

Research Supervision as an Antecedent to Graduate Student Progression in the Public Higher Institutions of Learning in Uganda

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Abstract. This study investigated research supervision as a key factor in the progression of graduate students in the public higher institutions of learning in Uganda. A cross-sectional survey design was used to conduct the study. A total of 312 graduate students on masters' degree programs were randomly selected from 4 public institutions of higher learning. The study also included 20 research supervisors who were conveniently selected and 4 purposively selected graduate school heads. A self-administered structured questionnaire was used to collect the data from the students. The supervisors and research school heads were interviewed. The ordered logistic regression and content analysis methods of data analysis were used to establish the contribution of research supervision to the graduate students' progression. The findings revealed that the supervisor-supervisee relationship, supervisor guidance and feedback are significant antecedents of the graduate students' progression. The study thus concluded that public institutions of higher learning institute mechanisms that address the supervisor-supervisee relationship, supervisor guidance and the promptness of any feedback in order to enhance the students' progression. The study recommends that public institutions of higher learning institute i) annual training programs that focus on promoting a good relationship between supervisors and supervisees, ii) regular research seminars that bring together the supervisors and supervisees and iii) regular meetings between the administration, research supervisors and supervisees in order to review the students' progress. The institutions should also emphasize adherence to the policy of giving feedback on the students' research work within set time frames.

Keywords: research supervision; students' progression; higher institutions of learning

1. Introduction

Higher education is a crucial determinant of the global economy and development (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2015). It is a key antecedent to economic growth and the attainment of the Sustainable Development Goals (Fagoyinbo, 2013; Bloom, Canning, Chan & Luca, 2014). However, it can only play this contributory role when a considerate proportion of graduate students successfully complete their programs on time (Hebel, 1999 as cited by Eyangu, Bagire & Kibrai, 2014). Graduates at this level are expected to exhibit the skills of innovation, problem solving and critical thinking as these are necessary for addressing contemporary social economic issues (Okwakol, 2009; Bateman & Coles, 2013; National Council for Higher Education [NCHE], 2014a; Oluwajodu, Blaauw, Greyling & Kleynhans, 2015; Serrano, Llamazares & Otamendi, 2015).

Unfortunately, less than 30% of the students who enroll on graduate studies in higher education institutions in Uganda complete their program in the expected timeframe, despite the efforts by these institutions to improve the completion rate and reduce the number of dropouts (Ssenyonga & Nakiganda, 2020; NCHE, 2018). Research studies conducted elsewhere in the world attribute the increasing delay to complete to high attrition rates and the low completion rates of the graduate students to the way that their research is supervised (Seidu, 2015; Akparep, Jengre & Amoah, 2017). According to Seidu (2015), several research supervisors do not provide sufficient support and guidance during the research process, with some supervisors taking a long time to give feedback on the students' written work. The low level of support from the supervisors is compounded by the various perennial challenges that graduate students face including employment, family and community demands (Wamala, Ocaya & Oonyu, 2012). In this study, we examined the influence of research supervision on the graduate students' progression in the public higher institutions of learning in Uganda.

Historically, similar to several African countries, Uganda's higher education system provides the much needed high caliber human resources for political, social and economic development for a young independent country. In the early 1960s, the quality of education in general and higher education in particular was rated the best in Eastern Africa (Sekamwa, 2000; Government of Uganda, 1992). The quality of the education was explained by the conducive learning environment, highly trained and dedicated academic staff, and suitable student - lecturer ratio (Rabwoni, 2010). Furthermore, the education was relevant to the needs of a young independent country to the extent that those who successfully graduated were immediately absorbed into the virgin labour market. This was largely because the graduates were equipped with an adequate level of knowledge and skills that were tailored to the job market (Sekamwa, 2000). The good quality of the education was attributed to the highly qualified lecturers, well-equipped and well-funded institutions, adequate support services and staff, and good governance in all institutions (Mukwanason, 2017).

Unfortunately, the 1960 - 1970 political and economic upheavals grossly affected the quality of higher education (Ochwa-Echel, 2016). The introduction of market-

friendly reforms under the World Bank Structural Adjustment Program in 1987 and the de-regularization policies led to the liberalization of public services including education. This led to the underfunding of the public sector by the government (Namubiru, 2014, p.129). Although the World Bank Structural Adjustment Program was considered to be the best approach to achieving economic growth through savings and the efficient and effective use of resources, it had a disastrous effect on the provision of social services such as education. The liberalization policy led to a systematic reduction in the role of the state to provide HE as a social service to its people, allowing market forces to penetrate and influence the education provision (Nantenge, 2007). These reforms also led to a shift in government funding priority from advanced to basic education. This further negatively affected the provision of quality higher education. Consequently, the National Council for Higher Education was established under the Universities and Other Tertiary Institutions Act 2001 to (1) regulate and guide the establishment and management of institutions of higher learning and (2) to regulate the quality of higher education, to equate qualifications and to advise the government on higher education issues (NCHE, 2008, p.5).

