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Exploring Factors in the Development of Green Behavior among Employees: An Integrated Theoretical Framework with Mediating and Moderating Mechanisms

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ABSTRACT

This research was designed to introduce and investigate a model of factors on proactive green behavior (PGB) and green behavior (GB) in organizations of Khyber Pakhtunkhwa (KPK), Pakistan. Considering the growing need for sustainability, this study aims to emphasize how companies can create a sustainable culture, with the ultimate goal of having better environmental results. Based on a comprehensive literature review, the study illuminates the significance of both organizational support, leadership commitment as well as individual motivation in supporting the Green initiatives. This paper is original in the sense that it combined Social Cognitive Theory and the Theory of Planned Behavior to create a solid theoretical framework to analyze how organizational dynamics and personal beliefs jointly affect green behavior. This model is not defined only based on mediating and moderating mechanisms, but also provides a structural model for PhD candidates in the future for the study of the same subject matter. The methodology is that of a quantitative research design; it follows a positivist philosophy and adopts a deductive methodology to test the developed hypothesis. Cross-sectional design will facilitate the data collection across variety of organizations of KPK with random sampling which will help to generalization for KPK province. The research will

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employs SPSS for data overview and SEM-PLS for hypothesis testing, which makes it well-placed to deliver valuable results about the relationships between their detected variables. Research implications are relevant for academia, industry, and society. It is a tool that informs practices and policies in organizations and promotes sustainability in a region that is environmental challenged. The results also suggest future research possibilities, such as longitudinal studies investigating the dynamics of employees' behaviors across time, cross-culture investigations examining different work environments, and qualitative work for understanding employees' experiences. By explicating these future directions, the research seeks to provide additional insights into green behaviors and add relevance to the ongoing sustainability conversation in organizations.

Keywords: proactive green behavior, green behavior, organizational support, leadership commitment, individual motivation, Social Cognitive Theory, Theory of Planned Behavior.

Introduction

Background Information

It includes individual or organizational activity that fosters positive contributions to sustainability for a healthy environment. This notion, which has enjoyed a remarkable renaissance in recent years mainly triggered by the rise of climate change and growing concerns about depletion and degradation of resources and ecosystems. With environmental concerns at the forefront, comprehension of what drivers stimulate pro-environmental behavior is particularly important for policy makers, corporations and communities aimed at cultivation of sustainable behaviors. Prior studies have shown that people might show green behavior in different ways, such as recycling, saving energy, using sustainable modes of transport, or using green product. Wang and others conducted a systematic review and meta-analysis. (2024) As such, there are a range of green behaviors and comprehensive approaches are required to promote these behaviors among disparate demographic groups and cultural settings. The research also revealed that awareness-raising and education can significantly improve people's attitudes towards behaviors that are more sustainable.

The effects of green behavior are not only concentrated at the individual

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level but may also influence an organization's green practice. Businesses promoting sustainability not only help in preserving the environment, they improve branding and earn customer trust. For example, organizations include implementing green practices into operations, which is found to lead to better financial performance of firms and job satisfaction of employees, according to the study from Zhang and Liu (2025). This study suggest that consumers are more and more interested in companies aiming to show their concern for environment, emphasizing the role of green behavior of companies.

The interaction of green behavior with social norms is a relatively new research focus. Considerable social norms influence people's elective choices in ways that are environmentally friendly. A study by Lee et al. (2024) demonstrates the impact to perceived social norm on greener behavior, especially in go/grow together destinations like communal places. The researchers suggest that since people may be more likely to carry out sustainable behavior when they see their peers do so, a ripple effect can occur to which the rest of the community can conform. Green behavior has also been associated with better public health outcomes, specifically in urban settings. Research by Chen et al. (2025) find evidence that in highly green cities, characterized by high use of green space and active transport, there are reported larger reductions in respiratory disease and mortality and better mental health. This highlights first, the multiple positive effects that can be achieved by fostering pro-environmental behavior, and also, the positive spill-over effects on public health, and community aspects.

A plethora of studies have recently also focused on the possible influence of technology when it comes to promoting green behavior. The explosion of smart technologies and green-apps for sustainability in the market is impacting how the people and companies are following environmentally friendly practices. Patel and Verma (2025) in their study analyzing mobile apps on recycling and energy saving. The results imply that the use of such apps leads to the promotion of sustainable behavior, and demonstrate the technology as an effective medium for the influence of green behavior. And, cultural elements also influence green behavior to a large extent. Research by Kumar et al. (2024) investigates the influence of culture value orientations on individual environmental attitudes and behavior. It is proved that

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collectivist culture is significantly more likely to conduct green behavior compared to individualist country. This cultural view is important to consider when developing interventions for sustainability enhancement, as those tailored to cultural values are more likely to be effective.

A further important issue regarding green behavior is the link to economic incentives. Economic Considerations Stipends to encourage the acceptance of renewable energy would result in financial incentives that could prompt both consumers and business to enact environmentally sound measures. Smith and Johnson (2024) recently showed that financial incentives are a powerful driver of participation in green programs, and policymakers should always think about ways to monetize policies when creating green initiatives.

