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# The Department Chair Evaluation Tool (DCET): An Instrument for Measuring Department Chair Performance

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## Introduction

Department chairs play a vital role in academic administration. Department chairs, also referred to as “department heads” at many colleges and universities, typically are identified based on a history of exemplary work in the areas of teaching, research and/or service and subsequently selected based on curriculum vitae reviews, interviews, presentations and letters of recommendations from superiors and subordinates alike (Reddy, 2016; Shapiro et al, 2017). Broadly, the role of a chair is to provide leadership in a department that typically is comprised of some combination of faculty, staff, and students (e.g., graduate teaching/research assistants, etc.). More specifically, chairs often oversee recruitment and retention efforts, provide fiscal oversight and manage complex budgets, develop and implement academic policy, advocate for the department and its members, enforce compliance with various regulating bodies, promote healthy work and educational environments, ensure personnel accountability, mediate difficult situations, be the bearer of both good and bad news, and boost morale by being supportive of and encouraging to others. What’s more, in many instances chairs are also expected to continue conducting research, engaging in teaching and providing service both internally and externally to the institution (Hancock, 2007; Silverman, 2018).

Numerous articles have been written about the role of a chair and how to become one (Carroll & Wolverton, 2004; Hecht, 1999; 2006; Gmelch, 1993; 2004; and King, 1997). Similarly, a number of “survival guide” and reflection pieces have been written from self-identified “recovering chairs” discussing the toll the position often takes upon them (Bailey et al, 2017; DeLander, 2017; and Ness & Samet, 2010). One of the greatest challenges for chairs is most have little or no formal managerial training prior to accepting the position. For many, this is the first time they have been responsible for managing people, finances and policy. The role of a chair has been characterized as extremely stressful and typically involves a considerable sacrifice of both one’s professional and personal time (Gmelch, 1991; Silverman, 2018).

Because of the complexities associated with these positions and the prominent role department chairs play in colleges and universities, chairs, like other chief administrators (e.g., deans), typically must also be evaluated periodically. Unlike deans, however, the body of literature addressing department chairs is relatively sparse. Further, there is virtually no literature that addresses instruments or tools to evaluate chairs' performance. The purpose of this article is to fill this gap in the literature by presenting an instrument that was created by a 10-person committee charged with evaluating a department chair's performance at a large public university in the United States. Specifically, we discuss the process for constructing the instrument and describe discernible validity evidence relating to the instrument's psychometric properties. It is our hope that individuals at other colleges and universities will adopt, or perhaps modify, the instrument for their specific purposes and institutional contexts.

## Methods

### *Context and Setting*

The setting for this work occurred at a college of veterinary medicine (CVM) located in the United States. The CVM delivers instruction leading to doctor of veterinary medicine (DVM) and graduate degrees (e.g., MS, PhD) in various biomedical specialties. In addition to traditional academic functions, the CVM also manages a veterinary hospital and many of the college's faculty work closely with other local health professions programs (e.g., colleges of medicine, pharmacy, etc.), research centers and industry partners. Stakeholder groups within the CVM include faculty, staff (e.g., administrative personnel, veterinary technicians, etc.), veterinary and graduate students, residents, interns and postdoctoral scholars. External stakeholder groups include industry partners who represent commodity groups, agribusiness, practicing veterinarians and governmental agencies. Thus, the context in which department chairs provide leadership at our institution is complicated by factors somewhat typical of health professions programs, but perhaps atypical to other college and university programs.

Per our university's guidelines, department chairs must be evaluated every five years. An evaluation committee was created by the college's dean to carry out the evaluation of one department chair. The committee consisted of 10 members, which included eight faculty and two staff members. Of the eight faculty, six held appointments from the department in which the chair was being evaluated, whereas the other two represented the college's other two departments. With respect to the two staff members, one was a member of the department in which the chair was being evaluated and the other was a member of the dean's office.

As part of a comprehensive evaluation of the department chair, various subgroups (e.g., faculty, staff and external stakeholders) were independently surveyed. Two focus groups were held with a representative sample of DVM students. The purpose of the focus groups was to gain insights not necessarily about the chair, but rather about the courses and the portion of the curriculum that s/he oversees. Results from the surveys and focus groups (not reported here) were reviewed and summarized by the evaluation committee and subsequently shared with the college's dean who then triangulated the committee's findings with his own (supervisor) evaluation and met with the department chair to relay the findings and discuss next steps.

### *Operationalizing the Construct*

The starting point for instrument development consisted of determining what criteria comprised performance given the role of a department chair. Committee members began by considering criteria explicitly denoted on the chair's job description, the chair's stated distribution of effort in areas such as leadership and research, criteria outlined by the college's strategic plan and general facets expected

of a 'good' leader. Broad concepts such as "supports faculty growth and development", "effective communication" and "financial stewardship" were initially defined. Once the committee was satisfied with the list of concepts generated and deemed them sufficiently exhaustive, the committee began constructing an initial draft of the instrument.

### *Constructing the Instrument*

Committee members attempted to create each survey item. This process consisted of considerable debate, which typically involved discussions relating to issues such as specificity, clarity, readability and relevance. After the committee was satisfied with the initial draft, the survey was entered into a survey software program and pilot-tested by members of the committee. Members were instructed to approach the survey from the vantage point of a would-be participant, as opposed to someone with knowledge of the survey and its construction. Using this 'lens', committee members were able to further fine-tune the instrument to improve its clarity and readability. Upon unanimous approval from the committee the instrument was shared with the dean of the college for additional input and approval. The dean also met with the department chair to review the evaluation instrument(s), clarify how the evaluation process would work and offer the chair an opportunity to provide feedback and discuss any concerns.

### *Instrumentation*

The final product of the committee's work resulted in the Department Chair Evaluation Tool (DCET), which consisted of 18 quantitative items (see Table 1) and 3 qualitative (open-ended) items. The DCET utilized a five-point Likert-type rating scale with the following categories: 1 = Strongly Disagree; 2 = Disagree; 3 = Agree; 4 = Strongly Agree; and 5 = Don't know/No opinion. The 'Don't know/No opinion' option was necessary to include given the highly variable roles of the college's faculty, and the varying types of interactions faculty might have with the department chair. Inclusion of the 'Don't know/No opinion' option would also mitigate sources of measurement error stemming from otherwise forced-choice responses, and would provide evaluators the flexibility to treat ratings in this category as unscored/missing to potentially aid with the interpretation of results. Additionally, three open-ended items were included to collect both more specific and more exhaustive input. The open-ended items included: "What areas do you consider to be his/her greatest strengths as department head?", "In what areas can s/he improve performance as department head?", and "Additional comments: (Please feel free to elaborate on previous ratings or comment on anything not addressed in this evaluation)".

One item (Q12) "Promotes inclusivity and diversity in the department and college" contains what would normally be considered two item construction flaws as it is 'double-barreled' by asking about both "diversity and inclusivity" in the "department and college". After considerable debate, the item was retained because it corresponded with the language of the college's strategic plan. Under different circumstances, however, this item should be divided into potentially four separate items (e.g., Promotes diversity in the department; Promotes diversity in the college; Promotes inclusivity in the department; and Promotes inclusivity in the college). Others considering adopting DCET will likely need to modify this item in order to reduce measurement error and improve its interpretive validity. Further, items with common themes were grouped together to help reduce the mental burden (cognitive load) on participants and help mitigate participant attrition. Finally, items of a summative nature were included at the end of the DCET to capture participants' perspective after having considered the various facets previously addressed in the survey.

Table 1 – Instrument for Evaluating Department Chair Performance

Item	Statement
Q1	Supports excellence in teaching
Q2	Supports excellence in clinical service
Q3	Supports excellence in research
Q4	Supports the educational mission of the college
Q5	Supports professional development of faculty
Q6	Manages an effective mentoring program for faculty
Q7	Demonstrates a clear understanding of the roles of faculty members in his/her department
Q8	Supports essential hiring needs to fulfill departmental goals
Q9	Effectively communicates with the faculty
Q10	Supports collegial behavior within the department and college
Q11	Appropriately addresses conflict
Q12	Promotes inclusivity and diversity in the department and college*
Q13	Fosters collaborative exchanges within the college
Q14	Fosters collaboration with external partners (e.g., academia, industry)
Q15	Effectively manages the departmental budget
Q16	Effectively advocates for departmental needs
Q17	Effectively performs his/her duties as department head
Q18	Demonstrates overall effective leadership

\*Item should be adapted when used at other institutions.

#### *Developing Related Instruments*

As part of a holistic evaluation, similar instruments were created to investigate the performance of the department chair from additional perspectives. The same processes previously noted were utilized to create separate instruments for staff, house officers (e.g, residents and interns) and external stakeholders. Instances in which the same issues would need to be addressed (e.g., collaborations within the college, supports research, etc.) the items were unchanged and used verbatim on other instruments. Instances in which the topic remained the same but the audience differed the word ‘faculty’ was replaced with ‘staff’, ‘house officers’, etc. (e.g., supports professional development [of staff], effectively communicates [with staff]). Because of a very limited number of responses on each of the additional instruments ( $n \leq 13$ ), we have insufficient data to speak to the psychometric properties of the additional instruments. Preliminary analyses (not reported here), however, do indicate the items functioned in a manner consistent with the faculty version. Thus, there is some, albeit limited, evidence that the DCET may be modified, where appropriate, and extended to other stakeholder groups.

#### *Psychometric Validation*

A total of 36 responses were obtained from the survey of faculty. Data were analyzed via the Rasch Rating Scale Model (RRSM) (Andrich, 1978). According to the RRSM, the probability of a person  $n$  responding in category  $x$  to item  $i$ , is given by:

$$P_{xni} = \frac{\exp \sum_{j=0}^x [\beta_n - (\delta_i + \tau_j)]}{\sum_{k=0}^m \exp \sum_{j=0}^k [\beta_n - (\delta_i + \tau_j)]} \quad x = 0, 1, \dots, m$$

where  $\tau_0 = 0$  so that,  $\exp \sum_0 [\beta_n - (\delta_i + \tau_j)] = 1$ ,  $\beta_n$  is the person's position on the variable,  $\delta_i$  is the scale value (difficulty to endorse) estimated for each item  $i$  and  $\tau_1, \tau_2, \dots, \tau_m$  are the  $m$  response thresholds estimated for the  $m + 1$  rating categories. The RRSM was selected because it is considered by many experts in psychometrics to be the gold standard approach for validation studies involving polytomous data, particularly surveys with static rating scale categories (Bond & Fox, 2007). Although the advantages and technical specifics of the RRSM are well-documented in the research literature (Bond & Fox, 2007; Engelhard, 2014; Royal, 2010), we sought to identify some of the most salient psychometric properties relevant to construct validity evidence (Messick, 1989; AERA, NCME, APA, 2014).

First, we investigated both Cronbach's alpha and Rasch-based real and model reliability coefficients ( $r$ ) to determine the extent to which the measures would be statistically reproducible. Per recommended guidelines (George & Mallery, 2003), values  $0.7 < r < 0.8$  would be considered 'Acceptable',  $0.8 \leq r < 0.9$  would be considered 'Good', and  $0.9 \leq r$  would be considered 'Excellent'. Next, we investigated strata (statistically distinguishable levels within the data) by evaluating the range of separation measures. Recommended guidelines (Fisher, 2007) indicate 2-3 levels is considered 'Fair', 3-4 is 'Good', 4-5 is 'Very Good', and  $> 5$  is 'Excellent'. It should be noted that both sets of aforementioned guidelines are merely recommendations for interpretation and not 'hard and fast' rules. For example, 3 strata technically could be considered 'Fair' or 'Good' based on the guidelines. In practice, however, it is acceptable to state the values approximate the qualitative threshold near, or perhaps between, the 'Fair' and 'Good' categories.

We then evaluated the quality of items by examining: 1) item targeting via a person-item graph; 2) item stability measures via outfit mean square fit statistics; and 3) item discrimination via point-measure correlations. Ideally, items should be well-targeted to the sample frame. That is, items should be neither too easy nor too difficult for participants to endorse. A distribution in which the person and item measures mirror one another on the same measurement scale is ideal. With respect to mean square fit statistics, recommended guidelines indicate primary consideration should be given to outfit mean square values, where values  $> 2.0$  'distort measurement', 1.5-2.0 are 'unproductive, but not degrading to measurement', 0.5-1.5 'productive for measurement', and  $< 0.5$  is 'less productive for measurement, but not degrading' (Wright and Linacre, 1994). Discrimination guidelines from the Rasch framework depart from conventional guidelines that suggest values should exceed 0.2. Under the Rasch framework, interpreting correlations is complex because values are influenced by a variety of factors (e.g., predictability of data, item and person targeting, person distribution), thus it is generally recommended that any item that has a positive point-measure correlation is indicative of an item that is functioning as intended (Linacre, 2019).

Next, we evaluated rating scale functioning by examining: 1) how participants made use of each response option; 2) the ordering of the Andrich-threshold measures; and 3) if the categories were easy for participants to interpret via examination of the item probability curve. A rating scale is considered effective when respondents make use of all category options, when the Andrich-threshold measures advance in a positive, stepwise manner, and when the probability curves do not mirror one another graphically (Linacre, 2002). Finally, we evaluated the variance explained by performing a principle components analysis of standardized residual correlations (PCA-SRC). Because PCA-SRC results are highly variable depending on person-item targeting, there currently are no recommended guidelines for variance explained (Fisher, 2007). However, in social science measurement variance explained is often acceptable with as little as 20-25%, thus we held an arbitrary threshold of 25% as a reasonable criteria. Winsteps (Linacre, 2019) measurement software (version 3.93.0) was used to perform the analyses.

## Results

With respect to measure reliability, the Cronbach's alpha coefficient was .95. RRSB-based reliability estimates were .92 (real) and .93 (model), respectively. Strata, as determined by separation measures, ranged between 3.35 and 3.73, indicating 3-4 statistically distinguishable levels of separation. With respect to item quality, the person-item graph (see Figure 1) illustrated the items were well-targeted to the sample. With respect to quantitative indicators (see Table 2), all point-measure correlations were positive. With respect to outfit mean square fit statistics, no item exceeded the upper threshold of 2.0, and only 2 items fell below the recommended lower threshold of 0.5 (items Q7 and Q17).

With respect to rating scale functioning (see Table 3), participants made use of all rating scale categories, and outfit mean square statistics for each rating scale option fell between 0.5 to 2.0. Further, Andrich-threshold measures advanced in ascending order. Probability curves (see Figure 2) illustrated the rating scale categories functioned independently of one another. Finally, the PCA-SRC indicated 56.4% of the variance was explained by the measures.

Figure 1 – Person-item interaction graphic

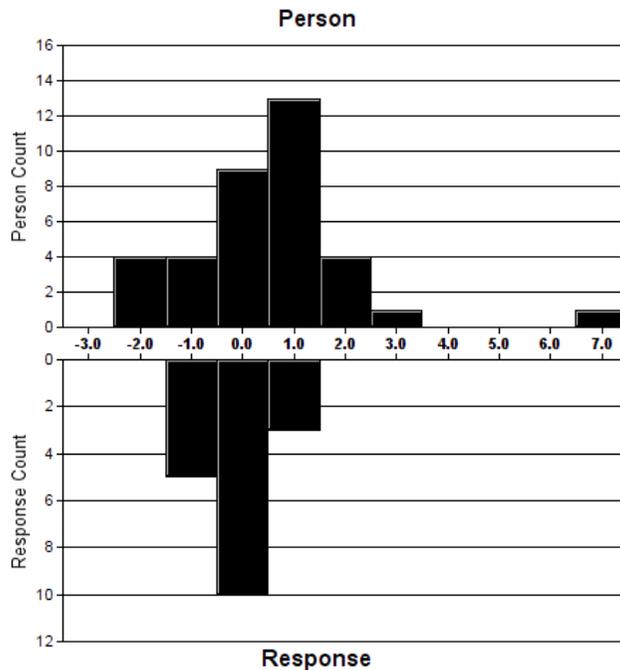


Table 2 – **Item quality indicators**

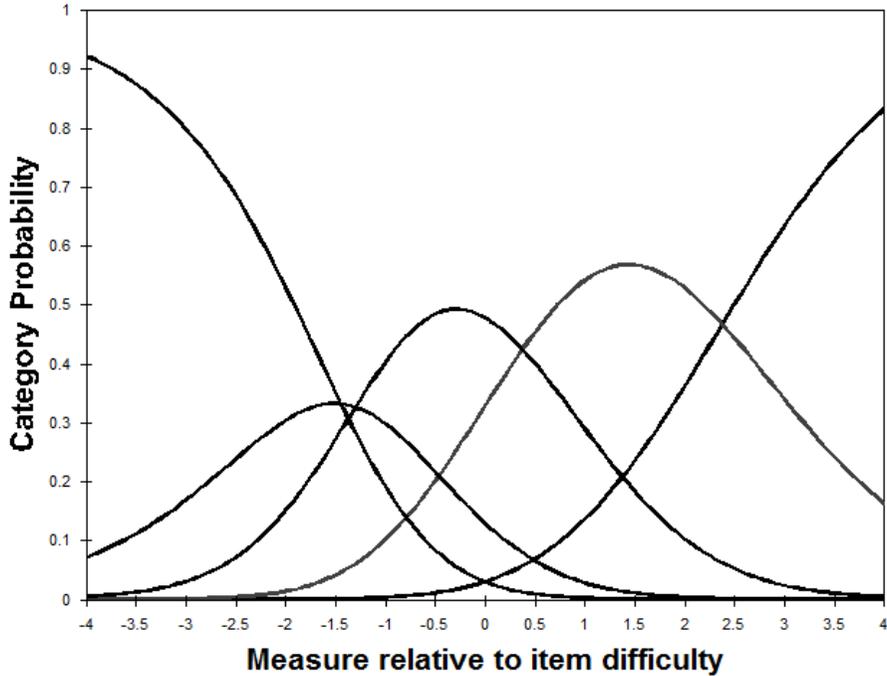
Item	Error	INFIT Mean Square	OUTFIT Mean Square	Pt. Measure Correlation
Q1	.22	.88	.84	.70
Q2	.22	1.90	1.84	.54
Q3	.23	.58	.52	.70
Q4	.22	.67	.61	.76
Q5	.22	.82	.79	.72
Q6	.22	1.13	1.07	.64
Q7	.21	.44	.44	.84
Q8	.22	.84	.78	.69
Q9	.21	.52	.52	.86
Q10	.22	.88	.81	.76
Q11	.22	1.66	1.56	.69
Q12	.23	1.53	1.26	.50
Q13	.22	.80	.88	.67
Q14	.23	.78	.70	.67
Q15	.24	2.07	1.87	.35
Q16	.23	1.32	1.18	.56
Q17	.22	.27	.27	.87
Q18	.21	.65	.57	.79

Note: Item measures (commonly denoted ‘Di’) are not reported, as these data would compromise personally identifiable information from one of the college’s department chairs.

Table 3 – **Rating scale diagnostics**

Rating Category	n	%	Andrich-Threshold	Category Measure
(1) Strongly Disagree	62	10	NONE	-2.94
(2) Disagree	73	11	-1.45	-1.51
(3) Agree	189	29	-1.30	-.29
(4) Strongly Agree	226	35	.37	1.44
(5) Don’t know/No opinion	98	15	2.38	3.57

Figure 2 – Rating scale probability curve



## Discussion

### *Validity Evidence*

According to Messick (1989) validity ought to be conceptualized as a uniform concept in which various ‘aspects’ of validity contribute to produce a summative body of evidence. Messick identified six aspects of validity, which include *substantive*, *content*, *structural*, *generalizability*, *external* and *consequential*. Using Messick’s framework for evaluating construct validity, we will briefly summarize discernible validity evidence as it relates to the psychometric properties of the instrument by using the recommended guidelines previously presented.

With respect to reliability, values considered ‘Excellent’ coupled with strata values characterized as ‘Fair’ and ‘Good’ speak to the *generalizability* aspect of validity. Sixteen of the 18 items indicated good fit; only two items (Q7 and Q17) fell below the recommended threshold for fit indicating responses obtained may be overly predictable but not degrading to quality measurement. A qualitative assessment of these items, however, found there was no theoretical reason to delete the items from the instrument. Adequate fit statistics coupled with appropriate point-measurement correlations and proper person-item targeting speak to the *content* aspect of validity. Rating scale indicators (both quantitative and visual) speak to the *structural* aspect of validity. Finally, the PCA-SRC indicated over 50% of the variance was explained by the measures, which speaks to the *substantive* aspect of validity. We present no evidence that speaks to the *external* or *consequential* aspects of validity. Collectively, however, there is a great deal of validity evidence to support the use of the DCET to evaluate department chair performance.

### *Other Considerations*

Modern validity theory refers to the collective body of evidence (both empirical and theoretical) that supports the intended use and interpretation of scores (AERA, APA, NCME, 2014). This article presents validity evidence in the context of measuring department chair performance. We contend there is a wealth of validity evidence to support, and encourage, the use of the DCET for measuring a department chair's performance. Although we cannot speak to the interpretation and use of results as this will likely vary by institution and context and may be subject to institutional policy and/or privacy laws (the *consequential* aspect of validity), we can offer some general recommendations.

First, it is important to note the overarching construct measured is perceptions of a department chair's performance. Perceptions do not necessarily mirror reality, thus evaluators would be wise to remain cognizant of this important fact. Second, it is important to consider the degree of 'distance' participants might have from the department chair. In the context of our evaluation, we placed greater priority on input from faculty that reported directly to the department chair, and lesser priority on input from faculty from other departments who typically have significantly fewer interactions with the chair and are more likely to develop views based on hearsay and other forms of indirect information. Third, we found tremendous value from the three open-ended items included at the end of the survey. Themes discerned via a qualitative analysis of comments helped provide a supplemental perspective to the quantitative data and helped illuminate common threads across stakeholder groups.

### *Extensions to Other Programs and Contexts*

Although the instrument was originally constructed to evaluate a department chair in a college of veterinary medicine, it may be extended to evaluate department chairs in virtually any higher education environment (e.g., community and technical colleges, public and private colleges/universities, graduate and professional schools). We recently used a modified version of the DCET to measure performance of an associate dean with similar oversight of faculty, staff, residents, interns and students. Preliminary data (not reported here) indicate the instrument possessed comparable psychometric qualities, although the reliability coefficients were slightly lower (.77 to .81), but well within the acceptable range ( $r \geq .70$ ). Thus, there is some limited evidence to support the use of the instrument for other types of college and university administrators.

## **Conclusions**

Department chairs play a vital role in academic administration. Surprisingly, however, there is scant literature about department chairs and methods to evaluate them, and no discernible literature that addresses any validated instruments to evaluate a chair's performance. The purpose of this article was to fill this gap in the literature by presenting a newly developed instrument and evaluating its psychometric properties (validation). Findings indicate the DCET is a psychometrically sound instrument capable of yielding valid and reliable measures of a department chair's performance. We encourage university administrators and faculty to adopt, and potentially modify, the instrument for evaluating department chairs and potentially other individuals who serve similar roles in academic administration.

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# Education Deans' Ways of Thinking, Being, and Acting: An Expanded National Survey

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A recent portrait of colleges of education reported that education deans are expected to be skilled administrators, distinguished scholars, thoughtful collaborators with primary and secondary school colleagues, and persuasive fundraisers who have a compelling vision for their schools, colleges, and divisions (King & Hampel, 2018). Serving as an effective education dean has come to require even more capacity as teacher preparation programs have been charged with, among a host of other directives, intensely examining their impact on primary and secondary students' learning. Accordingly, education deans, directors, and the like must provide concrete evidence of how their programs prepare teacher candidates to impact positively the learning that takes place in primary and secondary classrooms and schools. Adding to the challenge, education deans must work with their constituencies to demonstrate ways in which they are preparing their graduates for success with an increasingly diverse student population.

