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Working in a Physically Dangerous Work Environment: Employee Vitality and Sustainable Behavior

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Abstract: There is a limited understanding of the antecedents and consequences of employee vitality during war zone exposure. The current study is one of the first ones to investigate the direct effects of perceived danger on employee vitality by collecting data from Afghanistan, one of the most dangerous countries in the world. Furthermore, it was investigated how employee vitality affects sustainable behavior at the workplace. The hypotheses of the study have been tested by using data from two surveys collected from 192 employees working in small-sized private businesses in Afghanistan. The results indicate that high levels of perceived danger negatively impact employee vitality at work. In addition, we found that employees with vitality engage in more pro-environmental behavior in the workplace. The engagement of vital employees in pro-environmental behavior is higher among those employees who have a high level of environmental awareness. This paper concludes by presenting the limitations and implications of this study, as well as highlighting potential avenues for future research.

Keywords: perceived danger; employees' vitality; sustainable behavior; Afghanistan; environmental awareness; war zone; sustainability

1. Introduction

Afghanistan, as one of the latest-to-develop countries in the world, has experienced nearly four decades of civil war, political conflict and acrimony [1,2] which has directly and indirectly led to a high level of poverty, illiteracy, insecurity, and widespread of unethical working behavior such as bribery [3,4]. Deadly Taliban and Islamic State (IS) terrorist attacks and suicide bombings occur frequently across Afghanistan and the country is considered as one of the war zone areas in the world [5]. It is well said that every Afghan employee knows at least someone who was kidnapped for ransom [6], but despite such dangers, employees cannot stay home. Working outside home as employees in such a war-stricken zone exposes them to extreme external stresses, threats, hazards, and shocks e.g., being fired on or being near gunfire in the street; hearing bombs and gunfire in the distance; seeing people killed; experiencing arrest and torture; and being exposed to death and mutilation [7–9]. A recent report by the "Save the Children" organization showed that 550 children were dead as the result of war and conflict between these political parties in Afghanistan. Besides the lack of security, a

high level of crime, theft, and corruption aggravate the work situation for workers and the business community [8]. At the same time, however, for people living in war zone countries, life has to go on, and employment provides a necessary means to sustain their livelihood. To best of our knowledge, this is the first study where we are looking at how a physically dangerous business environment may affect employee vitality and sustainable behavior in the workplace.

Therefore, this study looks for answers to two major research questions: How does exposure to stressful external events such as terrorist attacks and suicide bombings impact employee vitality at the workplace? Does a vitalized employee exhibit more environmentally beneficial behaviors at work?

Employee feelings of vitality at the workplace have received increasing attention from scholars in recent years [10–12]. It is important to know which factors impact the vitality of employees at work because a vitalized employee, in general, has higher mental [13], and physical health [14] which are important factors for facing and solving organizational problems and challenges. A higher level of vitality leads to greater effectiveness in coping with pressures at work [15]. Vitalized employees usually have more emotional energy, and they feel a higher level of cognitive liveliness which makes them more proactive in the workplace [16]. This can create a more enjoyable work environment for himself/herself and their coworkers. There are several empirical pieces of evidence for the importance of vitality: vitalized employees are highly productive [17], creative [18], and enthusiastic about their work [19], which will eventually have a positive effect on the satisfaction of the company's customers [20]. On the other hand, weak job performance can be expected from less vitalized employees [21]. Overall, low levels of vitality within an organization will result in high levels of intention to leave the company in the long term [22].

The majority of previous studies on the drivers and consequences of employee vitality are predominantly focused on data from North America, East Asia, and Europe [10,12,21]. Businesses in such countries benefit from having a physically safe operating environment. However, research on likely antecedents and consequences of employee vitality in adverse, unpleasant, and dangerous conditions is scarce. Investigating employee vitality within the context of a potentially threatening environment is important because this can lead to a much more comprehensive picture of the roots and outcomes of this phenomenon. The current study is a first step towards filling this research gap by considering the potentially unsafe environment of Afghanistan as the context of the study. Accordingly, we attempted to shed some light on the factors that may affect employee vitality while also considering how employee vitality may affect sustainable behavior in the workplace.

In this study, we distributed and collected two surveys among full-time employees working in small-sized enterprises in Herat, the third-largest city of Afghanistan. Due to the unstable security situation in Afghanistan, the interval between the first (Time 1 assessment) and second survey (Time 2 assessment) was short (only two weeks). In total, 192 employees participated in these two studies. Our study contributes to current literature by providing empirical evidence for the harmful effects of perceived danger on employee vitality. This is important, because the world is getting incrementally less peaceful and, according to the latest report from the Institute for Economics and Peace (IEP) in 2018, among the 162 countries only 11 were not involved in a conflict of one kind or another. Additionally, several societies also face other extreme events such as civil war, terrorist attacks, gun violence or natural disasters such as floods, hurricanes, and earthquakes. In order to advance business and organizational research [23], scholars should pay more attention to dangerous environments and events such as war zones, terrorism, and gun violence, as well as their influence on businesses and the economy of the respective country. The results of these studies can be helpful for individuals, organizations, and society as a whole to better prepare for potential harmful events [24].

Our research contributes to a new stream of research which stresses the importance of employee vitality (being happy, healthy, energetic, and committed) for their engagement in environmentally friendly behavior at the workplace [25,26]. One of the first studies concerning this subject, using data from 2000 Dutch employees [25], found that vitalized employees are able to manage their own resources in a more sustainable way than less vitalized employees. Enriching this literature, our

empirical evidence from war zones confirmed that vitalized employees prefer to complete their job tasks in environmentally friendly ways as well. Interestingly, vitalized employees in threatening and stressful situations also pay attention to the environment when they possess a high level of environmental awareness.