Notwithstanding the numerous quality-related challenges, the demand for graduate education has exponentially increased in the last two decades due to the belief that higher education qualifications enable career growth that can increase the opportunity to acquire a high paying job (Eyangu, Bagire & Kibrai, 2020). However, the rapid growth in graduate student enrolment relative to the low academic staff levels and disproportionate resource allocation appears to have caused a poor research supervision environment. This has an impact on the students' progress (Kimani, 2014; Bacwayo, Nampala & Oteyo, 2017) and completion rate. Public universities and other degree-awarding institutions in Uganda are no exception to the challenge of the growing demand for higher education.

Theoretically, the study is anchored in the social learning theory by Bandura (1999). The theory stipulates that learning is influenced by the social context and that it is reciprocal in relation to the environment (Bandura, 1999). The theory emphasizes the importance of observing and modelling the behavior, attitudes and emotional reactions of others, and it suggests that all behaviors are learned through conditioning. Relating this to the supervisor / supervisee relationship, the theory postulates that both the supervisor and supervisee significantly influence each other. The supervisee's negative experience resulting from the supervisor's behavior may negatively affect the progress of the supervisee (Henfield, Owens & Witherspoon, 2011 in Burt 2012). The supervision environment such as a delayed response to supervisee's submitted work, the unavailability of the supervisors, the lack of a cordial relationship between the supervisor and supervisee, and poor communication may create a state of helplessness on the part of the supervisee. The supervisee's response may be an expression of disappointment and frustration which may lead to withdrawal (attrition) and at worst, dropout. Interpreting the theory of social learning in the current study, the supervisor is expected to correspond to the needs of the supervisee in a realistic amount of time. Supervisors need a clear, concrete and

logical supervisory model of supervision. The way that the supervisor relates to the supervisee has a lot of influence on the progress of the supervisee during the research process. Using the social learning theory, this study has investigated the influence of research supervision on the progress of students in higher institutions of learning in Uganda.

Conceptually, research supervision, graduate students and student progression are considered to be key concepts. Research supervision is the facilitation and overseeing of the research project (Ssenyonga & Nakiganda, 2020), providing leadership and guidance to the research students (Mutula, 2011). The students' progression is defined in terms of dropout rates, completion rates, retention rates and the time to degree completion (Carlhed Ydhag, 2019). Student progression in this paper refers to the advancement of the students through the established stages of the program such as proposal writing, data collection and analysis and thesis writing through to graduation. Graduate students, according to the Cobuild Advanced English Dictionary (Graduate student, 2006), are students who have completed their bachelor's degree who are pursuing an advanced degree or doing research in a specified area. Graduate students in this study included those pursuing a master's degree.

Contextually, there is an increasing number of students enrolling on graduate courses in Uganda with the hope of completing within the stipulated time frame (Ssenyonga & Nakiganda, 2020). Students who enroll on the masters' programs are expected to complete their studies in a minimum of 2 years. The first year involves classroom work (coursework) and in the second year, the students are expected to do a research project. Over 70% of graduate students successfully complete the classroom phase on time. However, the students' progression slows down when they embark on the second phase of the research project (Ssenyonga & Nakiganda, 2020; National Council for Higher Education [NCHE], 2018). Currently, the average completion rates stand at less than 30% for students on the master's programs (Uganda Bureau of Statistics [UBOS], 2017). This low completion rate is attributed to a range of factors that include the financial, family and job-related challenges students encounter in their academic journey (Atibuni et al., 2017). This is in addition to the institutional policies and procedures, limited research facilitation and the quality of the research supervision (Kyaligonza, Kimoga & Nabayego, 2015).

Given that the delayed completion and low completion rates are associated mainly with the research-based programs (Ssenyonga & Nakiganda, 2020), the purpose of this study was to establish the contribution of the research supervision towards the students' progress in the higher institutions of learning in Uganda. The study was specifically guided by the following objectives:

- i. To establish the contribution of the supervisor-supervisee relationship to the students' progression in the public higher institutions of learning in Uganda.
- ii. To investigate the contribution of the supervisors' guidance on the students' progression in the public higher institutions of learning in Uganda.

- iii. To establish the contribution of the supervisors' feedback towards the students' written work related to the progression of the students in the public higher institutions of learning in Uganda.

2. Literature Review

The existing literature reveals that research supervision as a critical factor that improves the completion time and attrition rates for university courses where a research project is a requirement (Chiappetta-Swanson & Watt, 2011; Chireshe, 2012; Holtman & Mukwada, 2014; Van Rensburg, Mayers & Roets, 2016; Akparep, Jengre & Amoah, 2017). According to Chiappetta-Swanson and Watt (2011), research supervision can only contribute to the progress of the graduate students when the supervisors provide adequate support and guidance during the research process. In agreement with Emilsson and Johnson (2007), Chireshe (2012) affirms that effective research supervision requires the supervisors to be well-informed, available, approachable, supportive, helpful and patient. According to Holtman and Mukwada (2014), the way that the supervisors perceive their role and responsibilities, the approaches that they adopt and the constraints they encounter determines the quality of the supervision. To enhance the research supervision, Chireshe recommends regular graduate research seminars. Holtman and Mukwada (2014), on the other hand, emphasized that effective supervision is not only determined by the supervisors' understanding of their role and the way that they engage with their role. Institutional factors such as the supervisory approaches, the use of student support facilities within and outside the university, co-supervision and financial support also play a part. The key question is, how adequate is the support and guidance that is provided by the research supervisors in the public higher institutions of learning in Uganda?

