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Green Entrepreneurship Orientation and Green Supply Chain Management Practices: The Mediating Role of Environmental Performance

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Abstract

In recent years, the importance of green entrepreneurship and sustainable supply chain management practices has become increasingly recognized. Green EO refers to a firm's proactive approach towards incorporating environmental considerations into their business strategies. Green supply chain management, on the other hand, involves incorporating environmentally friendly practices throughout the supply chain, from raw material procurement to product delivery. The aim of this study is to examine the relationship between green entrepreneurship orientation (EO), green supply chain management practices, and environmental performance. Additionally, the study aims to investigate the mediating role of environmental performance in this relationship. The results of the study suggest that green EO positively influences green supply chain management practices, which in turn leads to improved environmental performance. Furthermore, our findings indicate that environmental performance serves as a mediating variable, strengthening the relationship between green EO and green supply chain management practices. These results provide important insights into the importance of green EO and sustainable supply chain management practices for enhancing environmental performance. They also emphasize the need for firms to adopt a proactive approach towards incorporating sustainability into their business strategies.

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Keywords: Green EO, green supply chain management, environmental performance.

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INTRODUCTION

It has been witnessed throughout the past decade, that there have been very unfavorable effects on environment in the form of air and water-based pollution, venomous and chemical eruptions and Global Warming. Different research, Industries, corporations, governments and customers are getting more concerned about green supply chain management practices (GSCM) as the basis of sustainability in response to the increase in environmental awareness (Hossain et al., 2020; Shetta et al., 2019). Due to the GSCM practices, along with the environmental effect reduction, it has been witnessed that GSCM is also responsible for increasing the competitive capability of an organization and as well as an increase occurs in economic performance (Das et al., 2019). Different previous studies have discussed that how crucial the GSCM actually is. The main contexts which have been focused in the previous studies are the pressure, the performance results of GSCM, identification of the basic components and the

importance of GSCM, however, GSCM firm-level antecedents are still not recognized in the researches (Manouchehri et al., 2018). In contrast with the green EO (GEO), factors from where the decision-making power of organization turns up in regard to the deployment of the resources and strategic practices (e.g., GSCM) is still neglected. The present research describes, from the perspective of Dynamic capabilities, the linkage between GEO and GSCM along with the sustainable performance. When the environment shows frequent changes, the organization tends to use its higher order capabilities in order to maintain, integrate, establish and redesign its competencies to cope up with the change. The firm become capable of learning, combining the resources to get innovation which would lead to get competitive advantage and better position in the market with the help of Dynamic Capabilities. Sensing, seizing and transforming capability are the three features of Dynamic capabilities. In the similar manner, green innovation, proactiveness, and risk-taking behavior are the three characteristics of GEO. It can be suggested that Dynamic Capability is associated with GEO.

The term "green EO" refers to the degree to which a company actively seeks out and creates chances for environmentally sustainable practices (GEO). GSCHM (GSCM) practices are actions made by a company to monitor and enhance the environmental performance of its supply chain (Wang et al.,2018). These practices are also abbreviated as "GSCM." It is becoming increasingly critical to have a solid understanding of the connection that exists between GEO, GSCM procedures, and environmental performance. According to the findings of studies, businesses that have a high GEO are likely to have better environmental performance. It has also been demonstrated that GSCM practices can lead to improvements in environmental performance (Hilali et al 2019). On the other hand, the relationship between GEO, GSCM practices, and environmental performance is not well known. According to some studies, GSCM methods may operate as a bridge between GEO and environmental performance. This suggests that GSCM methods could help explain how GEO leads to improved environmental performance (Naeem et al.,2018; Chebli et al.,2019). These studies, however, did not explicitly test the mediation hypothesis, and more study is required to understand the mechanism underlying this link.

