

## The COVID-19 pandemic and teachers' work: perceptions of teachers from a public university in the state of São Paulo, Brazil

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**Abstract** *The COVID-19 pandemic required the restructuring of educational models, including the rapid transition from face-to-face to remote education. The aim of this qualitative research was to understand the effect of the COVID-19 pandemic on undergraduate professors' work and health at a public university in the state of São Paulo. Semi-structured interviews were conducted with 17 undergraduate faculty of humanities, biological and exact sciences from August to September 2020. The interviews were recorded and transcribed. From the content analysis, four thematic categories emerged: (1) changes in the work routine and their impacts, including adjustment to remote work and the difficulties in establishing boundaries between work and their personal life; (2) changes in the dynamics between faculty and students and the possibility of rethinking teaching practice; (3) the relationship between faculty and the university with emphasis on the decision-making process, support for the transition to remote teaching, and concerns about the quality of teaching; and (4) anguish and fears related to the pandemic that added to the set of work-related stressors. Our findings showed that actions towards the communicational dynamics, as well as actions towards faculties' mental health should be implemented.*

**Key words** COVID-19, Faculty, Learning, Online learning

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## Introduction

The complexities of teaching activities include multiple teaching actions, research and university outreach. Each activity requires a unique specific knowledge and skills and generates various demands that can lead to overwork and stress<sup>1</sup>. Before the COVID-19 pandemic, work-related stress in the teaching profession was already a major concern for managers of higher education institutions (HEIs)<sup>2</sup>, with an array of studies highlighting both physical and mental health problems among university teachers. A study in a public university in Brazil found that 24.2% of teachers showed physical and/or psychological signs of stress<sup>3</sup>. Factors associated with stress include overwork, problems with interpersonal relationships<sup>4</sup>, repetitive work<sup>5</sup>, poor working terms and conditions, and lack of recognition<sup>6</sup>.

In response to the health emergency caused by the COVID-19 pandemic and consequent changes in working practices, such as the introduction of physical distancing measures, HEIs were required to implement online teaching and learning models<sup>7</sup> in an incredibly short space of time. This resulted in significant changes in everyday academic life and teaching activities<sup>1,8</sup> due to the high number of people sharing the same environment, and complex to protect, because of the multiple functions present (e.g. teaching rooms, research facilities, dormitories, leading to overwork, stress, mental distress, and increased job dissatisfaction<sup>9,10</sup>). These changes have been described in studies conducted mainly in high-income countries. However, research on the impacts of the pandemic on teachers' work and changes in the teaching and learning process remains scarce in low- and medium-income countries like Brazil.

Stressors related to changes in the dynamics of work combine with those arising from the pandemic itself, which has stirred up feelings of anguish and fear, having a marked effect on mental health<sup>11,12</sup>. In Brazil, despite the efforts of health workers, researchers and teachers to support evidence-based action to tackle the pandemic, the country's health authorities developed actions with no scientific basis and made systematic attacks against public universities and researchers<sup>13,14</sup>. It was against this backdrop that changes in the daily work of teachers in Brazil took place.

Understanding the effects of changes in work in the context of the COVID-19 pandemic is fundamental for proposing actions to mitigate their consequences for teachers, students and HEIs,

especially in low- and middle-income countries, where the impacts of the pandemic are more pronounced than in high-income countries. In this respect, the transactional perspective of stress proposed by Lazarus and Folkman<sup>15,16</sup>, in which stress is the product of the interplay between an individual and his/her environment, addresses the object of study, given the complexity of teachers' work, the historical moment the first months of the pandemic represent, and the social, health and pedagogical consequences experienced by higher education teachers.

In light of the above, this study aimed to understand perceptions of the effects of changes in work brought about by the COVID-19 pandemic on work routines and teachers' health among teachers at a public university in the state of São Paulo, one of the states with the highest number of COVID-19 deaths in Brazil. The study was conducted between August and September 2020, at which time 190,910 cases and 4,451 deaths had been confirmed<sup>17</sup>. The results of the present study can provide valuable insights into the impacts of the pandemic and prompt reflection on the development of institutional actions, education policy, and planning for future adverse events.