It is important to note that a number of studies have established that graduate students in many sub-Saharan Africa are not getting sufficient enough support and guidance from their research supervisors (Atibuni et al., 2017). According to Atibuni et al. (2017), some supervisors take a long time to give their feedback on the students' written research work. The low support from the supervisors is compounded by the many challenges that the graduate students face such as employment, family and community demands (Ismail & Abiddin, 2011). To address these challenges, several scholars (Clutterbuck & Megginson, 1999; Arabaci & Ersozlu, 2010; Affero, Norhasni & Aminuddin, 2011; Chireshe, 2012; Ali, Watson,& Dhingra, 2016) recommend that supervisors should build a cordial relationship with their students during the research journey, be good mentors who advise the students on the best way of conducting their research, be experienced in research (have the necessary skills), be available for consultation, give prompt feedback on the students' written work and be dedicated, critical and friendly as they guide and support their students during the research process. Given the criticality of the supervisor-supervisee relationship in relation to the performance of the graduate students as argued in the literature review, we investigated the nature of the relationship between the supervisor and supervisees and the support that is provided by the supervisors in the public higher institutions of learning in Uganda and how they contribute to the students' progression.

The central question in this study remains the following - what explains the slow progression and high dropout rates of graduate students in the public higher institutions of learning in Uganda? Several scholars (Ssegawa & Rwelelamilia, 2009; Jinarek, 2010; Olorunnisola, 2011; Wamala, Ocaya & Oonyu, 2012; Seidu, 2015; Kyaligonza, Kimoga & Nabayego, 2015; Akparep, Jengre & Amoah, 2017; Atibuni et al., 2017; Hadi & Muhammad, 2019) have carried out research to establish the factors that explain both delayed completion and the high attrition rate at graduate level. The study conducted by Wamala, Ocaya, and Oonyu (2012) established that the completion rate for PhD students in Uganda was low relative to the rate in developed economies despite the attrition rates being comparable. According to Wamala et al, the determinants of delayed completion and the high attrition rate were personal, academic or financial. Similarly, Hadi and Muhammad (2019), in a study on the factors affecting postgraduate students in Malaysia, established a strong positive correlation between the students' characteristics, the institutional factors, the level of research supervision and the students' performance. Mutula (2011) pointed out the quality of the students admitted, the failure of the students to balance their jobs and their studies and the research supervision as some of the factors that impact on the progress of the graduate students. Atibuni et al. (2017) attributed the low completion rates of the research postgraduate courses to institutional and personal reasons. According to Kyaligonza, Kimoga and Nabayego (2015), the low rates of completion are explained by the scarcity of qualified supervisors to take on the mantle. In this study, we focused on establishing the extent to which the research supervision factor explains the progress of the graduate students in public higher institutions of learning.

Finally, a number of scholars attribute delayed completion and the high dropout rates at the graduate level to research supervision (Ssegawa & Rwelelamilia, 2009; Jinarek, 2010; Seidu, 2015; Orellana et al., 2016; Akparep et al., 2017). According to Orellana et al. (2016), the geographical distance between the supervisors and the supervisee is one factor that affects the frequency of their interactions. Seidu (2015) recommends addressing the relationship between the supervisors and supervisees as a remedy for the delayed completion and high attrition rates. Akparep et al. (2017) recommends that the supervisors and supervisees should always formally write an explanation for the delayed completion to those in charge of the graduate school. On the basis of this literature, we investigated the challenges that the supervisors and supervisees in the public higher institutions of learning in Uganda encounter as part of their research journey and the possible remedies for the challenges.

3. Methodology

The study adopted a descriptive cross-sectional survey design. The target population consisted of students on master's programs who were in their final stage of the research project, in addition to research supervisors and graduate schools' heads from 4 randomly selected public institutions of higher learning. The study sample consisted of 312 master's students that were selected through random sampling. Out of the 312 self-administered questionnaires, 253 were

returned and after the process of data preparation, 210 were retained for analysis, translating into a 67.3% response rate. Additionally, 20 supervisors were conveniently selected while 3 graduate school heads were purposively selected.

A self-administered structured questionnaire (refer to appendix 1) was used to collect the data from the students. The interview method was used to collect the data from the supervisors and heads of the graduate schools. The questionnaire involved 2 questions pertaining to the respondents' background information. Section B was composed of 10 items that sought to determine the respondents' opinion of the supervisor -supervisee relationship, Section C involved 8 questions that gathered their opinions on guidance, Section D consisted of 8 questions that sought out the respondents' opinion on feedback and Section E involved 11 questions on the students' progress. The items in Sections B, C, D and E were measured using a 5-point Likert scale with the following categories: Strongly Agree (5), Agree (4), Non-committal (3), Disagree (2) and Strongly Disagree (1). One item that sought out the opinion of the supervisees on how the research supervision could be improved was included at the end of the questionnaire. The questionnaire method was preferred in this case because of the respondents who were geographically dispersed. This saved both time and money during the study.