Unlike most other academic deanships, education deans must routinely contend with a litany of public criticisms from politicians, legislators, news media, and entrepreneurs who scrutinize the quality of education programs, personnel, and students. As a result, they must be vigilant about others' seemingly relentless quest to identify avenues to disparage, proactive in representing their academic units and institutions to the community, willing to work with detractors, and committed to engaging alumni, civic leaders, government agencies, non-profit organizations, and potential donors to help move their academic units forward (Montez, Wolverson, & Gmelch, 2003).

At the same time, deans of schools and colleges of education bear ultimate responsibility for all internal matters, most notably budgets, curriculum and program development, faculty and staff hiring and performance, and teacher candidate achievement. In serving as academic facilitators and intermediaries between presidential initiatives, administrative operations, faculty governance, and student needs, these leaders need to be equipped to work successfully with an extensive range of interests, individuals, and groups to promote the missions of their institution and academic unit (Rosser, Johnsrud, & Heck, 2003).

Given these challenges, the study of the education deanship and what is perceived as contributing to success in that key role qualifies as both timely and important. Such research can help standing deans reflect on their own attributes and practices and perhaps adapt them to better effect. As the key administrators for their schools and colleges, they need to capitalize on their most effectual individual traits and qualities to ensure success for their students, faculty, alumni, and staff. These inquiries can also assist prospective deans in understanding what capabilities figure to be necessary in increasing

the impact of their leadership should they assume these roles. Such research is also valuable for institutions who wish to mentor and groom standing deans to move into provost and/or president positions.

### **Previous Research about Deans**

Most research conducted about education deans in the United States has focused on biographical, structural, and contextual factors (Anderson & King, 1987; Blumberg, 1988; Bowen, 1995; Bright & Richards, 2001; Clifford & Guthrie, 1988; Dejnozka, 1978; Denmark, 1983; Enomoto & Matsuoka, 2007; Gardner, 1992; Geiger, 1989; Gmelch, 1999; Gmelch, Wolverton, Wolverton, & Sarros, 1999; Heald, 1982; Howey & Zimpher, 1990; Huffman-Joley, 1992; Jackson, 2000; Judge, 1982; Lessor, 2008; Martin, 2003; Riggs & Huffman, 1989; Thiessen & Howey, 1998; Wisniewski, 1977). One such line of research focuses on deans' positioning in the middle of administrative hierarchies in colleges and universities; that is, the mediation they must do between administration and faculty (Dill, 1980; Gmelch, 2002; Gould, 1983; Kerr, 1998; McCarty & Reyes, 1987; McGannon, 1987; Morris, 1981; Salmen, 1971; Zimpher, 1995).

Deans must help faculty move in directions that correspond to the overall mission of the institution, while arranging and organizing their human and material resources to accomplish objectives of immediate importance to their academic units (Morsink, 1987). They must also promote quality teaching and scholarly activity and participate in strategic planning and goal setting on behalf of both the university, their academic units, and in the case of education deans, assisting P-12 education partners. Academic deans across many disciplines might be expected to develop effective partnerships with community agencies, not-for-profit and for-profit organizations, and schools (Boyd, 2008; Bruess, McLean, & Sun, 2003; Hartley & Kecskemethy, 2008; Wimpelberg, 2009), but that expectation is typically much greater for education deans.

Research on currently practicing education deans' reflections of their own practices or use of their own self-reflection to examine their leadership tendencies and behaviors is scarce, however. One such self-reflective body of work is Bowen's (1995) *The Wizard of Odds: Leadership Journeys of Education Deans*. While this volume provided self-reflective narratives from three different education deans about their experiences in the role, these deans had already stepped down from their positions. By contrast, the current survey has potential for shedding light on presently serving deans' perceptions about important characteristics for effective performance.

### **Current Study**

The present study is a follow-up to a national survey in the United States of education deans' beliefs about essential ways of thinking, being, and acting (Henk et al., 2017). The empirical instrument used, the *Dean's Performance Belief Survey 2*, identifies the importance of various essential views education deans hold about factors related to success in their roles. This instrument, expanded since its first administration, includes additional items related to deans' performance responsibilities. The motivation for conducting this follow-up national survey was to contribute to the existing literature on how education deans in particular orient themselves toward a range of leadership beliefs, demeanors, and behaviors. This survey, like its predecessor, was hosted by the American Association of Colleges of Teacher Education (AACTE), a nonprofit national alliance of more than 800 postsecondary institutions with educator preparation programs dedicated to elevating education and educator preparation through research, professional practice, advocacy, and collaboration.

## Methods

**Participants.** A total of 99 (11.5% of 860) deans completed the survey with 57% of the respondents identifying as female, 39% identifying as male, and 4% unspecified. Three-fifths were over 56 years old, and almost half of this group of respondents was in the 61 to 65 age range. More than two-thirds were in their current position for five years or less. A majority worked at public institutions that were moderate to large in size (5000 students or more), and most respondents (79%) came from the east coast (both north and south) or the Midwest. Sixty-two percent of the deans oversaw academic units consisting of five or fewer departments. Their enrollments tended to be once again relatively balanced between less than 600 (31%), between 601 and 1400 (26%), between 1401 and 2600 (43%), and 2601+ (16%).

**Instrumentation.** The current survey resulted from feedback from over 133 education deans on the initial Dean Performance Belief Survey (DPBS). The Deans who provided feedback on the original survey attended the 2016 Deans Academy at the American Association for Colleges of Teacher Education (AACTE) Annual Meeting. The deans agreed that the initial survey, which consisted of 56 items, had clear merit in identifying perceptions of what the Deans believe was important in thinking, being, and acting in their jobs. However, they suggested that additional categories ought to be included to capture other important attributes.

Their recommendations led to expand the survey to include nine categories of items that they believed were missing from the initial survey including: Honesty, Flexibility, Communication, Transparency, Humor, Vision, Advocate, Delegator, and Listener. As with the initial survey, statements were drafted and refined to create items representing each of the nine major recommendations. Like the existing items, these consisted of a root statement and three parallel statements, making for 36 new items. Participants were asked to respond to each item using a five-point scale: Non-Essential, Little Value, Some Value, Definite Value, and Essential. Major recommendations and example items for the new items are provided in Table 1.

The new items were combined with the original items, and each of the 92 items was randomly reordered to form our expanded survey instrument, the *Deans Performance Belief Survey 2 (DPBS2)*.

The subscales of the DPBS2 showed sufficient reliability with 20 of the 23 Alpha coefficients exceeding .70. As shown in Table 2, only the coefficients for Flexibility, Delegator, and Communication fell slightly below this threshold, and six coefficients measured .80 or higher.

**Procedure.** In November 2016, AACTE invited deans and directors from its membership to complete the expanded survey. As with the organization's earlier request to complete the original instrument, AACTE first announced the survey in a descriptive blog post and embedded a hyperlink to it in its electronic newsletter for members, *Ed Prep Matters*. The link contained a general request to education deans and directors to participate in the survey. Additionally, 860 deans were directly targeted in a separate email message encouraging completion of the survey and noted that the information had appeared in *Ed Prep Matters*, and a reminder message followed some time later.

**Table 1 – Major Recommendations with Corresponding Sample Survey Item**

Major Recommendation	Example Survey Item
Be vigilant	Stay alert to developments that could impact your college or school
Remain calm	Maintain your poise in all instances
Value relationships and others' achievements	Have regard for those in your professional circles
Be strategic	Be planful and stay focused on outcomes
Provide guidance and coaching	Provide guidance to those you encounter in your leadership role
Plan ahead	Organize your thoughts and actions beforehand
Seek help and learn from others	Pursue guidance from individuals within your networks
Solve problems creatively	Use innovation to address challenges
Follow through	Follow through on commitments
Set limits	Draw the line on how much you commit to do
Trust in yourself	Believe in your judgments and talents
Persist	Stay the course
Be prepared to deal with the consequences of difficult decisions	Ready yourself for pushback on your actions
Don't assume	Don't take too much for granted
Be honest *	Remain upfront with people
Be flexible *	Adjust to conditions
Communicate extensively *	Keep people well-informed
Be transparent*	Be open in reporting
Have a sense of humor *	Share laughter with others
Be visionary *	Envision opportunities
Advocate for your school or college *	Champion your school or college
Delegate *	Entrust others to assume major duties
Listen *	Pay attention to what others are saying

\* Items added to Survey 2.

## Results

The participating deans rated all 23 scales as having at least Some Value or higher, and the majority of the scales were regarded as having Definite Value. More specifically, scale means ranged from 4.66 to 3.85. The means for Honesty, Advocator, Follow Through, and Flexibility were particularly high, representing ratings that fell more than halfway between Definite Value and Essential (from 4.60 to 4.66). It is noteworthy that three of these highest four scales—Honesty, Advocacy, and Flexibility—were developed as a result of the previous year's Deans Academy recommendations. The means of the other scales on the DPBS2 were too close in magnitude to differentiate as clusters or to rank in importance. Table 3 presents the scale means and corresponding standard deviations.

Consistent with the findings from the administration of the original survey, Follow Through, Vigilance, Calmness, and Relationships were ranked notably higher than Seeking Help, Providing Guidance, and Setting Limits on the DPBS2. The only category that seemed to be ranked appreciably lower in the second survey was Plan Ahead. The education deans ranked most of the scales as having

Scale	Alpha
Problem Solving	.87
Vision	.84
Calmness	.82
Help	.82
Planning Ahead	.82
Guidance	.80
Assumptions	.79
Limits	.78
Relationships	.78
Trust Yourself	.78
Advocator	.77
Humor	.77
Follow Through	.76
Transparency	.76
Vigilance	.74
Consequences	.73
Strategic	.73
Listener	.71
Honesty	.70
Persistence	.70
Communication	.69
Delegator	.67
Flexibility	.66

Definite Value. As with the first survey, Follow Through and Calmness continued to be among the highest rated and Guidance and Setting Limits continued to be among the lowest.

Two additional observations stood out: 1) females tended to perceive relationships and listening to be more important than males; and 2) experienced deans valued setting limits more than less experienced deans did. The tendency for females to value more than males the value of relationships and listening seems to be in line with the research that women leaders are more empathic than men (Touissaint & Webb, 2005). The tendency for veteran deans to appreciate the value of setting limits may reflect their firsthand experiences with unanticipated complications that arise from a lack of boundaries or parameters.

**Table 3** – Comparison of Means and Standard Deviations Rank-Ordered for Deans Performance Belief Surveys 1 and 2

Survey 2			Survey 1		
Scale	Mean	SD	Scale	Mean	SD
Advocator *	4.66	.44	Follow Through	4.62	.36
Honesty *	4.66	.37	Vigilance	4.58	.43
Follow Through	4.65	.38	Calmness	4.52	.49
Flexibility *	4.60	.41	Relationships	4.52	.41
Communication *	4.52	.42	Trust Yourself	4.38	.51
Calmness	4.51	.50	Strategic	4.37	.45
Strategic	4.49	.43	Plan Ahead	4.33	.49
Vigilance	4.47	.45	Problem Solving	4.28	.61
Trust Yourself	4.43	.47	Persistence	4.28	.52
Persistence	4.40	.51	Consequences	4.22	.56
Relationships	4.40	.46	Assumptions	4.22	.57
Vision *	4.38	.55	Seek Help	4.20	.54
Delegate *	4.36	.41	Guidance	4.03	.56
Listen *	4.36	.50	Set Limits	3.65	.74
Consequences	4.34	.48			
Problem Solving	4.28	.57			
Transparency *	4.24	.51			
Humor *	4.23	.57			
Seek Help	4.23	.55			
Assumptions	4.20	.57			
Plan Ahead	4.18	.49			
Guidance	4.02	.54			
Set Limits	3.85	.59			

\* Items added to follow up survey.

## Discussion

The deans queried in this study ranked most of the 23 categories of recommendations as definitely important for doing their jobs. Certain scales were seen as essential (Honesty, Advocator, Follow Through, and Flexibility), whereas other scales were seen as important, but not as essential (Providing Guidance and Setting Limits). The large number of categories that were rated highly important again suggests that the dean's role is a multifaceted and complex one.

On both surveys, the deans ranked Follow Through as essential, indicating its importance for functioning in the job, and once again, they were not as focused on providing guidance and coaching others or setting limits on their time. These findings could again be due to the respondents' relative newness in the dean's position. However, the fact that they were consistent across both the initial and expanded survey lends support for these results.

Although rank-ordering the 23 scales would likely be desirable in providing insights into the dean's relative perceptions of the value of each construct, the current methodology does not permit such clear differentiations. It does not seem to be too much of a stretch, however, to suspect that the four scale means in the top range (Honesty, Advocator, Follow Through, and Flexibility) differ notably at least

from the lowest mean (Setting Limits) and likely the second lowest mean (Providing Guidance) as well. Trying to ferret out possible differences between the 17 scales in the middle “cluster,” though, is tenuous at best, and potentially misleading.

One limitation of this study is the size of the sample. A larger group of respondents (on the order of 250 more survey completers) would have enabled researchers to have performed more inferential analyses, as well as a factor analysis to further examine the structure of the 23 scales.

Another limitation relates to the fact that 14 of the 23 scale categories were derived from the professional lives of only the three education deans who created the initial survey. Fully 9 of the 23 categories were suggested by those deans who attended the Deans Academy at the AACTE conference. In other words, there was not broad consensus about the categories before developing and administering the first survey. Moving forward, it would be beneficial to survey deans nationally to seek agreement on the more inclusive 23 categories as well as to identify additional categories that might be included.

Still another consideration when examining the findings is the difference between the perceived importance of the categories by the education deans and the tangible importance of these factors in achieving success in the role. The deans’ completion of the survey depended on their perceptions of the level of importance of each scale rather than the role each category plays in a dean’s actual effectiveness. Also, most of the deans who responded had been in the deanship for five years or less. The data provided in AACTE’s *Colleges of Education: A National Portrait* (King & Hampel, 2018) indicated that the average number of years that deans, associate deans, and assistant deans serve in their positions is seven years. That finding may indicate that the deans in our sample do not represent the large population of education deans.

### **Future Research**

A valuable, albeit challenging, follow-up effort would be to tap the perceptions of dean stakeholders at other levels, namely direct reports, administrative peers, central administrators, alumni, donors, school and community leaders, and even trustees on what they believe contributes most to a dean’s effectiveness. Doing so would help to determine further the essential characteristics that key players believe education deans must evidence as leaders in order to both maintain stability and catalyze change in a professional field that is seemingly continually in flux. A next possible step, beyond refining the expanded survey instrument or tapping into dean stakeholders, is to study whether longevity in the deanship, one reasonable barometer of effectiveness which was limited in both of the survey samples, influences deans’ perceptions of essential characteristics for thinking, being, and acting.

Since stable leadership seems to enable critical initiatives to have a viable lifespan, it would be important to identify the factors related to job satisfaction (i.e., capacity to do the job, authority and empowerment, being valued by others, and culture of institution), family considerations (i.e., family well-being, partner employment, quality of life, and community opportunities), and individual attributes (i.e., those identified in the *Dean Performance Belief Surveys*) that contribute to longevity in the deanship.

### **Conclusion**

The more that is understood about the way in which education deans work internally and externally with their constituencies, the better situated they will be to sustain all that is imperative for well-functioning schools and colleges of education. Such information can also be used when developing professional learning opportunities, such as mentoring programs, to help educational deans move up

into provost and even presidential positions. This same research protocol can be used with a wide range of other types of academic deans to identify ways in which they think about and interpret their own leadership behaviors.

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# DETERMINANTS OF BUDGET RECOMMENDATION AND APPROVAL FOR ACADEMIC DEPARTMENTS AND FACULTIES IN PUBLIC UNIVERSITIES IN NIGERIA

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## Introduction

Financial management in Nigerian universities is a very critical and sensitive issue. This is so on the one hand because the government and the public are interested in how funds allocated to the universities are planned, controlled, and applied for specific assignment to achieve specific objectives (Kalu, 2011). On the other hand, achievement of the goals and objectives of university education to produce competent and versatile high level manpower for the nation's economy depends on how well each university plans and manages the meager resources at its disposal. This is of paramount importance because resources allocated to public universities especially the federal universities, have consistently been recorded to be inadequate for some years now. According to Banabo and Ndiomu (2014), in the area of funding, the federal government of Nigeria only spent 7% and 6.45% of its total budget on education. Akpakwu and Okwo (2014) corroborated this view when they stated that despite all the alternative sources of income through Education Trust Fund and internationally generated revenues as well as the UNESCO minimum of 26% of annual allocation for education to member countries, the amount set aside for higher education in Nigeria still dangles between 6% – 7% generally, in view of their budgets to education. To this end, one way universities in Nigerian plan and manage its scarce and critical resources is through budgeting. Since funding for public sector expenditure including federal and state universities is often limited, budgeting techniques, therefore, exist in order to determine the best use of limited resources and the most appropriate way to allocate funds (Ovwigho in Alabi, Ojebode, Abdulkareem, 2013). In support of this view, Basheka and Nabwire (2013) have indicated that in the reality of dwindling financial resources, universities in Nigeria need to prudently utilize the inadequate fund allocated to them by their founders and ensure that there is accountability and transparency through adequate budgeting.

Budgeting is a systematic and formalized approach for stating and communicating the firm's expectations and accomplishing the planning, coordinating and controlling responsibilities of management in such a way as to minimize the use of given resources to achieve maximum results (Ihedioha in Kalu, 2011). The product of budgeting is a budget. A budget is a comprehensive statement of financial plans which include expenditures, revenues, deficits or surplus and debt (OECD in Fakharzadeh, 2016). Budgeting in the university is an important component in the planning of resources and allocation to various departments, faculties/institutes/colleges and units of the university. Through effective budgeting, funds are rationally allocated on the basis of what is really needed to accomplish the desired goals and objectives of an organization. In the university, budgets are recommended and approved for departments including academic and non-academic, faculties/institutes/colleges, schools and colleges by budget allocation committees. According to JMB

Financial Support Services Unit (2012), budgeting encourages communication on key issues between all the parties involved and enables the objectives of all parties in the school community to be aligned with the objectives of the school. Recent demographic, economic and political trends worldwide have drawn attention to the issue of effectiveness and efficiency in the use of resources in the education sector (Fakharzadeh, 2016) Nigerian universities are not excluded. Hence, there is the need for effective budgeting. According to JMB Financial Support Services Unit (2012), budgeting helps the school to achieve its educational and administrative objectives, to meet statutory requirements, to control the school's financial resources, to maximise the use of available resources, to assist in effective decision making and to develop systems for the efficient running of the school. Also, Fakharzadeh (2016) stated that budgeting in education systems provides an understanding of decision-making processes regarding education policies and projects, in terms of prioritisation, planning, allocation, monitoring and evaluation of resource use. Budgeting helps the university to be prudent, focused, accountable and evenly distribute their resources to various departments and faculties/institutes/colleges (Ojo, 2012). According to Liverpool, Eseyin and Opara (1998), in Nigeria, although the National Universities Commission (NUC) advises government on university needs and guides universities on efficient use of funds, it is the universities that decide on the resources required, their acquisition and their allocation to their various internal units. Noting further, Liverpool et. al. (1998) reported that the universities also independently monitor their budgets and funds through control devices, including an expenditure control unit and the use of virement techniques.

Budgeting practices in most educational sectors including the university takes a process which is followed in a systematic procedure. This includes budget planning, budget defence, budget approval and adoption, budget implementation and budget evaluation. According to (Kalu, 2011) the budgetary process in a university, which is sometimes called budgetary cycle, is the process of formulating the budgets, implementing and controlling them, reviewing and re-planning the budgets. During budgeting in a university, the following characteristics must be borne in mind: (i) Clear identification of all activities to be carried out within the budget period; (ii) Accurate estimate of the resources required to carry out the activities identified; (iii) Allocation of funds amongst competing departments and activities along predetermined priorities; and (iv) Formulation of appropriate policies to guide and support the implementation of the budget (Ekhaton and Chima, 2015).

As important as budgeting is in Nigeria universities, there are so many factors that determine budget allocation to faculties and departments in Nigerian universities. In the views of Agboola and Adeyemi (2012) there are several factors such as teacher characteristics (qualification, number, and experience), class-size, teaching periods; student-teacher ratio; facilities and equipment attribute to be the cause of differences in resources allocation and budget approval within institutions. Noting further, Agboola and Adeyemi (2012) seem to have revealed that several factors are attributed to be the cause of such differences in resources allocation within institutions. Among them are teacher characteristics (qualification, number, and experience), class-size, teaching periods; student-teacher ratio; facilities and equipment.

A search of literature shows that there are so many factors that tend to determine budget approval for faculties and departments in Nigerian universities. Such factors include information supplied about the department/faculty's needs, available data and hard facts of the department/faculty, established facts about the size of department/faculty, others members view about what the department/faculty is entitled to, guidelines provided by the university on how the budget should be allocated, cost of running the department/faculty, budget allocation committees' decisions on what each department//faculty should get and department/faculty's persuasiveness. Apart from the aforementioned factors, organizational politics also determine who gets what in budgetary allocation in universities generally. Hardy and Fachin in Mainardes, Alves & Raposo (2011) noted that the university is a political system

in which interest groups wield their power to their own benefit and that one good example is the process of drafting a university budget which frequently results in the greatest levels of financing going to those with the greatest power and not the most relevant in terms of size or even reputation. Since universities in Nigeria are to some extent autonomous, it is possible that the same factors do not determine final budget approval for both state and federal universities.

Different levels of government are involved and interested in the budgeting process for federal and state universities in Nigeria. At the state university level, a governor, state ministries of education and the state universities are involved and interested in budgeting and managing funds while at the federal university levels, the federal government, federal ministry of education, the National University Commission (NUC) and federal universities are involved and interested in budgeting and managing funds. However, autonomy makes every university to have its own laws, rules and regulations that govern the system which is made by the governing council, university senate, and committee of deans, faculties, departments, and institutions (International Association of Universities (IAU) in Akpan & Amadi (2017). University autonomy refers to the condition, which permits an institution of higher learning to govern itself without any external interference. According to (International Association of Universities (IAU) in Sirat (2009) in Akpan & Amadi (2017), because of autonomy, universities are permitted or allowed freedom from government regulation, terms of internal management of the university, its governance, and the internal management of financial resources. Autonomy in laws, rules, regulations and financial management may have a major role to play in budgetary approval to academic departments and faculties in different universities in Nigeria irrespective of ownership. However, what has remained largely unknown are the predominant factors that usually determine what is finally recommended and approved for academic departments and faculties/institutes/colleges of Federal and State universities.

### **Statement of the Problem**

Budgeting in an organization such as a university is a management control tool for efficient and effective utilization of its resources. Consequently, the concepts of budgeting and budget are very common in Nigeria universities. However, the factors that determine budgeting recommendation and budget approval for academic faculties/institutes/colleges and departments in federal and state universities in Nigeria remain largely unknown. It is also not known whether there are differences in factors that determine budget finally recommended and approved for academic faculties/institutes/colleges/institute/colleges and departments in federal and state universities. This was the gap this study intended to fill. In other words, this study sought to assess the factors that determine budget recommendation and approval for academic faculties/institutes/colleges and departments in federal and state universities in Nigeria.

### **Purpose of the Study**

The main purpose of this study was to investigate the factors responsible for budget recommendation and approval for academic faculties/institutes/colleges and departments in federal and state universities in Nigeria. Specifically, this study investigated:

1. The factors that have the most or least influence on the budgets usually recommended for academic departments by their faculty authority in Federal and State universities.

2. The factors that have the most or least influence on the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities.

### **Research Questions**

The following research questions guided the study:

1. What factors have the most or least influence on the budgets usually recommended for academic departments by their faculty authority in Federal and State universities?
2. What factors have the most or least influence on the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities?

### **Hypotheses**

The following null hypotheses were tested at 0.05 level of significance in the study:

1. The factors which have the most or least influence on the budgets usually recommended for academic departments by their faculty will not differ significantly between Federal and State universities.
2. The factors which have the most or least influence on the budget finally approved for academic faculties/institutes/colleges will not differ significantly between Federal and State universities?