## Methodology

This study is part of the qualitative component of the mixed-methods sequential explanatory study ProMental<sup>18</sup>, which investigated factors associated with the mental health of teachers from a public university in the state of São Paulo. The aim of the qualitative component was to broaden the understanding of the findings of the quantitative cross-sectional study<sup>19</sup> (n=316) conducted before the pandemic (second semester of 2019). The qualitative study was carried out at the beginning of the pandemic and included questions about changes in work brought about by the pandemic and their impact on everyday working practices and teachers' health.

The data were collected using semi-structured interviews, allowing the interviewers to explore other questions depending on the remarks and reactions of the interviewee with the aim of understanding perceptions of lived experiences and obtaining a collective perspective of the social and historic context from the accounts of individuals<sup>20</sup>. Guiding questions were used to explore topics such as changes in work routines imposed by the health crisis, institutional support for adapting to the new reality of work, and

teacher-student and teacher-institution relationships.

This article was drafted using the Standards for Reporting Qualitative Research (SRQR)<sup>21</sup>.

### Participants

The participants of the qualitative phase were from a group of teachers who took part in the quantitative phase of the ProMental study using convenience sampling<sup>18</sup>, following the recommendations made by Creswell and Clark<sup>19</sup>. The inclusion criterion was teachers who participated in the quantitative phase and the exclusion criterion was teachers on leave for any reason. This method was used to obtain a diverse sample of individuals considering academic departments, sex, age group, sexual orientation, self-declared color, length of time at the university, and course. The initial number of participants was defined a priori to meet the diversity criterion. We selected and invited four representatives of each of the eight academic departments (32 teachers), accounting for possible refusals or non-responses. The saturation criterion was used to attain enough meanings and representations from the informants' accounts to establish interpretations<sup>22</sup>, resulting in 17 interviews, including at least one member from each academic department.

### Data collection

Due to the pandemic, online synchronous interviews were conducted in August and September 2020 by the same researcher, who has no previous relationship with the participants. The interviews were scheduled via email or telephone and conducted individually following the guide and with the cameras turned on the whole time. Each interview lasted for an average of 50 minutes.

### Data analysis

Data analysis and interpretation was performed using dialectical hermeneutics as a theoretical framework, based on the observation of the facts that emerged during investigation, the individual narratives of the informants, subjective aspects, conduct, and senses and meanings assigned by the participants<sup>23</sup>. Content analysis was performed, involving the following stages: in-depth examination of the narratives; definition of core themes based on convergences and

divergences in the accounts; synthesis of the main findings; comparison of the findings with those in the literature<sup>20</sup>.

The interviews were recorded and transcribed, safeguarding the confidentiality of the information and identity of the participants and HEI. The interview transcripts were read and re-read by two independent researchers to identify and group units of meaning and create thematic categories. The interviewers discussed any differences of interpretation to arrive at a consensus. The software ATLAS.ti® was also used to organize the analysis of the material, highlighting and grouping excerpts of the interviews in each thematic category. The recordings were carefully revised to identify fragments that may not have been captured in the categories.

### Ethical considerations

The study was undertaken in accordance with the ethical principles set out in the World Medical Association Declaration of Helsinki and was approved by the ethics committees of the proponent's institution and the institution where the study was conducted (reference numbers 2.967.891 and 2.882.359). An amendment to the study protocol was forwarded to the ethics committees requesting an extension of the investigation to include the experiences of teachers during the COVID-19 pandemic. The interviewees signed an informed consent form after reading the purpose and procedures of the study and ethical guarantees. The excerpts from the interviews are identified using the letter "E" for the interviewee's name followed by a number to protect their identity.

## Results and discussion

### Participant characteristics

Of the 32 teachers invited for interviews, three refused to participate and eight failed to reply. Seventeen interviews were conducted (nine men and eight women, including at least one representative from each academic department) until saturation. Additional invites were not sent to other teachers.

Three of the teachers taught on exact sciences courses and six each on human sciences and biological science courses. Most of the participants were *adjunct lecturers* and self-declared as white and heterosexual. Average age was 46.9 years (SD=7.7 years) and the participants had been

at the institution for an average of eight years (SD=5.8 years) (Chart 1).

While belonging to different academic departments and campuses located in different cities, the teachers were from the same university community and similarities were observed in the experiences and challenges faced by the academics.