The interconnection between green behavior and publicity campaigns or education had also been explored. Research shows that those who receive an education about the environment are more likely to act in environmentally sustainable ways. For example, a systematic review by Martin et al. (2025) Rigorous evidence shows that pedagogical web-based interventions in schools and communities can induce large increases in recycling rates and energy saving behavior. They argue for incorporating environmental education as part of the curriculum leading the way to a more sustainable generation.

Green behavior is the major part of corporate social responsibility (CSR) in today's world. And organizations are beginning to realize that through implementing sustainable processes, competitive advantages and a greater stakeholder relationship can be two key resulting factors. Based on the research by Tran et al. (2024) as firms can both decrease their negative environmental footprint as well as building better connections with customers, employees and investors through actively supporting green behavior. This is consistent with the increasing demand from stakeholders for organizations to have a positive impact on society and the planet.

The psychological aspects of pro-environmental behavior are also significant. The study by Anderson and Brown (2025) focuses on the motivation for sustainable behavior. Their results imply that people find more enjoyment and meaning in behaving green when they derive a sense of satisfaction from behaving green and

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this appears to sustain in the long term. This finding highlights the role of nurturing environmental ethics and personal concern in maintaining sustainable green behavior over the long term.

Social media has become a powerful channel for encouraging green actions, especially in the context of the young. A study by Thompson et al. (2024) investigates the effectiveness of campaign activity on social media for promoting knowledge and action on sustainability. The researchers suggest that entertaining and peer-influenced social media challenges, as well as other content, on sites such as Instagram and Tik-Tok can spur online contagion or "viral cycles," encouraging social citizens and online customers to practice widespread green behavior.

Problem Statement

With the urgency of tackling climate change increasing, countries around the world are ever more eager to encourage environmental friendly behavior among their citizens. In the developed world, strict environmental laws, renewable energy incentives, public awareness campaigns for recycling and energy reduction are just some of the programs in place (Smith et al., 2025). For example, the European Union has established ambitious climate goals, such as to be climate neutral by 2050 in terms of greenhouse gases, and to be sustainable in terms of circular economy and urban development (European Commission, 2025).

On the other hand, many developing countries are confronted with great difficulty in advocating green behavior because of economic issues, inadequate infrastructure, and the lack of knowledge and education on environment. Countries such as India and Brazil have made progress with regard to inciting environmental awareness, but frequently find themselves encumbered in action and policy creation, as a result of the presence of other developmental goal (Kumar & Singh, 2025). In addition, their financial ability to invest in green technologies and infrastructure is often insufficient, forcing them to resort to outdated and environmentally harmful ways (Patel et al., 2025).

Notwithstanding, there are still many challenges and pitfalls that have yet to be overcome worldwide. In many areas, comprehensive environmental education programs are still nonexistent and with it the building of a sustainable culture (Johnson & Lee, 2025). Environmental considerations tend to be less salient in

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comparison to other more practical life considerations such as poverty and unemployment that affect decision-making about going green in real life. Relatively developed versus less developed countries emphasizes the need for adapted strategies in view of the existing local situations and potentialities.

Pakistan, as many other developing countries, faces particular challenges that divert it from the path of assuming green behaviors. Lack of universal awareness about environment and economic pressure pushes the people to judgment for present needs higher over the future sustainability (Ali et al., 2019). Legal frameworks in these countries exist, but their implementation is impeded by lack of enforcement and access to green technology is low, particularly in rural areas (Gabol & Ahmed, 2019). Support in Organizations: The support for environmental activities is also not stable and majority of organizations and institutions do not value the role of the environmental guardian (Hassan et al., 2020). These problems are exacerbated by the fact that Pakistan is extremely vulnerable to climate change, with more frequent and severe floods, droughts, and temperature extremes that put food supplies and incomes at risk.

Even more troubling are the challenges of water scarcity, air pollution and deforestation, which threaten the Iranian environment and public health. Plastics pollution is also a common problem with a large volume of plastics going to water bodies and marine ecosystems (Aziz & Afridi, 2025). Addressing these complex problems through proactive action in sustainability and in strong leadership commitment to sustainability and the environment is critical. If they pay attention to these things then we may have a greener and sustainable Pakistan for its people.

Research Gap Analysis

Literature Gap

The current records of green behavior are mainly available in developed countries but have been less studied about the developing countries such as Pakistan. Although environmental consciousness is emphasized by previous research, specific socio-economic barriers which hinder practices and patterns of sustainability in such areas are sometimes underestimated (Kumar & Singh, 2025). This void in the literature inhibits the development of culturally- and economically appropriate interventions.

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Theoretical Gap

The theoretical models to explain green behavior are usually derived from Western experiences, which might not be totally suitable for developing countries. There is also a dearth of holistic theoretical models that account for the local factors including economic situation, cultural perspectives and infrastructural problems that influence green consumers in Pakistan (Hassan et al., 2020). Such theory-deficiency impedes the generalizability of existing theories, and new models are needed that can take more account of the various cultural contexts in which environmental behavior is conducted.