Our results have several implications for companies in many industries. Many businesses around the world usually engage in numerous environmental management practices and initiatives in order to make themselves an environmentally responsible organization. In order to improve their environmental performance, these companies invest heavily in efforts to develop green R&D activities, green technology, green business models, and eco-friendly operations. According to our results, improving employee vitality at work and enhancing their environmental awareness can be a useful way for firms to lessen the negative impact of their businesses on the environment as well. Vitalized employees with sufficient environmental knowledge are more interested in consuming less power, reducing pollution and waste, and recycling and reusing materials at the workplace, which can eventually help a firm to become a green business.

2. Literature Review and Hypotheses Development

2.1. Employee Vitality

In this paper, feelings of vitality refer to a state of positive arousal and energy of an employee in connection with his/her coworkers at the workplace [27]. Vitality has been considered an important indicator of the psychological and physical well-being of an employee [15]. According to the literature, several internal and external factors are important for improving this factor in the workplace. Survey-based data from 147 employees showed that strong interpersonal relationships between co-workers are necessary for enhancing vitality at work [11]. The result of a recent study with 629 employees working in a Dutch dairy company showed that having a good work–life balance and a healthy lifestyle improve feelings of vitality in the workplace [12]. In this line of research [10] it was found that three Human Resource Management (HRM) practices are important for enhancing employee vitality: High levels of autonomy, the possibility of participating in the organizational decision-making process, and good quality teamwork. Intrinsically motivated employees generally feel more vitality in the workplace [21,28]. In turn, they exhibit more work engagement [29] and are more creative in their jobs [18]. In this regard, Jansen [30] has found that higher levels of vitality among employees facilitate the organizational change process. Additionally, vitalized employees show more mental resilience in their job which is an important factor for facing difficulties and challenges in the workplace.

2.2. Perceived Danger

Perceived danger refers to an employee's subjective view on threats and hazards in his/her daily life, e.g., being fired at or being near gunfire in the street; hearing bombs and gunfire in the distance; seeing people wounded, killed, or mistreated; experiencing arrest and torture; and being exposed to death and mutilation in general [31]. Exposure to such extreme and exceptionally abusive violence influences an individual's perception and behavior [32]. A dangerous war zone impacts business activities in several ways. For instance, it enhances the risk of new investments and decreases yield because of postponed long-term investments, reduces the return on investment, and has a negative impact on foreign financing [33]. By working in a company setting, employees often have to risk their lives. In the context of Afghanistan, due to the devastating and costly war between different political parties and the intense inflation rate, most families are living below the poverty line. Having a workplace outside of the employee's home is the most common route out of poverty [34] since employment enables a higher standard of living for their family [35].

It is common sense that terrorist attacks and constant war have a harmful impact on the economic development of countries [36] because they hinder business activities [37]. Furthermore, several types

of research in the fields of psychology and medical science have proven the harmful effects of a constant fear of terrorism and war on mental health [38,39]. Feelings of depression and anxiety are higher among individuals who have been more frequently exposed to bombings and terrorist attacks [40]. Furthermore, stress symptoms are higher among victims of terrorist attacks [41]. Such stressful external events may negatively affect employee satisfaction and their commitment to their organization in the long term [42]. In this line of research, Jasielska, Stolarski, and Bilewicz [43] believe that general discontent is higher in countries that are involved in civil war (e.g., Syria) or suffer from a high level of racial conflict (e.g., South Africa).

2.3. Environmental Awareness

The current generation has been faced with multiple big environmental challenges such as climate change, global warming, air, water, and land pollution, destruction of ecosystems, and the extinction of wildlife. Environmental awareness refers to the general consciousness of an individual towards natural systems and environmental issues [44]. Individuals with high environmental awareness are able to recognize the benefits and costs associated with environmental issues [45,46] and show a higher level of ecological behavior in the workplace [47]. Employee environmental awareness and knowledge are a prerequisite for the effective implementation of environmental policies [48–50], and environmentally friendly practices in the organization [51]. Improving employee accountability to the environment may reduce resource waste and air and water pollution [52], which eventually enhances corporate environmental performance [44].

2.4. Employee Sustainability Behavior

Pollution of water, land, and air resources has accelerated in recent years, which causes difficulties for individuals, organizations. and society as a whole [53]. At the same time, there has been a dramatic decrease in the availability of natural resources [54]. As a consequence, many policymakers have tried to establish strong policies to minimize industrial pollution, and to preserve natural resources [55]. One way to conserve the environment is by encouraging and developing a more sustainable lifestyle in the workplace and society [56]. Sustainability in general refers to different sets of actions that aim to preserve the environment, such as using and recycling natural resources in a more efficient way. Sustainable behaviors describe the tendency of a person to consciously minimize the harmful impact of their actions on the natural environment [57].

Several organizational factors contribute to the sustainable behavior of employees at the workplace. For instance, Jiang, Zhao, and Ni [58] have highlighted the critical role of leaders for sustainable employee behavior by using survey based data from 389 employees in China. In the same line of research, by using survey data from 411 US employees working in the education sector, Wesselink, Studynka, and Kemp [59] have stressed the importance of leadership support to encourage sustainable behavior among employees at work. Not only the support of leaders but also their sustainability-related actions are important for enhancing employee green behavior at the workplace. Therefore it is a prerequisite that the leaders act as role models for their employees [60]. Furthermore, organizational ethics of care [61] and commitment towards the environment [62,63] can also encourage employees to include more sustainability-oriented behaviors at the workplace. Organizational green policies and practices such as green human resource management are also major contributors to sustainable behavior at work [64].

2.5. Perceived Danger and Employee Vitality

In the first hypothesis, we expect that a high level of perceived danger by employees will hurt their vitality in the workplace (as shown in Figure 1). In a simple manner, vitality in life and work means that the employees approach their life and job with excitement, full of positive energy and enthusiasm. Several internal factors within organizations and external factors outside of organizations can potentially threaten or improve employee vitality. The external factors play a more important

role in shaping employee mental health and vitality, especially in physically dangerous business environments [65]. Individuals in a war-torn area are exposed to extreme threats and hazards every day, e.g., being near gunfire in the street; hearing bombs in the distance; experiencing suicide bombings or seeing people being killed. Working in such a physically dangerous context can affect employee feelings, perceptions, and behavior at the workplace, as well as their quality of life in general [66]. As a result, they may feel "dead" or drained instead of "alive". Additional evidence coming from psychology and health literature proves that being in such a physically dangerous situation can result in emotional and mental exhaustion [67].