Four thematic categories emerged from the analysis of the interview transcripts: (1) changes in teachers' work routine and the impacts of these changes; (2) teacher-student relationships and the need to rethink teachers' work; (3) teacher-university relationship in the context of the pandemic; and (4) anguish and fears related to the pandemic.

### **Changes in work routines and the impacts of these changes**

The abrupt cancellation of face-to-face university activities in March 2020 led to major changes in teaching routines, demanding changes and adaptations for remote learning and teaching. This process had a number of impacts on university teachers, with participants highlighting four main dimensions related to changes in work: increased workload; adaptation to remote working; difficulty setting boundaries between work and personal routines; and dedication to research activities.

An excessive increase in workload in the remote mode compared to face-to-face work before the pandemic was a recurring theme in the interviewees' accounts:

*The sensation I have is an absurd increase in workload. Absurd, out of the ordinary. I didn't expect that* (E4 - human sciences).

This perception was highlighted especially by the teachers from human sciences courses, who, apart from their normal teaching activities, felt the need to provide psychosocial support to the students:

*I created a WhatsApp group among my students which was for the subject but also played an emotional support role. [...] many [students] only had one computer for the entire family for home office working. Others only had their cell phone's mobile data to work with, so I acted... I offered personalized supervision* (E5 - human sciences).

The need to shift from face-to-face to remote teaching required teachers to make structural changes in work processes. Activities quickly moved from face-to-face to remote teaching using online platforms that teachers previously had little or no experience with, forcing them to learn to use new tools in a short space of time

and adapt routine teaching activities, redesigning classes and courses for remote learning and creating new evaluation processes. In this regard, difficulties related to the use of information and communication technologies can increase work overload and, consequently, occupational stress<sup>15,16</sup>. Overwork is described as one of the main risk factors for ill health in teachers<sup>24</sup>. Unforeseeable situations like the pandemic and its repercussions may be seen as highly demanding stressors<sup>15</sup>. The overload of stressful events disturbs homeostasis and releases hormones, which can weaken resistance, resulting in physical and mental health problems<sup>25</sup>:

*This build up and excess demands are stressful and can cause various mental, and I would say, physical disorders, such as burnout, depression or crisis, like the one I had* (E11 - human sciences).

*Look, I've... I've been doing therapy every week, I went back to taking medication for anxiety, because I missed [taking] it, but what I feel is that the system, that the university was not prepared ...despite the alarm months beforehand in other countries* (E5 - human sciences).

At times of radical change in work during situations like pandemics, institutions tend to manifest one of two forces: those that contribute to maintaining the institution as it is, so-called instituted forces, and instituting forces, those capable of triggering processes that enable the creation and establishment of the new<sup>26</sup>. It is possible that, within the context of changes in teaching activities during the COVID-19 pandemic, the manifestation of these forces has strained everyday activities and teacher-student, teacher-teacher, and teacher-university relationships, resulting in an increase in work overload and stress.

In addition to having to adapt to new teaching routines, the interviewees made frequent mention of the need to reconcile the new routine with domestic tasks and the restrictions imposed by physical isolation, giving rise to new difficulties and challenges:

*We [son and partner] have to share the same space, so I had to be a teacher, father, cook, cleaner, my son's teacher, all at the same time. So, you have to do lots of tasks at the same time, you are working and have to stop to make lunch, then you go back to work, help your son with their homework, go back to work, make dinner, wash the dishes, accompany the students online, and it's morning, noon and night every day. It drives you mad* (E2 - human sciences).

On the other hand, the participants mentioned that having the time previously used to

**Chart 1.** Characteristics of the participants in the qualitative phase.

Participant	Age (years)	Sex	Color	Sexual Orientation	Professional Category	Area of Knowledge	Time Working at the Institution (years)
E1	42	F	White	Bisexual	Adjunct	Exact Sciences	8
E2	54	M	White	Homosexual	Adjunct	Humanities	8
E3	43	M	White	Heterosexual	Adjunct	Humanities	10
E4	39	M	White	Heterosexual	Adjunct	Humanities	3
E5	50	F	Brown	Heterosexual	Adjunct	Humanities	3
E6	39	M	Black	Heterosexual	Adjunct	Exact Sciences	3
E7	61	F	Brown	Heterosexual	Assistant	Biological Sciences	26
E8	48	M	White	Heterosexual	Adjunct	Biological Sciences	8
E9	39	M	Brown	Heterosexual	Adjunct	Biological Sciences	4
E10	60	M	White	Homosexual	Full Professor	Biological Sciences	10
E11	45	M	White	Homosexual	Associate	Humanities	11
E12	59	F	White	Heterosexual	Associate	Biological Sciences	15
E13	39	F	White	Heterosexual	Adjunct	Biological Sciences	2
E14	41	F	White	Heterosexual	Adjunct	Biological Sciences	9
E15	40	F	White	Heterosexual	Adjunct	Humanities	7
E16	50	F	White	Heterosexual	Adjunct	Exact Sciences	3
E17	49	M	White	Heterosexual	Adjunct	Biological Sciences	7