Furthermore, there is an increasing need to comprehend the impact of green entrepreneurial attitude in encouraging the adoption of GSCHM methods. Companies are expected to embrace GSCHM strategies as they become more environmentally conscious and hence more profitable in the long run (López et al.,2018). Different prior researchers have developed the linkage between the organizational performance and GEO; however, how does the impact of GEO works is ambiguous that (Chemat et al., 2019). Tietbohl, et al. (2020) found out that GEO holds a positive impact on economic performance of a firm and the environmental performance it shows. But the achievement of firm performance from the impact of GEO on different organizational practices is vague, such as GSCM practices. There is lack of mediation between the relationship of EO and firm performance as it will not provide a better performance by EO. In a similar manner, different studies were developed on order to examine the procedure which might bring firm performance through EO rather than giving only a direct impact (Tran et al., 2019). Thus, the present study focuses the role of green EO which impacts the GSCM practices and its ultimate effect on firm performance.

Green EO and GSCHM practices

An organizational strategic orientation, such as GEO, can be viewed from the Dynamic capability lens, may be thought to be a very valuable intangible capability for implementing and responding the strategic practices, such as GSCM and ultimately, the firm performance gets better. Sensing, seizing and transforming capabilities are considered as the three characteristics of Dynamic capabilities in GEO (Teece, 2016). Similarly, GEO also has three characteristics which are; green innovativeness, risk bearing and proactiveness, GSCM bears a sharp impact of these features. The sensing capabilities in GEO is responsible to identify an adequate opportunity in the market for the purpose of meeting those market challenges which arisen by the shareholders and customers concerned about the environment (Boudalia et al., 2019). The firms practicing GEO practices are focused on producing, innovating and delivering the products and services which are environmental friendly in order to capture greater customer value. GEO and firm performance were found in studies to have a significant relationship.

According to the findings of Al-Aamri et al. (2018) firm innovation has a positive impact held by EO. Murfadunnisa et al. (2019) also investigated the relationship between EO and firm performance is significantly mediated by firm innovation. Due to these results, GEO stresses on GSCM in order to provide environmental friendly products and services so that sustainable competitive advantage can be achieved. The different approaches such as reduction of pollution and consumption of energy, production of green products for improving the efficiency and adopting green technology is appreciated by the seizing capabilities of GEO (Jiang et al., 2018). Organizations which use GEO practices, utilize green practice as a crucial opportunity, for instance, sale of scratch materials, extra and used inventories (Yildiz et al., 2019), utilizing rainwater in effective manner, recycling, reuse of wastewater, energy saving activities can lead to better economical position of the organization. Internal environmental Programs like EMS, environmental compliance, ISO 14,000, and auditing programs are practiced so that organizational reputation of GEO firm remains upheld.

GEO GSCM Practices and Environmental Performance

Information on predicted examples of internal and external supply-chain-based linkages for enhancing environmental performance has been provided by the relevant published literature. A positive relationship between environmental performance and SC management is suggested by a growing body of prior research, which gives increasing proof of the existence of such a relationship (Suryanto et al. 2018). The prior literature and research have explained how the adoption of internal GSCM practices can lead to an improvement in environmental performance in the context of the supply chain. These practices include cooperation between the supplier and the customer. Developing relationships with suppliers that are beneficial to both parties enables an organization to incorporate and spread cutting-edge innovations throughout the organization (Zaid et al., 2018). The lack of internal GSCM practices and coordination on internal with external practices can result in much less environmental performance improvements, as suggested by the scientific evidence and coordination theory discussed in the paragraph before this one by Geffen. This is the case because of the lack of internal GSCM practices and coordination on internal with external practices. Internal GSCM practices and processes need to be coordinated with one another in the same way that

special training for staff on environmental management issues needs to be coordinated with external GSCM practices like using green design for various supplier procedures to cut down on waste. In order to guarantee the production of environmentally friendly products, it is imperative that environmentally conscious practices and processes be utilized throughout the manufacturing process (Cousins et al.,2019). In recent years, there has been a significant amount of attention paid to the connection that exists between environmentally conscious business practices and GSCHM strategies. The potential moderating effect of environmental performance on this connection has garnered a lot of attention from researchers in the scientific community. The purpose of this paper is to investigate the relationship between environmentally friendly EO, GSCHM methods, and ecological efficiency.