### **Methodology**

This study assessed the factors which have the most or least influence on the amount of budget finally approved for academic departments and faculties/institutes/colleges/institutes /colleges in federal and state universities in Nigeria. Two research questions guided the study. Two null hypotheses were tested at 0.05 level of significance. The study utilized descriptive survey design. Descriptive survey is one in which a group of people or items are studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group (Anaekwe, 2007). The population of the study was 750 past/present Deans of Faculties, Directors of Institutes, Heads of Departments, Boards members, committee chairmen, past/present heads of academic departments and a sample size of 227 was selected from the population for the study using stratified random sampling technique. The study used a structured instrument for data collection. The instrument was validated by three experts in the area of business education and management. The reliability of the instrument was established through test re-test method, on a pilot group of thirty present and past heads of departments, present and past deans, principal officers, bursary and audit staff and senate members in University of Benin. The data collected were analyzed using Pearson Product Moment Correlation co-efficient and a reliability co-efficient of 0.82 was obtained. According to Nunnally in Reynaldo and Santos (1999), 0.70 is an acceptable reliability coefficient thus; the instrument was considered reliable for this study. Administration of the instrument was conducted using trained research assistants who were recruited from the target institutions. Analysis of data related to research questions was done using mean and Standard Deviation (SD). The hypotheses were tested using z-test at 0.05 level of significance. Mean and Standard Deviation (SD) were used to answer the research questions. A null hypothesis was upheld

when the z-calculated value was less than the z-critical value. However, when the z-calculated value was equal to or greater than z-critical value, the null hypothesis was rejected.

### Presentation of Findings

**Research Question One: What factors have the most or least influence on the budgets usually recommended for academic departments by their faculty authority?** Data collected in respect of research question 1 were analyzed and presented in Tables 1 and 2.

Table 1 shows the factors that most or least influence the amount of budget recommended for academic departments of Federal and State universities generally. Overall, the result shows that cost of running a department ranked highest, with a mean score of 3.23 and standard deviation of 1.31. The information supplied about the department’s needs ranked lowest with a mean score of 5.43 and standard deviation of 2.21. Showing that cost of running the department is the factor that most influence the amount of budget recommended for academic departments of public universities generally irrespective of ownership while information supplied about department’s need is the least factor that influence the amount of budget usually recommended for academic departments in federal and state universities.

**Table 1** — Ranking of factors that most or least influence the amount of budget recommended for academic departments of Federal and State universities

No.	Item	Mean Rank	SD	Decision
1	Information you supply about department’s needs	5.43	2.21	7 <sup>th</sup>
2	Available data and hard facts of your department	4.05	2.14	3 <sup>rd</sup>
3	Established facts about the size of your department	4.42	1.97	5 <sup>th</sup>
4	Others members view about what your department is entitled to	5.04	2.16	6 <sup>th</sup>
5	Guidelines provided by the university on how the budget should be allocated	4.03	2.45	2 <sup>nd</sup>
6	Cost of running your department	3.23	1.84	1 <sup>st</sup>
7	Committee’s decision on what your department should get	4.36	2.33	4 <sup>th</sup>
8	Your persuasiveness	5.04	2.83	6 <sup>th</sup>
		5.43	2.21	

Sample Size:    \* Federal 136    \* State 91

Table 2 shows independent sample means of the factors that most or least influence the amount of budget recommended for academic departments of Federal and State universities. Cost of running a department ranked highest as the factor that has most influence on budget recommended for departments in federal universities with mean scores of 3.01 and standard deviation score of 1.83 while information supplied about department’s needs ranked lowest with mean score of 5.44 and standard deviation of 2.30. However, available data and hard facts of department ranked highest for state

universities with a mean score of 3.04 and standard deviation of 2.06 and persuasiveness ranked lowest with a mean score of 5.52 and standard deviation of 2.31.

**Table 2** — Mean and standard deviation analysis of factors that most or least influence the amount of budget recommended for academic departments

No.	Item	Federal		Rank	State		Rank
		X	SD		X	SD	
1	Information you supply about department's needs	5.44	2.30	8 <sup>th</sup>	3.55	1.85	3 <sup>rd</sup>
2	Available data and hard facts of your department	3.94	2.19	2 <sup>nd</sup>	3.04	2.06	1 <sup>st</sup>
3	Established facts about the size of your department	4.22	2.10	3 <sup>rd</sup>	4.89	1.65	6 <sup>th</sup>
4	Others members' view about what your department is entitled to	5.37	2.15	7 <sup>th</sup>	4.99	2.34	7 <sup>th</sup>
5	Guidelines provided by the university on how the budget should be allocated	4.41	2.50	4 <sup>th</sup>	3.45	2.27	2 <sup>nd</sup>
6	Cost of running your department	3.01	1.83	1 <sup>st</sup>	4.45	2.22	5 <sup>th</sup>
7	Committee's decision on what you department should get	4.57	2.34	5 <sup>th</sup>	4.04	2.30	4 <sup>th</sup>
8	Your persuasiveness	5.07	2.04	6 <sup>th</sup>	5.52	2.31	8 <sup>th</sup>

Sample Size: \* Federal 136 \* State 91

**Research Question Two: What factors have the most or least influence on the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities?** Data collected in respect of research question 2 were analyzed and presented in Tables 3 and 4.

Table 3 shows the factors that most or least influence the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities. Overall, the result shows that cost of running a faculty of institute ranked highest, with a mean score of 3.18 and standard deviation of 2.43. Guidelines provided by the university on how the budget should be allocated ranked lowest with a mean score of 6.35 and standard deviation of 3.04.

Table 4 shows independent sample means of the factors that most or least influence the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities. Cost of running a faculty ranks highest as the factor that has most influence on budget finally approved for faculties/institutes/colleges in both federal and state universities studied with mean scores of 3.03 and 3.43 with standard deviation scores of 2.51 and 2.27 for federal and state universities respectively. Also, guidelines provided by the university on how the budget should be approved ranked lowest for the two universities with mean scores of 6.42 and 6.23 with standard deviation scores of 2.24 and 2.17 for both federal and state universities respectively.

**Table 3** – Ranking of factors that most or least influence the amount of budget finally approved for academic faculties/institutes/colleges

No.	Item	Mean Rank	SD	Ranking
1	Information you supply about faculty's needs	3.82	2.11	2 <sup>nd</sup>
2	Available data and hard facts on different departments in your faculty	3.84	1.90	3 <sup>rd</sup>
3	Established facts about the size of your faculty	4.08	2.10	4 <sup>th</sup>
4	Others members' view about what your faculty is entitled to	5.78	1.76	7 <sup>th</sup>
5	Guidelines provided by the university on how the budget should be allocated	6.35	3.04	8 <sup>th</sup>
6	Cost of running your faculty	3.18	2.43	1 <sup>st</sup>
7	Committee's decision on what you faculty should get	4.83	2.44	5 <sup>th</sup>
8	Your persuasiveness	4.93	2.09	6 <sup>th</sup>

Sample Size: \* Federal 136 \* State 91

**Table 4** — Mean and standard deviation analysis of factors the most or least influence the amount of budget finally approved for faculties/institutes/colleges

No.	Item	Federal		Rank	State		Rank
		X	SD		X	SD	
1	Information you supply about faculty's needs	3.92	2.03	3 <sup>rd</sup>	3.64	2.24	2 <sup>nd</sup>
2	Available data and hard facts on different departments in your faculty	3.92	1.84	3 <sup>rd</sup>	3.71	1.99	3 <sup>rd</sup>
3	Established facts about the size of your faculty	3.90	2.05	2 <sup>nd</sup>	4.39	2.15	4 <sup>th</sup>
4	Others members' view about what your faculty is entitled to	5.89	1.68	6 <sup>th</sup>	5.59	1.89	7 <sup>th</sup>
5	Guidelines provided by the university on how the budget should be allocated	6.42	2.24	7 <sup>th</sup>	6.23	2.17	8 <sup>th</sup>
6	Cost of running your faculty	3.03	2.51	1 <sup>st</sup>	3.43	2.27	1 <sup>st</sup>
7	Committee's decision on what you faculty should get	5.03	2.45	5 <sup>th</sup>	4.49	2.40	5 <sup>th</sup>
8	Your persuasiveness	4.81	2.10	4 <sup>th</sup>	5.12	2.06	6 <sup>th</sup>

Sample Size: \* Federal 136 \* State 91

### Test of Null Hypotheses

**Hypothesis One: The factors which have the most or least influence on the budgets usually recommended for academic departments by their faculty will not differ significantly between Federal and State universities.** Data in Table 5 show that at 0.05 level of significance and 225 degree of freedom of 225, the p-value of 0.30 is less than the z-value of 1.03. This means that the factors which have the most or least influence on the budgets usually recommended for academic departments do not

differ significantly between Federal and State universities. Therefore, the hypothesis which stated that the factors which have the most or least influence on the budgets usually recommended for academic departments by their faculties/institutes/colleges will not differ significantly between Federal and State universities was upheld.

**Table 5 – Summary of t-test analysis of factors that most or least influence the amount of budget recommended for academic departments**

Institution type	N	Mean	SD	Df	z	P	Decision
Federal	136	4.48	0.88				
State	91	4.38	0.31	225	1.03	0.30	Not Sig.

**Hypothesis Two: The factors which have the most or least influence on the amount of budget finally approved for academic faculties/institutes/colleges will not differ significantly between Federal and State universities.** Data in Table 6 show that at 0.05 level of significance and 225 degree of freedom, the p-value of 0.51 is less than the z-value of 0.64. This means that the factors which have the most or least influence on the amount of budgets finally approved for academic faculties/institutes/colleges do not differ significantly between Federal and State universities. Therefore, the hypothesis which stated that the factors which have the most or least influence on the amount of budgets finally approved for academic faculties/institutes/colleges do not differ significantly between Federal and State universities was upheld.

**Table 6 — Summary of t-test analysis of factors that most or least influence the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities**

Institution type	N	Mean	SD	Df	z	p	Decision
Federal	196	4.61	0.44				
State	115	4.51	0.65	225	0.64	0.51	Not sig.

### Discussion of Findings

The finding of research question one showed the factors that most or least influence the amount of budget recommended for academic departments of Federal and State universities. The result shows that overall, the cost of running a department ranked highest for both Federal and State universities while information supplied about a department’s needs ranked lowest. Independent sample means of the factors shows that the cost of running a department ranked highest for departments in federal universities while information supplied about department’s needs ranked lowest for the same university. However, persuasiveness ranked highest for state universities while available data and hard facts provided by departments ranked the lowest. However, a careful look at the result indicates that there is no one single factor that may consistently determine budget recommendation for a department. A budget may be recommended based on needs or based on ability to persuade or convince at one time and it could also be by size of the department or by guidelines provided by the university on how budget should be approved depending on the circumstance and exigency of the time. The implication of this

result is that there are more than one factor that could determine budget recommendation for academic departments in Nigerian universities. The finding supported the views of Agboola and Adeyemi (2012) that there are several factors such as teacher characteristics (qualification, number, and experience), class-size, teaching periods; student-teacher ratio; facilities and equipment attribute to be the cause of differences in resources allocation and budget approval within universities.

The finding for research question two was on the factors that have the most or least influence on the amount of budget finally approved for academic faculties/institutes/colleges of Federal and State universities. The results show that generally, cost of running the faculty ranked highest in the determination of budget approval for faculties/institutes/colleges at both federal and state universities while guidelines provided by the university on how the budget should be approved ranked lowest for both universities. Again, on individual university basis, cost of running a faculty ranked highest for both federal and state universities while guidelines provided by the university on how the budget should be approved ranked lowest for both universities. This finding shows that there is a reasonable autonomy in financial allocation in universities in Nigeria. Consequently, there seems to be no hard and fast rule on the factor guiding or binding Nigerian universities in resource allocation. This finding supports the view of the International Association of Universities (IAU) in Akpan and Amadi (2017), that under the university autonomy, universities are permitted or allowed freedom from government regulation, in terms of internal management of the universities, governance, internal management of financial resources and resource allocation. The finding has again supported the views of Agboola and Adeyemi (2012) that there are several factors such as teacher characteristics (qualification, number, and experience), class-size, teaching periods; student-teacher ratio; facilities and equipment attribute to be the cause of differences in resources allocation and budget approval within universities.

The test of hypotheses one and two show that the factors which have the most or least influence on the budgets usually recommended and approved for academic departments and faculties do not differ significantly between Federal and State universities. The implication of this is that Nigerian universities are eclectic in budgets recommendation and approval for academic departments and faculties. The findings tend to have negated the views of Hardy and Fachin in Mainardes, Alves & Raposo (2011) who indicated that university budgets frequently result in the greatest levels of financing going to those with the greatest power and not the most relevant in terms of size or even reputation.

### **Conclusion**

The findings of this study tend to show that universities have various considerations in their budget recommendations and approvals such as information supplied about department/faculty's needs, available data and hard facts of the department/faculty needs, as well as the established facts about the size of department/faculty. Others factors include other members' view about what the department/faculty is entitled to, guidelines provided by the university on how the budget should be allocated, cost of running the department/faculty, resource allocation committees' decision on what a department//faculty should get and department/faculty's persuasiveness. Based on these findings, it may be concluded that both federal and state universities in Nigeria are eclectic in budgets recommendations and approvals for academic departments and faculties.

### **Recommendations**

Based on the findings of this study it is recommended that (1) management of federal and state universities in Nigeria should continue to show more transparency in budgets recommendations and approval for academic departments and faculties in their institutions; and (2) management of federal

and state universities in Nigeria should spread the channel for budgeting information down beyond departments to units, and staff levels so that the final result of budget suggestions and recommendations could be more qualitative.

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# Abusive Supervision, Demographic Factors, Job Satisfaction, Organizational Commitment and Turnover Intent in Academia

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Sustained ill-treatment and display of hostile verbal and non-verbal behavior is becoming increasingly common in the workplace (Hershcovis & Barling, 2010; Keashly, & Neuman, 2010; Pearson & Porah, 2003; Rianeri, Frear, & Edmonds, 2011; Roscigno, Lopez & Hodson, 2009). According to Cortina, Magley, Williams and Langhout (2001), 71 percent of workers have been insulted, demeaned, ignored, excluded, intimidated or otherwise mistreated by their coworkers, subordinates and superiors. Issues related to the employment setting and its hierarchical power structures, organizational processes and interpersonal relations have been implicated in the prevalence and perpetuation of these behaviors (Cox & Goodman, 2005). These behaviors could be subtle unconscious incivilities or blatant and intentional acts perpetrated by a single individual or group of people (Fox & Stallworth, 2004; Keashly & Neuman, 2008).

Supervisors are perceived as the dominant source of bullying or abuse in the workplace (Gazdova, 2003; Namie, 2007; Ranieri et al., 2011; Lutgen-Sandvik, Tracy, & Alberts, 2007). Tepper, Duffy, Hoobler, and Ensley (2004) reported that approximately 10-16% of American workers experience abusive supervision on a regular basis in their workplace. Supervisors by virtue of their positions are likely to abuse subordinates because of the hierarchical power difference. In many employment settings, supervisors control or make decisions about subordinate work assignments, resource allocations, pay, and promotions (Hercovits & Barling, 2010). Tepper (2000) defined abusive supervision as “subordinates’ perception of the extent to which supervisors engage in sustained display of hostile verbal and non-verbal behaviors excluding physical contact” (p. 178).

Tepper and Henle (2011) note that supervisory behaviors that are abusive in nature can occur at any time and may not reflect an ongoing relationship. Previous studies have noted that subordinates’ perception of abusive supervision impact a range of individual and organizational outcomes such as reduced performance, job satisfaction, commitment and increased workplace deviance (Mitchell & Andrews, 2007; Lian, Ferris, Morrison & Brown, 2014). For instance, Mitchell and Ambrose (2007) reported that abusive supervision is related to low levels of satisfaction, commitment levels, turnover intent, and workplace deviance.

Abusive supervision has been extensively examined in many employment settings (Belschak, Den Hartog, & Fay, 2010; Tepper et al., 2004), however, relatively few studies have been conducted in academia. Fogg (2008) opined that due to their decentralized nature, colleges and universities may be the perfect environment for bullying, and related behaviors. In recent times, researchers have reported an increase in bullying, abusive supervision and related behaviors in academia (Dedyna, 2008; Namie, 2008; Sweeney, 2007). Abusive supervisory behavior is consequential for subordinates and the organizations in which they are employed. These behaviors have been reported to affect the physical and mental health of victims, (Schat, Frone & Kelloway, 2006), impact employee’s interpersonal and family relationships, and result in significant absenteeism, health costs and lost productivity (Tepper, 2007; Tepper, Duffy, Henle, & Lambert, 2006).

## Theoretical Framework

The theoretical model for this study is based on *leader member exchange theory* (LMX) as well as the *norm of reciprocity theory*. LMX is conceptualized as a dyadic linkage theory that focuses on the quality of the relationship between subordinates and their immediate supervisors. Previous studies have found that the quality of LMX is related to employee job satisfaction, commitment and turnover intent behaviors (Hsieh, 2012; Sullivan, 2017). Barbuto and Hayden (2011) and Author (2016) acknowledge that LMX is a useful theory for understanding workplace behavior. The theory of the norm of reciprocity states that employees tend to behave towards or treat their employers in a similar way that the employers behave towards them (Gouldner, 1960; Sulea et al., 2013). Subordinates sometimes make sweeping assumptions about the organizations based on their experiences with their immediate supervisor (Author, 2016; Shoss, Eisenberger, Restubog, & Zagenczyk, 2013). Due to power differences, employees' actions that are directed at the abuse are often displaced and may end up impacting the organization instead of the immediate supervisor.

**Abusive Supervision in Higher Education.** In a recent study, conducted by Keashly and Neuman, (2010), it was reported that abusive behavior and bullying was higher in academic settings than other workplaces. According to the authors, colleagues were more likely to be identified as bullies by faculty (63.4%), while supervisors were more likely to be identified as bullies of frontline staff (52.9%). Faculty concern about harassment was more likely to be associated with senior colleagues and superiors. Faculty was twice more likely to be mobbed by two or more persons. Bullying was long standing and persisted for more than five years. Academia is vulnerable to persistent bullying because of tenure, which has faculty in long term relationship with one another (Keashly & Neuman, 2010). According to Dentith et al. (2015)

“The uniqueness of college and university settings – with the tenure and promotion process, ambiguous expectations, and subjective evaluations – requires constant critical inquiry and reflection upon the impact on faculty careers, development, and academic freedom resulting from the potential for bullying and uncivil cultures”(p.33-34).

Interestingly, Keashly and Neuman (2010) observed that “ Although much research has been done on work place aggression and bullying over the last two decades, academics have paid relatively little attention to the bullying in their own institutions”(p.48).

**Demographic Factors.** The demographic characteristics of employees are likely to impact their work place behaviors, organizational climate, and organizational outcomes. Demographic factors such as age and gender are have been found to impact several employees' behaviors and outcome such as interpersonal interactions and communication, job performance, and organizational citizenship behaviors (Hayes, 2015; Shapira-Lishchinsky, 2012). Previous research results indicate employees that share similarities in gender and age are more likely to interact or communicate frequently (Hayes, 2015). Gender, also, has been reported to shape perceptions of and reactions to leadership behavior (Ye et al., 2016). The extent to which leadership or subordinate behavior is considered appropriate differs, and the responses that are made to such behaviors may differ between males and females. Gender has also been found to mediate the relationships among interpersonal interactions, trust and perceptions of competence and work engagement (Hsieh & Wang, 2015). In a recent study, Stempel and Rigotti (2018) investigated the role of gender in abusive leadership practices, along with the effects of abusive leadership on employee health. The results of the study confirm that the leaders' gender did play a role in employees' perceptions of abuse. A study conducted by Johnson-Bailey, (2015), reported that one

of the participants, “a tenured Black woman was told she needed to spend extra years in rank (regardless of her record of accomplishments) because the men in her department didn’t advance as quickly (p.45).

Age is also an important factor in workplace relationships. Similar to gender, the age of a supervisor or an employee may impact their interactions and communication within a work environment. Thus, age can affect both how an individual express their opinions as well as their interpretations of what others say or do. In a study conducted by Brimeyer, Perucci and MacDermid (2010), findings indicated that commitment for older and more experienced workers increases with high levels of autonomy, while the opposite is true for younger and less experienced worker. Cho and Lewis (2012) also found in their study that both turnover intention and actual turnover decrease with age. However, relatively few studies have examined the role that age plays in perceptions of supervisory leadership and how it relates to job satisfaction, organization commitment and turnover behavior.

**Job Satisfaction.** Job satisfaction has been extensively researched as a common work-related attitude (Jansen, 2001; Morris & Venkatesh, 2010). Morris and Venkatesh (2010) defined “Job satisfaction as the extent of positive emotional response to the job resulting from an employee’s appraisal of the job as fulfilling or congruent with the individual’s values (p.145). Employee job satisfaction has been positively related with employee performance (Wright, Coprazano & Bonett, 2007). As well, employee performance was highest when they are satisfied with their jobs (Wright et al., 2007). Bowling, Khazon, Meyer and Burrus (2015) averred that "satisfied employees are more likely to be productive employees within situations in which the employees have a fair amount of discretion"(p.95). Among faculty, "work itself" has been identified as one of the most important factor that explain job satisfaction while working conditions was the least related to job satisfaction (Castino & Cano, 2004).

Previous studies indicate that individuals with at least one negative relationship at work were significantly less satisfied (Morrison, 2008). Operationally, one of the greatest difficulties in assessing job satisfaction is that it is possible to be satisfied with some aspects of a job and at the same time be dissatisfied with others (Spagnoli et al., 2012). Previous studies have linked aspects of abusive supervisory behavior such as verbal abuse or bullying with lowered job satisfaction (Einarsen, 2000).

**Organizational Commitment.** Organization commitment is the degree of employees’ interest in, identification with the goals and values, and the decision to continue in an organization (Huang, You & Tsai, 2012; Landry & Vandenberghe, 2009; Kent & Chelladurai, 2001). It has been reported that highly committed employees display a willingness to exert considerable effort on their jobs in furtherance of the objectives and goals of their organizations (Huang et al., 2012). Tepper (2007) found that abusive supervision was negatively related to employees’ organizational commitment. Zellers et al. (2002) added that employees that have experienced abuse from their supervisors attempt to “get even” with the organization and tend to reduce their commitment to the organization or contribute less in the form of citizenship behaviors.

Although a few studies on abusive supervision has been conducted in academia (Casell, 2011; Fogg, 2008; Gravois, 2006; Keashly, & Neuman, 2010), none has examined the relationships among abusive supervision, job satisfaction, organizational commitment and turnover intent in academia. The purpose of the study is to examine relationships among subordinates’ perception of abusive relationship and its impact on their job satisfaction, organizational commitment and turnover intent.

**Turnover Intent.** Turnover intent is a precursor to actual turnover and is defined as defined as the reflection of “the (subjective) probability that an individual will change his or her job within a certain time period” (Sousa-Poza&Henneberger, 2002: p. 1). Individuals that are dissatisfied and intend to leave their jobs engage in a sequence of withdrawal behaviors to avoid, confront or adapt to the dissatisfying condition(s) especially in the short term (Griffith, Hom & Gaertner, 2000; Hulin, 1991).

Withdrawal behaviors include attitudes and behaviors (e.g., absenteeism, lateness, working slow, leaving work, sabotage, task avoidance, passive compliance, minimal effort on the job) exhibited by employees who are dissatisfied with the job or the organization but maintain their present employment (Shapira-Lishchinsky, & Even-Zohar, 2011). Previous studies have found a negative association between an employees' satisfaction with their relationships with colleagues and supervisor with turnover intent (Pitts, Marvel & Fernandez, 2011). These behaviors disrupt service, create interpersonal conflicts, demoralizes co-workers, increase operational cost and impact overall organizational productivity (Sagie, Birati, & Tziner, 2002). Moerbeek and Need (2003) found that people who experience a bad atmosphere at work leave more quickly than people who experience a good atmosphere. Previous studies have indicated that the mere perception of abuse from supervisors may sufficiently prompt many negative employee behaviors such turnover intent and other counterwork behaviors (Eisenberger, Restubog & Zagenczyk; Sulea Fine, Fischmann, Sava & Dumitru, 2013).

