

The Influence of Socio-Demographic Variables on Coping Strategies for Stress and Depression among Lecturers in Selected Universities of Ogun State, Nigeria

ABSTRACT

Aim: This research investigated the relationship between socio-demographic factors and coping mechanisms for stress and depression among lecturers in selected universities in Ogun State, Nigeria. **Sample:** A sample population of 285 lecturers from three universities participated in the study. **Place and Duration:** The study was conducted at three purposively selected universities in Ogun State, Nigeria. **Methodology:** A total of 285 lecturers participated in the study, representing a response rate of 92%. Data were collected using questionnaires distributed physically and online. Socio-demographic variables such as age, gender, educational level, type of university, academic rank, and years of service were assessed, alongside coping mechanisms for stress and depression. **Results:** Analysis revealed a diverse range of socio-demographic characteristics within the sample. The study found a moderate utilization of adaptive coping mechanisms for stress and depression, while the prevalence of maladaptive coping strategies remained low. Significant correlations emerged between socio-demographic variables such as age, gender, education level, and academic rank, and both adaptive and maladaptive coping strategies for stress. Additionally, age and gender demonstrated significant associations with coping strategies for depression. **Conclusion:** These findings underscored the pivotal role of socio-demographic factors in shaping the frequency and nature of coping mechanisms adopted by lecturers. Implications for the design of targeted support interventions within academic environments were discussed. **Recommendations:** Universities should prioritize implementing policies and training programs that promote adaptive coping mechanisms for stress and depression among lecturers, fostering a supportive environment that enhances their well-being, resilience, and professional effectiveness.

Keywords: University educators; coping mechanisms; stress; depression; mental health management

1.0 INTRODUCTION

Stress, as defined by Vaughn and Roesch, is the body's reaction to external stimuli that individuals perceive as harmful, potentially disrupting physical or psychological well-being [1]. This reaction manifests in various forms, including physical, mental, or emotional responses[2].

Stressors encompass factors or environmental demands that induce stress [3]. The perception of stressors as either positive or negative largely depends on individual behavior [4].

Lecturers often experience heightened levels of stress due to the demands of their profession [5]. These stressors include factors such as heavy workloads, inadequate teaching schedules, poor working conditions, and challenging classroom dynamics, among others [6,7].

1.1. Effects of Stress.

One detrimental consequence of stress on lecturers is depression [8]. Depression, a global public health concern, affects individuals' cognitive and behavioral patterns, as well as physiological functions like appetite and sleep [9]. There exists a potential cyclical relationship between stress and depression, whereby heightened stress levels may exacerbate depressive symptoms [10]. This phenomenon is compounded by the adoption of maladaptive coping mechanisms, such as alcohol consumption and cigarette smoking, in response to stress [11,12].

To mitigate the adverse effects of stress and depression, lecturers employ various coping strategies [13]. However, stressors and the associated stress levels are likely to persist unless deliberate efforts are made to address them [11]. Coping mechanisms can thus be construed as purposive efforts undertaken by individuals to manage stressors that surpass their coping abilities [14]. These mechanisms encompass behavioral, cognitive, and physiological responses to psychological stress [13].

1.2 Coping with Stress.

The imperative of coping with depression differs from coping with stress due to the availability of treatment options for depression, such as pharmacotherapy and psychotherapy [15]. However, access to these treatments remains limited, with less than 25% of individuals with depression able to avail themselves of such interventions. Moreover, a substantial proportion of those who receive treatment exhibit resistance to it, further underscoring the importance of coping mechanisms in managing depression [15]. Consequently, researchers have advocated for the exploration of alternative techniques, including self-help strategies, to prevent and alleviate depressive symptoms [16,17].

In the realm of coping with stress and depression, control strategies can be categorized as either adaptive or maladaptive [18]. Adaptive coping strategies, such as active planning, problem-solving, exercise, relaxation, and seeking social support, are conducive to effective stress management [19]. Conversely, maladaptive coping strategies, including alcohol consumption, overeating, avoidance coping, and social disengagement, are associated with adverse health outcomes and may exacerbate depressive symptoms [19].