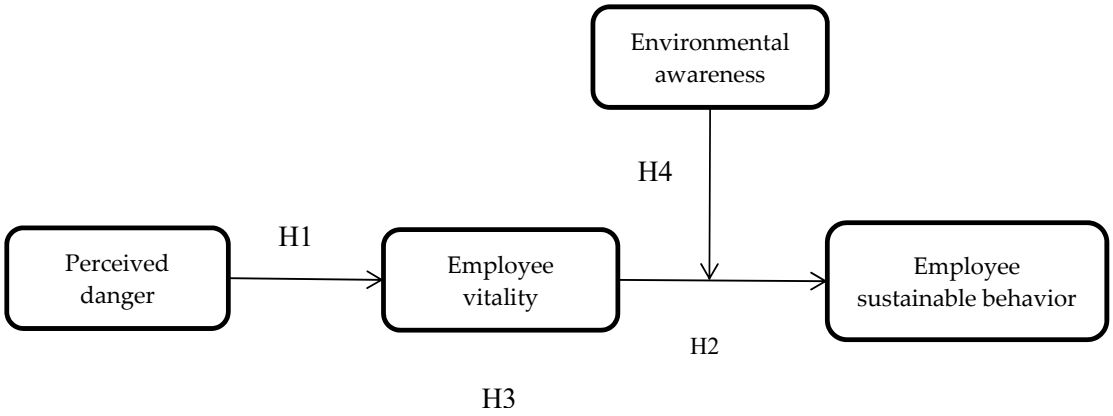

Figure 1. The framework of the study.

On the other hand, a positive and comfortable social climate in which employees feel safe is an important factor for enriching employee vitality [19]. However, constant war, widespread crime, and terrorist attacks make it unsafe to go to work which, in turn, is detrimental to the employee's happiness and positive energy at work over time. In such an environment, employees have to be constantly concerned about losing a loved one, being kidnapped, or shot in the street. It is expected that this perceived danger hurts the employees' positive feelings and sense of well-being over time, because they necessarily spend a substantial amount of their energy and concern on just basic survival. Therefore, we hypothesize that:

Hypothesis 1. *There is a negative association between perceived danger and employee vitality in the workplace.*

2.6. Employee Vitality and Sustainable Behavior

Pro-environmental or sustainable behavior of employees has received notable attention from scholars in recent years [57,68]. Despite the importance of environmental friendly behavior, not all employees exhibit such behaviors equally at work [69]. Some employees engage less in sustainability behaviors because they consider these type of behaviors to be fully voluntary rather than required tasks [70]. In this regard, several studies have been done to identify those employees who pay more attention to pro-environmental behavior at work than others. Accordingly, a number of individual-level factors have been identified as drivers of employee sustainable behavior, e.g., environmental knowledge [57] and awareness [71], personal norms and values [72], religious teachings and religiosity [73], gender [74], leadership [75], perceived organizational support and job satisfaction [76], and having a pro-environmental attitude [77]. The majority of these studies have used the theory of environmentally significant individual behavior [78] or the theory of planned behavior [79] to explain employee pro-environmental behavior at work. These theories explain how employee engagement in volunteer, discretionary, nonobligatory, and non-conformance behaviors at work results from individual differences in norms, values, attitudes, experiences or motivation.

Building on this literature, we hypothesize that vitalized employees behave in a more environmentally friendly way at work than less vitalized employees (as shown in Figure 1). Generally, a vitalized employee is full of positive energy and positive feelings which facilitates positive interactions with coworkers and makes for a more agreeable work environment [18]. An employee with high vitality radiates health, liveliness, and positive energy [15] and usually exhibits more healthy behaviors in the workplace [80]. Building on this line of reasoning, we expect that these types of employees pay higher attention to environmental issues. In this regard, Spreitzer, Porath, and Gibson [26] have found that the vitality of employees is an important factor for improving workplace health and wellness. Therefore, employees that contribute positive energy to the workplace are more likely to engage in positive, pro-environmental activities. This could include suggestions to improve a company's procedures or its performance concerning the avoidance of environmentally detrimental activities, as well as not contributing to environmentally irresponsible practices. Furthermore, vitalized employees have a higher level of job satisfaction [81] and highly satisfied employees engage more in eco-friendly behaviors at the workplace [76].

Hypothesis 2. *There is a positive association between employee vitality and sustainable behavior at work.*

According to the value–belief–norm theory of environmentalism [78], a given person is more likely to engage in environmentally responsible behavior when he/she finds out that factors in the environment threaten the health, life and well-being of other people. Several well-known environmental issues which threaten societal well-being, such as pollution in domestic or work contexts, deforestation, resource depletion, and climate change have attracted the attention of researchers in this context. The majority of these researchers have found small effects of perceived threat on exhibiting sustainability behavior; therefore, Homburg, and Stolberg [82] proposed that environmental threat is an indirect determinant of environmental friendly behavior. Extending this literature to war zones, we believe that frequent terrorist attacks and bombing threaten the mental and physical health of almost everyone in Afghanistan. This applies especially for employees (workers) working outside of their homes, as they are more exposed to such daily threats. Therefore, we expect that perceived danger (threat) hurts employee vitality and indirectly affects their pro-environmental behavior at work. By combining the above arguments, we further propose:

Hypothesis 3. *Employee vitality mediates the relationship between perceived danger and sustainable behavior at work.*