A green entrepreneurial mindset is a proactive business approach to recognizing and capitalizing on opportunities for environmentally friendly business operations. This may be creating new ecologically friendly products or services, employing environmentally friendly production processes, or participating in environmental sustainability efforts (Abdel-Baset et al.,2019). In contrast, GSCHM practices refer to a company's attempts to reduce the environmental impact of its SC activities. This can involve conserving natural resources, lowering waste and emissions, and enhancing suppliers' environmental performance. The impact of a firm's environmental practices on its overall performance is referred to as its mediating function in environmental performance. For example, if a company applies GSCHM strategies, it may improve its environmental performance, resulting in higher profitability and greater competitiveness (Tseng et al.,2019). Similarly, if a company has a green entrepreneurial attitude, it may boost investment in environmentally friendly products and services, resulting in greater environmental performance and enhanced profitability.

There is data to support the idea of a causal link between an entrepreneur's commitment to environmental sustainability and the adoption of eco-friendly business practices across the supply chain. Companies with a green entrepreneurial mindset, for instance, may be more likely to invest in environmentally friendly SC management strategies because they recognize the value of doing so (Hong et al.,2018). Additionally, businesses with a green entrepreneurial attitude may use greener production methods and create greener products and services, both of which are beneficial to the environment and the company's supply chain. GSCHM practices have been shown to improve environmental outcomes. GSCHM practices, for example, may help businesses cut down on resource use, waste, and emissions while also boosting their suppliers' environmental performance. Better environmental performance is one way in which these practices can boost a company's bottom line and help it stay competitive. The significance of environmental performance as a mediator in the relationship between green entrepreneurial approach and GSCHM practices is a complex problem that warrants further research.

There is, however, a definite association between these three variables, which may be essential for organizations aiming to improve their environmental performance and competitiveness. To summarize, there is a considerable association between green entrepreneurial approach, GSCHM practices, and environmental performance, with major implications for enterprises striving to improve their environmental sustainability and competitiveness. More research is required to fully understand the function of environmental performance as a moderator in this connection, as well as to determine

the best strategies for integrating GSCHM and green EO in a firm. Therefore, the alternate hypothesis can be proposed as:

Internal and external environmental orientations and GSCHM (GSMC)

Three aspects of internal GSCM techniques were considered. Prior study focused on two of the three factors essential to internal GSCM practices: internal environmental management (Factor 1), which had twelve items, and eco-design (Factor 6), which had four items (Kraus et al., 2020). Eco-design is an important component of GSCM since it helps to save energy and save costs throughout the SC during the product manufacturing process. The items were coded on a seven-point Likert scale, with 1 indicating "no plan to implement" and 7 indicating "full implementation."