1.3 Research Objectives.

Moreover, coping mechanisms may vary with age, suggesting that older adults may employ more efficient strategies for managing stress and maintaining well-being[20,21]. This age-related adaptation in coping strategies may also be observed among lecturers, given the diversity in socio-demographic characteristics such as gender, age, educational background, academic rank, and years of experience. Accordingly, the present study aims to assess the relationship between demographic characteristics and coping mechanisms among lecturers, thereby elucidating potential associations and implications for stress management within academic settings.

2.0 MATERIALS AND METHODS.

2.1 Study location and population:

The study was conducted at three purposively selected universities in Ogun State, Nigeria. The study population encompasses all university educators in the three selected federal, state, and private universities. Specifically, it includes 659 university educators at the Federal University of Agriculture, Abeokuta (FUNAAB); 636 university educators at Olabisi Onabanjo University (OOU), Ago-Iwoye; and 570 university educators at Babcock University (B.U), Ilishan-Remo, totaling 1865 university educators across the three institutions.

2.2 Sample selection:

The sample size was determined using the Taro Yamane formula, yielding a sample size of 280. To account for a 10% non-response rate, the sample size was increased to 309. All potential participants were invited to take part in the study and provided with informed consent detailing the study's purpose and procedures. Participants were informed of their voluntary participation rights and assured of the confidentiality of their responses. A total of 285 lecturers participated in the study, resulting in a response rate of 92%.

Table 1 Analysis of the demographic characteristics of the study participants.

Demographic Characteristics	Frequency (N)	Percentage (%)
Age		
Under 25	8	2.8

26-35 years	55	19.3
36-45 years	101	35.4
46-55 years	70	24.6
56 years and above	51	17.9
Mean Age	-	44.8 ± 10.5
Gender		
Male	183	64.2
Female	102	35.8
Educational Level		
BSc	11	3.9
MSc	63	22.1
MPhil	19	6.7
PhD	192	67.4
Place of Lecture		
Federal University	99	34.7
State University	97	34
Private University	89	31.2
Academic Rank		
Professor	39	13.7
Associate Professor	17	6

Senior Lecturer	49	17.2
Lecturer 1	76	26.7
Lecturer 2	56	19.6
Assistant Lecturer	32	11.2
Graduate Assistant	16	5.6
Length in Service		
Less than 5 years	43	15.1
6-10 years	93	33.6
Above 10 years	149	52.3

Table 1 provides an overview of the demographic characteristics of the study respondents participants. The majority of respondents fell within the age range of 36-45 years (35.4%), followed by 46-55 years (24.6%), 26-35 years (19.3%), and 56 years and above (17.9%), while a smaller proportion were under 25 years old (2.8%). In terms of gender, most participants were male (64.2%), with females comprising 35.8% of the sample.

With regard to religion, 71.6% of participants identified as Christians, while 28.4% practiced Islam. Ethnically, the majority (77.5%) were of Yoruba descent, followed by Igbo (16.1%), Hausa (5.6%), and Edo (0.7%) ethnic groups.

Regarding educational attainment, the majority held Ph.D. degrees (67.4%), followed by MSc (22.1%), M.Phil. (6.7%), and BSc (3.9%) degrees. In terms of university affiliation, participants were distributed across federal (34.7%), state (34.0%), and private (31.2%) universities.

Academically, most respondents held the rank of lecturer 1 (26.7%), followed by lecturer 2 (19.6%), senior lecturer (17.2%), professor (13.7%), assistant lecturer (11.2%), associate professor (6.0%), and graduate assistant (5.6%).

Regarding length of service, the majority (52.3%) had been in service for 10 years and above, followed by 6-10 years (33.6%) and less than 5 years (15.1%).

These findings provide valuable insights into the demographic composition of the study participants, which are essential for understanding the context in which stress and coping mechanisms operate among lecturers.

2.3 Data Collection and Research Instrument:

Questionnaires were distributed to participants both physically and online. Inclusion criteria comprised lecturers currently in active service, lecturing in Ogun State, and willing to participate. Exclusion criteria included lecturers not lecturing in Ogun State and those unwilling to take part.

2.3.1 Measures

The study variables encompass socio-demographic factors such as age, gender, place of lecture, level of education, academic rank, years of experience, and coping mechanisms (adaptive and maladaptive) for stress and depression.

2.3.2 Socio-demographic Variables

Age: Participants were asked to provide their age on their last birthday, with the reported age being used as the score.