2.7. The Moderating Role of Employee Environmental Awareness

Employee environmental awareness has been considered as a critical factor for predicting the worker's eco-friendly behavior [83]. In the last hypothesis, we predict that vitalized employees with high levels of environmental awareness may show more sustainable behavior at work than vitalized employees with low levels of environmental awareness (as shown in Figure 1). In this regard, De Groot and Steg [84] believed that employee pro-social behavior (any action or behavior which benefits other people e.g., cooperating, sharing, and helping) are contingent to their level of awareness about the positive consequences of those behaviors. Vitalized employees are highly active and productive [17], creative [18], and enthusiastic about their work [19]. They work with passion and are constantly seeking to promote their workplace health [80]. A vitalized employee usually builds strong interpersonal relationships with his/her colleagues at work [11]. Such ties or connections with organization members facilitate knowledge sharing among employees [85]. They may pay some attention to surrounding environment issues if they have good knowledge about the short- and long-term consequences of these environmental challenges (climate change, global warming, air, water, and land pollution, destruction of ecosystems and the extinction of wildlife), especially when we know these types of people engage in more purposive actions [86].

Hypothesis 4. *Employee environmental awareness will moderate the relationship between employee vitality and sustainable behavior such that the relationship will be stronger for employees with high environmental awareness rather than low environmental awareness.*

3. Research Method

3.1. Sample and Data Collection

The data for testing the hypotheses of the study have been collected from privately owned, newly established and small-sized enterprises (less than 25 employees) in Herat, which lies in the western part of Afghanistan. Attacks and bombings by the Taliban and the Islamic State (IS) militant group are common in this city. For example, two major terrorist attacks in 2017 caused 62 casualties and left 131 people injured. In another IS attack, directed at a police station, 5 people were killed, and two others injured. Most recently, 15 Taliban insurgents and 2 security personnel were killed during an attack in Herat.

We collected a list of newly established firms (founded between 2007 and 2017) from the Herat Industrial Park. In the first phase, we randomly selected 120 companies out of 237 registered and active firms in the Herat Industrial Park. One researcher (local) met the CEOs or founders of these companies in person to explain the purpose of the study and get their agreement. Finally, 95 companies verbally agreed to participate in our study. These companies represent a broad group of newly established firms in terms of industrial affiliation. The majority of the firms belong to the manufacturing sector, such as the food and beverage, plastics (polymer material manufacturing), aluminum, packaging and labelling, agricultural, construction, and motorcycle assembly industries. To encourage the participants and obtaining their trust, we attached a supportive letter from a local university to each survey. A research group of locally trained research assistants helped us in the data collection process.

To enhance accuracy, the original survey was translated into the local language using the double-back-translation method [87]. First, one English Language Expert translated the original survey items into Herati Persian, another language expert independently translated the survey back into English. Then we compared these two versions to ensure survey consistency and accuracy. To verify the respondents' clear understanding of the survey items and to improve the validity of the questionnaire, we pre-tested the survey with 10 employees. These employees were not included in the final sample. To reduce social desirability bias, we provided brief information about the objectives of the study verbally, and ensured that all respondents knew about the anonymity and confidentiality of the study in the cover letter of each survey. Furthermore, we offered to provide a brief summary of the study findings to each participating company. After distributing the survey, we asked the participants to return it directly to the research team.

Participation in our study was fully voluntary and no financial incentives were given to the respondents. After receiving the list of employees from the human resource department of each company, we excluded those employees who didn't have enough writing and reading skills and employees with less than six months of organizational tenure. A total of 380 employees from 95 small-sized enterprises received our first survey (four employees from each company). The first survey included the items for measuring control, independent, moderation, and mediation variables (perceived danger, environmental awareness, vitality). Two weeks later, data for the dependent variable (sustainability behavior) were collected from participants in the first study. In the first survey, we received 217 responses, from which 208 surveys were complete and usable. In order to correctly match the first and second survey, we coded all employees who participated in the first study. The second survey was only distributed among the 208 employees who fully completed our first survey. One hundred and ninety-six (out of 208) employees completed the second survey. We dropped four responses from our final analysis, due to missing data on income levels. Our final sample was 192 employees, which was a response rate of 50.52%.

In order to know about nonresponse bias, we conducted T-tests to compare early (first 25% respondents of the first survey) with late respondents (last 25% of respondents of the first survey) in their age, education and organizational tenure. Our results indicated no significant differences between the early and late respondents [88]. The 192 respondents in both surveys had an average age of 38 years and 8 months (S.D. = 9.664). 70.8% of the respondents were male. In terms of organizational tenure, the participants had on average 4 years and 9 months (S.D. = 2.57) of work experience in their organization. In terms of education, 6.3% had six years of primary education, 10.4% had three years of middle school (or Maktabeh Motevaseteh), 33.9% had three years of secondary education (or Doreyeh Aali), 38% had four years of undergraduate studies and 11.5% had two years of postgraduate or master's degree studies. Finally, the surveyed employees belonged to different levels of the organizational hierarchy. This included supervisors (finance managers, HR managers, sales managers, production supervisors, or designing managers), administrators (secretaries and order takers), skilled workers (craftsmen, accountants, artisans, quality control analysts, electronic technicians, production workers, processing workers, sales, and marketing staff) and unskilled workers (maintenance). In terms of monthly income levels, about 34.9% of our participants from Afghanistan had a monthly income between 5000 and 9999 Afghani, about 32.1% of them earned from 10,000 to 14,999 Afghani, 15.6% of respondents had a monthly salary between 15,000 and 19,999 Afghani, and only 17.2% of them earned more than 20,000 Afghani (75 Afghanis is equal to 1 USD).

3.2. Measures

3.2.1. Perceived Danger

We adopted 10 items from Bullough and Renko [31] to measure the levels of perceived danger to employees in Afghanistan. The response options for these items ranged from "strongly disagree" (1) to "strongly agree" (5). A sample item for perceived danger is, "I feel that I am in great danger of being killed or wounded". One item in the construct of perceived danger was dropped due to low factor loading (0.29). The Cronbach's alpha value for perceived danger indicated good reliability (0.846).