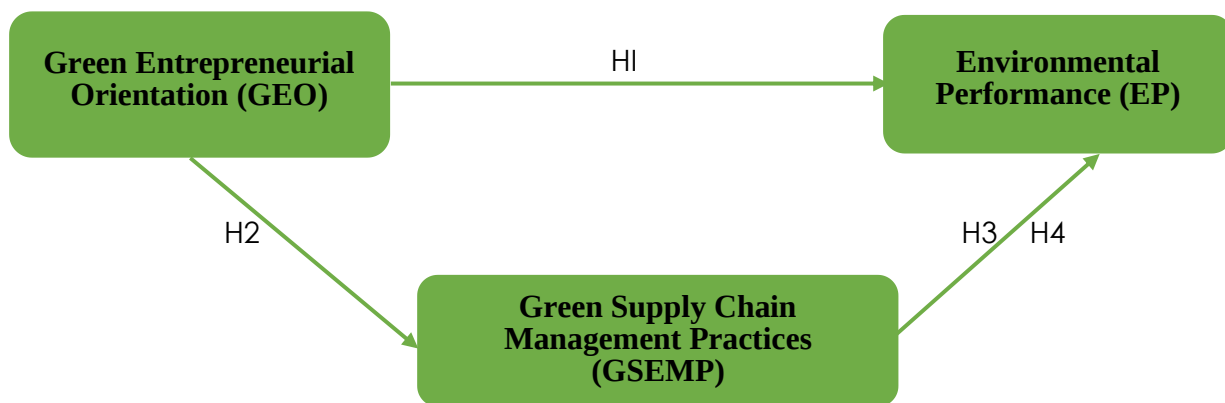


Figure 1.
Conceptual framework

H1: There is positive relationship between GEO and EP

H2: There is positive relationship between GEO and GSEMP

H3: There is positive relationship between GSEMP and EP

H4: GSEMP mediates between GEO and EP

METHODOLOGY

The association between green EO (GEO) and GSCHM practices (GSCMP), as well as the role of environmental performance as a mediating factor, was investigated using a survey-based methodology (EP). The sample size for this study was 420, and a total of 550 questions were delivered. The data was acquired through a self-administered questionnaire, and the participants came from a wide range of businesses. GEO, GSCMP, and EP questions were included in the questionnaire. The data demonstrated a substantial positive relationship between GEO and GSCMP, meaning that businesses with high GEO also have good GSCMP procedures. Furthermore, EP was revealed to mediate the relationship between GEO and GSCMP, meaning that the amount of EP at the company explains a portion of the relationship between GEO and GSCMP. This study adds to the growing body of evidence on the importance of GEO and GSCMP for

enhancing EP and underlines the importance of organizations focusing on both to achieve long-term commercial results.

RESULTS

For analysis, Sem-pls was employed, which is a two-step procedure comprised of the measurement model and the structural model.