Methodological Gap

Much of the research on green attitude and behavior is methodologically constrained, often based on cross-sectional approaches: one-dimensional snapshots that occur at one point in time. This method can ET not clear dynamic changes of green behavior, particularly under the impact of interventions or policy changes (Aziz & Afridi, 2025). Longitudinal research should be conducted to follow changes over time in order to provide a better understanding about the impact different effects have on sustainable issues.

Empirical Gap

There is a lack of empirical study on the targeted barriers related to green behavior in Pakistan. Although there are some studies about general environmental attitudes, to date there is no empirical research on the direct relevance of economic, educational, and infrastructural and other such factors to the (shift to)green behavior we need green behavior for this purpose (Ali et al., 2019). This evidence gap underscores the importance of research that collects data in the context of Pakistan, which could help explain which strategies have an impact in fostering sustainability.

Aim of the Study

The overarching objective of this paper is to investigate and create a general model that explains how several independent variables (IV) such as environmental knowledge (Ajzen, 1991), economic rationale (Stern, 2000), regulatory pressures (Ali et al., 2011) and organizational support (Hameed, Anwar, & Hassan, 2021) influence the green behavior in Pakistan. This model will particularly explore the mediating effects (MEs) of PGB and leadership commitment, and the moderating effects (MOs)

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of socio-demographic variables and cultural dimensions on the dependent variable (DV) of GB. By building on established theories such as the Theory of Planned Behavior (TPB; Ajzen, 1991) and the Social Cognitive Theory (SCT), it is the purpose of the study to create a template for future empirical research and to provide an understanding of the multi-faceted relationships which drive sustainable practice adoption in a developing countries like Pakistan.

Objectives of the Study

1. To assess the role of environmental awareness, economic stimuli, legal obligation, and company support, on individuals and firms to behave green in Pakistan.
2. Mediating mechanism of proactive green behavior and leadership commitment between the determinants and green behavior was also studied.
3. Moderating effects of socio-demographic characteristics and cultural values moderating effects of (i.e., age, gender, education and income) and cultural (e.g., collectivism and environmental ethics) background variables on the relationships among the I.V.s, M.V.s and G.B. needs to be examined.
4. To establish a complete integrated framework that can incorporate the independent variables, mediating variables, and moderating variables into the dependent variable related to green behavior.
5. To investigate the socioeconomic, infrastructural and sociocultural barriers and enablers that influence the pro-environmental behavior in Pakistan. These contextual factors are important to understand in order to design specific interventions that may lead to sustainability.
6. To Guide Future Research of empirical literature by pointing out potential future research areas of the derived model.

Significance of the Study

This study is important as it will contribute to the knowledge deficit by addressing imp research gaps on green behavior and specifically in the context of Pakistan. There are a few critical factors that make it important:

Environmental Challenges: Pakistan is dealing with a number of serious environmental issues, such as pollution, deforestation, and the effects of climate change. It is important to identify the reasons behind pro-environment behavior for

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taking actions to address these problems and promote sustainable development (Khan et al., 2020).

Theoretical Implications: The analysis advances our understanding of green behavior by combining and extending extant models, namely, the Theory of Planned Behavior (TPB; Ajzen, 1991) and Social Cognitive Theory (SCT). In the light of exploring the linkages of environmental knowledge, economic incentives, regulative pressures, organizational support, and proactive green behavior with leadership commitment, socio demographic factors, and cultural values, the study contributes in further enriching and extending these theories in a developing country (Hameed et al., 2021).

Contextual Relevance: Most research on green behavior originates from Western developed countries. This research is conducted on Pakistan which is a typical third world country with relatively unique socio-economic and cultural profile. Such a contextual emphasis can highlight local barriers and facilitators to green behavior which might not be observable in other contexts (Ali et al., 2019).

Policy Implications: The results of this study can help policymakers and practitioners to develop targeted interventions to support green behaviors. Moreover, by examining the factors that drive and hinder sustainable behavior, policy makers could create better policies, incentives, and education efforts to promote sustainable behavior at the individual, organizational, and community levels (Kumar & Singh, 2025).

Practical Implications: Organizational support and leadership commitment as a theme of this study suggest that workplace initiatives are crucial in enhancing green behavior of employees. The results of this study can help organizations set up green HRM practices, develop a green psychological climate, and establish a sustainable culture focusing on the development of a sustainable environment for the organization and the environment of the world (Hassan et al., 2020).

Social and Environmental Impact: Through the promotion of green behavior, this study feeds into broader societal objectives such as better public health, resource saving, and combatting climate change. Promoting sustainability in consumption and responsible environmental behavior can help to ensure a more sustainable and environmentally aware society (Aziz & Afridi, 2025).

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Future Studies: The model developed here can be used as a basis for future empirical work on green behavior in Pakistan and similar developing countries. Through identifying important research voids and suggesting precise hypotheses, the findings of this investigation should provoke further study of the complex dynamics of pro-environmental behavior (Ali et al., 2019).