The interview guide (refer to appendix 2) included 4 items that sought information on the available research supervision, the challenges that the graduate students encounter during the research process, student progression and how the progress of the master's students could be enhanced. The interview method was found to be suitable because of its flexibility. It also enabled more probing of the issues under inquiry and enabled the seeking of clarity on both the opinions and explanations given.

The data collected using the methods described above was triangulated for a holistic understanding of the phenomenon under investigation. The instruments were pre-tested using related samples from the public institutions of higher learning prior to the actual data collection.

The results of the pretest revealed that the reliability coefficient (Cronbach's alpha) of the different sections of the questionnaire ranged from 0.731 to 0.867. This is considered appropriate for this study (Creswell, 2012). Experts from the NCHE checked the clarity and appropriateness of the instructions and questions, after which the revision and modification of the instruments was completed.

Before the data were collected, informed consent was sought from the respondents. The respondents were assured of their anonymity and confidentiality. The ordered logistic regression model was used to establish the extent to which research supervision contributes to the students' progress. A significance test was performed at the probability level of $p < 0.05$. The qualitative data was analyzed by identifying the patterns in the gathered information, creating the categories and finally, forming the themes. In the next section, the findings of the study are presented.

4. Results

This section includes the descriptive statistical and qualitative results about the background information on the respondents, the supervisor – supervisee relationship, the guidance provided by the supervisors, the feedback provided by the supervisors and the respondents' opinions about the progress of their research. It also includes the ordered regression results on the students' progression.

Profile of the Respondents

Table 1 presents the findings on the background information of the respondents.

Table 1: Background Information on the Respondents

Variable	Categories	Number of respondents	Percentage
Gender	Male	116	55.2
	Female	94	44.8
How long have you been on the MMS program?	One year or less	14	6.7
	More than 1 year but less than 3 years	82	39.0
	3 years or more	114	54.3

The results in Table 1 indicate that there are more male graduate students on the master's program compared to their female counterparts. This reveals a gender parity issue at the graduate level of education. The results further demonstrate that the majority of the supervisees have been on the master's program for more than the 2 year stipulated time frame for completing a master's degree program.

Supervisor – Supervisee Relationship

The students' views were sought on the supervisor-supervisee relationship. The summary of the respondents' opinions on the supervisor-supervisee relationship are presented in Table 2.

Table 2: Distribution of the Respondents' Views on the Supervisor-Supervisee Relationship

Supervisor – supervisee relationship	Agree	Non-committal	Disagree
My supervisors are friendly	112 (53.3%)	10 (4.8%)	88 (41.9%)
My supervisors are always available whenever I need them	102 (48.6%)	12 (5.7%)	96 (45.7%)
I have sufficient interactions with my supervisors	122 (58.1%)	8 (3.8%)	80 (38.1%)
I regularly consult my supervisors on my research	126 (60%)	6 (2.9%)	78 (37.1%)
My supervisors are good mentors	94 (44.7%)	4 (1.9%)	112 (55.3%)
My supervisors make an effort to solve the challenges that may hamper my progress	86 (41%)	10 (4.8%)	114 (54.2%)
I regularly interact with my supervisors online	82 (39.1%)	8 (3.8%)	120 (57.1%)
My supervisors usually encourage me to progress	100 (47.6%)	6 (2.9%)	104 (49.6%)
My supervisors harass me	66 (31.4%)	2 (1.0%)	142 (67.6%)
I find my interactions with my supervisors stressful	92 (43.8%)	10 (4.8%)	108 (51.4%)

The results in Table 2 demonstrate the existence of a fair supervisor-supervisee relationship. However, the results suggest that the majority of the supervisors (55.3%) are not playing their mentorship role as expected. A large portion of the supervisors appear not to be interested in the challenges that the students encounter along the research journey which could inhibit their progress. The results further demonstrate that only a few (39.1%) of the supervisors interact with the supervisees online. Lastly, there is an indication of harassment by some supervisors which may explain the stressful interaction between some of the supervisees and their supervisors.

Guidance Provided by the Supervisor

Table 3 presents a summary of the respondents' views on the guidance provided by the supervisors.

Table 3: Distribution of the Respondents' Views on the Guidance provided by the Research Supervisors

Guidance	Agree	Non-committal	Disagree
I have a supervision schedule with my supervisor	112 (53.3 %)	20 (9.5%)	78 (37.2 %)
My supervisors guided me in the selection of my research topic and fine-tuning it	164 (78.1%)	10 (4.8 %)	36 (17.1 %)
I usually receive additional information on my topic from my supervisors	72 (34.3%)	4 (1.9 %)	134 (63.8%)
My supervisors usually help me to access the relevant literature	78 (37.1%)	10 (4.8%)	122 (58.1%)
My supervisors have the necessary knowledge and experience on my topic	166 (79%)	26 (12.4%)	18 (8.6%)
My supervisors are keen to see how I address the comments that they make on my written work	94 (44.8%)	10(4.8%)	106 (50.4%)
I find the guidance that my supervisor gives me on my research constructive	166 (79 %)	6 (2.9%)	38 (18.1%)
The guidance that my supervisor has given me has helped me gain competence in the basic skills used when conducting research.	158 (75.2%)	4 (1.9%)	48 (22.9%)

The results in Table 3 indicate that the majority of the supervisees (79%) received constructive guidance from their supervisors. However, regarding accessing relevant information to support their research, only a few students (37%) got support from their supervisors. The results further suggest that the supervisees have enhanced their basic research skills when conducting research as a consequence of the guidance of the supervisors.