The purpose of the study was to examine the relationships among abusive supervision, job satisfaction and turnover intent among employees in academia. The following research questions were addressed:

RQ 1: Is there a statistically significant relationship between employee's perception of abusive supervision and their job satisfaction in academia?

RQ 2: Is there a statistically significant relationship in between employee's perception of abusive supervision and their organization commitment in academia?

RQ 3. Do employees' perception of abusive supervision predict turnover intent in academia?

RQ 4. Do demographical factors (job satisfaction and organizational commitment moderate the relationship between employees' perception of abusive supervision and turnover intent in academia?

## Methods

**Participants.** The population for this study comprised faculty and staff employed in a large university in Southeastern part of the U.S. According to the information available on the University's website as at the time of writing this paper, there were 348 faculty members across all undergraduate, graduate and professional programs and approximately 707 full time staff. The breakdown further shows that there are 242 full time and approximately 76 part -time faculty, whereas, there were 594 full time staff and 158 part -time staff respectively. The sample of the study will be drawn from an unknown number of potential participants from the number of faculty and staff at the time of the collection of the study.

Descriptive data revealed there were 116 participants. The mean age of participants was 41 years (SD = 9.78) and the age range was 24 -59 years. Of the 116 participants, 47 (40.5%) were male and 69 (59.5) were female. In terms of race, twenty-five participants (21.5%) identified themselves as Caucasian, 57 (49 %) identified themselves as Black/African American, 20(17.2) were Asian, and 14(12. 06%) were Hispanic. Among the respondents, there were 45 (38.8%) faculty and 71 (61.2%) were staff.

### Instruments.

Abusive Supervision. A shortened version of Tepper (2000) Abusive supervision measure (5 item version) developed by Mitchell and Ambrose (2007). Confirmatory factor analysis revealed two factors; active interpersonal abuse (e.g., ridicules me and tells me my thoughts and feelings are stupid" and passive acts of abuse (e.g., doesn't give me credit for jobs requiring a lot of effort").

Job Satisfaction. The single item Job satisfaction measure developed by Wanous, Reichers and Hudy (1997) was used to measure job satisfaction. The single item was "All in all, how satisfied are you with your job" using a 5 point Likert- type scale. This scale has been reported to be considered to be reliable with a reported coefficient alphas of .72

**Organizational Commitment.** Meyer, Allen, and Smith's (1993) 6-item measures of affective commitment (AC) and continuance commitment (CC) with a modified response format were administered to all participants. The response format for these measures included a 5-point scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). These measures have been established as reliable with reported coefficient alphas of .87 for the AC scale and .85 for the CC scale. Sample items from the affective commitment scale are: 1. I would be very happy to spend the rest of my career with this organization. 2. I really feel as if this organization's problems are my own. 3. I do not feel a sense of "belonging" to my organization. (Reverse coded.) Sample items from the continuance commitment scale are: 1. Right now, staying with my organization is a matter of necessity as much as desire. 2. It would be very hard for me to leave my organization right now, even if I wanted to. 3. Too much of my life would be disrupted if I decided I wanted to leave my organization right now.

**Turnover Intent.** Turnover intent was measured using the turnover intention scale (TIS-6). The TIS-6 is a six-item scale adapted by Roodt (2004) from his unpublished 15-item turnover intention scale as a measure for assessing employees' intentions of either staying with or leaving an organization. Sample items included in the TIS-6 include "How likely are you to accept another job at the same compensation level should it be offered to you?" and "How often have you considered leaving your job?" The response format for these measures included a 5-point scale (1=never, 5=always). Permission to use the TIS-6 was granted by the author. In a recent study, Bothma and Roodt's (2013) reported the reliability of the six-item TIS-6 ( $\alpha = 0.80$ ).

**Procedures.** Approval for the study was obtained from the institutional review board of the University. Following approval, the participants were recruited for the study via the university's intranet. An electronic copy of the survey instrument was forwarded to the IT department and was disseminated via the intranet to faculty and staff at the University. The survey was linked to an invitation prompt placed in an email. Respondents self-selected and volunteered to complete the survey online and anonymously.

**Analyses.** Data from the completed surveys were extracted into the Statistical Package for the Social Sciences (SPSS 25.0) program for analyses. Descriptive statistics such as simple percentages, averages and correlations were calculated. In addition, regression analyses was also completed to examine the relationship between abusive supervision and turnover intent. To complete the regression analysis, the demographic variables, age and gender were used as control variables in the analyses, previous research shows that these variables are relevant to the relationship between abusive supervision, job satisfaction and turnover intent (Pradhan, Jena, & Mohapatra, 2018; Yap Peng Lok, Ling, Ponnampalam, & Chen, 2019).

## **Results.**

RQ 1: Is there a statistically significant relationship in between employee's perception of abusive supervision and their job satisfaction in academia? Descriptive statistics and correlational analysis among the variables was completed to address the research questions 1. The results of the analysis are shown in Table 1.

The results show abusive supervision was negatively correlated with job satisfaction. This means that employees that experience abusive supervision are more likely to experience less job satisfaction and more likely to engage in turnover intent behaviors.

**Table 1 – Descriptive Statistics and Correlations among study variables (N=116)**

Variable	M	SD	1	2	3	4	5	6
AbSup	20.72	1.068	-					
TOI	16.69	3.329	0.02218	-				
OrgCom	10.18	1.767	-0.02859	0.15145				
JobSat	15.86	1.995	-0.00169	0.02352	0.30307			
Gender	1.65	0.477	-0.06881	0.01321	0.02310	0.01354		
Age	41.41	9.782	0.44879	-0.05235	-0.06221	-0.00641	0.06619	
Race	2.07	0.839	0.17214	-0.00590	-0.10433	-0.02398	0.35669	0.41890

\*p < .05, \*\*p < .01

RQ 2: Is there a statistically significant relationship between employee's perception of abusive supervision and their organization commitment in academia? As shown Table 1, the results also indicate that abusive supervision was negatively correlated with organization commitment. It was found that individuals that experienced increased perceived abusive supervision demonstrated less organizational commitment.

RQ 3. Do employees' perception of abusive supervision predict turnover intent in academia? Multiple regression analysis was used to test whether abusive supervision, organization commitment, job satisfaction, gender, age and race significantly predicted participants' turnover intent. The results of the regression as shown in Table 2 indicated that taken as a set, the six predictors account for 24% of the variance in turnover intent. The overall regression model was significant,  $F(6,109) = 5.99$ ,  $p < .001$ ,  $R^2 = .29$ . It was found that abusive supervision significantly predicted seeking turnover intent ( $\beta = .26$ ,  $p < .05$ ), as did job satisfaction ( $\beta = .02$ ,  $p < .05$ ). Gender also significantly predicted turnover intent ( $\beta = -.21$ ,  $p < .05$ ), as did race ( $\beta = -.18$ ,  $p < .05$ ) and ( $\beta = -.23$ ,  $p < .05$ ). Overall, the results seem to indicate that individuals who experience abusive supervision, job satisfaction and are of certain race are more likely to engage in turnover intent. Relative to organizational commitment, the results, indicate that it was not a significant predictor of turnover intent.

**Table 2 – Relationship Between Abusive Supervision and Turnover Intent**

ANOVA	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	6	7.185221	1.197537	5.993101	0.00
Residual	10	21.7803	0.199819		
Total	11	28.96552			

RQ 4. Do demographical factors (race, age, gender) job satisfaction, and organizational commitment moderate the relationship between employees' perception of abusive supervision and turnover intent in academia? A moderated regression analysis was completed to answer research question 4 above and the results are shown in table 3 below. The result of the regression analysis

indicates that the overall model was significant, and that 23.8% ( $R^2 = .238$ ,  $F$  value = 5.68  $p < .001$ ) of the variance in turnover intention had been significantly explained by abusive supervision, job satisfaction, organizational commitment, gender, race and age. In the model, almost the factors were significant except organizational commitment had a significant direct effect.

**Table 3 – Moderated Regression Analysis of Demographical Factors (Race, Age, Gender) Job Satisfaction, and Organizational Commitment With Abusive Supervision on Turnover Intentions**

Interdependent variables	Turnover Intentions		
	$\beta$	$R^2$	$\Delta R^2$
Step 1		.04*	.04*
Abusive supervision	.10*		
Step 2		.21*	.17*
Organizational commitment	.00		
Job Satisfaction	.04**		
Gender	-.23*		
Age	.01*		
Race	.18*		
Step 3		.23	.18
Interaction	-.00		
N=116; * $p < .05$ , ** $p < .01$			

Abusive supervision was found to be positively associated with turnover intention ( $\beta = .10$ ,  $p < .001$ ), as was job satisfaction ( $\beta = .04$ ,  $p < .001$ ) and age ( $\beta = .01$ ,  $p < .001$ ). Gender was found to be negatively associated with turnover intent ( $\beta = -.23$ ,  $p < .001$ ). However, the interaction was not significant.

### Discussion

This study examined the relationship among abusive supervision, demographic factors, organizational commitment and turnover intent in academia. First, the results showed that abusive supervision was negatively correlated with job satisfaction. This means that employees that experience abusive supervision are more likely to experience less job satisfaction and more likely to engage in turnover intent behaviors. These findings are consistent with the result of previous studies (Arenas et al., 2015; Haar, de Fluiter, & Brougham, 2016; Quian, Song & Wang, 2017). Quian et al. (2017) found that abusive supervision is positively related to job dissatisfaction. This is because abusive supervision

impacts almost all aspects of an employee's wellbeing; physical, mental and social. For instance, Stemple and Rigotti(2018) found that employees that experienced abusive supervision had higher emotional exhaustion and somatic stress. Similarly, Lyu, Ji, Zheng, Yu, and Fan (2019) also found that turnover intentions tend to be stronger when supervisors adopt an abusive supervisory style.

Second, the results also show that abusive supervision was negatively correlated with organization commitment. These results confirm previous findings that abusive supervision was negatively related to organizational commitment (Tepper, Henle, Lambert, Giacalone, & Duffy, 2008). Eisenberger et al. (2010) notes that employees identify supervisors with the organization, as a result supervisors' positive or negative actions are used to make sweeping generalizations about the entire organization. Supervisors' actions such as deliberate attempts to undermine subordinates competence and professional standing, authority and access to resources are especially problematic for many faculty and staff, and may impact their commitment to the organization and even result in decisions to continue or leave an organization. Subordinates discontent with and response to abusive supervision may not necessarily result in actual turnover because of the nature of the work environment of academia. Keashly and Neuman(2010) noted that the work environment in academia is a particularly vulnerable environment for persistent bullying as many employees tend to pursue a long term employment with universities. However, negative actions by supervisors are likely to lead to reduce job satisfaction and organizational commitment.'

The results of the study also show that third, perceptions of abusive supervision predicts turnover intent. This result is consistent with the findings of Tillman, Gonzalez, Crawford and Lawrence (2018) that abusive supervision impact intentions to withdraw from an organization (turnover intentions). Specifically, the authors found that abusive supervision cause subordinates to experience reduced hope and affective commitment which subsequently results in turnover intent. In his original study on abusive supervision, Tepper (2000) also had similar findings that individuals, who perceived their supervisors to be abusive, were more likely to quit the organization. However, as the literature has shown, it is important to consider that perceptions of abusive supervision are subjective, and contextual, and subordinates responses may thus differ depending on the personal characteristics of the subordinate (positive affect, emotional intelligence, maturity etc.), the work group (perceived coworker support) and the overall organizational environment (meaningful work).

A fourth finding of the study is that all of the moderators (race, age, gender, job satisfaction) with the exception of organization commitment were significant. However, the overall model was not significant. Relative to age, the results are supported by the findings of researchers (Hoof, Serrano, & Torres, 2015; Tepper et al. 2006) that older workers are more likely to perceive abusive supervision and may respond differently due to reduced job mobility. The findings regarding gender is also supported by previous research that women perceive abusive supervision differently (Gopalkrishnan, 2013), and that women change jobs or make decisions about changing less often than men due to family and other commitments(Fuller (2008).

Relative to the findings about the relationship among race, abusive supervision and turnover intent, previous researchers (Fox and Stallworth, 2005) found that whites, Hispanic/Latinos, African Americans and Asian/Pacific Islanders equally demonstrated a significant relationship between bullying/abusive supervision and emotional responses. African Americans and whites ported more significantly higher counterproductive work behaviors or responses than other groups. Similarly, Okechukwu, Souza, Davis, and de Castro (2014) also found that African-Americans and other racial minorities reported significantly higher emotional response to bullying in the workplace compared to other groups. Thus, there is evidence that race might be related to perceptions of abusive supervision and turnover intent.

The result concerning job satisfaction is also supported by the findings of Mathieu and Babiak (2016) that abusive supervision significantly predicted job satisfaction and job satisfaction predicted turnover intentions. However, Mathieu and Babiak's findings is slightly different from the results

obtained in this study that abusive supervision has a direct relationship with both job satisfaction and turnover intent. Perhaps the differences in the employment settings and the characteristics of those surveyed by the Mathieu and Babiak compared to the current study could have contributed to the differences in the outcomes or findings.

The present study is not without limits. First, the data is cross sectional, which impacts the ability to infer causality. Specifically, the study design only allowed for the measurement of participants intent to behave and not actual behavior. Second, contextual factors may be contributing factors to the incidence, persistence and perception of abusive supervision and attendant reactions much more than the factors that are even considered in the study. Focusing on the context could also provide more information. In a related way, attributional processes should also be taken into consideration since it is related to perceptions. Third, the duration or tenure of the supervisory relationship could also provide better insight into employees' reactions. Lastly, the over-representation of some racial groups in the sample compared to others is also a limitation. Nonetheless, the results of the study do have practical implications for educational organizations and its stakeholders, especially those in places of leadership.

### **Implications**

Abusive supervision is detrimental to the workplace. Relative to universities, some areas that are likely to be impacted by abusive supervision include faculty research productivity, teaching or learning quality, advisement, service and collegiality. Even when faculty or staff chooses to stay, they may become more disengaged and may act like they are retired even when they are supposed to be active. This may be the case for faculty that are tenured and staff with long service. Faculty and staff turnover intent behaviors are likely to result in increased cost, disrupts services, create interpersonal problems and impacts overall organizational productivity. Turnover intent that result in actual turnover could result in institutional memory loss and sometimes program demise. Also when abusive supervision is left unaddressed, the abusive behavior of the supervisor may be emulated by some of the subordinates such that they also engage in the same behavior with their co-workers (Restubog et al., 2011).

As a result, the study has significant practical implications for university faculty and staff as well as the processes that are adversely affected by abusive supervision. For instance, abusive supervision may impact employees' abilities to have a sense of belonging and to successfully perform on their jobs and contribute to the overall success of the organization. It is therefore important for individuals in leadership position to understand abusive supervision and its antecedents so as to prevent and reduce occurrences. It is equally important for supervisors to recognize that their actions not only impact employees' job satisfaction but also their desire to remain committed to the organization or continue employment in the organization. Periodic training for supervisors that target abusive and bullying behaviors could also help supervisors to improve communication and interpersonal competence with subordinates (Author, 2016). Relatedly, it is also important for universities to review their policies, procedures and operational apparatus that lend themselves to the prevalence of abusive supervision. This is important given that universities by nature are meant to be models of civility, professionalism and ethical behavior. It is important for universities and other institutions to address organizational features and processes that increase the potential for abusive, bullying and other hostile interpersonal behaviors.

### **Recommendations**

Given that employees in universities tend to be in long term relationships with one another due to tenure, which makes abusive supervision to be long term and sustained, creating a supportive environment that can serve as a buffer to employees is critical, absent which, employees' productivity

and performance suffers. Senior faculty or staff in supervisory positions also serve as mentors, and have significant accesses to resources, connections and influence for subordinate tenure and promotion. It may therefore be necessary to ensure that subordinates have access to alternative lines of authority or communication may reduce the need for subordinates to be dependent on a single individual or group of individuals.

Associatively, processes for seeking redress for abusive supervision or bullying need not to be complicated and unresponsive. In many universities, the process for reporting, seeking relief or formal redress is embedded in layers of procedures that often discourage individuals that are impacted by abusive supervision. Universities could conduct periodic surveys that could help to provide insight into the working environment. They can also provide platforms that encourage employees to anonymously report abusive supervision, so as to prevent it in the workplace (Leiter et al., 2011). University leadership need to be transparent and accessible so that employees can readily receive support in the event of potential abuse.

As much as it is important that universities to clearly delineate the scope of supervisory authority that a supervisor has relative to resource usage and control of the behavior of subordinates, it is equally important that university procedures prevent individuals that are not directly affected to become bystanders when they become an abusive relationship or ill-treatment (Martinko et al., 2013).

### Future Research

Future research should focus on the impact on organizational and cultural factors that intervene on the relationship between abusive supervision and turnover intent. Future research should also focus on the roles of subordinates personality/disposition and perceptions of organizational support in mediating between abusive supervision and turnover intent.

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# Validating a Victimization Risk Perception Scale for College Campuses to Address Sexual Assaults

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Throughout the United States, there is a high rate of unreported crime victimization (Langton, Berzofsky, Krebs, & Smiley-McDonald, 2012). This has become particularly pressing on higher education campuses where victimization of students often goes unreported (Hollister, Scalora, Hoff, Hodges, & Marquez, 2016), particularly in the instance of sexual assault, where as few as 20% of occurrences are estimated to be reported (Sinozich & Langton, 2014). This lack of student reporting of sexual assaults is particularly concerning given that nearly a quarter of undergraduate females reported experiencing unwanted attempted or completed sexual contact (Cantor, Fisher, Chibnall, Townsend, Lee, Bruce, & Thomas, 2015). The high rate of sexual assault incidents and the low rate of reporting suggests that a great deal of sexual assault incidents go unreported on higher education campuses.

To address the issue of student sexual assaults on higher education campuses, the White House Task Force to Protect Students from Sexual Assault was formed in 2014 (Obama, 2014). The Task Force was charged by President Obama with, among other objectives, “providing institutions with evidence-based best and promising practices for preventing and responding to rape and sexual assault” (Sec. II, Art. I). Among the Task Force’s recommendations was that higher education institutions “Assess the school’s climate in regard to sexual misconduct, including through the use of campus climate surveys” (p. 5, White House Task Force to Protect Students from Sexual Assault, 2017) and provided access to resources that could be used to assist in the development of a campus climate survey.

Among the resources provided by the White House Task Force to Protect Students from Sexual Assault was a document called *Climate Surveys: Useful Tools to Help Colleges and Universities in Their Efforts to Reduce and Prevent Sexual Assault* (2014). In the *Climate Surveys* document, the Task Force explains the value of climate surveys as a key mechanism for higher education institutions to use in addressing the issue of unreported sexual assaults on campuses and provides a series of suggestions on best practices for the development and implementation of climate surveys. Among these best practice suggestions is that higher education institutions use climate surveys that have been examined for measurement quality to ensure the data collected is of high-quality. Although the Task Force includes a set of possible questions that can be included on a campus climate survey, the Task Force acknowledges that this is a multi-faceted topic that can be examined in a range of capacities.

*Climate Surveys* also includes a recommendation of ‘Measuring the Perceptions of Climate’ (p.16, White House Task Force to Protect Students from Sexual Assault). The document proposes using questions that address the areas of perception of support from leadership and the culture of the campus,

however, it does not include questions pertaining to student perceptions they may be victimized. Without questions pertaining to the perception of victimization risk, campus climate surveys miss providing information on student concerns that they may undergo harm.

Recent rule changes to Title IX of the Education Amendments Act of 1972 (2018) made under President Trump's administration add a renewed priority for higher education institutions to have climate tools that ask about fears of sexual assault. As part of these changes, higher education institutions must allow for the individuals under investigation of sexual assault the "right to cross-examine parties and witnesses" (p.12, Title IX, 2018) as part of the investigation. Critics of the change warn that it will reduce the reporting of sexual misconduct on higher education campuses and harm the victims of the individuals that had been assaulted (Kreighbaum, 2019). As these changes to Title IX are implemented, the need for higher education institutions to have a means to determine the perceptions of safety, particularly as it relates to fears of sexual assault, will play a key role to creating a safe and supportive campus environment.

The purpose of this study was to examine how well the Victimization Risk Scale (VRS) measured respondents' perception of victimization risk. The VRS asks about the perception of victimization risk and includes a series of items about the fear of being physically harmed, including sexual assault. Determining that the VRS has evidence of validity and reliability would allow for college campus leaders and administrators to include it as part of their campus climate survey. The subsequent VRS data would allow leaders and administrators to better understand and monitor perceptions of safety on their campus, particularly as they relate to issues of sexual assault. This data would allow for leaders and administrators to design programs to support student safety, as well as demonstrate a commitment to meeting the recommendations of the White House Task Force to Protect Students from Sexual Assault. This study used a Rasch validation analysis procedure to examine the VRS. The research questions guiding this study were:

1. How well does the scale represent a single latent-trait?
2. To what extent does the scale have a sufficient range of items to capture respondents' experiences?
3. How well do the items of the scale measure the latent trait?
4. To what extent does the scale have a sufficient range of response categories to capture respondents' experiences?

## **Background**

### *Sexual Assaults on Campus*

Sexual assaults are a frequent occurrence on higher education campuses (Cantor, Fisher, Chibnall, Townsend, Lee, Bruce, & Thomas, 2017). Overall, 11.7% of students of higher education students report experiencing nonconsensual sexual contact. Assaults are more commonly experienced by female students than males, and by undergraduate students than graduate. Although assaults are frequent on campus, studies indicate that 20% or fewer of these occurrences are reported (Kerner, Kerner, & Herring, 2017). Campuses have faced challenges with sexual assaults for decades and these challenges persist to the present day.

### *VRS Development*

The VRS was developed by the Kentucky's Justice and Public Safety Cabinet's Criminal Justice Statistical Analysis Center (CJSAC) in partnership with the College of Education's Evaluation Center at the University of Kentucky as the result of a State Justice Statistics grant received from the United

States Bureau of Justice Statistics (BJS). The VRS was designed to be a part of the Kentucky State Victimization Survey, which was designed to elicit responses and information about a variety of sensitive topics, including: law enforcement performance, sources of violent crime, community resource utilization, interpersonal threat characteristics, property offenses, and perceptions of risk. The VRS was intended to capture victimization as it pertained to offenses with and without force, as not all cases of victimization include physical injury (e.g. threats).

### **Rasch Modeling**

The Rasch model is a modern means of examining a survey or assessment tool for measurement quality. The model assigns difficulty level estimates to items and ability level estimates to respondents that allows for the identification of specific items that may be problematic (Bond & Fox, 2007). The model in its basic form is the one-parameter version of the item response theory model with the  $\alpha$  of the discrimination parameter held to “1” (De Ayala, 2009). In direct terms, the Rasch model can be written as

$$P_{ni}(x = 1) = f(B_n - D_i)$$

where  $P$  is the probability of an endorsement and  $f$  is the function of the difference between the ability ( $B$ ) and the item’s difficulty ( $D$ ; Bond & Fox, 2007). Although the Rasch model is commonly used with dichotomous data, rating scale or Likert-type data can also be used by moving to the Rasch Rating Scale Model.

#### *Validation Analysis*

When conducting a validation analysis using a Rasch model, a series of estimates reported by Rasch modeling software may be examined to determine the quality of a tool (Royal & Elahi, 2011). This includes reliability estimates, eigenvalue estimates of the Principal Components Analysis of Rasch residuals, item difficulty levels, person ability levels, item fit estimates, and category functioning estimates. Reliability estimates are reported at the person and item level, with the ideal for both being an estimate of .80 or above (Linacre, 2015). Person reliability is an estimate of how well the model can determine person ability levels and item reliability is an estimate of how well the model can determine item difficulty levels. Person reliability can be improved by increasing the number of items on a tool and item reliability can be increased with the addition of respondents. Reliability estimates provide a means of determining if the analysis results can be confidently interpreted.