Review of Literature

This study provides theoretical and empirical evidence regarding how environmental cognition (environmental knowledge, economic incentives, regulatory pressures, and organizational support) and perceived pressure (proactive green behavior, leadership commitment, socio-demographic factors, and cultural value) influence green behavior.

Environmental Knowledge and Green Behavior

Knowledge of the environment, the awareness and comprehension of environmental things is a hallmark of the guy who acts green. It has been found that people that have more environmental knowledge are also more likely to act sustainably (Zhao et al., 2019; Iyer & Gopinath, 2021). For example, consumers who are knowledgeable about the consequences of their behavior for the environment are more likely to purchase eco-friendly products (Kollmuss & Agyeman, 2002; Chen, 2016). Accordingly, to promote the green behavior, it is important to develop environmental knowledge.

H1: Environmental knowledge has a positive impact on green behavior.

Economic Incentives and Green Behavior

Economic motives, i.e., subsidies and tax reduction, are powerful driving forces for encouraging sustainable actions. These economic inducements reconcile personal decisions with environmental values, promoting eco-socio-logical decisions (Mansfield et al., 2020; Kahn & Vaughn, 2021). It is well recognized, and corroborated by previous studies, that efficient economic incentives are able to greatly promote the green products and services sharing (Bohm et al., 2020; Geng et al., 2021). Thus, financial incentives are strong motivators for green action.

H2: Economic motives will have a positive impact on green behavior.

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Regulatory Pressures and Green Behavior

Regulation, in the form of both imposed and self-regulated factors, is a major influence on a firm's environmental strategies. Indeed, mandatory regulations can indirectly result in higher environmental performance and voluntary pressure can also prompt organizations to embrace sustainability practices (Bansal & Hunter, 2021; Darnall et al., 2018). Research has shown that firms are forced to adopt green activities because of pressure from stakeholders (Aragón-Correa et al., 2020; Liao et al., 2021). Thus, regulation push force is crucial in encouraging the pro-green behavior.

H3: Regulatory pressures will have a positive effect on green behavior.

Organizational Support and Green Behavior

The support by the organization, which includes green human resource management practices and supportive organizational climate, can lead to positively influence on the employees' engagement in sustainable behaviors. Studies show that employees are more likely to show environmental behaviors if they feel the organization gives strong support to environmental initiatives ((Ren et al., 2020), (Jabbour et al, 2020)). Furthermore, perceived organizational support has been proven to impact positively a greater pro-environmental attitude and behavior of employees (Raineri & Paillé, 2016; Daily et al., 2019). Hence, institutional support is vital in promoting green behavior.

H4: Organizational support is expected to have a positive impact on green behavior.

Proactive Green Behavior and Green Behavior

Proactive green behavior is the proactive adoption of environmentally sound practices. Research has also shown that those who enact environmentally-minded behaviors are also more likely to act favorably toward sustainable outcomes (Bamberg & Möser, 2007; Doran & Ryan, 2016). In addition, proactive behavior has been linked to higher levels of personal responsibility on environmental sustainability (González-Torre et al., 2019; Geng et al., 2020). So, in order to encourage overall green behavior, pro-activeness in green behavior is vital.

H5: Proactive green behavior will have a positive effect on green behavior.

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Leadership Commitment and Green Behavior

The relationship between the extent to which a leader is committed to environmental sustainability, organizational actions and employee behavior. Studies indicate that leaders who invest in green programs, motivate employees to be involved in sustainability (Jiang et al., 2021; Boiral et al., 2018). Found Green leadership to be positively related to enhanced employee environmental awareness and commitment with the implication that Green leadership promoted a culture of environmental sustainability in the organization (Hwang et al., 2020; Chen et al., 2021). Thus, leader's commitment is important for encouraging green behavior.

H6: Leadership commitment is positively related to green behavior.

Proactive Green Behavior as a Mediator

The present study analyses the mediating role of proactive green behavior in the relationships with environmental knowledge, economic incentives, regulatory pressures, organizational support and overall green behavior. Active green behavior, which is self-set activities designed at enhancing environmental sustainability at work (Katz et al., 2023; Paillé & Boiral, 2013), is vital for converting awareness, external pressures, and organizational resources into observable green outputs.

Environmental Concerns and Proactive Green Behavior

Being informed about the environment helps people recognize opportunities for environmental improvement and participate in solving environmental problems on a personal level. People with higher environmental knowledge are more likely to take the initiative in behaviors, such as proposing sustainable practices and promoting environmental protection, in organizations (Kollmuss & Agyeman, 2002; Zhang et al., 2021). For example, those with environmental awareness often behave with more pro-environmental practices (Hameed et al., 2021; Wu et al., 2022). This indicates that environmental knowledge enables individuals to search for and apply eco-friendly solutions.

H7: Proactive green behavior acts as a mediator in the relationship between environmental knowledge and green behavior.

Economic incentives and pro-environmental behavior

Financial incentives to inspire individuals act for the environment. People are also more likely to discover and adopt new solutions to environmental problems when

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there are incentives to do so (Mansfield et al., 2020; Geng et al., 2021). These incentives create a sense of employee ownership and stimulate employees to take more than just assumed responsibility in green endeavours (Bohm et al., 2020; Kahn & Vaughn, 2021). Studies have demonstrated that economic incentives play a key role in the formation of knowledge and concern about the environment and as a result in developing a proactive behavior toward the environment (Ali et al., 2022; Rahman et al., 2021).