3.2.2. Vitality

In this study, we used five items from Kark and Carmeli [19] to measure the employee vitality in the workplace. The five items were measured on a 5-point scale ranging from (1) "strongly disagree" to (5) "strongly agree". A sample item for vitality is, "I am full of positive energy when I am at work". A higher score equals higher levels of vitality at the workplace. The Cronbach's alpha value for the employees' vitality was 0.942.

3.2.3. Environmental Awareness

The measurement scale for employee environmental awareness was adopted from the recent work of Wesselink, Studynka and Kemp [59]. We asked the respondents to indicate their agreement/disagreement with the 11 statements. All the responses were captured on a 5-point scale ranging from 1 ("low awareness") to 5 ("high awareness"). A higher score reveals a higher level of employee environmental awareness. A sample item for environmental awareness is, "environmental problems are a risk for the future of my children". One item in the construct of environmental awareness was dropped due to low factor loading (0.25). The Cronbach's alpha value for the aggregated ten items of environmental awareness indicated excellent reliability (0.921).

3.2.4. Pro-Environmental or Sustainable Behavior

Sustainable behavior was measured with seven items adapted from Temminck, Mearns and Fruhen [62]. All the answers were captured on a 5-point scale ranging from (1) "not at all" to (5) "to a great extent". A sample item for pro-environmental behavior is, "I make suggestions to improve the

organization's environmental performance". The Cronbach's alpha value for sustainability behavior in the workplace was 0.939. Appendix A provides the wording items for the core variables of the study.

3.2.5. Control Variables

Following previous similar studies in this context, we considered five individual level variables as control variables in our analyses. Previous studies show the importance of organizational tenure for employee vitality [19] and sustainability behavior [62]. Therefore, we asked respondents to provide information about the total number of years they have worked for their current organization. Following Wesselink, Studynka, and Kemp [59], we asked the participants to indicate their exact age in years (using the question "how old are you?") and their gender (male vs. female). We included the participants' education as a control variable which may affect the participants' sustainability behavior in the workplace [59,89]. Following Afghanistan's education system, the participants' education was measured in five categories: (1) Six years of primary education, (2) three years of Middle school or Maktabeh Motevaseteh, (3) three years of secondary education or Doreyeh Aali, (4) four years of Undergraduate studies, (5) two years of Postgraduate or Master's Degree. Finally, we consider employee monthly salary as a control variable in our analyses. We asked the respondents to choose one of the four options for their monthly income: (1) Monthly income from 5000 to 9999 Afghani, (2) monthly income from 10,000 to 14,999 Afghani, (3) monthly income from 15,000 to 19,999 Afghani, (4) monthly income more than 20,000 Afghani (75 Afghanis is equal to 1 USD).

4. Data Analysis

We analyzed our data in different steps using the program SPSS. First, we calculated the mean and standard deviation for all variables of the study. Second, inter-correlations (Pearson) among the variables were calculated. Third, exploratory factor analysis by using principal component analysis with Varimax Rotation was conducted to assess the dimensionality of the measurement scale items. Fourth, hierarchical regression analyses were used for testing the first, second, and fourth hypotheses. Fifth, we checked the variance inflation factors (VIFs) in each regression analysis. Lastly, the PROCESS MACRO software*(for more information about the software please check https://processmacro.org/index.html) was used to test the third hypothesis of the study.

5. Results

Table 1 shows descriptive statistics (mean and standard deviation) and Pearson correlations among all variables of the study. As shown, the correlation among variables does not show any serious multicollinearity issues (all the correlation scores are well below 0.60). Furthermore, the variance inflation factor (VIF) ranged from 1.007 to 1.096 and stayed below the value of 3 [90]. An exploratory factor analysis (EFA) (specifically, the Principal Components Analysis with Varimax Rotation) with 33 items measuring four core study variables was conducted for an initial data reliability check. The findings revealed exactly four distinct factors with eigenvalues greater than one, which represent the core variables, including perceived danger, employee vitality, environmental awareness and sustainable behavior, respectively. The first factor of the model explained 22.59% of the total variance, and all three factors explained 65.862% of the total variance. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.818, while Bartlett's value was 0.000.

Following similar previous studies, we ran four sets of hierarchical regression analyses for testing the first and second hypotheses proposed in this research. These step-by-step analyses enabled us to find the unique effects of each variable on the dependent variable [91]. In the first and third step, we entered only the control variables and employee vitality and sustainable behavior as dependent variables, respectively (Table 2, Model 1 and Model 3). In these analyses, we found that among control variables, the employee's age ($\beta = -0.017$; $p < 0.05$) and organizational tenure ($\beta = -0.138$; $p < 0.001$) were negatively associated, and employee monthly income ($\beta = 0.271$; $p < 0.001$) was positively associated to the vitality of the employees in the workplace. Furthermore, as shown in Model 3, older

employees (β = 0.021; $p < 0.001$) and employees with higher levels of education (β = 0.197; $p < 0.01$) engage more in sustainable behavior at work.

Table 1. Pearson correlations, means and standard deviations.

	Mean	SD.	1	2	3	4	5	6	7	8
1. Age	38.80	9.664	1							
2. Gender	1.29	0.456	−0.070	1						
3. Education	3.38	1.026	0.055	0.142 *	1					
4. Tenure	4.90	2.570	0.017	−0.033	0.072	1				
5. Income	2.15	1.084	−0.035	0.048	−0.047	−0.027	1			
6. Danger	3.58	0.897	0.250 **	0.006	0.192 **	0.226 **	−0.347 **	1		
7. Vitality	3.29	1.309	−0.103	0.043	0.008	−0.284 **	0.238 **	−0.279 **	1	
8. Awareness	3.63	0.977	−0.013	0.005	−0.038	0.054	0.028	0.118	0.038	1
9. Sustainability	3.81	1.113	0.195 **	−0.010	0.190 **	0.014	−0.050	0.365 **	0.174 *	0.230 **

** Correlation is significant at the 0.01 level (2-tailed); * correlation is significant at the 0.05 level (2-tailed).

Table 2. Hierarchical regression analysis.