Unidimensionality of the tool, whether it is measuring a single latent trait as intended, can be determined by examining the eigenvalue estimated from the Principal Components Analysis (PCA) of Rasch residuals (Linacre, 1998). Unidimensionality is an important assumption to the model and must be examined (Bond & Fox, 2007). If the results of the PCA of Rasch residuals returns a first contrast with an eigenvalue above 2.0, the tool may be multidimensional in measurement (Linacre, 1998). If there is an indication of multidimensionality, the specific loadings of items will need to be examined to determine if there is clustering of similar type items that may suggest a specific additional latent trait is present in the tool.

The capability to examine item functioning is a key component of a Rasch validation analysis. Item difficulty levels and person ability (renamed person attitude for ease of readership) are reported on a logit scale, often running from -3.0 to 3.0 (Bond & Fox, 2007). Item difficulty refers to how challenging an item is to endorse, with higher logit scores indicating an item is harder for a respondent to have that attitude and lower logit scores indicating it is easier for a person to have that attitude.

Person attitude levels refer to how much of the supposed latent trait is represented in an individual, with higher logits referring to a person with a higher attitude level than those with lower logits. Items are also given both an infit and outfit mean-square fit statistic. These score estimates can be interpreted as determining how well the individual items work well within the tool. Reported in logits, items should have mean-square fit statistics between 0.5 and 1.5, or they exhibit misfit (Wright & Linacre, 1994). Misfit items are considered to not be appropriately measuring what they intend to measure and may need to be revised or removed in future iterations of the survey.

Category functioning, or the determination of how likely categories are to be endorsed, can also be estimated. By examining item threshold estimates of a scale, the utilization of the categories can be determined (Bond & Fox, 2007). Thresholds should not be lower than 1.4 logits or above 5.0 logits to be functioning properly (Linacre, 1999). The mapping of thresholds is a useful indicator to determine if all categories are being used or if categories might be appropriate for collapsing.

## Method

This study's methodology was designed to determine the measurement quality of the VRS. The complete set of scale items and the response categories are included in Figure 1. Data for this study was provided by administrators at Kentucky's Justice and Public Safety Cabinet and the analysis included 7,941 responses. A Rasch RSM analysis was selected for this study because the scale used a Likert-type set of response categories that was consistent across the items. Compared to classical measures of psychometric validation, the Rasch RSM allows for examination of how individual items in the scale function as a means of measuring the latent trait (Bond & Fox, 2007).

**Figure 1** – Perception of risk scale items and response categories

In the next 12 months, how likely is it that someone will . . .  
Threaten you?  
Break into a place you are staying?  
Steal your vehicle?  
Steal something from you using physical force?  
Steal something from you without using physical force?  
Attack you with a weapon?  
Force you into unwanted sexual intercourse?

Responses: (1) Very Unlikely; (2) Unlikely; (3) Likely; (4) Very Unlikely.

To guide the interpretation of the Rasch RSM analysis for psychometric validation, the authors followed a process similar to that of Royal and Elahi (2011). Based on this, the authors began by examining reliability estimates at the item and person level to determine if the estimates returned by the analysis could be interpreted confidently for the purposes of validating the tool. The authors then examined the dimensionality of the tool by looking at the eigenvalues produced by the PCA of the Rasch residuals. This was then proceeded by examining the items to determine if the item difficulty levels indicated that the range of levels was sufficient for capturing a wide range of levels of victimization. The examination of the items also included looking at infit and outfit statistics. The

process was concluded by examining the overall functioning of the response categories to determine if they were sufficiently utilized.

The final component of the analysis that went beyond Royal and Elahi’s analysis (2011), was a comparison of the item difficulty levels to a conceptual model that would indicate a “correct” ordering of items based on their difficulty levels. This additional step provides an assurance of the capability of the scale to accurately measure individuals’ attitude levels, as it indicates items are placed correctly on the scale with their difficulty levels. For this study, the authors used the research on perceived safety by Warr and Stafford (1983) to examine the ordering of the item difficulty levels. In their research Warr and Stafford indicate that respondents are more likely to believe they will face non-violent crime, rather than violent crime. As such, the authors examined the item difficulty estimates produced to determine if non-violent crime items had lower item difficulty levels than violent crime items.

## Results

The perception of risk scale, located in Figure 1, consisted of 7 items with Likert-type responses. The Rasch RSM analysis results included a person reliability estimate of 0.82 and an item reliability estimate of 1.00. These reliability estimates indicated that the validation analysis could continue (Bond & Fox, 2007). After the reliability estimates, the dimensionality of the tool was inspected. Determining dimensionality required examining the PCA of Rasch residual estimates. The PCA of Rasch residuals returned a first contrast with an eigenvalue of 1.5. Given that the eigenvalue is below 2.0, it indicates the tool can be considered to measuring a single construct and the validation analysis could continue (Linacre, 1998).

The dimensionality results were then followed by examining the item-level results. The item-level estimates produced by the Rasch RSM can be found in Table 1.

**Table 1 – Perception of risk fit statistics and difficulty levels**

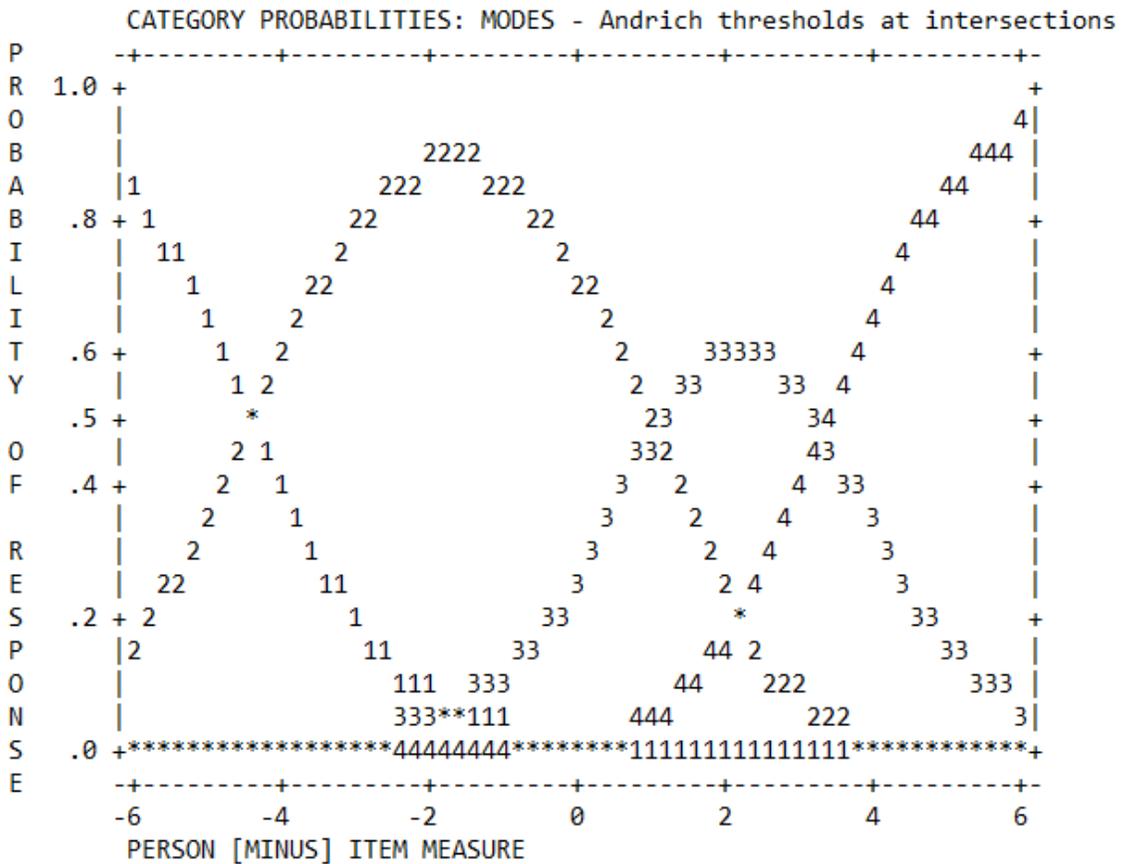
<i>Item</i>	<i>Difficulty</i>	<i>Model S. E.</i>	<u>Infit</u>		<u>Outfit</u>	
			<i>Mean Square</i>	<i>t</i>	<i>Mean Square</i>	<i>t</i>
Threaten you?	-0.22	0.03	1.46	9.90	1.35	9.90
Break into a place you are staying?	-0.60	0.03	0.87	-6.14	0.80	7.94
Steal your vehicle?	0.10	0.03	0.83	-7.89	0.73	9.90
Steal something from you using physical force?	0.24	0.03	0.66	-9.90	0.56	9.90
Steal something from you without using physical force?	-1.58	0.03	1.15	7.26	1.26	9.90
Attack you with a weapon?	0.20	0.03	0.68	-9.90	0.58	9.90
Force you into unwanted sexual intercourse?	1.85	0.03	1.23	9.90	1.28	7.15

The item-level estimates indicated that all of the items had appropriate levels of fit at the MNSQ infit and MNSQ outfit levels. The item-difficulty level estimates ranged between -1.57 and 1.85,

indicating that there was a range in the item difficulty levels for respondents to endorse (Bond & Fox, 2007). The most challenging item to endorse was *force you into unwanted sexual intercourse* and the least challenging to endorse was *steal something from you without using physical force*. These item-difficulty levels are visually represented in the Wright Map in Figure 2, with lower-difficulty level items at the bottom of the map and higher-difficulty level items at the top of the map.

Determining the functioning of the items was followed by examining the category functioning. The category functioning visualization is demonstrated in Figure 3. The item category 2 and category

**Figure 3** – Perception of risk category thresholds



3 threshold estimates had a distance between one another of 5.41 and the category 3 and category 4 threshold estimates had a distance of 2.29 logits. The 5.41 logit distance indicates there may be a challenge with how the categories are used by respondents (Linacre, 1999). As the visualization of the categories demonstrates, category 2 lacked a distinctive peak of endorsement. These results indicate that category 3 is underutilized by respondents.

The final component of examining the results included comparing the ordering of the item-difficulty levels to a conceptual model, which for this analysis was based on the work on perceived

safety of Warr and Stafford (1983). According to Warr and Stafford, people have a harder time believing that they will experience physically violent than non-violent crimes, and thus, the items including physical harm should be more challenging to endorse than the non-violent crime items. The item difficulty order appears to match this ordering, as the items involving physical harm are all more challenging to endorse than the items that do not.

## Conclusion

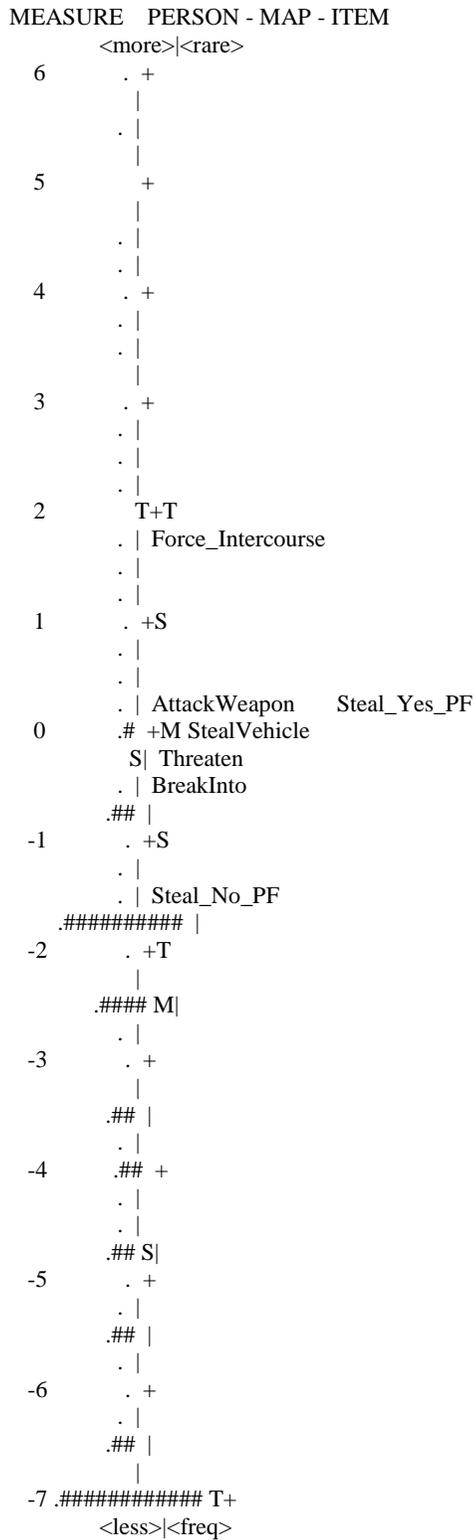
The purpose of this study was to examine how well the VRS measured respondents' perception of victimization risk. Validating the scale would allow for implementation of the tool by higher education institutions concerned with students' perspective on their campus safety. Given the recommendation from the White House Task Force to Protect Students from Sexual Assault (2014) to begin using climate surveys that have been validated, the results of this tool could be of particular value to many higher education institutions that have faced challenges with campus sexual assaults and may support higher education institutions concerned about the impact of the changes made to Title IX (2018) by Secretary DeVos.

The results of the study indicate that the measurement quality of the tool is quite high. The tool was unidimensional in its measurement and the items demonstrated appropriate fit. In addition, the item difficulty levels ranged from moderately easy to moderately challenging. Although these are positive aspects of the tool's measurement quality, one of the response categories was underutilized. This underutilization of the "Likely" category indicates that students who do not feel safe, feel this way a high degree. Although the logit difference between category 3 and category 4 is above 5.0 logits, indicating that there is a potential benefit to reducing the number of categories (Linacre, 1999), and doing so would reduce the variability that would be beneficial for evaluation purposes in higher education settings. Reducing the categories is a fairly simple modification that may support administrators in using the scale data to improve campus safety.

Overall, there are several positive results that indicate the tool is of sound measurement quality. The final validation component of this study included comparing the ordering of the item difficulty levels to a conceptual model that would indicate an appropriate item ordering. When the results of this study were compared to the work on perceived safety by Warr and Stafford (1983), the majority of the items did have appropriate item-difficulty levels. These results further indicate the VRS can be confidently implemented and used for evaluation purposes. The one issue with item difficulty ordering was for the "Attack you with a weapon" item, which was among the easier items to endorse, although the research by Warr and Stafford would indicate that the item should be among the harder items to endorse, as it represents physical harm. Higher education administrators can implement the scale and that there may be unique challenges regarding fear of being attacked with a weapon.

This study provides a step towards supporting higher education institutions in developing climate surveys that would support their work in developing safer campuses. As campus safety continues to be a priority for schools, the VRS now allows for higher education institutions to examine student safety and demonstrate a commitment to addressing the issue of campus sexual assaults. Potential future iterations of the VRS may address additional challenges such as micro-aggressions and online harassment.

**Figure 2** – Wright map of perception of risk scale



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# Touch the Stone: A Case Study of Engaged Leadership

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The changing environment for higher education requires administrative leadership that is poised to respond and guide faculty and staff through changes while preserving the values and culture of the institution. Challenges to the purpose and goals of higher education institutions posed by both internal and external stakeholders necessitate that leadership communicate their commitment to a shared vision, care and nurturing of workers, innovation, and inclusion. These fundamental values, which higher education advances for the common good, must be presented by engaged leaders as essential, touchstone ideals that serve to bind organizational members during times of significant change. Engaged leaders who understand how to develop and draw upon shared institutional meanings are most effective at advancing their organizations. This paper will make the case for the value of engaged leadership during times of institutional challenge and change by building upon tenants of related/current leadership theories and perspective strategies, and thereafter providing exemplars of engaged leadership experienced by the authors.

Engaged leadership transcends traditional leadership models by integrating ethics, engagement, and communal values as a means to inspire a shared vision. While various forms of leadership rely on the exchange of monetary rewards, benefits, recognition, and other low-level needs in return for conformity and the service of followers (Johnson, 2013), engaged leaders look past immediate self-interests and instead motivate followers to work for inspirational, higher-level needs and the collective goals of the group (Bass, 1996). This is accomplished through regular, reciprocal engagement and feedback between the leader and followers, wherein the leader recognizes employees as unique individuals and seeks to identify and awaken the values that drive each employee toward clearly articulated organizational goals (Nohria & Groysberg, 2008; Ryan & Deci, 2000). Engaged leaders inspire followers through relationships that reinforce each and every employee as essential to organizational success (Imberman, 2016). Empirically, it is hypothesized that engaged leadership styles are understood to result in successful institutions. That is, followers of engaged leaders are harder working and more committed, and as a result, their organizations are more successful than those led by leaders who deploy more transactional leadership styles (Johnson, 2013; Shore, Porter, & Zahra, 2004).

## **Transformational Leadership Informs Engaged Administration**

While there are a variety of leadership models and theories, perhaps the leadership style that most closely supports the underlying philosophy of engaged administration is transformational leadership. Perhaps that strongest link between transformational leadership and engaged administration is a common focus on intrinsic motivation and follower development, which Bass and Riggio (2006)

suggest fits the needs of today's organizational members, who seek to be inspired and empowered to succeed in times of uncertainty. Northouse (2016) held that "although the transformational leader plays a pivotal role in precipitating change, followers and leaders are inextricably bound together in the transformation process" (p. 162). Transformational leadership strategies inform leadership focused on introducing, developing, and carrying out significant organizational changes. According to Bass (1996), engaged administration—similar to transformational leadership—calls to action the following practices, deploying each to a greater or lesser degree depending on the circumstances:

- Idealized influence: Leaders function as role models for their followers and enhance pride, loyalty, and confidence through identification around a common vision.
- Individualized consideration: Leaders further the development of their followers by treating them as individuals and offering personalized consideration to their respective needs.
- Inspirational motivation: Leaders articulate a sense of purpose and provide organizational meaning in simple, relatable ways.
- Intellectual stimulation: Leaders stimulate followers to embrace new perspectives, question old assumptions, and challenge existing processes in the name of organizational development.

The idealized influence and consideration, inspirational motivation, and intellectual stimulation (Bass, 1996) are intertwined and directly related to community interconnections (Simola, Barling, & Turner, 2010). It is important to note, as advocated by Simola et al., that transformational leadership embraces virtues that reflect both community interconnection and an "ethic of care." Engaged administrators draw upon this orientation and identify innovative ways of simultaneously fulfilling competing responsibilities to others in an effort to show attentiveness to individual needs (Simola et al., 2010). In the end, a unique team of individuals is inspired to achieve a common vision. The team believes in their leader because their leader believes in the team. Each follower is valued as an individual with intrinsic ideals that align with the organization's ethical construct.

Transformational leaders set out to empower followers and nurture them in change. They attempt to raise the consciousness in individuals and to get them to transcend their own self-interests for the sake of others" (Northouse, 2016, p. 175). Transformational leaders are guided by the mantra of doing the right thing because it is the right thing to do, and this is true even when fulfilling obligations to the greater good run contrary to personal interests. Moreover, Johnson (2013) underscored additional fundamental traits of transformational leadership as having a sense of obligation to the group, treating followers with respect, exhibiting altruistic tendencies, making sacrifices for followers, enabling empowerment, and demonstrating integrity. In considering how these attributes and practices serve the engaged administrator, it is important to note that research supports that leaders who demonstrate transformational characteristics are more likely to develop a culture of positive ethics and institutionalize organizational development, innovation, and workforce engagement as accepted norms.

### **Assumptions of Transformational Leadership for Consideration**

Like all paradigms, transformational leadership characteristics are grounded in various assumptions, and as such, these are worthy of review in order to understand how they might further inform engaged administrative practices. While the tenets of the transactional leadership style may be in place at the baseline (e.g., pay for performance), transformational leadership can serve as a means to unify and inspire collective followership. The relationship between a transformative leader and his

or her followers is of utmost importance for reaching common goals. Kouzes and Posner (2007), two supporters of transformational leadership, stated, “credibility is the foundation of leadership” (p. 46). When the assumptions are met (see Table 1 and Table 2), transformative leaders can be highly effective in their roles with an understanding and commitment to collaboration.

**Table 1** – Characteristics and Assumptions of Transformational Leadership

Transformational Leadership Characteristics	Delineated Assumptions
<p><i>Individualized consideration:</i> Transformational leaders act as coaches or mentors who foster personal development. They provide learning opportunities and supportive climate for growth. Coaching and mentoring are tailored to the individual needs and desires of each follower.</p>	<ul style="list-style-type: none"> <li>– Follower has the desire to grow and develop personal goals</li> <li>– Follower has the desire to be independent</li> </ul>
<p><i>Inspirational motivation:</i> Transformational leaders motivate by providing meaning and challenge to the tasks of followers. They arouse team spirit, are enthusiastic and optimistic and help followers develop desirable visions for the future.</p>	<ul style="list-style-type: none"> <li>– Leader uses persuasive appeal based on reason</li> <li>– Leaders with higher levels of moral reasoning exhibit more transformational leadership than leaders with lower levels of reasoning (Simola et al., 2010)</li> </ul>
<p><i>Intellectual stimulation:</i> Transformational leaders stimulate innovation and creativity. They do so by encouraging followers to question assumptions, reframe situations, and approach old problems from new perspectives. Transforming leaders do not criticize mistakes but instead solicit solutions from followers.</p>	<ul style="list-style-type: none"> <li>– Follower has mental ability to develop creative solutions.</li> <li>– Follower has mental ability to reason at the level needed. According to Simola et al. (2010), post-conventional moral reasoning is needed to make moral decisions based on universal moral principles.</li> <li>– Use a win-win problem solving approach. Identify ways to simultaneously fulfill competing responsibilities. Each party can win (Simola et al., 2010)</li> </ul>
<p><i>Idealized influence:</i> Transformational leaders become role models for followers who admire, respect, and trust them. They put followers’ needs above their own, and their behavior is consistent with the values and principles of the group (Northouse, 2016).</p>	<ul style="list-style-type: none"> <li>– Followers may hold the same values as the leader</li> <li>– Values and principles may differ between cultures</li> <li>– Creates an ethical climate</li> <li>– Develops a shared vision of universal brotherhood (Simola et al., 2010)</li> </ul>

**Table 2 – Negotiating Transformational Leadership**

Negotiating transformational leadership: A key to effective collaboration	
<i>Effective leadership entails partnering with one's colleagues and creating opportunities for professional development (Kerfoot, 2006; Kotter, 1990).</i>	– Influence of cultural patterns and sex of participants may be a challenge to teamwork
<i>The transformational leader is an inclusive motivator, proactively solving problems that promote team effectiveness (O'Brien, Martin, Heyworth, &amp; Meyer, 2008, p. 138).</i>	– Team members need to have an understanding of each other's role, background, and education

### **Limitations Related to Transformative Leadership**

Transformational leadership theory endeavors to benefit others by understanding how to link the importance of a leader's skills, talent, and character with the usage of their leadership abilities in particular circumstances (Johnson, 2013). While this approach to leadership may produce noteworthy results, its limitations can also have unintended consequences. Specifically, major limitations associated with this approach to leadership include pseudo-transformational leaders (i.e., where leaders fail to adhere to moral principles), being leader-centric, and leadership dependence (Johnson, 2013).

The first of these limitations includes the potential for pseudo-transformational leadership. Here, individuals use their transformational skills toward immoral ends (Johnson, 2013). An authentic transformational leader has motivations grounded in both good intentions and a genuine regard for others, whereas pseudo-transformational leaders exert inappropriate influence and manipulate trust placed in them by followers. In such cases, the leader uses followers' loyalties to advance the leader's personal agenda rather than the mission of the organization (Northouse, 2016). As such, it becomes clear that a transformational leader does not necessarily equate to a moral leader. In review of the relationship between transformational leadership and moral leadership, research suggests that the more moral a leader is, the less likely that he or she will be pseudo-transformational (Simola et al., 2010).