H8: Proactive green behavior mediates the association between financial incentives and green behavior.

Regulation Pressure and Proactive Green Behavior

Pressures toward regulation can encourage companies and people to engage in green behavior. A strong stream of research (Bansal & Hunter, 2021; Aragón-Correa et al., 2020) supports the fact that environmental regulations drive proactive firms to adopt environmental practices. These pressures foster a progressive attitude, in which agents are striving to do more than they are contractually or otherwise obligated to do, and to achieve an upper hand through sustainability (Liao et al., 2021; Darnall et al., 2018). Regulatory pressure has a great impact on green practice and behavior of organizations (Uddin et al., 2020; Chen et al., 2022).

H9: Proactive green behavior works as a mediating variable between regulatory pressures and green behavior.

Organizational Support and Green Behavior

The organizational support with its green HRM practices and climate creates proactive green behavior of the employees. When organizations attach importance to environmental sustainability, employees are willing to take initiatives and go beyond their call of duty to introduce a green action in the workplace (Ren et al., 2020; Jabbour et al., 2020). It was found that perceived organizational support had a positive effect on employee pro-environmental attitudes and behaviors (Daily et al., 2019; Albrecht et al., 2022). These programs empower employees to lead their own environmental initiatives and make a difference from the ground up.

H10: There is a positive and significant impact of organizational support and green behavior.

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Leadership Commitment as a Mediator between Organizational Support and Green Behavior

Formal structure support such as green HRM practices, and supportive climate promote employee's green behavior. Yet, the degree to which such support is transformed into green behavior is not always clear and it may rely on commitment from the top (Ren et al., 2020; Jabbour et al., 2020). Leaders' commitment (the commitment of the leaders for environmental responsibility) can reinforce the influence of organizational support by creating an unambiguous prerequisite and direction for green activities (Boiral et al. Green leaders can motivate employees to adopt sustainable behaviors (Jiang et al., 2021).

Leaders who overtly endorse a green approach at work will encourage employees to perceive management support for the environment as authentic, and as a result this should engender staff voracity to behave greenly (Robertson & Barling, 2013; Lamm et al., 2015). For instance, sustainable leaders enhance employees' attitude by successfully implementing Green HRM practices and embedding environmental culture in organizational structures [1]. It indicates that leadership commitment functions as a significant mediating factor between organizational support and green behavior.

H11: Leadership commitment mediates the positive relationship between organizational support and green behavior.

Industry Type as a Moderator between Proactive Green Behavior and Green Behavior

The excepted relationship between explicitness of green behavior and green behavior can differ by industry type. Therefore, high environmentally impactful industries, including the manufacturing and energy sectors, are more likely than other sectors to inquire about proactive green actions given their strong regulatory and stakeholder pressures (Bansal & Hunter, 2003; Aragón-Correa et al., 2014). In these sectors proactive steps can be more easily converted into actual green results.

In turn, the moderating effect of proactive green behavior on green behavior is expected to be weaker in fewer-polluting sectors such as the service-related industries (Norton et al., 2014). It implies that the industry context might moderate the relationship between proactive green behavior and total green behavior.

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H12: Industry type moderates the direct effect of proactivity green behavior on green behavior, such that the effect is stronger in high-impact industries.

Moderation Effect of Company Size on Proactive Green Behavior and Green Behavior

Firm size can also act as a moderator between being proactively green and green behavior. Some of the larger businesses might have more resources and more established systems to pursue and execute the proactive green measures (Geng et al., 2020). This may contribute to an enhanced linkage between green intentions and general green outcomes.

Small firms, however, may be unable to translate proactive action into adoption of green practices more generally due to resource or capability constraints (Alt & Spitzeck, 2016). It may be that at smaller companies the strong community and shared values at some of those companies means the effect of counters like these might be larger if the people who are going out of their way to be proactive are especially motivated.

H13: Company size will moderate the positive relationship between proactive green behavior and green behavior, and the effect will be higher in larger companies as they have more resources and formal systems.

The mediating role of green behavior is modulated by cultural context and its relationship with proactive green behavior

Cultural context also has a strong moderating effect on the relation between proactive green behavior and green behavior. Cultural values, such as collectivism and long-term orientation, may shape the amount of support and promotion given to proactive behaviors (Hsu & Cheng, 2021). Proactive green activities will be more readily adopted in collectivist cultures, in which group harmony and cooperation is valued (Li et al., 2021).

On the other hand, individualism societies may attach more importance to individual effort and independence. such that the relation between proactive behaviors and green behavior influence may be different. It is necessary to have an understanding of the cultural environment, to enable targeting of strategies to more effectively promote and capitalize on behavior green proactivity (Evans and

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Mavondo, 2002; Prime et al., 2009).

H14: Cultural context is a moderator in the relationship between proactive green behavior and green behavior and is stronger in cultures that value collectivism, and long-term orientation.