Source: Authors.

commute to and from work helped reduce strain and stress:

*...for example, the decision-making bodies, despite increasing workload, [it] really helps not to have to go to the Dean's office (E4 - human sciences).*

In this regard, the institution needs to discuss the possibility of maintaining remote and/or hybrid activities, especially administrative activities or those that require travel to urban centers. These measures could alleviate the effects of these stressors on teachers.

Another aspect highlighted by the interviewees related to stress reduction was having more time available for research:

*Now, in relation to research, I felt that we had more time to develop studies, especially the project production part, writing articles. So, it had major benefits, mainly for research (E13 - biological sciences).*

This perception differs from others found in previous studies that reported a significant fall in academic productivity – especially among female academics<sup>27</sup>, since women scientists are responsible for the majority of childcare responsibilities in the home – and the maintenance of non-

COVID-19 publication productivity in countries with a stable scientific infrastructure<sup>28</sup>.

The perception of increased productivity has not always been associated with balance and well-being. Remote working has combined with the difficulty to set and recognize the boundaries between work and everyday life routines and the challenge of setting aside time for rest:

*Before, you had an outside space, I left the university at 5 pm, got home and turned off from work and did the things you do at home, make dinner, wash the dishes. Now these spaces are one (E5 - human sciences).*

*People think that as you are at home, working at home, you can work all the time, at any time. It's really awful when someone doesn't respect that your house is not the lab, not the department (E12 - biological sciences).*

Excessive work demands and difficulties setting boundaries between work and leisure/rest were important aspects highlighted by the teachers. Reconciling work with domestic tasks has become a major source of stress<sup>29</sup> in the working from home model, blurring hitherto clear boundaries and merging work with the tasks of everyday life. The need to meet targets, work

overload and increased demands can lead to a reduction in rest and leisure time, as teachers feel impelled to be constantly available and avoid idle time<sup>30</sup>, which can lead to feelings of anguish and guilt, ultimately contributing to stress.

#### **Teacher-student relationships and the need to rethink teachers' work**

The participants highlighted changes in teacher-student relationships from several perspectives. Some teachers, especially those from biological sciences courses, reported difficulties due to reduced student-teacher interaction in online teaching, especially considering that many students keep their camera turned off, making it difficult for teachers to see their reactions and hampering learning and teaching dynamics. A study with medical teachers and students at a university in India corroborates our findings, showing that both teachers and students felt a lack of interactive teaching, teachers struggled to use technology, students found it difficult to concentrate, and learning was jeopardized due to the lack of practical activities, especially in health sciences classes<sup>31</sup>.

On the other hand, some teachers, especially those from human sciences courses, felt that they had become closer to the students through the creation of groups and individual teacher-student protected spaces of interaction where students could talk about the difficulties they were facing during the pandemic. It was noted that the perceptions arising from these interactions influenced how these teachers personally coped with the pandemic:

*I built a closer relationship with my students. Why? Because I understood that if my difficulties as a 50-year-old woman who has experienced other moments of hardship was difficult [...] imagine for someone who is beginning their studies, without the same social and economic conditions and [level of] representativeness and self-management that I have (E5 - human sciences).*

Perceptions of teacher-student relationships also varied according to teachers' priorities. While some were more concerned with quality of information and teaching, others were worried about the emotional balance of their students. Studies show that many teachers have put their students' emotional needs over and above academic needs during the current health crisis<sup>32</sup>. Besides learning, teacher-student relationships involve affectivity and socialization and, given the grave effects of the pandemic, some teachers have felt impelled to embrace their students' emotional

demands. However, studies highlight that without proper training this can generate emotional and work overload, anguish, and anxiety<sup>33</sup>.