Feedback from the Supervisors

Views were sought from the respondents on the feedback provided by the supervisors on their written research work. Table 4 presents a summary of their responses.

Table 4: Summary of the Respondents' Views on the Feedback Provided by the Supervisors

Feed back	Agree	Non-committal	Disagree
My supervisors provide feedback on my written work within 2 weeks after submission	60 (28.6 %)	11 (5.2%)	139 (66.2%)
The supervisors always do a thorough review of my written research work	150 (71.4%)	6 (2.9%)	54 (25.7%)
I find the comments made by my supervisors easy to understand	142 (67.6%)	6 (2.9%)	62 (29.5%)
The supervisors usually make encouraging comments on my written research work	136 (64.8%)	4 (1.9%)	70 (33.3%)
My supervisors usually provide online feedback	70 (33.3%)	6 (2.9)	134 (63.8%)
My supervisor provide constructive criticism on feedback	138 (65.7%)	8 (3.8%)	64 (30.5%)
The feedback given by my supervisors has been helpful regarding my progress	70 (33.3%)	4 (1.9%)	136 (64.8%)
The comments made on my research work have helped me to improve on my research skills	130 (61.9%)	6 (2.9%)	74 (35.2%)

The results in Table 4 indicate that the supervisors thoroughly review the students' research work and give clear, constructive and encouraging comments. However, the results suggest delayed feedback from the supervisors and low levels of online feedback. The results further suggest delayed progress as a result of the supervisors' feedback.

Students' Progress

The study further sought out the opinion of the respondents on their progress in line with the research project. Table 5 presents a summary of their responses.

Table 5: Distribution of the Respondents' Opinions on their Progress in their Research

Students' progress	Agree	Non-committal	Disagree
I developed my topic within the first month after the commencement of the research project	146 (69.5%)	6 (2.9%)	58 (27.6%)
I regularly meet my supervisor as scheduled	90(42.9 %)	8 (3.8%)	112 (53.3%)
My supervisors are happy with my written work	97 (46.1 %)	9 (4.3%)	104 (49.5%)
I always submit my written work on time for review and assessment	83 (39.5 %)	3 (1.4 %)	124 (59.1%)
I defended my research proposal within 6 months	64(30.5 %)	12(5.7%)	134 (63.8%)
I was able to address comments raised during my research proposal with ease	94(44.8%)	5 (2.4 %)	111 (52.8%)
My research proposal was approved immediately on my first submission	87 (41.4%)	7 (3.3%)	116 (55.3%)

I collected and analyzed my data within 2 months after my proposal defense	71 (33.8%)	6 (2.9%)	133 (63.3%)
I submitted my draft thesis within 2 months after data collection	52 (24.8%)	4 (1.9%)	154 (73.3%)
I defended my thesis within 4 months after the proposal defense	62 (29.5 %)	9 (4.3%)	139 (66.2 %)
I am happy with the progress of my research	94 (44.7%)	10 (4.8%)	106 (50.5%)

The results suggest the supervisees developed topics within the first month of their research journey. The findings, however, demonstrate that less than 50% of the respondents have been able to meet their supervisors as scheduled. The results further indicate the delayed submission of research proposals for defense within the first 6 months, with only 30% of the supervisees submitting on time. Despite a fair proportion of the supervisees (>40%) addressing comments made at the research proposal defense and having their research proposal approved, progressing to the data collection and analysis stages, the drafting of the thesis and the defense of the thesis drastically extends in duration.

Verification of the Hypotheses

To establish the contribution of the research supervision to the students' progression, ordered logistic regression was conducted and the following null hypotheses were tested:

- i. The supervisor-supervisee relationship does not in any way contribute to the students' progression.
- ii. The supervisors' guidance does not contribute in any way to the students' progression.
- iii. The supervisors' feedback on the students' written work does not in any way contribute to the students' progression.

The findings of the logistic regression are presented in Table 6.

Table 6: Ordered Regression Results for the Students' Progression

Students' Progression	Coefficients	P> Z	95% conf. interval
Supervisor-supervisee relationship	3.189	.000	2.745 5.275
Supervisors' guidance	4.213	0.000	3.587 4.745
Supervisors' feedback	2.345	0.023	1.978 3.105
Gender	1.103	0.489	-0.972 1.243

Pseudo R² = 0.586, Number of respondents = 210, LR χ² (4) = 1416.73, Prob > χ² = 0.000

The results indicate that a unit increase in the supervisor-supervisee relationship results in a 3.189-unit increase in student progression. This means that a better supervisor-supervisee relationship enhances the students' progression. Similarly, the results indicate that a unit increase in the supervisor's guidance leads to a 4.213-unit increase in the students' progression. This means that the increased guidance by the supervisors leads to improved student progression. Lastly, the results reveal that a unit increase in the supervisors' feedback results in a 2.345-unit increase in the progression of the students, meaning that feedback is correlated positively with student progression.