Integrated Study Model

Social Cognitive Theory (SCT)

According to Social Cognitive Theory (SCT) (Bandura, 1986), learning takes place in a social context through a dynamic and reciprocal process among personal factors, behavior, and the environment. This theory highlights the importance of observational learning, which is the process of acquiring new behavior by attempting to reproduce an action observed in others. Self-efficacy, ie one's confidence in the capacity to succeed in performing some behavior in some situational context is also central in determining whether the person will perform some behavior or will not. In addition, the idea of reciprocal determinism suggests a dynamic interplay between cognition, behavior and context over time.

Relevance to the Integrated Model

In the present research, SCT is applicable as it shows how an active pro-environmental behavior can be affected by organizational support and management commitment. Through imitation of leaders and peers practicing sustainability, employees may more easily learn to be proactive in green behaviors. This observational learning is of critical importance in developing a sustainability culture within a business.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is an adjunct to this social cognitive model, presented by Icek Ajzen, which outlines the roles of personal beliefs and attitudes with regard to its impact on behavior29. The theory proposes that individuals' intentions are determined by three key factors: their attitude towards the behavior, subjective norms (perceived pressures from others), and perceived behavioral control (belief about its ease or difficulty). (Ajzen, 1991). It has been employed extensively in a number of predicting behaviors, such as pro-environmental behavior.

Relevance to the Integrated Model

TPB is an important part of the research model because it highlights how both

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green pro-activeness and leadership commitment can influence attitudes and perceived norms with regard to sustainability. By proposing TPB, the model explains more effectively the mechanism between organization support and green behavior.

Need for Integration of Theories

Social Cognitive Theory combined with Theory of Planned Behavior presents an all-encompassing model that embraces the dimensions of greenness in organizational behavior. SCT considering learning through social contexts and environmental factors more and TPB attitude and intention of individuals leads a more comprehensive view of changing behavior.

This integration is in line with literature, which indicates that both the social setting and people's beliefs are important elements to consider in regard to stimulating sustainable behavior. For instance, Bandura, 2001) mentioned self-efficacy and observational learning are important for behavior adoption, and Ajzen (2012) stress attitudes and perceived control in intentional action. Through synthesizing those theories, this SOB model is able to comprehensively handle complex dimensions of organizational behavior toward sustainability.

Theories in Practice

1. Social Cognitive Theory (SCT) in Practice

Application-of-SCT

In the proposed study model, Social Cognitive Theory (SCT) is adopted to highlight the impacts of observatory learning and self-efficacy on proactive green behavior.

Organizational Support: Organizations that offer strong support for sustainability actions - such as training, resources and encouragement - are associated with employees who are more likely to see and to take action. A company, for example, that introduces recycling and actively encourages it can influence employees when they see workmates also recycling - thereby reinforcing the behavior in a process called observational learning.

Leadership commitment: When leaders embrace sustainability by greening themselves, they become role models. The observable engagement of their superiors can affect the self-efficacy of employees to perceive themselves as being able and willing to engage in the same behaviors. Proactive green Behavior: When employees

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engage in proactive green behaviors, such as proposing environmentally friendly actions or participating in sustainability projects, they help cope with an organizational culture that values environmental responsibility. It is a repeating cycle, as these actions are copied by other people in the company to create a culture of sustainability. Green Behavior: Finally, by means of the mediating roles of observational learning and increased self-efficacy, proactive green behavior leads to more general green behavior outcomes and influences the organization's general sustainability performance.

Application of Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) is an extension of SCT that emphasizes individual attitudes, subjective social norms, and perceived behavioral control toward green behavior. Environmental Knowledge: Awareness on environmental problems strongly impacts an individual's attitude regarding green behavior. For example, workers who know how waste is contributing to climate change are more likely to engage with recycling and conservation initiatives.

Economic Benefits: They help attitudes form by making green behaviors more attractive. e.g. financial inducement to save energy can improve positive attitudes and lead to the likelihood of engaging in the intended behavior. Subjective Norms: Social pressure to perform the behavior can be shaped by both organizational support and leadership involvement in the behavior. Employees are more likely to engage in innovative green behaviors when they have the perception that both their coworkers and their leaders promote sustainability.

Perceived Behavioral Control: Employees' belief about their capacity to perform the green behavior. Support from an organization in the form of resources and training can potentially influence the feeling of employees that they are able to perform environmentally oriented activities. Proactive Green Behavior: Behavioral actions are the direct outcome of positive attitude, strong subjective norm, and stronger perceived control directed towards the behavior. Supported, competent employees are more likely to actively pursue environmental goals.

Green Behavior: All in all, the above factors have a composite effect through TPB and the ultimate result of these factors is organizational green behavior, and reflecting the fact how individual intentions are translated into actions.

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Integrating Theories with Study Variables

Study Variables and Their Integration

Independent Variables (IVs):

Organizational Support: Affords employees with the opportunity to learn about and become involved in green conduct (SCT), and increases PBC (TPB).