	M1	M2	M3	M4	M5
	Vitality	Vitality	Sustainable	Sustainable	Sustainable
Age	−0.017 *	−0.013	0.021 **	0.023 **	0.027 ***
Gender	0.016	0.026	−0.053	−0.059	−0.071
Education	0.057	0.086	0.197 **	0.187 *	0.214 **
Tenure	−0.138 ***	−0.123 ***	−0.001	0.027	0.020
Income	0.271 ***	0.211*	−0.035	−0.090	−0.079
Danger		−0.225*			
Vitality				0.198 **	−0.315
Awareness					−0.189
Vitality *Awareness					0.137 *
R^2	0.152	0.170	0.052	0.115	0.196
Adj. R^2	0.129	0.143	0.032	0.092	0.161
F	6.666 ***	6.32 ***	2.628 *	4.15 **	5.589 ***

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; † $p < 0.10$; n = 192 employees. Unstandardized regression coefficients are reported.

In the second step, the control variables and perceived danger were entered as independent variables and employee vitality was entered as the dependent variable. The results indicate that perceived danger negatively effects employee vitality at work (β = −0.225; $p < 0.01$) (see Table 2, Model 2). Thus, our first hypothesis can be supported. This means that a high degree of perceived danger will hurt employee vitality in the workplace.

The second hypothesis predicts that vitalized employees are more engaged in pro-environmental behavior. As shown in Table 2 Model 4, the association between vitality and sustainable behavior in the workplace (β = 0.198; $p < 0.01$) is significant and positive. This provides support for the second hypothesis.

The third hypothesis of this study predicts that employee vitality mediates the negative impact of perceived danger on employee sustainable behavior at work. For testing this hypothesis, the PROCESS MACRO software that was developed by Preacher, Rucker and Hayes [92,93] was utilized. PROCESS employs a bootstrapping method to generate confidence intervals of these conditional direct and indirect effects. The bootstrapping test provides empirical evidence of mediation effects if the bias-corrected 95% confidence interval (CI) does not include zero for indirect effects. More specifically, we specified the bootstrapping with a 5000 sub-sample and applied Model 4, which exactly matches our theoretical model. Table 3 provides the standardized path coefficients and presents the direct and indirect effects among variables of the study.

Table 3. The direct and indirect effects of perceived danger on employee sustainability behavior.

Direct Effect of Perceived Danger (X) on Sustainability (Y)					
Effect	SE	t	*p*	LLCI	ULCI
0.4778	0.0874	5.4646	0.0000	0.3053	0.6503
Indirect Effect of Perceived Danger (X) on Sustainability (Y)					
	Effect	Boot SE	Boot LLCI	Boot ULCI	
Vitality	−0.0608	0.0285	−0.1256	−0.0133	
Number of bootstrap samples for bias corrected bootstrap confidence intervals: 5000					
Level of confidence for all confidence intervals in output: 95.00					

In a simple manner, if the LLCI and ULCI excludes zero, this indicates statistically significant effects. As we can see from the conditional indirect effect model, the bootstrapping analyses showing 95% confidence intervals for the indirect effect (−0.0608) exclude zero [95% CI: −0.1256, −0.0133]. This means that employee vitality mediates the relationship between perceived danger and sustainability behavior. Thus, the third hypothesis can be supported.

In the last hypothesis, we predict that employee environmental awareness will moderate the relationship between employee vitality and sustainable behavior such that the relationship will be stronger for employees with high environmental awareness. As seen in Table 2 Model 5 and Figure 2, environmental awareness ($\beta = 0.137$; $p < 0.05$) moderates the relationship with employee vitality and sustainable behavior. Feeling vitalized in the workplace enhances the pro-environmental behavior of employees who have a richer understanding of the biophysical and natural environment. Thus, our last hypothesis is supported.

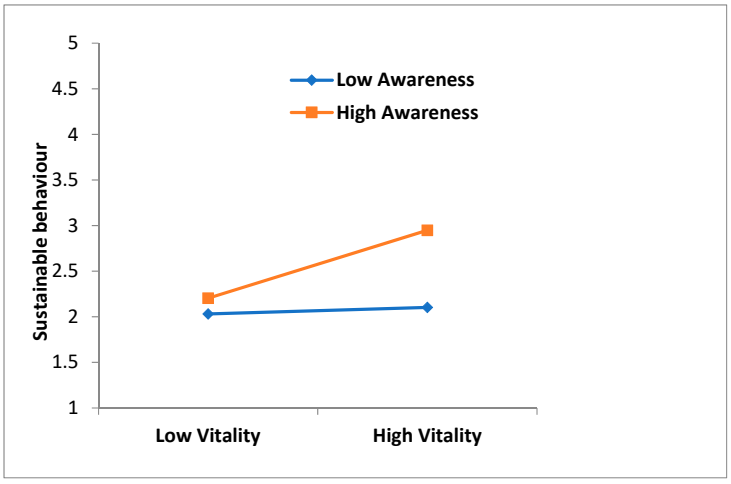

Figure 2. Effects of employee vitality on sustainable behavior with high and low environmental awareness.