Gender: Males were assigned a score of 1, and females were assigned a score of 2.

Educational Level: Scores were assigned as follows: BSc = 1, MSc = 2, M.Phil. = 3, Ph.D. = 4.

Type of University: Scores were assigned as follows: federal university = 1, state university = 2, private university = 3.

Academic Rank: Scores were assigned as follows: professor = 1, associate professor = 2, senior lecturer = 3, lecturer 1 = 4, lecturer 2 = 5, assistant lecturer = 6, graduate assistant = 7.

Years of Service: Scores were assigned based on length of service: less than 5 years = 1, 6-10 years = 2, above 10 years = 3.

2.3.3 Coping Mechanisms

The coping strategies employed to manage stress and depression were assessed by assigning a score to each item in the coping strategy tool, ranging from 0 (lowest option) to 4 (highest option), based on the respondent's perceived frequency of utilizing these strategies. The Likert scale utilized ranged from 0 = Never to 4 = Always, allowing participants to indicate the extent to which they agreed or disagreed with employing specific coping strategies.

Composite scores were calculated for adaptive and maladaptive coping mechanisms for stress and depression by summing the scores for items assessing each type of coping strategy. Subsequently, scores indicating the level of usage for both adaptive and maladaptive coping mechanisms for stress and depression were categorized into three groups: 0-5 for low usage, 6-10 for medium usage, and 11-15 for high usage.

The coping mechanism items were adapted from the Brief COPE instrument, a widely used measure of coping strategies. The Cronbach alphas for the sub-scales of the Brief COPE range from 0.50 to 0.90, indicating acceptable internal consistency reliability [22].

2.4 Data Analysis

The data collected from the questionnaire were transcribed and coded into IBM SPSS version 21 for analysis. Frequency distribution tables and descriptive statistics were utilized to summarize the data, with results presented using tables. Relationships between variables were assessed using inferential statistics, and hypothesis testing was conducted using Pearson Chi-Square and T-test analyses. A significance level of $p < 0.05$ was employed, indicating statistical significance.

3. RESULTS

3.1 Coping mechanism for stress

The results in Table 2 show the levels of coping mechanism usage for stress. For adaptive coping mechanisms, the majority (56.8%) of respondents had a medium level of usage, while 29.5% had a high level of usage and 13.7% had a low level of usage. For maladaptive coping mechanisms, the majority (74%) had a low level of usage, while 24.6% had a medium level of usage and 1.4% had a high level of usage.

Table 2 Descriptive statistics for the level of coping mechanism usage for Stress.

Variables	Category	Level of Usage	Frequency (N=285)	Percentage (%)
Adaptive coping mechanism	High	10 – 12	84	29.5
	Medium	5 – 9	162	56.8
	Low	0 – 4	39	13.7
	Mean	-	7.8	-
	S.D.	-	2.84	-
Maladaptive coping mechanism	High	10 – 12	4	1.4
	Medium	5 – 9	70	24.6
	Low	0 – 4	211	74
	Mean	-	3.5	-
	S.D.	-	2.78	-

3.2 Coping mechanism usage for depression

The data in Table 3 illustrates the level of coping mechanism usage for depression. Among respondents, the majority (57.9%) exhibited a medium level of adaptive coping mechanism usage, while 24.9% had a high level and 17.2% had a low level. In terms of maladaptive coping mechanism usage, the majority (76.5%) had a low level, whereas 22.5% showed a medium level, and only 1.1% had a high level.

Table 3: level of coping mechanism usage for depression

Variables Category	Level of usage	Frequency	Percentage (%)	Mean	Standard deviation
Adaptive Coping Mechanism	High (10 – 12)	71	24.9	7.2	3.28
	Medium (5 – 9)	165	57.9		
	Low (0 – 4)	49	17.2		
Maladaptive Coping Mechanism	High (10 – 12)	3	1.1	3	2.24
	Medium (5 – 9)	64	22.5		
	Low (0 – 4)	218	76.5		

3.3 Relationship between socio-demographic factors and the coping mechanisms for stress and depression.

The table above (4) presents the association between socio-demographic variables and the mean scores of coping strategies for stress and depression, encompassing both adaptive and maladaptive coping mechanisms. Significant relationships were observed between various socio-demographic factors and coping mechanisms for stress and depression.