The results mean that the three null hypotheses were all rejected. This result proves that the supervisor-supervisee relationship, the supervisors' guidance and the supervisors' feedback significantly explains the variations in the students' progression. Overall, the results demonstrate that research supervision is a significant antecedent to the graduate students' progression.

Upon expressing their opinion on how the research supervision could be improved, the supervisees emphasized the enhancement of the supervisor-supervisee relationship. In their opinion, more friendly and available supervisors who give prompt feedback on the students' research work are the key to promoting the graduate students' progression. The supervisees also suggested that students should be given the opportunity to select their supervisors according to who they will comfortably work with. The supervisees also proposed regular meetings between the administration, research supervisors and supervisees about the students' progress.

The interviews with the supervisors revealed that they had a cordial relationship with most of their supervisees. The supervisors further revealed that they offer a lot of guidance during the entire research process. According to the supervisors, they spend the first months of the supervision process exposing the supervisees to the required research methods. During the interview, one of the supervisors had this to say:

"Many of the students assigned to me lack the necessary research knowledge and skills. A number of them cannot write a problem statement or even develop the study objectives. So in the first two to four months, I take them through the basics of research methods. This definitely impacts on the progress of many of the students."

(Research Supervisor, 13th November 2020)

The information from the interviews with the supervisors revealed that the delay in giving feedback was a consequence of the high number of students assigned to them and the heavy teaching workload plus other administrative duties that they are always engaged in. The supervisors also attributed the delayed completion to lack of seriousness on the part of the supervisees. According to the supervisors, a number of their supervisees belong to the working class and many of them dedicate less time to research. The supervisors attributed the slow student progression to the many students lacking the necessary research knowledge and skills as well.

The interview information from the graduate school heads revealed that there are a number of situations where poor supervisor-supervisee relationships have been reported. According to the informants, reports about rude supervisors and incidences of male supervisors sexually harassing female supervisees are common. One head of the graduate school had this to say:

"Many of our supervisors have failed to build rapport with the supervisees making their interaction with the students quite uneasy. It is also unfortunate to inform you that we even receive cases of sexual harassment. We have actually stopped allocating female students to some of our male staff because of complaints from the

female students about their sexual behavior. For extreme sexual harassment cases, disciplinary action has been taken." (Head of Graduate school, 20th November, 2020)

Interviews with the heads of the graduate schools also revealed that some of the supervisors do not have an interest in providing feedback. At times, the required expertise in the area of study is required. This has resulted in the provision of poor guidance. According to the heads, the teaching staff were allocated students because it is required that the teaching staff conduct research supervision. Given that some of the supervisors did not have the required expertise in their supervisees' area of specialization, they were only able to concentrate on the methodology. One head of the graduate school had this to say:

"We have colleagues who hardly guide supervisees during the research process. Quite a number of supervisors don't thoroughly read through their supervisees research work to get a basis for guidance. They just sign the research documents for submission. To attest to this, some of our supervisors have confessed during proposal or dissertation defense that they were too busy to do a thorough reading of the students' work and to offer the necessary guidance." (Head of Graduate School, 24th November 2020)

In relation to the promptness of providing feedback to the supervisees, the graduate school heads pointed out that delayed feedback is a major challenge experienced in their schools. One key informant had this to say:

"Our Master's students are having problems of availability of supervisors and delayed feedback from their supervisors. Most of these students are working people who prefer to meet their supervisors after work or over weekends which many supervisors find inconveniencing. To make matters worse, some supervisors have not embraced online supervision, they insist on hard copies of the students' work". About delayed response, some supervisors take over a month with the students' submitted work without giving feedback. I do sympathize with the supervisors given their workload and the pressure to publish which could be some of reasons for not being available and delay to provide feedback." (Head of Graduate School, 3rd December 2020)

The heads revealed that several students had made requests to change supervisors after getting frustrated by the supervisors initially allocated to them. The change, however, creates more delays in terms of completion.

The heads also attributed the issues related to the students' delays in progress due to lack of commitment on the part of the students and their inadequate competence in research. Related to the suggestion of the supervisees, they proposed regular meetings between the supervisors and the students in order to put pressure on the students to progress faster.

5. Discussion of the Findings

The results revealed that research supervision significantly contributes to the graduate students' progress in public higher institutions of learning. These findings are in alignment with the findings of the previous studies (Chiappetta-Swanson & Watt, 2011; Chireshe, 2012; Holtman & Mukwada, 2014; Van Rensburg, Mayers & Roets, 2016; Akparep, Jengre & Amoah, 2017) that highlight

research supervision as a major factor that explains the graduate students' completion and retention rate.

The results revealed that the supervisor-supervisee relationship contributes significantly to the students' progression. The findings are in accordance with those of Akparep et al. (2017) who established that the supervisor-supervisee relationship is a critical factor in the students' progression. However, Akparep et al (2017) emphasized that for this relationship to have good results, it should be based on honesty and hard work. This however was contrary to some of the findings of this study that showed that the majority of students found interactions with their supervisors to be stressful. In line with the recommendation by Watson and Dhingra (2016), research supervisors should build a cordial relationship with the students during the research journey and be good mentors who advise the students on the best ways of conducting research. The findings further revealed the sexual harassment of female students. It is important that the supervisors act professionally whenever interfacing with students otherwise behaviors of this nature will grossly impact on the quality of education in general. Akparep et al. (2017) emphasized a morally upright relationship between the supervisor and supervisees in order for supervision to bear harvestable fruits. It is imperative that the institutions of higher learning put in place tough functional rules and regulations that deter unprofessional behavior such as the supervisors sexually harassing their supervisees.