6. Discussion

The longstanding war and conflict between different political and religious parties in Afghanistan and the resulting impact on the business context in the Afghan society have been left largely untouched by researchers [31]. Our paper has taken the first step towards considering how working in physically threatening business environments affects employee vitality. By using unique survey data from employees in Afghanistan, we found empirical evidence for the negative effects of perceived danger on employee vitality at work. Working outside home and being exposed to insecurity and danger have become a part of the employees' daily life [31] so they try to find a way to live with it. They know that a suicide bomb could explode, or terrorist attacks may happen any time. In such adverse environments, employees risk their lives in pursuit of employment that provides income for themselves and their

families. In line with previous research that considers insecurity to be the main obstacle to start [7,31] and grow a business [94], our results prove that exposing people to extreme daily threats and stresses hurt the enthusiasm, liveliness, and positive energy of employees at work. Accordingly, our paper contributes to the fast-growing body of literature on employee vitality [10,12,21,26] by highlighting the important role of the external environment in shaping feelings of vitality at the workplace. Employees can be highly proactive, full of positive energy, and highly engaged at work, or passive and drained [17]. We know that highly vitalized employees are more enthusiastic and show higher engagement in their tasks at work [95]. Our findings reveal that an adverse business environment is a key factor that hurts employee vitality and liveliness at work because they perceive the dangers that they are exposed to on a daily basis to be very high.

Our survey data from 192 employees in the war-torn country of Afghanistan reveals that vitalized employees express stronger environmental concerns and often behave accordingly at work. This means that employees who feel more positive energy and liveliness in the workplace are more likely to engage in positive, pro-environmental activities such as providing environmental suggestions to improve work procedures or the respective organization's environmental performance; they prefer to avoid environmentally detrimental activities or try their best to not contribute to environmentally irresponsible practices. Sustainable behavior on the part of the employee is essential for implementing different environmental programs and thus improving the overall sustainable performance of an organization [96]. Enriching this line of research, our study identified vitality as an important factor to keep a work environment healthy, eco-friendly, and clean. Furthermore, our results confirmed that vitality is an underlying mechanism for explaining the relationship between perceived danger and employee sustainable behavior.

In addition, we found that not all vitalized employees pay the same level of attention to environmental issues in the workplace. Our results confirmed that vitalized employees with a high level of environmental awareness show more pro-environmental behavior than vitalized employees with a low level of environmental awareness. Besides being vitalized, having some environmental knowledge is necessary for engaging in sustainability-oriented behavior at work. An individual with high level of environmental awareness is conscious of the natural environment and is usually trying to make choices at the workplace that benefit the environment, rather than hurt it. These results from Afghan employees shed further light on the importance of the environmental awareness of individuals on shaping pro-environmental behavior at work. Accordingly, our research contributes to the current literature [47,97] by identifying those employees who consciously seek to minimize the negative impact of their actions on nature and to make the world cleaner.

Although not in our main hypothesis, we found that perceived danger enhances the engagement of employees in pro-environmental behavior (Table 3). According to the cognitive stress theory [82,98], environmental stressors play an important role in shaping individual pro-environmental behavior. Environmental stressors especially encourage pro-environmental behavior when such stressors affect society as a whole and are collective rather than individual. In our case, Afghanistan has experienced nearly four decades of civil war, political conflict and acrimony, and as a result, deadly terrorist attacks and suicide bombings of the Taliban and Islamic State (IS) occur frequently throughout the country. Every Afghan employee knows at least someone who was kidnapped for ransom [6]. Working for a company in such a war-stricken zone exposes employees to extreme externally imposed stress, threats, hazards and shocks, such as being aimed at with a gun, being near gunfire in the street, hearing bombs and gunfire in the distance, seeing people killed, experiencing arrest and torture, and a general exposure to death and mutilation [7]. In line with the cognitive stress theory, our results confirm that physically dangerous business environments threaten employee health and well-being, which in turn enhances their engagement in more friendly behaviors at work.

Lastly, we found a positive association between employee education and pro-environmental behavior at work, even though this was not a part of the main hypotheses of the study. Our findings are in line with Afsar, Badir and Kiani [97] which showed that more pro-environmental behavior can be

expected from well-educated individuals. Similarly, Meyer [99] and Lu, Liu, Chen, Long and Yue [100] found a strong positive relationship between employee education and pro-environmental behavior. On the other hand, this result contrasted with the findings of Kollmuss and Agyeman [57] and Jahanshahi, Brem, and Bhattacharjee [101] who believed that higher education does not always equal enhanced sustainable behavior. These contradicting results from the literature provide an interesting avenue for future research to consider.

7. Implications of the Study

Our understanding of the business environment in Afghanistan is limited, which is mostly due to several years of war (with the Soviet Union from 1979 to 1989, and, more recently, the civil war against the Taliban regime). Despite having achieved steady economic growth and social development in recent years, the country is still considered to be one of the least developed countries in the world [102]. Therefore, it is necessary to understand which factors are essential for enhancing business performance in this environment. Our study results provide two major benefits for managers and policymakers in Afghanistan. First, we found empirical evidence for the harmful impact of perceived danger on employee vitality. Since the vitality of the employees contributes positively to their productivity and job performance, the managers and owners of these companies could provide some supportive programs to reduce the level of perceived danger, which would benefit vitality.

Secondly, our findings have some implications for policymakers in Afghanistan as well. In terms of environmental health and ecosystem vitality, the country currently ranks 176 of 180 countries in the Environmental Performance Index (EPI) [103]. The environment of Afghanistan has suffered from high levels of pollution of natural resources (air and water), soil degradation, and overgrazing. By setting up the National Environmental Agency (NEPA), the policymakers took the first step to regulate, coordinate, protect, and enforce environmental laws in the business context of the country. Our study identified one of the antecedents of employee pro-environmental behavior at the workplace. Employees play a very important role in the reduction of harmful environmental impact and making the business they work for greener by engaging in voluntary environmental action at work. As a second step, for improving the environmental performance of businesses, policymakers should concentrate more on individual level antecedent factors such as employee vitality, well-being, and happiness. Most importantly, they have to generate several programs at the country level in order to improve the environmental awareness of the community. Investing more in environmental education in Afghanistan can be helpful in creating citizens who are environmentally aware.