Age showed a significant association with coping mechanisms for stress and depression, including both adaptive and maladaptive coping strategies. Gender also exhibited a significant relationship with adaptive and maladaptive coping mechanisms for stress and depression.

Similarly, educational level displayed a significant relationship with both adaptive and maladaptive coping mechanisms for stress, as well as adaptive coping mechanisms for depression. However, no significant association was found between educational level and maladaptive coping mechanisms for depression.

The place of lecture demonstrated a significant relationship solely with maladaptive coping mechanisms for stress, while lacking a significant association with adaptive coping mechanisms for stress and with both adaptive and maladaptive coping mechanisms for depression.

Academic rank exhibited a significant relationship with both adaptive and maladaptive coping mechanisms for stress, but not with coping mechanisms for depression.

Regarding length in service, a significant relationship was found with maladaptive coping mechanisms for stress and adaptive coping mechanisms for depression. However, no significant association was observed between length in service and adaptive coping mechanisms for stress, as well as maladaptive coping mechanisms for depression.

Table 4 Socio-demographic factors and their relationship with coping mechanisms for stress and depression

Variables	Coping mechanism for stress		Coping mechanism for depression	
	Adaptive	Maladaptive	Adaptive	Maladaptive
Mean (S.D)	Mean (S.D)	Mean (S.D)	Mean (S.D)	Mean (S.D)
Age				
Under 25	9.63 (0.74)	2.38 (1.19)	9.38 (1.18)	3.0 (0.53)
26-35 years	8.75 (2.34)	3.24 (2.95)	8.27 (2.32)	3.64 (2.92)
36-45 years	7.87 (2.63)	3.51 (2.69)	7.53 (3.23)	2.82 (1.97)
46-55 years	7.01 (3.20)	3.76 (3.10)	6.10 (3.39)	2.82 (2.59)
56 years and above	7.73 (3.1)	3.65 (2.48)	6.75 (3.78)	3.08 (1.26)
Gender				
Male	7.51 (3.14)	3.74 (2.91)	6.62 (3.58)	2.95 (2.25)

Female	8.47 (2.08)	3.11 (2.49)	8.33 (2.31)	3.17 (2.22)
Educational level				
BSc	9.73 (1.62)	3.55 (2.88)	9.27 (1.85)	4.09 (3.02)
MSc	8.56 (2.15)	3.12 (2.37)	6.79 (3.52)	2.86 (2.55)
MPhil	8.42 (2.65)	3.89 (3.17)	7.58 (3.01)	2.63 (2.10)
PhD	7.46 (3.03)	3.59 (2.86)	7.23 (3.26)	3.07 (2.10)
Place of lecture				
Federal University	7.51 (2.94)	3.16 (2.78)	7.27 (3.45)	2.94 (2.08)
State University	7.91 (2.81)	4.47 (2.86)	7.24 (3.11)	3.26 (2.11)
Private University	8.18 (2.76)	2.85 (2.39)	7.18 (3.32)	2.89 (2.53)
Academic rank				
Professor	7.18 (3.13)	4.44 (2.73)	3.67 (2.04)	3.67 (2.04)
Associate professor	7.76 (3.07)	3.35 (3.39)	2.88 (2.09)	2.89 (2.08)
Senior lecturer	7.29 (3.10)	3.22 (2.95)	3.18 (2.40)	3.18 (3.40)
Lecturer 1	8.37 (2.54)	3.96 (2.83)	2.47 (1.81)	2.47 (1.81)
Lecturer 2	8.16 (3.03)	3.07 (2.77)	3.07 (2.76)	3.07 (2.75)
Assistant lecturer	8.22 (2.27)	2.50 (0.92)	3.06 (2.18)	3.06 (2.18)
Graduate assistant	7.06 (2.46)	3.75 (3.28)	3.63 (1.96)	3.63 (1.96)
Length in service				
Less than 5 years	8.41 (2.59)	3.11 (2.83)	8.04 (2.68)	3.30 (2.75)
6-10 years	8.33 (2.30)	3.45 (2.52)	7.44 (2.95)	2.91 (2.03)
Above 10 years	7.39 (3.14)	3.66 (2.90)	6.87 (3.58)	3.03 (2.21)

4.0 DISCUSSION

4.1 Level of Usage for Coping Mechanisms for Stress

The findings reveal that the majority of respondents demonstrated a medium level of usage for adaptive coping mechanisms for stress, such as active planning, problem-solving, and time management. This finding resonates with previous studies [26, 27], which also highlighted the adoption of adaptive coping strategies, including exercise, among lecturers.