The second limitation is the notion of leader-centric leaders (Johnson, 2013). Innate to transformational leadership theory is an understanding that the strength of leadership is directly associated with the individual in the leadership role. However, in some cases there may be too much focus on an individual leader, resulting in little opportunity for followers to be acknowledged and valued for their efforts. Moreover, leader-centric individuals often report feeling isolated in their "understanding" of organizational needs, and therefore are less open to constructive feedback. When such dynamics emerge, the organizational leader surrenders vital insights and diverse stakeholder perspectives.

The third limitation related to transformational leadership models is that of leadership dependency (Johnson, 2013). Because of the intense focus on the leader, challenges exist with followers who might fail to develop professionally in their own right. If followers do not cultivate skills that may be drawn upon independent of the leader, they remain less than fully empowered and thereby fail to advance a community of leaders who are able to pay it forward in case of the leader's collapse (Johnson, 2013). In the well-known cases of Martin Luther King, Jr. and Mahatma Gandhi, for instance, their strength as true transformational leaders came from their ability to not only lead, but to empower others to lead as well. Upon their respective deaths, leadership continued on the moral and ethical foundation that

they had set and produced even more change within society. A leader without the ability to see beyond what he or she is bringing to the table ceases to engage in transformational leadership.

### **The Four Frames Approach**

In addition to considering leadership characteristics and models important to serving as an effectively engaged administrator, an essential practice involves the capacity to systemically consider organizational issues from multiple perspectives in order to lead judiciously. In their work, *Reframing Organizations* (2013), Bolman and Deal posit that there are four distinct frameworks through which to view organizational behavior: structural, human resource, political, and symbolic. Viewing a management issue through each of these four frames allows the leader to consider numerous relevant factors and management challenges across multiple dimensions. The structural frame is focused on the processes and hierarchy of the organization. These structures encompass the rules, regulations, policies, and systems that allow the organization to function. The human resources frame focuses on the people in the organization and how decisions affect them. The political frame examines the power and the politics within the organization and how these forces influence behavior. The symbolic frame is centered on the organization's story and mission. Effective leaders strive to integrate all four frames in approaching leadership challenges (Bolman & Deal, 2013).

Along with an evolution in leadership thought, contemporary leaders also continue to evolve to effectively respond to an ever-increasing set of emerging pressures placed on the higher education sector. As part of this evolution, it is clear that effective leaders have drawn on various leadership theories (e.g., transformational leadership) as a means to deal with modern challenges. The case study that follows illustrates the actions, effectiveness, and challenges of one college in the university deploying an integrated engaged-transformational leadership approach. The newly formed team of mid- to upper-level college administrators advanced from transformational to engaged administrative leadership practices as they navigated change from both internal and external stakeholders. In doing so, the engaged administrative leaders applied each of the four frames, thereby effectively communicating the need for faculty to "touch the stone" by returning to commonly held values, emphasizing the similarity of their collective efforts and the relationship of these efforts to the public good.

### **Learning in Action: The Engaged Administrator Case Study**

In an era of increased public scrutiny and accountability for universities, one of the challenges presented to leaders is how to meet the goals set by external forces while still focusing on the mission to achieve public good. Public universities are facing historic challenges from state legislatures focused on accountability by enacting performance metrics tied to sustained public funding. Like many other states, Florida's Board of Governors instituted performance-based metrics for all twelve of its state universities in the State University System (SUS) beginning in the 2013-2014 academic year. Each public university was directed to evaluate itself on ten performance metrics, and was required to meet performance levels in order to ensure state funding to its base budget and to qualify for additional funding. Eight of the ten metrics were mandated by the state and standard to all SUS institutions, and the remaining two metrics were chosen by each university and Board of Trustees with a focus on areas for improvement or the university's mission. The metrics included a number of factors, such as employment rates and wages of graduates, graduation rates and academic progress towards degree, student costs, and the number of degrees awarded in discipline areas deemed to be strategic to state workforce needs. In the first year of implementing these performance-based metrics, the university

scored as one of the bottom three institutions within the system, which required developing and complying with an improvement plan in order to restore base funding.

At the time of this funding challenge, the institution was also facing changes in leadership. A new provost was hired, and during the transition, all new college deans were hired as university reorganization was occurring—this included the addition of two new colleges and the realignment of numerous academic departments across campus. In the college at the core of this case study, a new external dean was hired to serve as the founding dean and help transform the college under the vision of the new provost. The new dean led the college with one associate dean, one interim assistant dean, one assistant dean, and notably, with two-thirds of the department chairs who had been in place for one year or less. In addition to responding to the metrics, the new provost set out to improve the institution's profile from a regional comprehensive university to one with a greater focus on research and grantsmanship.

The college in this case study is one of the larger colleges within the university, and is comprised of a range of diverse professional degree programs with few general education or lower-level courses, and mostly career-focused disciplines strongly linked to the community and state. It also includes the largest graduate enrollment in the university and the only doctoral degree program. The college's mission focuses on community engagement, high impact educational practices, applied learning, and preparation for the twenty-first century workforce.

When the metrics were imposed at the state level, the deans were challenged with assisting the provost in designing and implementing processes to address the metrics. Many faculty members openly questioned and expressed concerns about the notion that legislators knew better than universities how to measure quality or effectiveness. The deans, as mid-to high-level administrators, were in the best position to facilitate faculty buy-in for addressing the metrics. The most significant motivator for the campus community was the possible loss of substantial base funding. As one of the smaller universities in the state university system, such a funding loss meant potential loss of programs, faculty, and staff. Faculty in smaller units and those who were not in the disciplines designated as programs of strategic emphasis were understandably concerned about the futures of their programs. Faculty also viewed the performance metrics as a disguised prioritization process for departments because the university had entertained discussions about prioritization during the previous year.

### **Addressing the Metrics**

When an organization faces a great challenge, especially when requiring fast-paced, institutional-level changes, there is typically also an opportunity for leaders to transform the organization (Christensen & Eyring, 2011). When the university examined the performance metrics and discovered it was near the bottom of the state rankings, the opportunity for transformation was ripe and it was imperative that all units in the institution engage in addressing the metrics without delay. Thus, the president, provost, and the board of trustees led the charge. The college leadership team received the urgent call to action and worked on carrying out the institution's challenge to improve its standing. When the college faced the issue of implementing new performance metrics for the first time, leadership applied the four frames approach by Bolman and Deal (2013, p. 308-309) and transformational, engaged leadership practices to the processes of strategic planning, decision-making, re-organizing, evaluating, approaching conflict, goal setting, communicating, planning meetings, and ensuring motivation. The leadership team employed interventions to achieve success in the metrics and thereby improve the university's standing in the state university system.

One of the first goals was to communicate to college faculty and staff about the realities of the metrics and the implications for the university, college, and faculty if the college efforts were not successful. In applying the human resources frame (Bolman & Deal, 2010), leaders need to focus on

the people who are paramount to the organization. At the college level, it was important to keep all faculty and staff aware of the challenges facing the institution including the possibility of drastic budget cuts, while reassuring them that the university administration did not want to cut programs or positions. As new information became available on a daily basis, there was much uncertainty in the early days about possible budget cuts, so it was vital to share relevant information in a timely manner. In order to engage teams in addressing metrics and establishing plans to meet them, it was imperative for leaders to maintain open lines of communication. Communicating the urgency and importance of meeting the standards of the metrics was an ongoing process that occurred during the annual fall “welcome back” meeting for all college faculty and staff, monthly department and unit meetings, small, dean-led focus groups, open office hours, and one-on-one conversations. It was imperative for leaders to be transparent about the process and honest about the evolving nature of the information. Information evolved quickly so providing updated information was vital to maintaining faculty and staff trust in the college administrative leadership team and to quell gossip or the creation of narratives in the absence of accurate information. College leaders focused attention on communicating the direct relationship between the changes happening and their alignment with university core values and commitment to success and high quality education.

As with the attention to the relationship between the leaders and followers as described by Kouzes and Posner (2007), Bolman and Deal (2013) also address the importance of hiring, retaining, promoting, and rewarding employees as part of “getting it right” as an institution. While implementing the metrics, the college’s leadership endeavored to improve the human resources function of the college by hiring and retaining employees who were dedicated to improving the institution and helping it advance in a new direction— a direction that was partly governed by metrics but was being driven more by a new provost with a vision to elevate the institution from a regional comprehensive university to one with a more substantial research focus. An important aspect of this process for the new dean was to ensure that the leadership team trusted one another, were supportive and engaged. And, as importantly, the team needed to be risk tolerant, open to new ideas, and willing to endure small failures before launching big initiatives. As a specific exemplar, a college-level new hire orientation series was implemented. The series met monthly throughout the academic year and focused on supporting first-year and recently hired faculty while imparting college and university values. Led by the dean’s office, the series included real-time topics with guest speakers and model faculty members.

To address the challenges of the metrics at the university and in the college, it was also necessary to implement structural changes (Bolman & Deal, 2013). This required creating new college processes to specifically respond to the metrics. For example, a dedicated advising center was created to help students persist to graduation, graduate within six years, and to gather data for tracking at-risk students and offer support to them. Establishing this advising center was a key strategy in building the structure necessary for sustaining the college’s metric-oriented performance across subsequent years. This college advising center was the first of its kind in the university and served as the model for the other colleges across the institution. Creating and funding the college’s advising center provided evidence to followers that the changes implemented by leadership were about the quality of education and student success (O’Brien, Martin, Heyworth, & Meyer, 2008). To maintain faculty involvement with students and to capitalize on their combined outlook about fostering student success, college leadership also developed a faculty-mentoring model that was a parallel process to the academic advising center. To accomplish this, students were assigned to faculty members who provided professional and discipline-specific mentoring. The structural and functional role changes served to emphasize the university’s core values, and were paramount for helping faculty and staff “touch the stone” by concerting to support a common purpose and shared goals.

College leaders also realized that impacting the work to enact change came from the internal politics of the institution as well as the external environment in which the institution existed (Bolman & Deal, 2013). At the college level, this meant acknowledging and understanding that competing agendas and strategies at the university level directed the work underway in the college. College leaders needed to gain the support of the university administration to take on important changes before moving forward. Critical to the success of negotiating the political aspect of change was for the dean's leadership team to normalize communication regarding the plan for increased rigor and focus on scholarship and grantsmanship provided by the provost to the board of trustees. Many faculty members viewed the increased focus on scholarship as a departure from the university's founding focus, which was on quality teaching and student success, and further, that the college was abandoning students in the local community as a result. To overcome this perception, the leadership team increased the visibility of ongoing scholarship and grant work by faculty. This occurred throughout the college by celebrating faculty achievements in a weekly college newsletter, instituting college-level awards, and by recognizing community partners at the fall welcome back meeting and the annual college showcase event.

As leaders, it was also important to apply the symbolic frame in making strategic changes. As Bolman and Deal (2013) explain, every organization has a story that helps to connect people to the place and its mission. A university can be a special place where the staff and faculty are connected by the shared goal of educating students and improving their lives. In a time of great change for the institution, it can be helpful for leaders to remind those who work there that, in spite of challenges, the mission has remained steadfast and worthy.

One thing that helped to drive this message was the fiftieth anniversary of the university. This helped the leadership team craft communication messages grounded in the unique beginnings of the university structure. The university was founded with a commitment to the public good of serving the needs of students in the region and responding to community needs with scholarly activity and service. Communication at all levels of the university emphasized the evolution from a university that only granted upper division and graduate degrees to one that now includes lower division students. Similarly, on an organizational level, the spirit of change currently reflects a similar evolution in the founding years from a university with three uniquely named colleges (Colleges Alpha, Gamma, and Omega which were not organized around disciplines) to the current five, each with names in common with peer institutions and easily recognized by external stakeholders. These changes reflected the history of the university and the nimbleness of a relatively young institution reacting to a rapidly changing external environment as has occurred recently with the legislatively-influenced performance metrics.

## **Conclusion**

Engaged leaders must be vigilant and alert to issues that interest or concern both internal (e.g., faculty, staff, students) and external stakeholders (e.g., employers, donors, alumni, community members, political actors). Internal and external stakeholders understand that the translational nature of teaching involves distilling broad or dense information into themes or concepts that students can understand. In a similar fashion, transformational engaged higher education leaders translate to faculty about the ongoing institutional changes and perspectives. They also communicate about how these align to the goals of the faculty while still articulating a shared vision with the institution. Through this process of translating the vision, leaders help faculty "touch the stone" and embrace change that advances the institution.

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# A Hybrid Approach to Student Class Sectioning

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This article demonstrates the effectiveness of reserving a percentage of seats in each section of a multi-section course for mathematically optimized student assignment. The performance of this approach is compared to that of a fully optimized solution, as well as to the case of opening all seats to normal registration in which students self-select their course section. Results suggest that most of the benefit of a fully optimized assignment can be realized by holding a portion of seats in reserve for optimization.

The hybrid approach involves a “Phase I” registration period, in which a subset of total planned seating capacity is made available for students to self-select their class section using normal campus registration procedures. This is followed by “Phase II” in which reserve seats are allocated using a student preference-based assignment model. This hybrid approach achieves much of the benefit of a fully optimized solution, while retaining many of the (often overlooked) benefits associated with the simpler self-selection system. The hybrid approach also provides a smaller scale, easily accessible optimization problem for Phase II, not requiring specialized heuristic solution methods. As such, the system provides a practical balance between operational simplicity and optimized efficiency.

In our application, approximately 75% to 80% of available seating is made available to the “Phase I” registration, with 20% to 25% of seats held in reserve for “Phase II”. In Phase II, unregistered students (as well as a small number who are not entirely satisfied with the section they registered for in Phase I) submit their ranked section preferences. These students are then assigned to sections using a straight-forward assignment problem that is easily solved using a commercially available LP solver.

The course in question is a required senior level capstone course, typically taken in the last semester prior to graduation. As failure to provide a feasible seating alternative could delay a student’s graduation, it is critical that some portion of seats are withheld for effective allocation. In Phase I, students gain access to registration according to number of credits completed, presumably giving higher priority to those students who are closer to graduation. Academic records for students requesting a section during “Phase II” are screened, to ensure those seats are first allocated to students needing the course in order to graduate at the end of the semester.

Note that the capstone course provides lesser ability to “smooth” course enrollments, as compared to lower level courses where overflow demand can be pushed into a subsequent term, or in the case of elective courses for which other alternatives exist. We thus have a well-defined set of students who need to be assigned to a section of the course in question, as opposed to having a broader set of alternatives that would require a more expansive analysis in order to optimize.

The remainder of this paper is organized as follows: Section 2 presents a review of literature and examination of the “state of the art” in schedule optimization. Section 3 presents additional discussion and motivation for the hybrid approach. The assignment model is presented in Section 4, with sample results from actual implementation presented in Section 5. Section 6 presents experimental results, characterizing the relationship between overall solution quality vs. the percentage of total seating capacity allocated to Phase I vs. Phase II.

## Literature Review

Computer automated and computer assisted university class scheduling has been an active area of research and application for mathematical optimization techniques, particularly since the introduction of the International Timetabling Competitions ([www.patatconference.org/communityService.html](http://www.patatconference.org/communityService.html)). Indeed, the problem has been addressed at a number of levels.

The (curriculum-based) course timetabling problem typically takes as input a number of class sections that need to be scheduled into a number of available time slots, along with estimated course demand, room availability, room capacities, instructor availability, instructor schedule preferences, class overlap restrictions, a variety of scheduling preferences and practices, etc. The problem is to assign courses, rooms, and instructors to time slots. The problem is typically attacked as one of finding a feasible schedule, (satisfying a number of “hard” constraints), while minimizing the violation of “soft” constraints representing additional desired schedule characteristics. This type of problem has been addressed by Akkan and Gülcü (2018), Bagger, Sørensen, and Stidsen (2018), Siddiqui, Raza, and Tariq (2018), Müller and Rudová (2016), Stephen and Mushi (2013), Lü and Hao (2010), Schimmelpfeng and Helber (2007), and Hinkin and Thompson (2002).

Alternative versions of the course timetabling problem will attempt to prevent student scheduling conflicts, by recognizing subsets of courses that are typically taken by the same groups (cohorts) of students and avoid schedule conflicts between such courses. Individual student course selection and schedule preferences, however, are not generally taken into account. (Hence the term “curriculum based” course timetabling.)

The “post enrollment” course timetabling problem, in contrast, takes individual student course selections into account while solving the course timetabling problem. Attention to this problem has increased since the Second International Timetabling Competition, (ITC 2007) and includes Nagata (2018), Goh, Kendall, and Sabar (2017), Soria-Alcaraz et al (2016), Méndez-Diaz, Zabala, and Miranda-Bront (2016), Badoni, Gupta, and Mishra (2014), Jat and Yang (2011), and Müller (2009).

In contrast to the course timetabling problem, the “student sectioning” problem takes as input an existing course timetable (typically with multiple sections of one or more courses), as well as individual student course selections, section preferences, desired schedule characteristics, etc. The task is then to assign students to existing courses and sections in a manner that produces acceptable student schedules. This problem has been addressed by Dostert, Politz, and Schmitz (2016), Kristiansen and Stidsen (2016), Müller and Murray (2010), Alvarez-Valdes, Crespo, and Tamarit (2000), Sampson, Freeland, and Weiss (1995), Laporte and Desroches (1986), and Winters (1971). The Fourth International Timetabling Competition (ITC 2019) integrates student sectioning into the post-enrollment course timetabling problem (Müller, Rudová, and Müllerová 2018).

In summary, impressive developments have furthered the state of the art in automated or computer assisted course scheduling at a number of levels. Development of increasingly comprehensive problem formulations, with correspondingly greater complexity, has prompted ongoing advancements in the state of the art in solving such problems. These advances, in turn, have pushed back the frontier in terms of practical application of such models and algorithms.

## Discussion

Within the context of the literature review presented above, this paper presents a hybrid method for solving the student sectioning problem, for a single capstone course. The presentation reflects our belief (above developments notwithstanding), that room remains for application of easily implemented

scheduling procedures, utilizing more modest problem formulations which are easily solved with standard commercial solvers. Indeed, effective implementation of the large scale formulations discussed above requires not only the existence of an algorithm capable of solving the problem (or at least, heuristically finding a “good” solution to the problem), but also requires organizational infrastructure, data collection procedures, and scheduling practices aligned with the model. In many cases, implementation would require a wholesale campus-wide overhaul of scheduling processes.

Moreover, our two-phase approach preserves students’ ability to self-select their course section for a large percentage of students. Fully representing the myriad of intersecting scheduling alternatives and preference trade-offs remains well beyond the state of the art described above. Self-selection of class sections provides immediate response and confirmation of registration requests, as opposed to the time delay inherent in first collecting student preference information, then producing and communicating the outcome.

The hybrid approach, then, represents an accessible system with modest implementation requirements. This system preserves the rapid response and selection quality for students registering early in the process. As will be demonstrated later in this paper, overall solution quality is largely preserved with judicious allocation of seats to Phase I and Phase II registration.

### Model Development

As described above, the hybrid approach involves a two-phase approach. In Phase I, students self-select and register for their course selections, using a regulated first-come/first-served scheme which gives first access (higher scheduling priority) to students with greater numbers of credits completed.

After Phase I is complete, we collect section preferences from all students who still need the course. In Table 1, hypothetical student 1234567 has listed section 001 as their first preference. Secondly, sections 003 and 006 are equally preferred, followed by section 004 as a third-ranked preference. The implication is that section 002 and 005 will not work with the students’ schedule, either due to class conflicts, work, athletic practice, etc. While it is possible that such “conflicts” simply represent student preferences as opposed to true conflicts, we generally take students’ section preferences at face value, as it would be time consuming to verify every stated time conflict.

**Table 1** - Hypothetical section preferences submitted by student 1234567

Student ID	Section Preferences					
	Sec 001	Sec 002	Sec 003	Sec 004	Sec 005	Sec 006
1234567	1		2	3		2

Moving a student from a second preference section to a third preference section (for example) should not be treated as equally undesirable as moving a student from their first preference to their second. We therefore compute individual student-section “penalty” parameters by squaring the ordinal preference scores submitted by the students. As our objective will be to minimize the sum of penalty values for students’ assigned sections, we assign a “large” penalty to sections that will presumably not fit a student’s schedule. Accordingly, the penalty values corresponding to the hypothetical student preferences represented in Table 1 are as shown in Table 2.

**Table 2** - Hypothetical penalty parameters for student 1234567

Student ID	Coded Section Preference Scores					
	Sec 001	Sec 002	Sec 003	Sec 004	Sec 005	Sec 006
1234567	1	999	4	9	999	4

Given such rankings, we define the following problem for assigning  $m$  students to  $n$  different class sections:

- $P_{ij}$  = student  $i$ 's penalty parameter for section  $j$ ,  $i = 1, 2, 3, \dots, m$ ;  $j = 1, 2, 3, \dots, n$
- $X_{ij} = 1$  if student  $i$  is assigned to section  $j$ , 0 otherwise,  $i = 1, 2, 3, \dots, m$ ;  $j = 1, 2, 3, \dots, n$
- $M_j$  = number of seats available to allocate in section  $j$ ,  $j = 1, 2, 3, \dots, n$

Given these definitions, we have a straightforward assignment problem:

$$\text{Minimize } \sum_{\{X_{ij}\}} \sum_{i=1}^m \sum_{j=1}^n P_{ij} X_{ij} \quad (1)$$

Subject to:

$$\sum_{j=1}^n X_{ij} = 1; i = 1, 2, 3, \dots, m \quad (2)$$

$$\sum_{i=1}^m X_{ij} \leq M_j; j = 1, 2, 3, \dots, n \quad (3)$$

$$X_{ij} \geq 0; i = 1, 2, 3, \dots, m; j = 1, 2, 3, \dots, n \quad (4)$$

Due to the network structure of the problem, it is not necessary to explicitly constrain the  $X_{ij}$  to 0/1 values; as the LP relaxation will naturally produce binary values for the  $X_{ij}$ .

As formulated, the model requires the total number of seats available to allocate ( $\sum_{j=1}^n M_j$ ) to be greater than or equal to the number of students needing a section assignment, in order to provide a feasible solution. Note however that such a feasible solution could potentially assign a student to an “unlisted” section that presumably does not fit their schedule, incurring penalty value 999.

In practice, the model may be used in an iterative decision support mode, using trial solutions and sensitivity analysis to determine in which section(s) to increase seating capacity beyond the baseline planned class size. This approach is most common when additional seating is required to place all students planned to graduate at the end of the semester in question. In other cases, the model is used in hierarchical fashion, first assigning seats to those students who need the class in order to graduate, and secondarily assigning remaining seats to those students who meet course prerequisites, but will not graduate at the end of the semester in question.

### Example

The model presented above has been successfully used within the two-phase approach. In one recent application the model was used to assign seats to  $m = 111$  students, across  $n = 6$  sections with a total of 112 open seats. The problem is represented in a Microsoft Excel worksheet, and is solved in less than 2 seconds using Frontline System's Standard LP Simplex Engine on a laptop computer with Intel i7-6600U CPU @2.60 Ghz.

The solution characteristics for this exercise were as shown in Table 3. This result, which is typical of that seen in ongoing usage, has 60.4% of students assigned to a most preferred (ranking = 1) section,

with 93.7% assigned to their first or second choice section, and no students assigned to a section with preference score greater than 3.

