under lockdown, experiencing lower levels of ministry/work stress, and confidence in one's coping skills all positively impacted these sisters' emotional well-being. In turn, emotional well-being was significantly related to greater coping skills, which was also impacted by lower levels of ministry/work stress and greater sources of pandemic support.

This study is significant in that it assesses the status of ASEC's stakeholders at the very beginning of the COVID-19 pandemic and provides evidence of some of the important factors that contributed to ministry/work stress, emotional well-being, and coping skills during a pandemic. This knowledge assists the organization in prioritizing their needs, and informs ASEC operations during the unprecedented COVID-19 pandemic. The study has application for other organizational collaborations as well, as it demonstrates how resilience and coping mechanisms among stakeholders in a collaborative can be measured and documented to promote well-being and further a sense of mutual cohesion. Furthermore, this study is highly relevant as it adds to the growing body of literature available on the impact of the COVID-19 pandemic and provides unique insights into the challenges faced by both lay and religious individuals throughout Africa south of the Sahara.

Limitations of the Study and Recommendations for Future Research

This case study has immediate practical application for ASEC and its stakeholders but may be limited in its generalizability due to the limited number of cases within countries. A longer window of opportunity may have resulted in a higher response rate, particularly since the study was conducted during the early months of the COVID-19 pandemic, when participants were likely to be stretched thin with many responsibilities.

Another limitation of the study is the relatively low alphas on the scales, particularly the ministry/work stress scale. Given the global nature and magnitude of the COVID-19 pandemic, there was no known preexisting scale that could have been utilized to fit the exact needs of this study. Therefore, the scales were researcher-designed and had not been tested for internal consistency or reliability prior to this study. While acknowledging the value of the data collected, particularly to the direct practice of the organization, the scales that were used limit the generalizability of this study. Further tests and refinements of the scales and perhaps adaptation of the

Francis Burnout Inventory could be utilized in future research on this population to confirm the Cronbach's Alpha scores produced in this study are validated through additional studies.

The survey also relied on self-reported responses, which indicates results may only be subjective stances that are likely to change if participants took the same survey at a different time. Participants may not have been well-disposed to articulate their experiences and needs due to the fluid situation of the pandemic and looming anxiety was accelerated by the fear of the unknown. The study could be replicated at different points in time and within selected sisters' ministries, such as healthcare (e.g., nurses, aides, pharmacists) and education (e.g., teachers, administrators), to better understand the specific impact of the COVID-19 pandemic in these sectors. More in-depth case studies could be conducted in these specific ministries to develop a fuller picture of the pandemic's influence. A case study could also be conducted regarding the impact of the pandemic at the congregational level, utilizing ASEC's most-served congregations as references. It is also suggested that the same variables be applied to better determine the differences in experiences between women and men religious and a larger group of laity. Further, a post COVID-19 study among ASEC stakeholders would also be helpful in determining the full impact of the situation and the effects of the lockdown in hindsight. This would allow for improved preparation for possible similar situations in the future.

About ASEC:

The African Sisters Education Collaborative (ASEC) operates in ten countries of Africa south of the Sahara, through partnerships with 24 institutions of higher education, 39 consultancy groups, and ten national associations/conferences of women religious. ASEC facilitates four core programs: the Higher Education for Sisters in Africa (HESA) program, the Sisters Leadership Development Initiative (SLDI), the ASEC Two-Year Scholarship program and the Service-Learning program. In addition, ASEC's Institutional Capacity Building (ICB) program is being piloted under SLDI and its Visiting Scholar Fellowship is run in partnership with the Center for Applied Research in the Apostolate (CARA) at Georgetown University under ASEC's Research Initiative.

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Authors and Affiliations

Mary Cecilia Draru¹ · Tara Lopatofsky¹ · Kevin Karimi¹ · Mary L. Gautier¹

✉ Mary L. Gautier Ph.D.
gautierm@georgetown.edu

¹ African Sisters Education Collaborative, Emmanuel Hall, 2300 Adams Ave., 18509, PA Scranton, United States