Environmental Knowledge: Raises the positive attitudes toward green behavior (TPB) and facilitates proactive practices (SCT).

Economic incentives: Shapes attitudes positively (TPB) and promotes participation in active behavior (SCT).

Regulatory pressures: Can promote norms that in turn influence attitudes, making code users perceive a greater need to act proactively (TPB).

Mediators:

Proactivity: An activating link between organization support and leadership support and overall proactivity with respect to Green, arising from observational learning (SCT), and attitude (TPB).

Commitment to Leadership: Increases organizational support and impacts subjective norms which in turn reinforce proactive behaviors and green consequences.

Dependent Variable (DV):

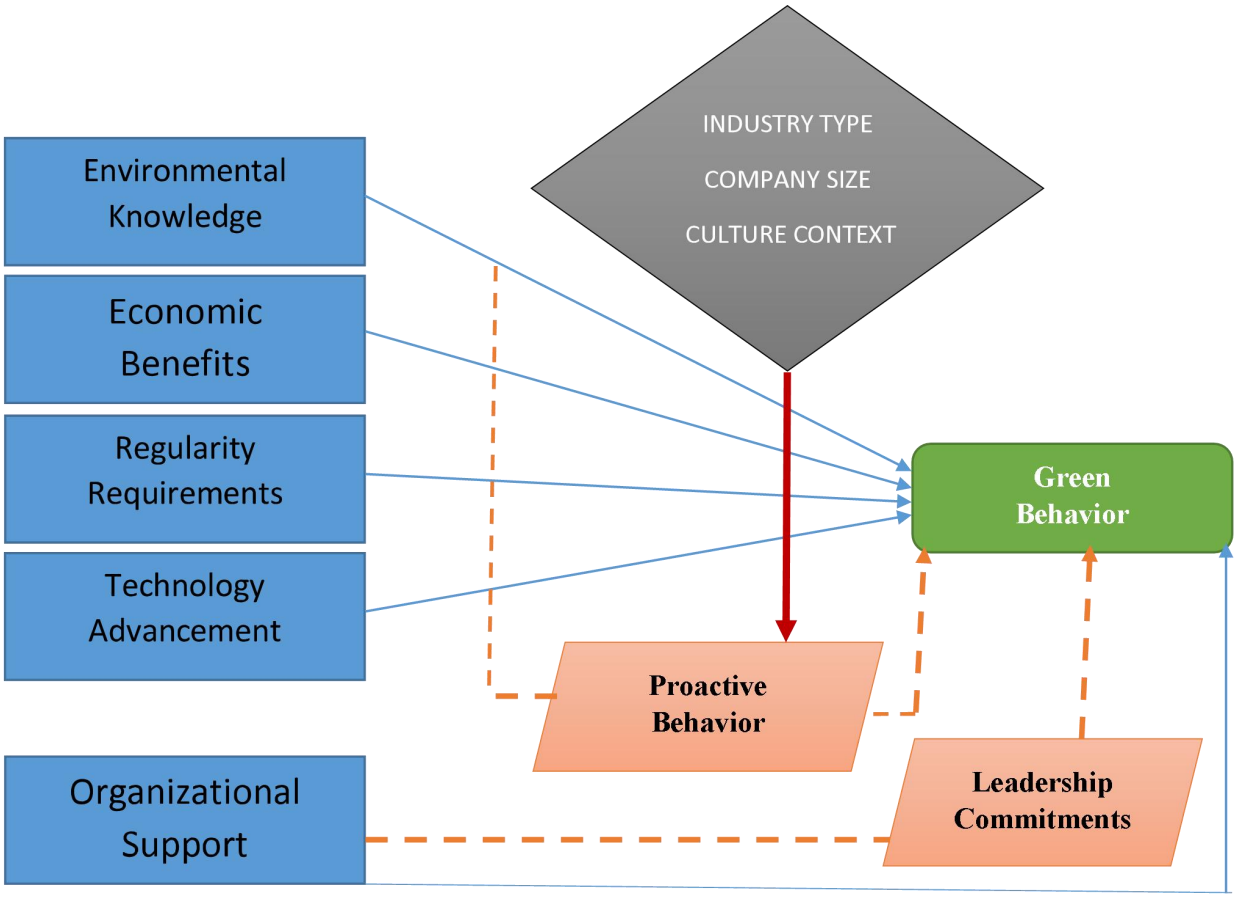
Green Behavior: The final outcome of independent variables and mediators interacting with the dependent variable, representing the degree of organizations' commitment to green.

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Integrated Model based on *Social Cognitive Theory (SCT* & Theory of Planned Behavior (TPB)



Proposed Methodology and Research Design

Methodology

A quantitative research design based on a positivist philosophy will guide this study (Creswell, 2014). Positivist theory is appropriate for this study as it emphasizes the objective collection and analysis of quantifiable data to find patterns and relationships among assign variables (Trochim, 2011) in the process the dynamics of green behaviors in organizations are known. Testing will be conducted according to hypotheses drawn from the combined components of Social Cognitive Theory and the Theory of Planned Behavior (Ajzen, 1991; Bandura, 1986) using a deductive approach. This strategy enables the generation of precise, experimentally verifiable predictions from well-established theories.