**Table 3 - Solution characteristics for sample problem**

Preference	# Students	% of Students
1	67	60.4%
2	37	33.3%
3	7	6.3%
4	0	0.0%
5	0	0.0%
6	0	0.0%
Sum	111	100.0%

These characteristics naturally prompt the question as to what the solution quality would have been, had those 111 students simply been allowed to register under the first-come/first-served policy. To answer this question, we developed a Monte Carlo simulation model to permit evaluation of these 111 students' registration outcomes under a number of random replications. At each replication, the 111 section preference records are sorted into a new random arrival order. The simulation then treats each student sequentially, assigning the student's first, second, third, etc. preference depending on which section(s) have available seats remaining. Students whose registration options have no seats available in one of their listed preference sections are myopically assigned to an unlisted section.

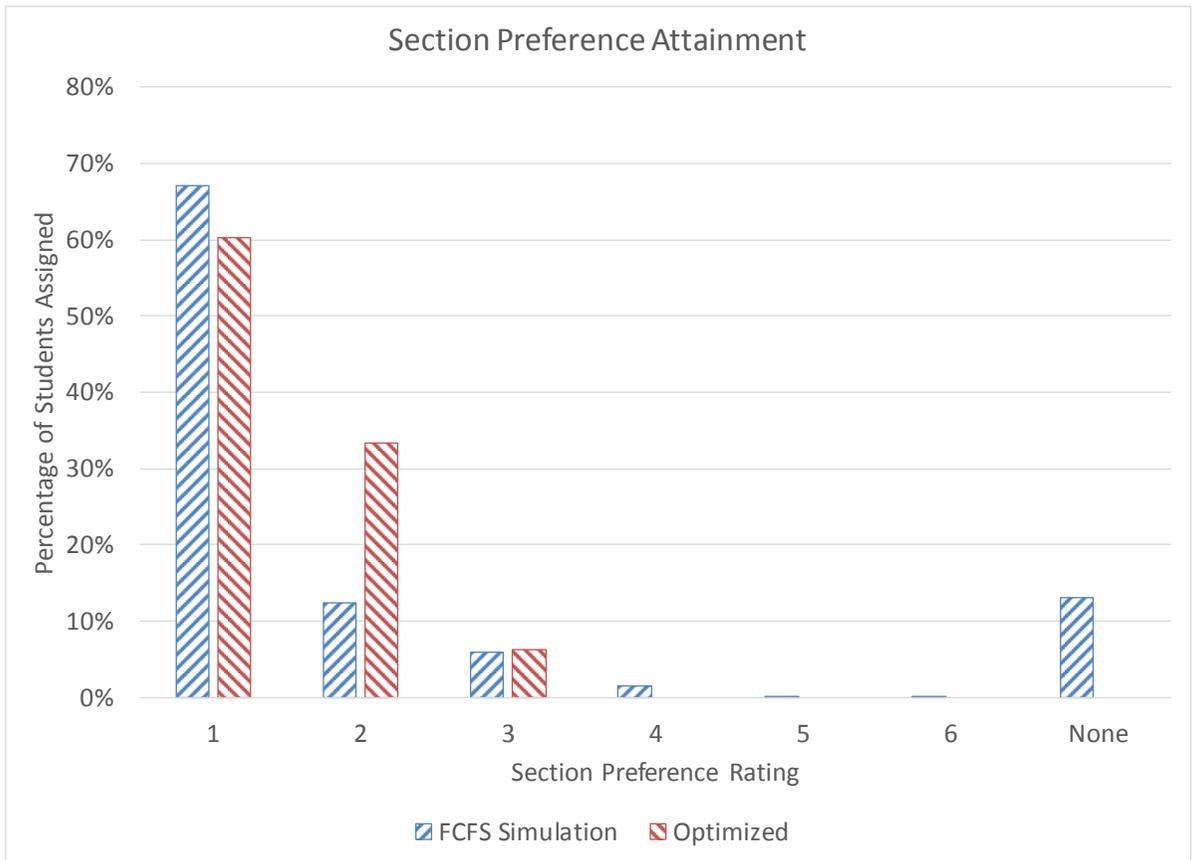
Average results for five batches of 5 replications each (with each batch thus producing 555 assigned section preference rankings) are presented in Table 4. Figure 1 presents the average result across all 25 replications, displayed graphically against the results from the optimal solution examined in Table 3.

**Table 4 - Section preference attainment for FCFS registration**

FCFS Simulation Replications ( $n = 5$  reps per batch)

Preference	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5	Optimized
1	66.7%	67.4%	67.4%	67.7%	66.7%	60.4%
2	12.4%	12.8%	12.1%	10.3%	14.1%	33.3%
3	6.8%	4.7%	5.4%	7.7%	4.9%	6.3%
4	1.3%	1.4%	1.6%	1.8%	1.1%	0.0%
5	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%
6	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
None	12.8%	13.7%	13.3%	12.1%	13.3%	0.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The results in Table 4 are reported across five independent batches in order to produce a valid representation of the variability present in the simulation results, relative to the comparison to the optimized solution percentages. Less visually, combining all 2775 simulated outcomes, and the 111 optimized outcomes into a 7x2 contingency table, produces a chi-square statistic of 52.84, with a  $p$ -value  $1.26 \times 10^{-9}$  relevant to a null hypothesis that preference attainment percentages are independent



**Figure 1** - Section preference attainment for simulated FCFS registration vs. optimized solution

of which scheduling regime is used.

The results displayed in Table 4, and summarized graphically in Figure 1, demonstrate the nature of the optimal solution vs. that which would result if those students were simply allowed to register first-come/first-served. We note that the FCFS approach has a larger number of students able to (myopically) register for their first preference section, without regard for the impact on other students' ability to find suitable sections. This results in only 79.5% of students scheduled in their first or second preference section, (vs. 93.7% under the optimized solution), and only 85.4% of students in one of their top three choices (vs. 100% under the optimized solution). Perhaps most importantly, the first-come/first-served approach results in approximately 13% of students forced into a section with no listed preference score, which presumably does not fit their schedule. In essence, the optimization model improves the overall solution by judiciously assigning selected students to a section other than their first preference.

#### **Effect of Percentage of Seating Capacity Available to Phase I Registration**

These results thus give credence to the notion that reserving a portion of seats for optimized allocation provides a better scheduling outcome, vs. that realized under simple first-come/first-served

registration priority for all students. These results do not demonstrate, however, how well the two-phase approach fares in comparison to a fully optimized solution, nor (more generally) the effect of the number of seats made available to Phase I registration vs. Phase II registration.

To answer these questions, we conducted additional Monte Carlo analysis, using a bootstrap method to generate student section preference data for the entire Phase I + Phase II registration process. The hypothetical scenario examined is a case in which 240 students need to register for the class, and total planned seating capacity is six sections of 40 students per section. Using the 111 section preference records submitted by the example case Phase II students, we generated 333 student section preference records, e.g. using each of the 111 original patterns three times. Individual datasets were created by sorting these 333 section preference records into a new random order and using the first 240 records as the dataset. Five such datasets were constructed in this manner. (Note that simply generating random student section preferences would create a more uniform distribution of preferences across sections than is realized in practice. While we could easily generate non-uniform section preferences similar to those seen in the data, bootstrapping the original section requests preserves the multivariate correlations among section preferences that would be nearly impossible to faithfully represent with newly generated section preferences for each student.)

For each dataset, we simulated the two-phase registration approach using 0, 10, 20, 25, 30, 35, and 40 seats available in each section during Phase I. In each case, providing  $x$  seats per section in Phase I implies at least  $40-x$  “reserve” seats per section to available to allocate in Phase II. (It is possible to have fewer than  $x$  seats used in some sections during Phase I, due to student section preferences.) Note that zero seats available during Phase I represents the “fully optimized” solution in which all 240 students are assigned seats using the preference optimization model. At the other extreme, allocating 40 seats per section to Phase I represents 100% first-come/first-served registration.

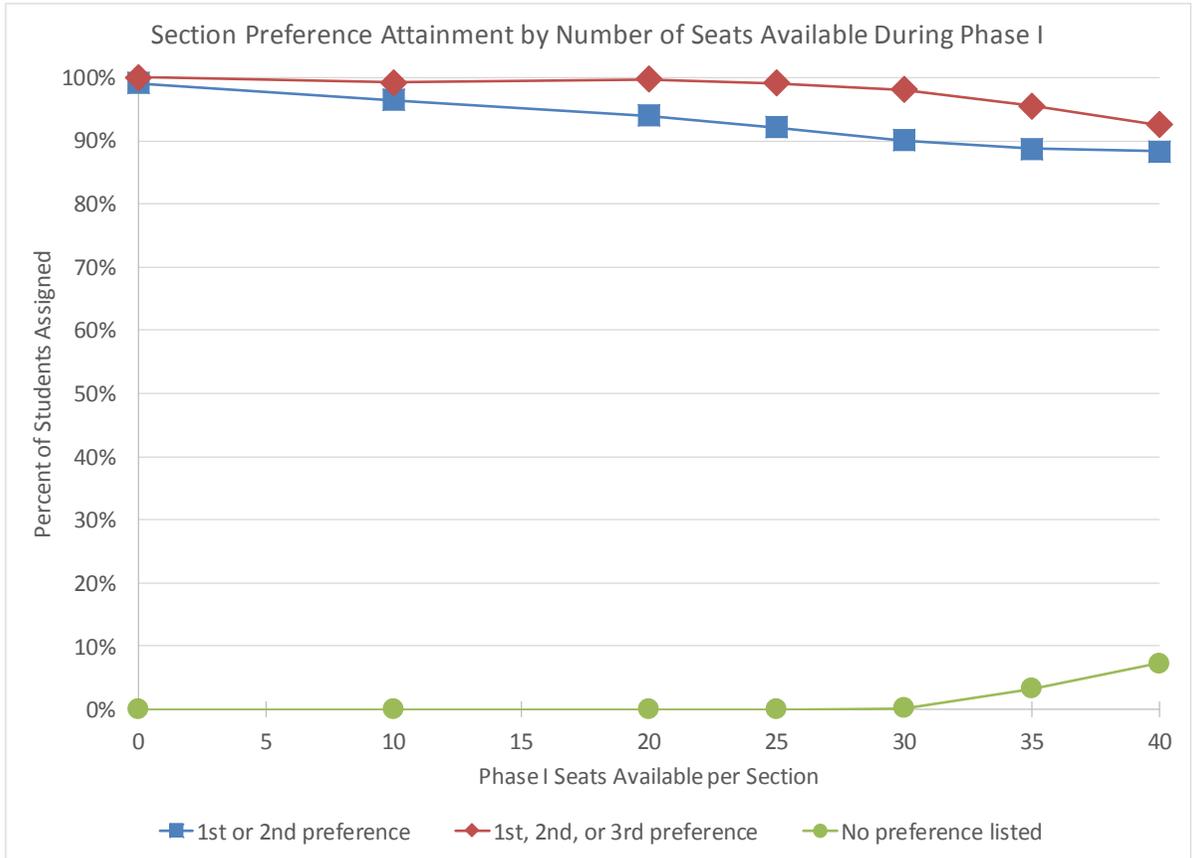
To simulate Phase I, we simply processed students sequentially, following the random order they appear in the dataset. Each student is assigned their first preference section if available, or their second section if the first preference is not available, and so on. All 240 students are processed in this manner, using only the seats allocated to Phase I registration. In Phase II, the  $m$  students who were unable to register during Phase I (due to seeing no available seats remaining in sections for which they have listed a preference score) are assigned to the reserve (and unused Phase I) seats by solving the assignment problem.

Results of this process are displayed in Table 5. Entries are the average percentage of students realizing each section preference level across the five datasets, under each of the experimental levels. A chi-square test on the raw counts yields  $p$  value  $8.14 \times 10^{-110}$  relevant to the null hypothesis that section preference attainment is independent of Phase I seating capacity.

**Table 5** - Section preference attainment by Phase I seat allocation

Preference	Penalty	Phase I Seats Per Section						
		0	10	20	25	30	35	40
1	1	69.9%	70.4%	72.1%	73.3%	72.8%	73.9%	74.8%
2	4	29.2%	26.0%	21.8%	18.8%	17.3%	14.8%	13.6%
3	9	0.9%	2.8%	5.8%	7.0%	8.0%	6.8%	4.2%
4	16	0.0%	0.6%	0.3%	0.8%	1.4%	0.9%	0.2%
5	25	0.0%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%
6	36	0.0%	0.2%	0.0%	0.0%	0.3%	0.3%	0.1%
None	999	0.0%	0.0%	0.0%	0.0%	0.2%	3.3%	7.3%
Sum		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average Penalty		1.95	2.17	2.16	2.28	4.14	34.67	74.15

Recall that the “zero Phase I seats” column represents the case of sectioning all 240 students using the optimal assignment formulation. As such, this solution provides the benchmark against which to compare performance of the hybrid system. While the penalty value of 999 applied to students assigned



**Figure 2 - Overall section preference attainment by number of seats available during Phase I registration.**

to unlisted sections is an arbitrary “large” number, the average penalty score nonetheless provides a useful summary metric by which to compare the alternative distributions of student section preferences. Starting with the optimal value of 1.95, we see gradual degradation in the summary score up to the point of 30 seats (75% of total seating capacity) available to Phase I registration. Beyond this we see a much steeper increase in the average penalty score, reflecting larger percentages of students assigned to less preferable sections, and in particular, to unlisted sections incurring penalty term 999.

Key characteristics from Table 5 are depicted graphically in Figure 2. Here we see gradual degradation of the number of students assigned to their first or second preference section, as the Phase I seat allocation increases. (Recall from Figure 1, and as confirmed in Table 5, that the percentage of students who are able to register for their *first* preference section is maximized under 100% first-come/first-served registration, albeit by degrading the overall solution quality.) Figure 2 also depicts

minimal degradation of the percentage of students assigned to their first, second, or third choice section, until about 25 or 30 seats per section available during Phase I. Most importantly, we see negligible increase in the percentage of students assigned to an unlisted section, until the Phase I seating capacity goes beyond 30 seats per section.

### Summary

In summary, the simulation results have demonstrated that a fully optimized student sectioning solution is only marginally better than the solution realized under the two-phase registration process examined in this paper. Allowing an appropriate percentage of students to register under a simple FCFS discipline (“Phase I”) eliminates the need to collect section preference information from those students, preserving rapid response and operational simplicity within the standard campus registration system. Indeed, most of the benefit from optimized seat allocation can be realized by judiciously reserving some portion of total seating capacity for an optimized (“Phase II”) seat allocation.

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# Lifelong Learning Framework for Combating Female Migration and Servile Job in Nigeria

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## Background

It is pertinent to note that, Nigeria is blessed with a significant percentage of skilled and educated population but it has been observed that illiteracy among her citizenry is still high. About forty percent of her adults are illiterates while 10 million of her children are out of school, of these females constitute the majority of the illiterates (Ayimoro, 2017 & UNICEF, 2018). Of the educated population, a significant proportion is unemployed and underemployed because Nigeria has remained a developing country despite the acclaimed recent growth in GDP. The increase in the GDP has not translated into a significant effect on the masses. Perhaps because Nigeria is a monolithic economy which depends on the export of crude oil as a major income earner. According to the National Baseline Youth Survey, about fifty-four per cent of the Nigerian youths are unemployed in 2012 while, the International Labor Organization estimates youth unemployment rate from 2007 to 2017 as 13.41 per cent (Statista, 2019). Also, there are more unemployed females (24.9%) than males (17.7%) and by educational attainment unemployment is highest (24.6%) among the youths with Bachelors' degree or a Higher National Diploma (International Organization for Migration, 2016).

It is important to mention that Nigeria's exposure to colonization by the British had its attendant implication on her education system. She inherited an education policy that is alien to her cultural values, needs, aspiration and philosophy which hindered her creativity and innovative competences. Thereby, disabling her to build upon her indigenous education and ingenuity. Also, because of the dwindling economy, Nigeria has not been able to finance her education adequately. The numbers of public tertiary institutions are inadequate for the growing number of her population seeking higher education. Thus, Nigerians seek for greener pasture in employment, education and other socio-economic opportunities. Majority of the populace migrate internally from rural to urban, urban to rural especially in cases of retirement, rural to rural and urban to urban centers of the nation while the skilled, educated and often rich migrate to developed world.

The unskilled and illiterates too, are not left out of the search for greener pasture. Females constitute majority of these group. They are lured into travelling to Europe for good jobs only to be used as slaves, domestic workers and prostitutes. According to the International Organization for Migration (2016), more than 23 per cent of Nigerians are lifetime internal migrants with the majority living in urban centers because of socio-economic infrastructure while the International migrants prefer Europe and the United States. About 25 percent of the emigrants from Nigeria are in the United States since 2013 because of employment, training, social and cultural identification (International Organization for Migration, 2016).

Education is an indispensable tool to build human development, high productivity and achieve maximum utilization of human capacity. Nigeria is a signatory to policy documents on the achievement of Education for All (EFA) Sustainable Development Goals (SDG) and a new vision of education with the underlying factor of future education that guarantees a present planet full of opportunities without compromising the potentials of the future. This problem is best addressed with Lifelong Learning Framework.

A knitted and well planned Lifelong Learning is capable of promoting reflection through critical thinking while harnessing formal, informal, non-formal, personal development and well-funded learning for optimal civic participation and development of a total being and a developed society. The literature to be reviewed include Lifelong Learning characteristics, migration and its reasons in Nigeria generally, migration among females and its impact.

### **Rationale for the Study**

The need for addressing this topic is premised on achieving total Education especially in a developing country such as Nigeria, this will curb illegal migration. It is the uneducated that are prone to illegal migration because they are deceived to believing that better opportunity awaits them in developed countries whereas their impact is very necessary for the development of their own country. They embark on migration by sea that they could afford. However, in most cases they get drown in the Mediterranean Sea. Their route countries like Libya, subject them to series of inhuman treatment, hazard including slavery, forced labor, prostitution, rape and death. Many at times Nigerian government embark on bringing back the stranded ones with a bid to re integrating them to the society which is more expensive for a developing state and a problem for the globe generally especially the United States -the world seat of civilization and the preserve of human rights.

Also, if the Lifelong learning framework is well established in Nigeria, It will empower citizens and encourage creativity, innovation and productivity. The nation will be less dependent on the developed state by boosting the economy and retaining peace. A well-educated society cannot be easily deceived, manipulated into joining terrorism. Insecurity will be reduced and the objective of living well in a planet by all without compromising immediate and future peace will be achieved.

### **The Problem**

Initially, the system of formal education in Nigeria was built on an alien tradition of the colonists. By the time Nigeria wove her needs, aspiration, in the acclaimed National Policy on Education of 2004 and 2013 in the name of 6-3-3-4 system of education and Universal Basic Education; the effectiveness of such policy was greatly marred by poor funding from a developing state with dwindling economy. As such, implementing the policy to the fullest capacity was hampered by effective planning and funding among others whereas; this would have served as a solid rock in which to build lifelong learning framework.

Despite, Nigeria's exposure to global educational policies and conferences for which she is a signatory to policy documents on Education for All (EFA) and a salient tool for achieving Sustainable Development Goals, the level of illiteracy in the country is still high especially, among the females. This has reduced productivity, enhanced a high level of unemployment among the Nigerian youth and especially females. Part of the coping strategy is internal and international migration in search for a better livelihood options in other parts of the country.

It is necessary to ask the question, would the lifelong learning framework that combines formal, informal, non-formal, personal development and combined funding be able to mitigate female

migration and enhance the level and quality of education in Nigeria? It is against this background that this study explores the potentials of lifelong learning framework for mitigating female migration in Nigeria.

### **Aims and Objectives**

The general objective of this study is to examine Lifelong learning as a solution to mitigating female migration and servile job in Nigeria. Specifically, the study aims to establish the problems associated with female migration and servile job through lifelong learning. It also hopes to proffer solutions associated with female migration and servile job in Nigeria.

### **Research Questions**

1. What is the level of awareness of Nigerians on lifelong learning and female migration?
2. What are the demographic characteristics of the female migrants? (age, marital status, family related information - number of children, occupation)
3. What is the cause of female migration from rural to urban and lifelong learning?
4. What is the cause of female migration from urban to urban and lifelong learning?
5. What are the factors responsible for female migration from rural to rural centres and lifelong learning?
6. What are the inducing factors for female migration from urban to rural and lifelong learning?

### **Literature Review**

**Lifelong learning and its characteristics.** Nigeria is a signatory to local and international development and civic legislations to combat poverty, illiteracy, ill health, bad governance, marginalization, inequality and all negative attitude to development indices. She adopted education and especially, adult and non-formal education for the improvement of negative issues among her people. Lifelong learning in the context of adult education is an indispensable machinery to drive development in people. According to Sarumi (2011), adult literacy education in the context of lifelong learning is a campaign to remove inequitable distribution of wealth, exploitation of the poor and their exclusion from the main stream of the national social-political and economic activities. In order words, lifelong learning is a process of learning that meets diversified needs of the individual and the society, embracing a continuum of learning, be it training, vocational or other forms of learning including formal, non-formal, informal or motivated learning.

According to Okpoko & Okpala (n.d) lifelong learning is a key concept in women's education by empowering the poor, and the disadvantaged to become self-reliant citizens thereby overcoming socio-economic dependence and exploitation, knowing ones rights, privileges and responsibilities. Tofler in Soni (2012) asserts that the illiterate of the 21<sup>st</sup> century will not be those who cannot read or write but those who cannot learn, unlearn and relearn. She further explained that lifelong learning is about acquiring and updating all kinds of abilities, interests, knowledge and qualifications from the pre-school years to post retirement which promotes development, adaptation to the knowledge-based society and value all forms of learning.

**Lifelong learning as a formal, non-formal and informal learning.** Lifelong learning is all embracing it encompasses formal, non-formal and informal education and training (Soni, 2012). Formal education is the conventional process of schooling. However, the inadequacies of formal education has been

brought to the fore as learning cannot be confined to a place and time for the acquisition and application of knowledge.

Non formal education as a learning strategy is an out of school system which is broad in nature. It provides knowledge and competence that would enhance effective community organisation for greater involvement of the people in their own development process by providing all educational needs of a people (Omoruyi and Abey-Fashea, 2015). The National Policy on Education (NPE, 2004) says non-formal education consist of functional literacy, remedial, continuing, vocational, aesthetics, cultural and civic-education for youth and adults outside the formal school system. Informal education is closely related to non-formal education with the addition of accidental learning that is, learning experience that was not actually prepared for.

According to National Commission for Mass Literacy, Adult and Non-Formal Education (NMEC) (2008) Nigeria offers these- as her non-formal program Basic Literacy; Post Literacy; Women Education; Functional Literacy; Nomadic Education; Continuing Education; Arabic, Integrated Education; Literacy for the Blind; Workers' Education; Vocational Education; Literacy for the Disabled; and Prison Education with literacy and numeracy at the core. Life skills include functional subjects like Home Economics, Book Keeping, and Hygiene/Health Education (Makoju, et al, 2006 in NMEC,2008). Again, NMEC adopted a Participatory Rural Appraisal/Regenerated Freirean Literacy through Empowering Community (PRA/REFLECT) technique and the Basic Literacy by Radio.

**Personal development.** One of the characteristics of lifelong learning is self-motivated learning through non-formal education. The functionality in it is established in the NPE (2004). According to Omoniyi & Fashae (2015). It is capable of raising the level of people's understanding to a point where they are desirous of development having the capacity to assist people develop his or her abilities, enrich knowledge, improve one's technical, professional qualification and bring about the two fold perspectives of personal development and participation in balanced and independent social, economic and cultural development. A survey of participants in adult education courses as reported by Soni (2012) observed factors motivating people to take adult learning as:

Upgrading job skills

Starting a business

Learning or extending knowledge

Meeting new people

Developing self-confidence

Getting involved in the community

Developing personal skills and participating in socio networking.

**Global participation.** The beauty of lifelong learning is that it has global participation. Soni (2012) says the commitment to participate in education and training globally is a feature of lifelong learning. She stressed the element of learning to do, learning to be, learning to know and learning to live together. These can instill creativity, initiative and responsiveness in people and enables them to adapt to revolution.