Some participants also highlighted the possibility and need to rethink teachers' work and forms of evaluation:

*So I think it's a chance to rethink how to evaluate, how to help students build knowledge, starting with the basics, as we were doing, and they gradually get it. So, that has made me rethink, perhaps that's positive (E6 - exact sciences).*

The opportunity to rethink teaching practices and forms of evaluation have been described by other studies, which highlight that it is important that teachers reflect on practices and tailor teaching to the given reality<sup>34</sup>. The changes triggered by COVID-19 have made this demand even clearer and more urgent, especially when it comes to alternative forms of evaluation. In this sense, it is essential that educators ensure that the implementation of remote learning is not oppressive, promoting quality, relevant, and inclusive access, regardless of the pandemic<sup>35,36</sup>.

#### **Teacher-university relationships during the pandemic**

This thematic category encompasses the decision-making process, training, and support for the shift to remote teaching, and concerns with the adverse pedagogical effects of this mode of teaching.

Although most of the interviewees welcome the possibility of participating in decision-making regarding the measures and attitudes that should be adopted in response to the pandemic, the suspension of face-to-face classes, and returning to online teaching, the participants highlighted excessive discussion and delays in defining concrete actions to address these issues:

*I think that the process was not very well managed, that the governing board took too long to make decisions. For me, we should have started online in April to not lose contact with students. But we couldn't because they told us to stop everything, and we could only go back if they said so. Then they started this discussion process... which took too long in my opinion (E15 - human sciences).*

Studies have highlighted that low- and middle-income countries have faced greater difficulties in providing quality teaching during the pandemic due to, among other factors, underfunding and absence of or slow internet at home, especially among students. In contrast, in developed countries it was possible to take swifter action to implement remote teaching<sup>37</sup>. In addition, the dispute

surrounding distance learning has become increasingly heated during the COVID-19 pandemic in Brazil, with groups of teachers and managers who defend this type of education on one side and those who are against it on the other<sup>1</sup>.

A study analyzing Ministry of Education guidance on public higher education showed that publications used generic terms and provided few recommendations for education managers concerning pedagogical practices<sup>38</sup>. The authors suggest that this may have led to the need for long, drawn-out discussions and delays in decision-making. Long meetings, excessive discussion, and limited effectiveness were associated with disinterest, demotivation, and tiredness, causing a feeling of not being genuinely heard. Excessive bureaucracy and long, drawn-out meetings have been highlighted as important occupational stressors for teachers<sup>39</sup>.

A new challenge was posed after the decision to return to remote activities. Besides lacking remote teaching skills, some teachers perceived a lack of preparedness and/or lack of support from the university during the transition:

*[The university] never looked at it [remote teaching] and now, since March, it has decided to look at it and decided to look at it at a speed that outpaces some of our learning curves (E17 - biological sciences).*

In tune with our findings, other studies have highlighted difficulties concerning enabling conditions for remote teaching. A study in Colombia found that the most underdeveloped competencies were digital content creation and security, with few teachers acquiring satisfactory levels in these areas<sup>40</sup>. Research in Germany and Chile also showed that teachers experienced difficulties using digital tools and lacked adequate training<sup>41,42</sup>.

The lack of preparedness and/or lack of support from the university during the transition to online teaching, especially the delay in planning actions by the university managers, had a relevant impact on teachers' mental health. Studies in Chile and Uruguay have also highlighted institutional sluggishness<sup>32,43</sup>. In this regard, the more unexpected an uncontrollable the situation, the more likely that it will be perceived as stressful<sup>15</sup>. The process of preparing for an event can help reduce its harmful effects. Experiences of coping with the present situation caused by the pandemic can help teachers and managers cope with future transitions.

In addition to concerns with their capacity to give classes and use digital tools, the participants highlighted the potentially adverse pedagogical

effects of the transition to remote teaching, regardless of the course. These concerns were also expressed by teachers of theory classes, who stressed the impacts of lack of student-teacher-student interaction on teaching and learning process, reservations about students' learning capacity, and the increasing need for teachers to identify the specific needs of each student:

*The adverse effects are huge from a pedagogical point of view. Corporeality, presence is very important in a pedagogical process, the signs people emit when you are face-to-face, which is really difficult [to reproduce] in a virtual environment (E3 - human sciences).*

Apprehension was also reported by a study in India<sup>44</sup>, which showed that teacher motivation for remote teaching was related to how convinced they were about the advantages of the online method of teaching.