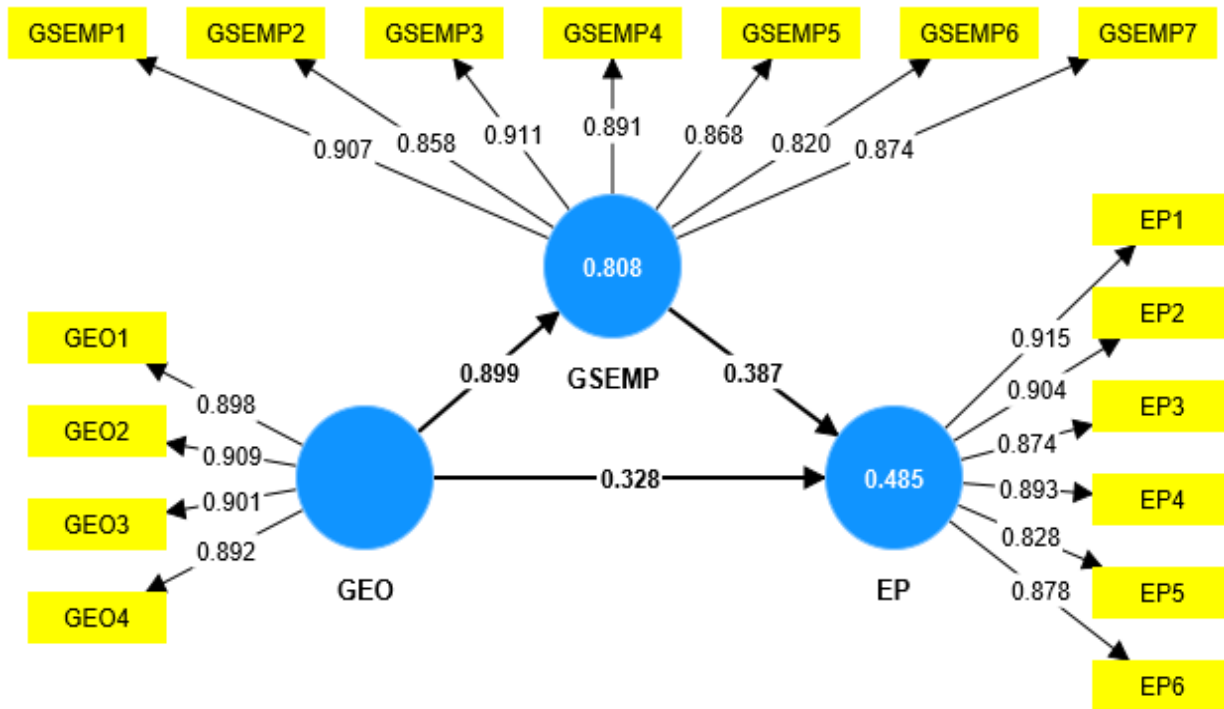


Figure 2.
Measurement Model

Outer loadings are the coefficients that indicate the link between latent variables and observable variables in a Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. By calculating the structural equations in the model, these coefficients provide a knowledge of the direct effect that the latent variables have on the observed variables. The size of the association between the latent and observable variables is reflected in the outer loadings, with bigger values suggesting a stronger relationship. Furthermore, as demonstrated in Table 1, the size of the outer loadings can indicate the most relevant predictors in the model. Reliability analysis is an important part of Partial Least Squares Structural Equation Modeling (PLS-SEM) since it evaluates the measurement model's internal consistency and stability. The measurement model in PLS-SEM depicts the relationships between latent and observable variables, and its quality has a substantial impact on the analytic outcomes. In PLS-SEM, there are several ways for doing reliability analysis, including Composite Reliability (CR) and Average Variance Extracted (AVE). The average of the squared factor loadings for a specific latent variable is used to compute CR, and values near to one imply excellent dependability. The proportion of variance in observable variables explained by latent variables is measured by AVE, with values approaching 1 indicating excellent dependability.

Table 1.
Outer Loadings

	EP	GEO	GSEMP
EP1	0.915		
EP2	0.904		
EP3	0.874		
EP4	0.893		
EP5	0.828		
EP6	0.878		
GEO1		0.898	
GEO2		0.909	
GEO3		0.901	
GEO4		0.892	
GSEMP1			0.907
GSEMP2			0.858
GSEMP3			0.911
GSEMP4			0.891
GSEMP5			0.868
GSEMP6			0.820
GSEMP7			0.874

Table 2.
Reliability Analysis

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average extracted (AVE)	variance
EP	0.943	0.944	0.955	0.778	
GEO	0.922	0.922	0.945	0.810	
GSEMP	0.949	0.950	0.958	0.767	

Table 3.
Discriminant validity

	EP	GEO	GSEMP
EP	0.882		
GEO	0.675	0.900	
GSEMP	0.681	0.899	0.876

The structural model in the technique known as Partial Least Squares Structural Equation Modeling (PLS-SEM) refers to the interconnections between the latent variables in the study, and it reflects the underlying causal linkages that are present in the data. PLS-structural SEM's model is characterized by a set of structural equations that were developed using the outer loadings received from the measurement model. These equations were used to establish the structural model. This structural model can be used to test hypotheses about the relationships between latent variables and produce predictions about these relationships based on observed data. Both of these tasks can be accomplished with the help of the model.