In contrast, the study indicated a low usage of maladaptive coping mechanisms for stress, including avoidance coping, alcohol use, and smoking cigarettes. This finding is consistent with Quraishi, et al., which similarly reported a low level of usage of maladaptive coping strategies [21]. It's worth noting that while adaptive coping strategies are known to reduce stress and enhance overall well-being, maladaptive coping strategies may lead to increased distress and potential adverse physical and mental consequences, including depression [19].

4.2 Level of Usage of Coping Mechanisms for Depression

The study revealed a medium level of usage for adaptive coping mechanisms for depression among respondents, including engagement in exercise, seeking emotional support, and employing problem-solving skills. These findings align with research [28, 29], which highlighted the use of adaptive coping mechanisms, such as physical activity and problem-solving, to manage depressive symptoms [28, 29].

Furthermore, participants exhibited a low level of usage for maladaptive coping mechanisms for depression, such as alcohol use, overeating, and ruminative coping. This finding is consistent with Ajibade et al. [30], who reported a lower utilization of maladaptive coping strategies, such as avoidance coping, compared to adaptive coping strategies among participants. Individuals experiencing depression may often resort to maladaptive coping mechanisms in an attempt to alleviate symptoms, although research suggests that successful coping often involves the use of adaptive strategies [15, 31, 32].

4.3 Association between Demographic Variables and Stress Coping Mechanism (Adaptive and Maladaptive)

Age exhibited a significant relationship with adaptive coping mechanisms for stress. Interestingly, lecturers under 25 demonstrated a higher usage of adaptive coping mechanisms compared to other age groups. This finding challenges conventional expectations, as older lecturers might be presumed to possess more coping experience and employ more adaptive strategies to manage stress [33]. However, younger lecturers may encounter unique stressors associated with early career stages, potentially influencing their coping behaviors.

4.4 Age and Coping Mechanisms for Stress

Age showed a significant relationship with both adaptive and maladaptive coping mechanisms for stress. Contrary to conventional expectations, younger lecturers under 25 exhibited higher usage of adaptive coping strategies and lower usage of maladaptive coping mechanisms compared to older lecturers. This finding challenges the notion that experience correlates with the adoption of more adaptive coping strategies. As suggested by Ofoegbu and Nwadiani [34], younger lecturers may

enter the workforce with enthusiasm and resilience, potentially equipping them with effective coping skills early in their careers.

4.5 Gender and Coping Mechanisms for Stress

Gender also showed a significant relationship with adaptive and maladaptive coping mechanisms for stress. Female lecturers demonstrated a higher utilization of adaptive coping mechanisms and a lower utilization of maladaptive coping mechanisms compared to male counterparts. This aligns with findings suggesting that women tend to experience higher levels of workplace stress and may therefore adopt more adaptive coping strategies [35].

4.6 Educational Level and Coping Mechanisms for Stress

Educational level exhibited a significant relationship with both adaptive and maladaptive coping mechanisms for stress. Surprisingly, BSc degree holders demonstrated the highest usage of adaptive coping mechanisms, with usage decreasing as educational levels increased. This finding contrasts with expectations and previous research [36]. Additionally, maladaptive coping mechanisms were more prevalent among individuals with higher levels of education, indicating potential underlying factors influencing coping strategies beyond educational attainment.

4.7 Place of Lecture and Coping Mechanisms for Stress

The place of lecture showed a significant relationship with maladaptive coping mechanisms for stress, with private university lecturers demonstrating the lowest usage. This finding may be attributed to institutional culture, as private universities, particularly Christian institutions, may discourage certain maladaptive coping strategies. This aligns with Mahamid and Bdier [37].

4.8 Academic Rank and Coping Mechanisms for Stress

Academic rank exhibited a significant relationship with adaptive coping mechanisms for stress, with higher-ranked lecturers demonstrating lower usage. However, no notable difference was observed in maladaptive coping mechanisms between academic ranks. This suggests that while higher-ranked lecturers may employ fewer adaptive coping strategies, the prevalence of maladaptive coping mechanisms remains consistent across ranks.