Concerns with pedagogical effects of online teaching also caused negative feelings in relation to self-esteem and work. If endured for long periods, these feelings lead to the depersonalization of work and low personal accomplishment<sup>45</sup>:

*I put pressure on myself, there's this feeling of guilt, you know? [A feeling] of not being able to do and write everything that I should, of delivering less to students [...] a feeling of guilt comes over me, of wasted time, of not being competent enough to cope (E9 - biological sciences).*

#### **Anguish and fears related to the pandemic**

None of the interviewees reported that they, family members, close friends, or students had been infected by the virus. This may be partially due to the fact that the teachers had been remote working and socially isolating from the moment that these measures were introduced. However, fear and anxiety associated with the pandemic combine with new stressors adding to those already experienced by the teachers<sup>8-10</sup> due to the high number of people sharing the same environment, and complex to protect, because of the multiple functions present (e.g. teaching rooms, research facilities, dormitories). Factors such as physical isolation, poor home working conditions, lack of training and guidance on remote teaching, difficulty reconciling working at home and normal everyday tasks, and the uncertainty and unpredictability of the pandemic were stressors experienced by these teachers, giving rise to physical and mental health consequences such as stress and anxiety<sup>15</sup>:

*I became totally paranoid, I'm terrified of dying from covid, I'm really scared of catching it,*

*scared of dying, scared that my daughter might get it and have some long-term complication, of my wife getting it, my parents. It scares me, I'm afraid, I'm scared of covid* (E6 - exact sciences).

*I did [blood]tests and various were abnormal, because I was locked up at home, didn't go walking, for fear of contact with the virus* (E11 - exact sciences).

The advent of COVID-19, a new and highly contagious disease responsible for a huge number of deaths, is a stressful event affecting the whole of society. In the case of higher education teachers, this event was aggravated by new stressors, meaning that there is an urgent need to identify sources of stress and their impacts in order to formulate and implement actions to address these factors and ameliorate the consequence for teachers, students and HEIs. The identification of these stressors can also help develop strategies to respond to future sudden changes in teachers' work routines.

#### **Study strengths and limitations**

Limitations include the fact that the teachers interviewed in this study are civil servants means that they have job security. Thus, potential stress caused by the threat of reduced working hours or fear of redundancy during the pandemic experienced in private HEIs did not appear during the interviews, limiting our findings to the public sector. Second, although the researchers and teachers did not know each other before the interviews, the fact that they work in the same university may have influenced certain answers as interviewees may have tended to provide so-

cially acceptable responses. One of the strengths of this work is that it is one of the few studies to have investigated changes in teachers' work and their impacts during the COVID-19 pandemic in low- and middle-income countries. In addition, our sample included teachers from various types of courses (human, biological, and exact sciences) in different campuses located in cities with different socioeconomic realities, allowing us to explore the perspectives of teachers in different settings and not limiting the investigation to the perceptions of teachers from one particular area.

#### **Final considerations**

The teachers' perceptions of the changes in work routines imposed by the COVID-19 pandemic included overwork, high levels of stress linked to the need to acquire new skills for remote teaching, problems related to teacher-student, teacher-teacher, and teacher-university relationships, difficulty in setting boundaries between work and rest, and fear and anxiety associated with the pandemic.

These findings have several implications both for teachers and HEIs, highlighting the need to develop specific actions to: (1) improve communication; (2) promote the mental health of the university community, encouraging care seeking behaviors, reducing stigma, and creating spaces for reflection on how to mitigate stress in the university environment; and (3) develop institutional planning tools to evaluate the impacts and sustainability of these actions.



## Collaborations

AB Matias participated in the design and planning of the study, data collection, data analysis, interpretation of the results, and writing. MTC Falcão participated in the design and planning of the study, data analysis, interpretation of the results, and writing. S Grosseman and ACCG Germani participated in the interpretation of the results, and writing. ATC Silva participated in the design and planning of the study, data analysis, interpretation of the results, writing and supervision of the research. All authors reviewed and approved the final version.

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