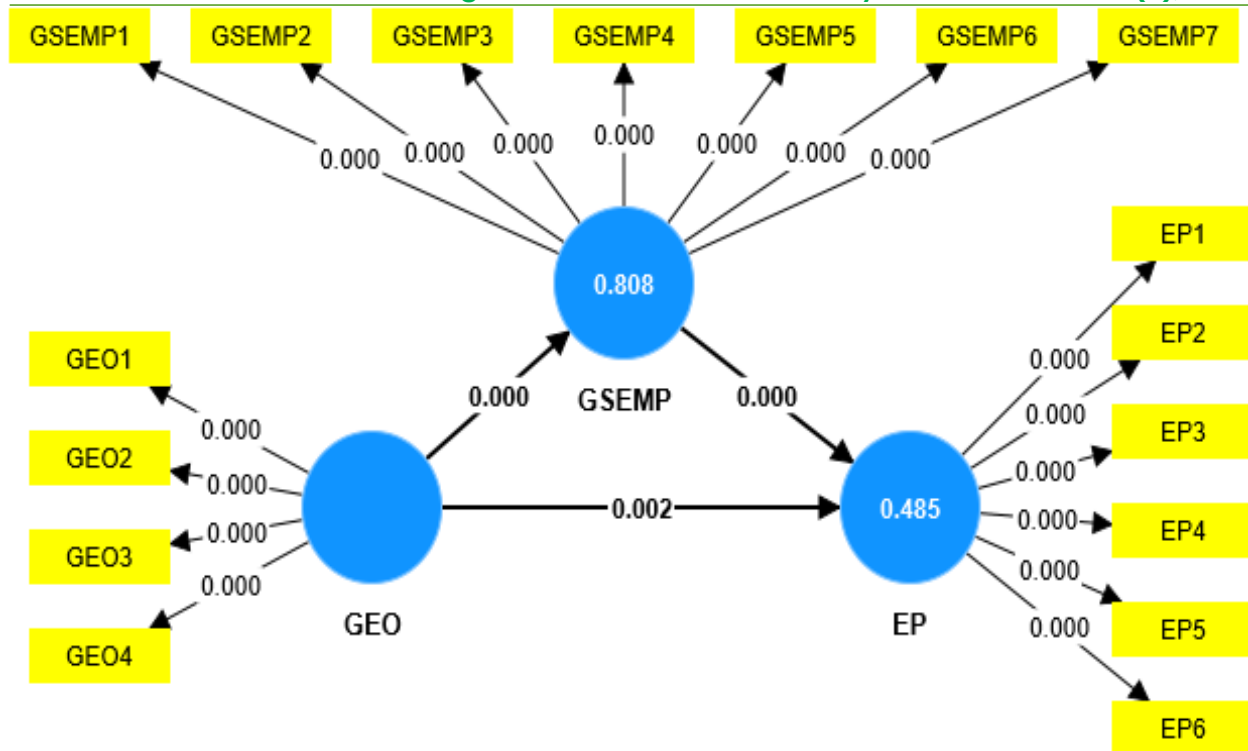


Figure 3.
Structural Model

Table 4.
Direct Results

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
GEO → EP	0.675	0.676	0.070	9.634	0.000
GEO → GSEMP	0.899	0.898	0.018	49.844	0.000
GSEMP → EP	0.387	0.391	0.103	3.761	0.000

In PLS-SEM, direct results reflect the impact of a predictor on a dependent or outcome variable after accounting for the effects of other predictors. The path coefficients or outer loadings from the structural model are used to compute these direct results in PLS-SEM. These coefficients, which are unique to each predictor, demonstrate the direct effect that a predictor has on the result.

Table 5.
Mediation Analysis

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
GEO → GSEMP	0.348	0.352	0.094	3.680	0.000

CONCLUSION AND DISCUSSION

In order to take initiatives regarding organization, the entrepreneur plays a vital role in decision making. Market orientation from customers can motivate an entrepreneur regarding environmental sustainability initiatives which may comprise of risk-taking on development of a green project, green innovation, and before action of their competitor, a proactive action (Feng et al.,2018). This study brings about an extension in the literature of GSCM. During past recent years, GSCM is getting an in-depth focus from researchers. In order to see that an organization is focused on the ecological friendly practices or not (or just 'green washing' projects) can be comprehended by GSCM which is considered as a major initiative taken by any firm, other than the prior mentioned stance, it can also be seen that for a sustainable growth, GSCM has strong strategic implications (Seman et al.,2019). Two purposes are served by this study in contributing to the literature. First, strong evidence is being highlighted, by employing unique and different samples such as FIEs in China for enriching the literature, for describing the positive impact of GSCM (for serving all of the three activities) on organizational performance (Li et al.,2020; Chuang & Huang,2018).

The second aspect is that this study looks into a key precursor to GSCM. Various earlier studies on GSCM focused on various objectives, such as describing the significance of GSCM, investigating the components of GSCM and the effects they have on performance, and outlining the diffusion of GSCM practices. Comparatively, there is a lack of study conducted on the firm level antecedent (particularly the value-based orientation of senior managers) of GSCM (Singh et al.,2019). The gap in the literature is filled by this study that it empirically demonstrates that in order to adopt GSCM practices for a firm, the internal and external environmental orientation performs a stronger base. It has been mentioned earlier that these both of the orientations hold a respective impact on GSCM practices. A firm can reduce the harmful effects of their activities by implementing GSCM practices and only by employing GSCM practices in a GEO firm can mitigate the negative impacts; therefore, discussing GEO and GSCM holds a vital importance as a topic to study (Gilal et al.,2019). The current analysis leads us to the conclusion that GEO company has a culture of taking innovative initiatives, spirit, proactive posture in their actions, and inspiration, as well as risk-taking behavior to meet new challenges in order to develop an eco-friendly society.

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Consent to Participate: Yes

Consent for publication and Ethical approval: Because this study does not include human or animal data, ethical approval is not required for publication. All authors have given their consent.

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