Despite the significant contribution of supervisor guidance towards the students' progression, the findings of the study revealed that several supervisors are not providing the required support and guidance as mentors. These findings are in agreement with those of Atibuni et al. (2017) who asserted that the graduate students in many areas of sub-Saharan Africa are not getting sufficient enough support and guidance from their research supervisors. The students on a research project need adequate support and guidance from their supervisors in areas such as the literature review, the development of the data collection tools and the analysis of the data to enhance their progression (Chiappetta-Swanson & Watt, 2011). The findings revealed that the poor supervisor guidance is a consequence of the supervisors' heavy teaching workload, the high number of supervisees assigned to particular supervisors and the supervisors' lack of interest and expertise in the study areas. In line with the aforementioned, it is imperative to emphasize that effective research supervision calls for supervisors who are not only well-informed but who are also available, approachable, supportive, helpful and patient (Chireshe, 2012).

The results demonstrated that the majority of the supervisors delayed giving feedback on the students' written research work. These findings concur with the findings established by Seidu (2015) about the supervisors taking a long time to give feedback on the same. The delay in giving feedback as pointed out by Henfield et al. (2011) has a negative impact on the progress of the supervisees. Given that the graduate students expect to complete the course in a minimum of 2 years, the delayed feedback is a frustration due to the low completion rates with some even some dropping out of the system. It is critical that the higher

institutions of learning implement the maximum 2-week duration for giving feedback to the supervisees.

The findings indicate that the majority of the supervisees were able to develop their topics within the stipulated 1-month period. However, a delay in progression was identified after the research topic was developed. In order to enhance their progress, the students were of the view that regular meetings between the administration, research supervisors and supervisees should be instituted to review the students' progress. The students' views concur with those of Chireshe (2012) who recommends regular graduate research seminars with the intention of enhancing the graduate students' progress. Another way of enhancing the students' progress is to have the supervisors and supervisees formally write on a regular basis as an explanation for delayed completion to those in charge of the graduate school (Akparep et al, 2017).

Overall, the social learning theory (Bandura, 1999) was found to be relevant when it comes to explaining the slow progression and low completion rates among the graduate students. The negative supervision environment exhibited by the stressful interaction between the supervisors and supervisees, the delayed feedback and the lack of support and guidance are a source of disappointment and frustration that negatively impact on the progress of the graduate students in the higher institutions of learning. In line with this theory, the students' progression can be enhanced when the supervisors are friendly mentors who provide adequate support and guidance to the students while also promptly providing feedback on the students' written work (Clutterbuck & Megginson, 1999; Arabaci & Ersozlu, 2010; Afferro, Norhasni & Aminuddin, 2011; Chireshe, 2012; Ali, Watson & Dhingra, 2016).

6. Conclusion

The paper focused on exploring research supervision as an antecedent to the graduate students' progression in the public higher institutions of learning in Uganda. The study established that the supervisor-supervisee relationship, supervisor guidance and supervisor feedback are significant antecedents of the graduate students' progression. However, the findings of this study suggest that the relationship between the supervisors and supervisees is relatively poor, that several supervisors do not provide the required support and guidance as expected, and that the supervisors often delay giving feedback on the students' written work. This is a deterrent when it comes to the graduate students' progression in the higher institutions of learning. It is important therefore for the issues related to the supervisor-supervisee relationship, supervisor guidance and the promptness of the feedback to be addressed if students' progression is to be enhanced.

7. Recommendations

The graduate schools should institute annual training programs that focus on promoting a good relationship between the supervisors and supervisees. The higher institutions of learning should also organize regular research seminars that bring together the supervisors and supervisees. The institutions should

emphasize adherence to the policy of giving feedback on the students' research work in a period of 2 weeks maximum. Finally, the higher institutions of learning through the graduate schools should organize regular meetings between the administration, research supervisors and supervisees to review the students' progress.

8. Limitations of the study

The study had limitations that justify future research. Firstly, the study focused on the masters' students in public universities. In future researchers should take into consideration all categories of graduate students in both private and public higher institutions of learning to enhance generalization of findings. Secondly, the study adopted a cross sectional design that gives a description of what is happening at the time of the study. Future studies should consider using the longitudinal or experimental designs to establish magnitude and direction of causal relationship between research supervision and students' progression. Thirdly, the study limited its content scope to research supervision as a key factor to graduate students' progression in public higher institutions of learning in Uganda. Future studies could consider other factors such as students' personal and financial factors could affect graduate students' progression. Lastly, the study focused on only two key variables- research supervision and students' progression in higher institutions of learning. In future research, intervening variable should be brought in perspective.