4.9 Length in Service and Coping Mechanisms for Stress

Length in service did not demonstrate a significant relationship with adaptive coping mechanisms for stress. However, there was a significant relationship with maladaptive coping mechanisms, with lecturers with less than 5 years of experience exhibiting the lowest usage. This finding contrasts with previous research suggesting that older lecturers with more experience tend to utilize maladaptive coping mechanisms less [38].

4.10 Association between Demographic Variables and Depression Coping Mechanisms (Adaptive and Maladaptive)

The study revealed a significant association between age and both adaptive and maladaptive coping mechanisms for depression, consistent with Fukase et al. [39]. The younger lecturers under 25 demonstrated the highest usage of adaptive coping strategies for depression, while older lecturers tended to use maladaptive coping strategies less. This aligns with the understanding that depression tends to decrease with age, potentially explaining why younger lecturers adopt adaptive coping strategies more frequently [39, 40].

Gender exhibited a significant relationship with adaptive coping strategies for depression, with females utilizing these strategies more than males. This finding contrasts with some previous studies but aligns with others, indicating mixed evidence regarding gender differences in adaptive coping mechanisms for depression [41, 42].

Educational level did not demonstrate a significant relationship with either adaptive or maladaptive coping mechanisms for depression, suggesting that lecturers' educational attainment did not influence their choice of coping mechanisms. This finding diverges from some previous research [43], which identified educational level as a determinant of coping mechanisms.

Neither the place of lecture nor academic rank showed a significant relationship with adaptive or maladaptive coping mechanisms for depression. This suggests that factors related to university affiliation or professional status within academia did not impact the selection of coping mechanisms for depression among lecturers. The researcher concurs with this result, as a study has indicated that academic rank does not influence mental health outcomes [44].

Furthermore, length of service did not demonstrate a relationship with either adaptive or maladaptive coping mechanisms for depression. This finding is somewhat unexpected, given the assumption that years of experience may influence coping strategies for depression. Future studies could explore this relationship further to better understand the role of lecturing experience in coping with depression, considering existing evidence linking age and coping mechanisms for depression.

5.0 CONCLUSION AND RECOMMENDATION

This study provides valuable insights into the demographic characteristics and coping mechanisms of lecturers in selected universities in Ogun State, Nigeria. The findings highlight variations in demographic profiles among lecturers and reveal prevalent usage of medium adaptive coping mechanisms and low maladaptive coping mechanisms for both stress and depression. Furthermore, certain demographic factors are associated with coping mechanisms for stress and depression, emphasizing the need for targeted interventions.

5.1 RECOMMENDATION

It is imperative for policymakers within universities to implement effective policies and interventions aimed at promoting the usage of adaptive coping mechanisms for stress and depression while minimizing the use of maladaptive coping strategies. This can contribute to the overall well-being and resilience of lecturers, ultimately enhancing their productivity and satisfaction in their roles.

Moreover, integrating coping mechanism training into the lecturer curriculum can better equip educators with the skills and resources necessary to manage stress and depression effectively. By providing support and resources for coping issues, universities can create a conducive environment for lecturer well-being and professional development.

5.2 Practical Implications and Future Research

The findings of this study have practical implications for stress and depression management among lecturers in Nigeria. By identifying prevalent coping strategies and associated demographic factors, universities can tailor interventions to meet the specific needs of their academic staff. Incorporating coping mechanism training into lecturer curriculum and designing interventions based on empirical evidence can help address stress and depression issues more effectively.

Future research endeavors may explore the intricate relationship between coping mechanisms for stress and depression, shedding light on potential synergies or discrepancies between adaptive and maladaptive coping strategies. Additionally, investigating longitudinal trends and exploring interventions' long-term effectiveness can further enhance our understanding of lecturer well-being and mental health management strategies.

CONSENT

All authors declare that written informed consent was obtained from the participants (or other approved parties) for participation in this original research study and for the publication of the findings.

ETHICAL APPROVAL

All authors hereby declare that ethical approval for this study was obtained from the appropriate ethics committee. All experiments involving human subjects have been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

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