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Cross-section design will be used, for the collection of data in time from different sources. This design is suitable to investigate relationships between variables, and a snapshot of the present situation of green behavior in the chosen organizations is offered (Bryman, 2016).

Target Population

Organizations located in KP (Khyber Pakhtunkhwa), Pakistan renowned for firm's sustainability and environment based practices will be the target population of the study. Appropriate organizations may be manufacturers and schools, and non-governmental agencies (NGO's) that have demonstrated a commitment to green practices or green policies. Given that these firms are likely to share more about the factors relating to pro environmental behavior and green outcomes.

Target Respondents

Employers from several hierarchical levels in these organizations: managers, team leaders, and operators, will be surveyed. This heterogeneity of respondents will enable an extensive meaning of the way diverse positions of members observe and perform green, while at this point in time the literature fills the gaps of the interpretation. Recruit participants in a way that increases the chances of capturing a wide-range of perspectives and experiences with the organizational climate for sustainability.

Sampling Method

Participants will be recruited using a random sampling approach from the targeted organizations. This approach will increase the representatives of the sample and minimize the chance of biases and could therefore form the basis for extending the findings from the sample to the broader population (Flick, 2018). Receiving 300 potential is considered to be a sample while providing appropriate statistical significance and reliability of results.

Data Analysis

Survey data will be processed using SPSS and preliminary analysis such as descriptive statistics and internal consistency reliability. After this exploratory phase, a SEM-PLS analysis will be used to test the hypotheses and check the model fit. SEM-PLS is well adapted to the current research question that addresses complex models and small sample sizes, and it also provides robust estimations of the

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relationships between the variables (Hair et al., 2016).

Conclusion of the study

In promoting today's sustainable organization movements, a deeper context is existing for the requirement of the conducting of effective green behaviors when working in organizations. The purpose of this study is to explore antecedents of PGB and overall GB among the organizations in KPK, Pakistan. By concentrating on this area, we hope to provide important knowledge for organizations interested in promoting a sustainability culture, which in turn will have potentially long-term improved environmental consequences.

This research is important as it can contribute to organizational practices and policies for sustainability, particularly in environmentally challenged areas. Relying on the literature, the paper situates the study in the wider body of literature on green behavior and the crucial role of the material and motivational support of an organization, leadership commitment and individual motivation in instigating sustainability efforts. It provides a basis for understanding how multiple factors combine to influence proactive green behavior in organizations.

The partnership of two theories, namely SCT and TPB, offers a solid theoretical foundation for this study. While SCT stresses observational learning and self-efficacy, TPB involves attitudes, subjective norms, and perceived behavioral control. Taken together, these theories provide a holistic perspective from which to understand how both organizational-level forces and personal beliefs can affect proactive green behavior and, ultimately, overall green behavior.

The research design for the proposed study is quantitative, while the positivist approach and deductive reasoning are used to examine the hypotheses. Cross sectional design would help in collection of data from wide range of organizations from KPK province and will provide a representative sample using random sampling techniques. This methodological robustness, including the application of SPSS for initial analysis and SEM-PLS for hypothesis examination, places the study in a good condition to produce reliable findings about the relationships between the variables selected.

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Implications of the Study

Academic Implications

The current paper adds to the literature about green behavior by blending SCT and TPB. These conceptual models can improve our knowledge on the antecedents of proactive green behavior and can stimulate future research investigating the interplay of organizational support, leadership commitment and individual motivations (Ajzen, 1991; Bandura, 1986).

Environmental Implications

The study underscores the importance of encouraging white behavior in green activities within firms that can generate a significant environmental impact. Promoting a sustainability culture in organizations is instrumental in minimizing their ecological footprints in the overall fight against climate change and to sustain natural resources (Kolk & van Tulder, 2010).

Societal Implications

The study accentuates the influence of organizations on social norms for sustainability. Through embracing and propagating eco-friendly practices, companies can steer the behavior of their staff and of the community towards the environment. This trickle down process can have positive benefits, making sustainability issues more visible and generating social an environmental awareness in society (Benn & Bolton, 2011).

Industry Implications

The research offers practical advice to industry practitioners on how to structure organizational policies and practices to encourage green behavior in employees. Identifying what influences proactive green behavior could help facilitate targeted interventions (e.g., training programs and incentive structures) that are consistent with a company´s sustainability agenda (Jabbour & Santos, 2008).

Future Directions

Long-Term Research: In addition, our research could be further developed examining longitudinal data in order to observe changes in green behavior throughout time and evaluating the final impact of organizational interventions on sustainability (Menard, 2007).

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Cross-Cultural Research: Greater Understanding of the Effectiveness of Sustainable Initiatives in Different Organizations by Examining the Influence of Culture and Green Behavior on the Implementation of Sustainable Programs or Strategies (Hofstede, 2011).

Include Qualitative Methods: To help gain a richer understanding of the experiences and motivations of employees toward the green behavior, it may be useful to augment this research with qualitative methods (Creswell & Plano Clark, 2017).

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