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Appendix 1

Questionnaire For Students

Dear respondent,

We are consultants in the School of Business Management of UMI. We are undertaking a research on Research Supervision and Progress of Graduate Students in Public Higher Institutions of Learning. As a student on the master's program in the final stages of the research project, you have a wealth of key information that is of benefit to this study. The aim of this study is to investigate the influence of research supervision on the progress of graduate students. The information gathered will provide stakeholders with an understanding of the status and challenges of students' progress. The study is intended to give insights into the formulation of policies on research supervision for better progression of graduate students at the Institute. The information you provide will be treated with strict confidentiality and will not in any way be personalized. You are not expected to provide your name. I humbly request your cooperation in completing the attached questionnaire.

Thank you in advance and I look forward to receiving your feedback.

Yours sincerely,

Paul Netalisile Malunda, Juliet Atwebembeire & Proscovia Namubiru

Section A: Profile of Respondents

In this section, you are kindly requested to tick the appropriate alternative response

1	Gender	Male	Tick
		Female	
2	How long have you been on the Master's program?	One year or less	
		More than one year but less than three years	
		Three years or more	

Section B: Supervisor – Supervisee Relationship

Using the key given below, tick the right alternative that corresponds with your opinion as they relate to you regarding Supervisor- Supervisee relationship:

Key: 1= Strongly disagree 2= Disagree 3=Non-committal 4= Agree 5= Strongly agree

Item	Supervisor – supervisee relationship	Strongly Agree	Agree	Non-committal	Disagree	Strongly Disagree
4	My supervisors are friendly					
5	My supervisors are always available whenever I need them					
6	I have sufficient interaction with my supervisors					
7	I regularly consult my supervisors on my research					
8	My supervisors are good mentors					
9	My supervisors make effort to establish the challenges that may hamper my progress					
10	I regularly interact with my supervisors online					
11	My supervisors usually encourage me to progress					
12	My supervisors harass me					
13	I find interaction with my supervisors so stressful					

Section C: Supervisors' Guidance

Using the key given below, tick the right alternative that corresponds with your opinion as they relate to you regarding guidance given by your supervisor:

Key: 1= Strongly disagree 2= Disagree 3=Non-committal 4= Agree 5= Strongly agree

Item	Guidance	Strongly Agree	Agree	Non-committal	Disagree	Strongly Disagree
14	I have a supervision schedule with my supervisor					
15	My supervisors guided me on selection of my research topic and fine tuning it					
16	I usually receive additional information on my topic from the supervisors					
17	My supervisors usually help me to access relevant literature					
18	My supervisors have the knowledge and experience on my topic					
19	My supervisors are keen on how I address comments they make on written work					
20	I find the guidance my supervisor gives me on my research constructive					
21	The guidance my supervisor has given me has helped me gain competence in the basic skills of conducting research.					

Section D: Feedback by the Supervisor

Using the key given below, tick the right alternative that corresponds with your opinion on feedback given by your supervisor (s):

Key: 1= Strongly disagree 2= Disagree 3=Non-committal 4= Agree 5= Strongly agree

Item	Feed back	Strongly Agree	Agree	Non-committal	Disagree	Strongly Disagree
22	My supervisors provide feedback on my written work within two weeks after submission					
23	The supervisors always do a thorough review of my written research work					
24	I find the comments made by my supervisors easy to understand					
25	The supervisors usually make encouraging comments on my written research work					
26	My supervisors usually provide online feedback					
27	My supervisor provides constructive criticism on feedback					
28	Feedback given by my supervisors has been helpful to my progress					
29	The comments made on my research work have helped me improve on my research skills					

Section E: Students' Progress

Using the key given below, tick the right alternative that corresponds with your opinion as they relate to your progress:

Key: 1= Strongly disagree 2= Disagree 3=Non-committal 4= Agree 5= Strongly agree

	Students' progress	Strongly Agree	Agree	Non-committal	Disagree	Strongly Disagree
30	I developed my topic within the first month after commencement of the research project					
31	I regularly meet my supervisor as scheduled					
32	My supervisors are happy with my written work					
33	I always submit in time my written work for review and assessment					
34	I defended my research proposal within six months					
35	I was able to address comments raised during my research proposal with ease					
36	My research proposal was approved after immediately after I first presented it					
37	I collected and analyzed my data in two months after proposal defense					
38	I submitted my draft thesis within two months after data collection					
39	I defended my thesis within four months after the proposal defense					
40	I am happy with the progress of my research					

Appendix 2

INTERVIEW GUIDES For the Heads of the Graduate schools

The purpose of this study is to analyze the influence of research supervision on the progress of graduate students at your university. You are kindly requested to answer the questions to the best of your knowledge. The information given herein will be treated with utmost confidence.

1. How do you assess research supervision of students on the master's program by the allocated supervisors?
2. What are the challenges that graduate students encounter during the research process?
3. What is your assessment about the completion rates of the students on masters' programs?
4. In your opinion, how can progress of the graduate students be enhanced?

For the supervisors

The purpose of this study is to analyze the influence of research supervision on the progress of graduate students at your university. You are kindly requested to answer the questions to the best of your knowledge. The information given herein will be treated with utmost confidence.

1. How do you assess progress of the students you are supervising on the master's program?
2. What are the challenges that you encounter as a research supervisor as you supervise students on the Master's program?
3. What is your assessment about the completion rates of the students on masters' programs?