8. Limitations

Our study suffers from some limitations which provide opportunities for future research. In terms of context, we have collected data from only one geographic location (Herat as the third-largest city of Afghanistan). This may affect the studied relationships or the applicability of our results to other regions of Afghanistan. Future studies may consider other geographic locations to provide a better picture of antecedents and consequences of employee vitality in a war zone. By using a two-week interval between the first and second survey, the data for the current study is cross-sectional rather than longitudinal. Therefore, the causality between the variables of the study cannot be fully established. Using a longer interval between first and second surveys (a longitudinal design) or an in-depth case study of groups of employees would further our knowledge with regard to the causality of relationships. As a result of time and budget limitations, this research is exclusively focused on employees in private businesses. Future studies may test our model with data from employees in public sectors. However, by considering only one individual-level factor (environmental awareness) and one environmental factor (perceived danger), our research provides a starting point for future studies in the context of Afghanistan that could link other constructs such as employee productivity and performance, overall company performance and economic development in the region (positive and/or negative spillovers) and further explore the underlying processes that decrease or increase

employee vitality and sustainable behavior in the workplace. We used a single informant for measuring independent, mediator, moderator, and dependent variables which may cause a common method bias. We conducted Harman's one-factor test on all items, to rule out a common method bias [104]. The results revealed no serious concern regarding the common method variance. However, asking the immediate supervisor of each employee to report the engagement of the employee's pro-environmental behavior (dependent variable) may help future studies to avoid (or diminish) the threat of common source bias. Lastly, to get a more comprehensive picture, future research may compare our results with data from other war-torn countries.

9. Conclusions

Terrorist attacks, suicide bombings, and internal war and conflicts impair economic activities within the target country [33,36]. Such constant internal war and terrorism increase the cost of doing business in the country, and limit investments or the desire to invest (foreign investments) which, in turn, can hurt economic profitability, productivity, and growth. Therefore, having a safe, healthy and vital business environment is pivotal for building a productive local economy and vibrant communities. A vitalized employee is full of positive energy at the workplace which can not only support company performance but can also significantly contribute to economic and community development initiatives. Concentrating on the individual level, the initial idea of the paper was to know how working in a physically dangerous context such as Afghanistan may affect worker vitality at the workplace. In line with our exceptions, the results revealed a negative impact of perceived danger on employee liveliness or vitality. Our results can help Afghan policymakers to know the consequences of war and conflict at the micro-level (individuals). Our survey results from 192 employees showed that working in potentially life-threatening environments can hurt the vitality of employees in the workplace. Employees spend too much time, effort, and energy in such hostile environment in order to just survive. Struggling for survival reduces the vitality of employees at work; therefore, we should expect a lower level of business performance in the long term.

Furthermore, having vitalized employees in the workplace is important, as we found that vitalized employees are more concerned about environmental issues. Previous studies confirmed that vitality at work has great potential to enhance a variety of crucial outcomes for individuals at work e.g., career satisfaction and life satisfaction [105–107], motivation [21,28] and job performance [11]. The organizations receive several benefits from vitalized employees, such as creativity [18], more work engagement [29], and facilitating organizational change processes [30]. Based on this literature, our results confirmed that society also benefits from vitalized employees because they engage in more environmentally friendly behavior such as recycling, waste management, reduction in energy consumption in their workplace. They are more interested in minimizing the negative impact of their actions on the surrounding environment, particularly when they have a good level of environmental awareness. Therefore, in order to maximize employee sustainable behavior and fully realize environmentally-oriented goals, companies should raise the employee's environmental awareness as well.

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Appendix A

Table A1. Employees Vitality [19].

	Factor Loading
1. I am most vital when I am at work	0.886
2. I am full of positive energy when I am at work	0.821
3. My organization makes me feel good	0.888
4. When I am at work, I feel a sense of physical strength	0.905
5. When I am at work, I feel mentally strong	0.782

Table A2. Environmental awareness [59].

	Factor Loading
1. Environmental pollution affects my health	0.789
2. Environmental problems have consequences for my life	0.626
3. I worry about environmental problems	0.733
4. I can see with my own eyes that the environment is deteriorating	0.764
5. Environmental problems are a risk for the future of my children	0.697
6. Environmental problems are exaggerated (reverse coded)	0.757
7. Too much attention is paid to environmental problems (reverse coded)	0.618
8. The attention given to the greenhouse effect is exaggerated (reverse coded)	0.712
9. Saving threatened species is unnecessary luxury (reverse coded)*	
10. A better environment starts with me.	0.797
11. People who do not take the environment into account try to escape their responsibility	0.523

* This item was dropped because of insignificant factor loading.

Table A3. Perceived danger [7].

	Factor Loading
1. Sometimes, I feel I will never survive.	0.677
2. I feel safe. (reverse coded)	0.816
3. I feel that I am in great danger of being killed or wounded.	0.861
4. I am afraid of walking and traveling around outside of my home.	0.792
5. I am afraid of encountering a bomb, landmine, or explosion.	0.818
6. I feel secure that my country will not be at war at home and my society will be safe. (reverse coded)	0.580
7. I feel that I could become sick and not have access to medical care.	0.625
8. I think that exposure to war chemicals and pollution could negatively affect my health. *	
9. I worry about getting an infectious disease.	0.535
10. I am afraid of myself or a family member being kidnapped.	0.401

* This item was dropped because of insignificant factor loading.

Table A4. Employees sustainable behavior [62].

	Factor Loading
1. I make environmental suggestions to improve work procedures.	0.754
2. I make suggestions to improve the organization's environmental performance.	0.788
3. I try to draw management's attention to potentially environmentally unfriendly activities.	0.853
4. I try to make innovative environmental suggestions to improve the organization.	0.808
5. I inform management of potentially environmentally irresponsible policies and practices.	0.791
6. I am willing to speak up when policy or rules do not contribute to the achievement of the organization's environmental goals.	0.791
7. I suggest revisions to work practices to achieve the organization's environmental objectives.	0.845

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