**Migration.** Naturally, human beings are not static, they move from one place to another in search of livelihood options and at times safety nets. In order words migration could be both voluntary and involuntary. The International Organization for Migration (IOM, 2016) defines migration as the movement of people from one area of a country to another area of the same country or from one country to another country for the purpose of establishing a new residence. Migration within the national boundaries of a country is internal migration while the one that occurs across national border and or

boundaries is known as international migration (Castles, 2012 in Ikwuyatum, 2016). It is generally believed that a migration process must occur between at least six months to one year. However, the general average age of internal migrants in Nigeria is between 14 and 65 which involves both genders (Oyeniya, 2013).

There are push and pull factors of migration. The push factors include poverty, unemployment, absence of basic socio-economic infrastructures (Ikwuyatum, 2016), while the pull factors include employment opportunities, accessibility and availability of socio-economic facilities and infrastructures offering better life (Castles, 2012 in Ikwuyatum, 2016).

**Internal migration.** Migration patterns in Nigeria are dynamic; as such, internal migration is as important as international migration. An estimated 50-80 percent of rural households have at least one migrant member in Sub-Saharan Africa (DFID, 2014). In a recent survey by the National Population Commission, it was observed that migrants between the age of 10-34 dominate the migration process while the peak age of migrant and return migrants is between age 25-29. According to Ikwuyatum (2016), migrants with no formal education ranked highest (27%), those with primary school education (21.3%) while those with post graduate certificate formed the least (0.6%). According to NPC (2010) survey report (25%) of the total sample population (migrants 23% and return migrant (2.0%) changed their residence in the past ten years in Nigeria prior to the period of the survey. The remaining 75% did not move from their residence to reside somewhere else in the Local Government or State ten years prior to the period of survey.

Recent development in internal migration in Nigeria showed that more females (51.5%) migrate than the males (40.5%) whether educated, skilled or uneducated and unskilled. (NPC, 2010, Oyeniya, 2013 & Ikwuyatum, 2016). Although, there are variations among the states. For instance, the percentage number of female migrants to male migrants is higher in Sokoto (64.8%-35.2%) Plateau (62.0%-37.8%) Adamawa (62.0%-38.1%) and Jigawa (59.7%-40.3%) while States like Oyo (43.3%/56.1%), Ogun (43.9%/56.1%) Akwa-Ibom (44.0%/56.0%) and Enugu (44.4%/55.6%) records higher percentage of male migrants. Again, there is a striking percentage of male return migrants ((61.3%) to female return migrants (38.7%), particularly in Akwa-Ibom (93.3%), Adamawa (87.1%), Abuja (75.0%) and Anambra (75.0%). In Gombe, Kastina and Osun, females form between 54.3% and 57.6% of total return migrants (NPC, 2010 & Ikwuyatum, 2016).

According to Ikwuyatum (2016) recent feminization of female migration exists in Nigeria. Females are playing down on stereotypes especially, because of poverty and changing economic issues forcing women to become female household heads. Females now migrate to urban centers in numbers as traders, business women, househelps, and commercial sex workers and also in search wage employment.

Conflict, insecurity and insurgency are other factors for internal migration especially, from the rural areas to urban centers. The herdsmen/local farmers and Boko Haram activities have devastating effect on the people of the north, the middle belt and south-south of Nigeria. According to Ikwuyatum (2016) there are about two million internally displaced persons (IDPs) in the country.

**International migration.** This is a situation of citizens moving outside the boundaries of their home countries to reside in other countries. The IOM (2016) says the number of migrants living outside Nigeria doubled between 1990 and 2013, from 465,932 to 1,030,322 and by 2013 (61.4%), of these emigrants reside in more developed countries. They are a educated and skilled work force of the nation. This is connected with the advantage of more socio-economic opportunities of the more developed region in employment, education and health. The preferred destinations of these emigrants are United Kingdom (184,314), Italy (48,073) Spain (36,855), Germany (22,687) and Ireland (18,540) while in

2013 the United States was the single most important destination of Nigerian migrants (IOM, 2016). Lesser number of Nigerian migrants patronise Asia and African countries due to dwindling economic realities and social upheavals. These migrants comprise traders, business men and women.

**Female migration and servile jobs.** Female migration in Nigeria was not as pronounced in the past as girls and women are expected to play domestic and care roles in the home. The economic meltdown and emancipation of female generally is changing the tide. According to (IOM, 2009) female migration can be perceived from the point of accompanying husbands to economic destinations. But from the 1980's migration of single women has been associated with economic skill and education motives. A large percentage of women end up in low skills, low wage occupation like house hold, commercial service sectors and health care. A growing skilled professionals among female migrants are gainfully employed in business, education, health and other sectors. However, the increasing feminization of migration is key pathway to reducing gender inequality, poverty, and promoting women's economic power and security (IOM, 2009).

The household report of internal migrants showed that forty-eight percent of internal migrants are located in the rural areas. While Nigeria has the smallest share of rural households with international migrants (Food and Agriculture Organization of the United Nations, 2017). Also, a high percentage is moving to study and for family related reasons internally and internationally.

It is clear that a person migrating internally or internationally is faced with enormous task before proper integration. A lot of females migrating occupy the informal sector world of works as business owners, entrepreneurs, and cooks, domestic workers often in servile jobs, unsecured deplorable working conditions and labor exploitation without any recognition of human rights. These migrants are not included in policy making on social and labor issues and are hard to reach through conventional policy tools especially, in developing economies like Nigeria. People who do servile jobs in developing economies do not work from the human rights perspective as majority of these who are females have no statutory limitation of weekly working hours. More than two out of five are not to be paid a minimum wage, and more than a third have no right to take maternity leave (ILO, 2013). This is against decent work for all.

*In recognition of significant roles of domestic workers to the global economy, including paid job opportunities for women and men workers with family responsibilities, greater scope for caring for ageing population, children and persons with disability with the consideration that domestic work continues to be undervalued and invisible, mainly carried out by women and girls by many whom are migrants or members of disadvantaged communities. Also considering that in developing countries with scarce opportunities for formal employment, domestic workers constitute a significant proportion of the national workforce and among the most marginalized (p. 4).*

This is the reason the International Labor Organization is interested in decent work for all especially, women who engage in more of servile jobs but are not caught within the formal framework of employment.

**Funding of Lifelong Learning in Nigeria.** One of the fundamental reasons scholars believe that the government of Nigeria is not serious about her education is the funding. Over the years, education has not been given a pride of place in the annual budgetary allocation. Lifelong learning, a component of adult and non-formal education is a tool to address the alarming rise in education imbalance through

the non-formal education approach (Oghenekhowo, 2005). In response to this, the National Policy on Education (1998 and 2004) adopted adult and non-formal education in order to provide:

- I. Functional literacy for adults who never had the advantage of any formal education;
- II. Functional and remedial education for those young people who dropped out of the formal school system prematurely;
- III. Further education for different categories of completers of the formal education system in order to improve their basic knowledge and skills;
- IV. In-service, on the job, vocational and professional training for different categories of workers and professionals in order to improve their basic knowledge and skills; and
- V. Adult citizens of the country with the necessary aesthetic, cultural and civil education for public enlightenment.

**Table 1 – Summary of Financial Allocation to Education and Adult Learning and Education (1997 – 2008) NMEC (2008)**

Year	Total state budget on education	Total budget for ALE	Percentage
1997	2,327,179,408.00	178,555,225.93	7.67
1998	2,735,687,667.00	244,496,470.13	8.94
1999	41,575,584,282.00	272,040,781.60	0.65
2000	10,190,359,227.00	746,544,453.55	7.33
2001	21,911,054,636.00	1,319,888,981.30	6.02
2002	21,679,423,606.00	1,260,244,332.12	5.81
2003	23,959,727,517.00	751,600,634.00	3.14
2004	35,703,543,524.00	926,663,921.00	2.60
2005	49,663,888,029.00	1,064,097,092.00	2.14
2006	66,364,320,370.00	950,559,117.00	1.43
2007	68,869,593,714.43	1,385,750,731.00	2.01
2008	69,905,384,917.00	983,833,350.00	1.41
<b>TOTAL</b>	<b>414,885,746,897.43</b>	<b>10,084,275,089.63</b>	<b>2.43</b>

Without mincing words these are robust enough to provide quality learning for all and sundry however, they are beset with inadequate funding, materials, infrastructure, resource persons to mention a few.

Below is the available table representing financial allocation for adult learning and education for 1997-2008.

### Methodology

The study adopted a descriptive research of the survey type. A major constraint encountered by this study was the dearth of adequate data for female internal migrants. However, multi-stage sampling technique was used to select four (4) out of the thirty-six states in Nigeria which involved the selection of four major capital cities out of the thirty-six capital cities in Nigeria- Abuja, Lagos, Ibadan and Abeokuta. Females who had participated in adult and non-formal activities of lifelong learning from age fourteen to sixty-five, who engage mostly in servile jobs or had engaged in servile jobs before becoming traders were purposively selected from their “parent house” where they gather fortnightly for social activities - RQ2- Househelps (117), Cooks (114), Baby sitters (27) and Traders (62) making a total of 320 participants. A questionnaire tagged Female Migration/LifeLong Learning Framework Scale (FMLLLFS) was used to elicit responses from the participants and corroborated with interviews in order to capture information that may have been omitted in the questionnaire to establish the effect of lifelong learning on internal female migration.

### Results and discussion of findings

**Question 1.** What is the level of awareness of Nigerians on lifelong learning and female migration?

- The level of awareness of Nigerians on lifelong learning and female migration is high.
- Only few Nigerians are aware of lifelong learning and female migration.
- Most Nigerians are aware of female migration.

	Item	SA		A		D		SD		Undecided	
		F	%	F	%	F	%	F	%	F	%
1	The level of awareness of Nigerians on lifelong learning and female migration	156	48.8	94	29.4	40	12.5	25	7.8	5	
2	Only few Nigerians are aware of lifelong learning and female migration	108	33.8	100	31.3	90	28.1	22	6.8	0	0
3	Most Nigerians are aware of female migration	162	50.6	108	33.8	28	8.8	12	3.7	10	3.1

The above chart shows that (156) respondents chose strongly agreed which represents (41.3%) of Nigerians while (94) respondents representing (29.4%) chose agreed which shows that most Nigerians have awareness of lifelong learning and female migration (40) respondents representing (12.5%) and (25) respondents representing (7.8%) are unaware of lifelong learning and female migration while (5) respondents representing (1.5%) are undecided.

Item 3 shows that (162) respondents representing (50.6%) and (108) respondents representing (33.89) choose Strongly Agreed and Agreed respectively which shows that most Nigerians are aware of female migration while (28) respondents representing (8.8%) and (12) respondents representing (3.7%) of Nigerians are unaware of female migration and (10) respondents representing (3.1%) are undecided.

**Question 2.** Demographic characteristics of respondents?

Age	N of Respondents	Percentage (%)
14-20	52	16.3%
21-30	71	22.8%
31-40	56	17.5%
41-50	62	19.4%
51-60	52	16.3%
61-65	25	7.7%

Marital Status	N of Respondents	Percentage (%)
Single	80	25%
Married	174	54.4%
Divorced	44	13.7%
Widowed	22	6.9%

Number of Children	N of Respondents	Percentage (%)
4 or more	206	64.4%
2 - 3	54	16.8%
1	38	11.9%
None	22	6.9%

Education & Training	N of Respondents	Percentage (%)
Attended adult basic literacy and non-formal lifelong learning training (LLL)	142	44.4%
Early school leavers plus LLL	68	21.2%
Formal basic education plus LLL	66	20.6%
Secondary education plus LLL	32	10%
Attended tertiary institution plus LLL	12	3.8%

Occupation	N of Respondents	Percentage
Househelps	117	36.5%
Cooks in restaurants and bukataria	114	35.6%
Baby sitters	27	17.8%
Traders	62	19.4%

The above chart shows evidence of low level of literacy and prevalence of servile jobs among the respondents. This is corroborated by (ILO, 2013 and UNICEF, 2018).

**Question 3.** What is the cause of female migration from rural to urban and lifelong learning?

- (a) Unemployment is the major factor contributing to female migration from rural to urban area
- (b) Business opportunities is a major factor why people migrate from rural to urban area.
- (c) Self actualisation is another reason for female migration from rural to urban area.
- (d) Entrepreneur skill opportunities is one of the factors for rural-urban migration.
- (e) Incessant attacks on rural community by armed bandits.
- (f) Distribution of farmland by herdsmen/environmental hazards can cause female migration from rural to urban area.
- (g) Homelessness as a result of continuous flooding can also cause female migration from rural to urban.
- (h) The quest for better living standard is responsible for female migration and lifelong learning.
- (i) Marriage is a factor causing female migration from rural to urban.
- (j) Lack of access to infrastructural facilities such as good road, pipe born water, electricity and the like are major factors of rural-urban migration by females.
- (k) Access to good quality education is another factor causing migration.
- (l) Lack of good health care always prompt females to migrate from rural to urban.
- (m) Poverty is one of the factors responsible for female migration and lifelong learning.

	Item	SA		A		D		SD		Undecided	
		F	%	F	%	F	%	F	%	F	%
1	Unemployment is the major factor contributing to female migration from rural to urban area	174	54.4	126	39.4	12	3.8	6	1.8	2	0.6
2	Business opportunities is a major factor why people migrate from rural to urban area	156	48.8	94	29.4	40	12.5	25	7.8	5	1.5
3	Self actualisation is another reason for female migration	192	60%	100	31.3	18	5.6	10	3.1	0	0

	from rural to urban area										
4	Entrepreneur skill opportunities is one of the factors for rural-urban migration	174	54.4	126	39.4	12	3.8	6	1.8	2	0.6
5	Incessant attacks in rural community by armed bandits.	200	62.5	100	31.3	20	6.2	0	0	0	0
6	Distribution of farmland by herdsmen/environmental hazards can cause female migration from rural to urban area	140	43.7	100	31.3	40	12.5	40	12.5	0	0
7	Homeless as a result of continuous flooding can also caused female migration rural to urban	140	43.7	100	31.3	40	12.5	40	12.5	0	0
8	The quest for better living standard is responsible for female migration and lifelong learning	192	60	100	31.3	18	5.6	10	3.1	0	0
9	The quest for better living standard is responsible for female migration and	108	33.8	77	24.1	85	26.5	50	15.6	0	0

	lifelong learning										
10	Marriage is a factor causing female migration from rural to urban	175	54.6	125	39.1	20	6.3	0	0	0	0
11	Lack of access to infrastructural facilities such as good road, pipe born water, electricity so on is a major factor of rural-urban migration by female	50	15.6	40	12.5	140	43.8	80	25	10	3.1
12	Access to good quality education is another factor causing migration	163	50.9	79	24.7	50	15.6	20	6.3	8	2.5
13	Lack of good health care always prompt female to migrate from rural to urban	192	60	100	31.3	18	5.6	10	3.1	0	0
14	Poverty is one of the factors responsible for female migration and lifelong learning	190	59.4	100	31.3	18	5.6	10	3.1	2	0.6

The above chart shows that (174) respondents choose Strongly agreed that represents (54.4%) based on Unemployment being the major factor contributing to female migration from rural to urban area, (126) respondents representing (39.4%) choose Agreed which shows that the types of business or individual job is a major factor contributing to female migration from rural to urban area. Also, (12)

respondents representing (3.8%) disagreed (6) respondents representing (1.8%) choose strongly disagreed while (2) respondents representing (0.6%) are undecided.

Items 3 shows that (190) respondents representing (59.4%) chose strongly agreed, (100) respondents representing (31.3%) believe that poverty is one of the factors responsible for female migration and lifelong learning (18) respondents representing (5.6%) disagreed, (10) respondents representing (3.1) choose strongly disagreed while (2) respondents representing (0.6%) respondents are undecided. This submission corroborates (Oyeniya, 2013 Ikwuyatum, 2016 FAO, 2017)

**Question 4.** What is the cause of female migration from urban to urban and lifelong learning?

- (a) The quest to enhance a good living standard is responsible for urban to urban migration and lifelong learning among females.
- (b) Marriage is considered to be one of the factors responsible for urban to urban.
- (c) Better employment opportunities are some of the factors responsible for female migration and lifelong learning.
- (d) People migrate from urban-urban in other to change their business operation.
- (e) Conflicts, insurgency and insecurity are factors why people migrate from urban to urban.

	Items	SA		A		D		SD		Undecided	
		F	%	F	%	F	%	F	%	F	%
1	The quest to enhance a good living standard is responsible for urban to urban migration and lifelong learning among female	100	31.3	130	40.6	45	14.1	40	12.5	5	1.5
2	Marriage is considered to be one of the factors responsible for urban to urban and lifelong learning among female	175	54.6	125	39.1	20	6.3	0	0	0	0
3	Better employment opportunities are some of	163	50.9	79	24.7	50	15.6	20	6.3	8	2.5

	the factors responsible for female migration and lifelong learning										
4	People migrate to urban-urban in other to change their business operation	171	53.4	109	340	30	9.4	10	3.1	0	0
5	Insecurity is one of the major factors why people migrate from urban to urban	214	66.9	100	31.3	6	1.8	0	0	0	0

The above chart shows that (100) respondents representing (31.3%) and 130) respondents representing (40.6%) chose Strongly Agreed and Agreed respectively that the quest to enhance a good living standard is responsible for urban to urban migration and lifelong learning among females while (45) respondents representing (14.1%) and (40) respondents representing (12.5) chose disagreed and Strongly disagreed and (5) respondents representing (1.5) are undecided.

Item 2 shows that (175) respondents representing (54.6%) chose strongly agreed, (125) respondents representing (39.1%) agreed that marriage is one of the factors responsible for urban to urban migration and lifelong learning among females while (20) respondents representing (6.3%) disagreed that marriage cannot be one of the factors responsible for urban to urban migration and lifelong learning among females. These reflects the submission of (Oyeniyi, 2013, Ikwuyatum, 2016 & IOM, 2016, & FAO,2017).

**Question 5.** What are the factors responsible for female migration from rural to rural centers and lifelong learning?

- (a) Marriage is one of the factors responsible for rural to rural migration and lifelong learning among females.
- (b) Quest for farming is a factor responsible for rural to rural migration and lifelong learning among females.
- (c) Social and economic factors are responsible for rural to rural migration and lifelong learning among females.

	Item	SA		A		D		SD		Undecided	
		F	%	F	%	F	%	F	%	F	%
1	Marriage is a factor	175	54.6	125	39.1	20	6.3	0	0	0	0

	responsible for rural to rural migration and lifelong learning among females										
2	Quest for farming is a reason responsible for rural to rural migration and lifelong learning among females	102	31.9	98	30.6	70	21.9	40	12.5	10	3.1
3	Social and economic factors are responsible for rural to rural migration and lifelong learning among females	171	53.4	109	34.0	30	9.4	10	3.1	0	0

The above chart shows that (175) respondents representing (54.6%) strongly agreed (125) respondents representing (39.1%) agreed that marriage is a factor responsible for rural to rural migration and lifelong learning among females while (20) respondents representing (6.3%) disagreed that marriage is a factors responsible for rural to rural migration and lifelong learning among females.

Items 3 shows that (171) respondents representing (53.4) strongly agreed (109) respondents representing (34.0%) believed that social and economic factors are responsible for rural to rural migration and lifelong learning among females while (30) respondents representing (9.4%) disagreed and (10) respondents representing (3.1%) strongly disagreed. These findings support (Oyeniya, 2013, Ikwuyatum, 2016 & IOM, 2016, & FAO,2017).

**Question 6.** What are the inducing factors for female migration from urban to rural and lifelong learning?

- a. Passion to better the lot of rural dwellers could be responsible for urban to rural migration and lifelong learning.
- b. Economic hardship of the city could compel urban to rural migration

- c. The quest to find a lower living standard could be responsible for urban- rural migration and lifelong learning.
- d. Ill health and the belief for better traditional treatment could be a reason for urban rural migration and lifelong learning.
- e. The quest to return home or retirement after a long sojourn/service outside ones' home is a factor for urban- rural migration.

S/ N	Items	SA		A		D		SD		Undecided	
		F	%	F	%	F	%	F	%	F	%
1	Passion to better the lot of rural dwellers could be responsible for urban to rural migration and lifelong learning	132	41.3	102	31.9	46	14.3	30	9.4	10	3.1
2	Economic hardship of the city could compel urban to rural migration	20	6.3	53	16.6	170	53.1	60	18.7	17	5.3
3	The quest to find a lower living standard could be responsible for urban rural migration and lifelong learning	10	3.1	20	6.2	180	56.3	101	31.6	9	2.8
4	Ill health and the belief for better traditional treatment could be a reason for urban-rural migration and lifelong learning	193	60.3	102	31.9	10	3.1	15	4.7	0	0
5	The quest to return home	60	18.8	50	15.6	100	31.3	105	32.8	5	1.5

or retirement after a long sojourn/service outside one's home is a factor for urban-rural migration											
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The above chart shows that (132) respondents representing (43.1%) chose Strongly agreed (102) respondents representing (31.9%) chose agreed that passion to better the lot of rural dwellers could be responsible for urban to rural migration and lifelong learning while (46) respondent representing (14.3%) disagreed (30) respondents representing (9.4%) chose Strongly disagreed and 10 were undecided. Item 3 shows that (10) respondents representing (3.1%) chose Strongly agreed (20) respondent representing (6.2%) chose disagree while (180) respondents representing (56.3%) chose disagreed and (101) respondents representing (31.6%) chose Strongly disagreed that the large to find a lower living standard could not be responsible for urban and rural migration and lifelong learning while (9) respondents representing (2.8%) undecided. (IOM, 2009,Oyeniyi, 2013, Ikwuyatum, 2016 & FAO,2017).

**Findings From the Interviews**

During the course of this research it was found that all of the respondents are aware of adult and non-formal education, they took part in lifelong learning activities in their various centers. However, they expected to gain more but for the fact that there are inadequate centers and facilitators; in addition, infrastructures, writing materials and instructional materials are also lacking in some centers. Some said they had access only to instructional developmental programs in reading, writing and numeracy. The location of some centers are far from the people's reach which sometimes make it impossible for the participants to attend learning and training sessions. This supports the claim of (Ogenekhowo, 2006, Soni, 2012; Alese ,2016; Ayimoro, 2017 but against NMEC,2008).

Also, some of the participants said they were not happy doing servile jobs and would have preferred staying in their different locations, engaging in farming, food packaging, entrepreneurship if they had had social amenities present there while a few claimed they would have still left their areas to explore and in search of better economic ventures. This is in support of (IOM, 2009,Oyeniyi, 2013, Ikwuyatum, 2016 & FAO,2017).

**Conclusion and Recommendations**

The authors of this this study contend that its results demonstrate that lifelong learning is capable of mitigating female migration and servile jobs among women which could also serve as an impetus towards developing the individual and the nation.

It is recommended that:

- Government should establish various centers at strategic places and publicize the program to make learning accessible to all and sundry.
- Provision of adequate funds for centers and all types of materials in all states must be given urgent attention.

- The time for adequate resource allocation to adult and non-formal education in the national budget is now. It is also important for NMEC to do more publications on the programs, research and monitor all activities of adult and non – formal education in the country whether private or governmental.
- More females need to respond positively to the program in order to upgrade themselves.
- Stakeholders need to design the program in such a way that will attract and impress people to attend. Incentives like feeding at the venue and giving of stipends for transport fare to participants will go a long way to motivating them.
- More learning opportunities need to be infused into the curriculum to keep abreast local needs and global trends. For instance, solar panels for energy could be designed in these centers to enable participants contribute in lighting up their environment.
- Government and service providers should remunerate facilitators well.
- Training and retaining of facilitators should be highly encouraged by the government.
- It is important to develop and provide standard living facilities to all nooks and crannies of the nation in order to decongest densely populated areas and allow citizens to contribute to the development of the nation.
- The issue of insecurity in the country must be given adequate attention.
- It is high time NGOs, CBOs and philanthropists see education of the state as a responsibility of all.

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