

Article

Spirals of Sustainable Academic Motivation, Creativity, and Trust of Higher Education Staff

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Abstract: Sustainability has to penetrate more and more into higher education. It should not focus only on traditional elements. It should also enter new, but for future improvement, extremely important areas. Based on this premise, creativity and motivation, when additionally interconnected and supported by trust that is provided and achieved, decide on the progress and sustainability of universities. This connection is gaining importance especially from the point of view of building solid foundations and mechanisms that functionally preserve the potential effects of these elements in the future. For this reason and following the nature, importance, and content of sustainable academic motivation (SAM), the paper introduces two new concepts: sustainable academic creativity (SAC) and sustainable academic trust (SAT). For further original contributions, the paper hypothesizes the existence of mutual—spiral—relations of sustainable academic motivation (SAM), sustainable academic creativity (SAC), and sustainable academic trust (SAT). The empirical section tests the validity of this claim in the universities of two countries: the Slovak Republic and Poland. A survey performed on a sample of $n = 181$ pedagogical, scientific, management, and administrative staff in higher education confirms the existence of these spirals. The results indicate the spiral effect of motivation when connected with creativity and trust and show that it is accentuated by the crucial principles of sustainability (responsibility, novelty, usefulness, progress, etc.). Therefore, the paper's conclusion contains the explanations for the potential occurrence of three types of sustainably mutual systems and complexes. These are: (a) individual sustainable systems of SAM, SAC, and SAT; (b) group/sectional sustainable systems of SAM, SAC, and SAT; and (c) the global sustainable complex of SAM, SAC, and SAT in the university.

Keywords: academic sustainability; motivation; creativity; trust; spirals



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1. Introduction

The world scientific community faces an insistent necessity which has to be resolved responsibly and mastered successfully: “on a global scale, our societies are on an unsustainable trajectory that must be radically altered” [1] (p. 3). From this perspective, the achieved scientific outputs and the qualitative level of creative and educational processes carried out at universities predetermine the progress of each state. Universities represent organized complexes of dynamic endeavors, ambitious scientific projects, exceptional professionals of various specialties, and long-term processes, etc., generating and connecting theory with practice and societal benefits. Universities, from the perspective of wellbeing and the security of future generations, i.e., from the perspective of pro-scientific and pro-societal

sustainability, are “expected to build bridges between the academic and research communities on the one hand and society on the other” [2] (p. 1). The quality of higher education performance is critical to society [3].

Despite the irreplaceable contribution of universities, government support for higher education often does not cover all the current issues and threats. Such feigned pseudo-support for higher education leads to the growing complex dissatisfaction of academic staff and superior bodies, as well as students, and affects the quality and innovative value of academic outcomes [4–9]. “Many people confuse what universities are with what they would like universities to be” [10] (p. 460). Universities should become excellent workplaces and work continuously for their self-advancement and self-actualization. They should be bastions of intellect and scientific courage and should uncompromisingly contribute to the revelation of objective truth. They should also be an example of humility, honesty, and help. They should move humanity to meta-metemes and help encourage a steadfast humanity.

Meeting the expectations of multi and future generations is extremely challenging. Processes, measures, activities, rules, standards, and principles have to be defined for the achievement of results as well as for adaptable enhancement regarding the subsequent-in-time demands, risks, treats, and limits. Because of the fact that “knowledge employees, their attraction, retention and continued motivation to contribute are the key element to foster organizational success” [11] (p. 7), it is necessary to encourage the motivation and creativity of pedagogical, scientific-research, administrative and senior staff of universities of various professional profiles. In this way, the motivation and creativity of students and, indirectly, of the entire population could also be significantly shaped and cultivated. For these reasons, the paper establishes the following three research premises:

(1) The first logical premise is to establish a hypothetical construct that *equally combines three important elements*, namely academic motivation, academic creativity, and academic trust. Although academic motivation, creativity, and trust are already partially researched in the literature, together and in relation to each other, they have been rarely researched. From this perspective, the first of the studied phenomena, i.e., motivation, represents the desire, willingness, readiness, enthusiasm, energy, reason, perseverance, and at the same time a kind of inner tension to fulfill desirable goals with one’s behavior. “The key to improve the individuals’ engagement relies on maintaining their intrinsic motivation” [12] (p. 1). Motivation is the result of intrapsychic self-energizing processes taking place in an individual’s personality. However, it is also both an outgrowth and a resultative consequence of motivational efforts and processes in higher education generally, but especially in the conditions of the university and faculty. These extrinsic motivational processes and events condition, start, revive, or, conversely, inhibit and retard academic intrinsic motivation and self-motivation.

The second phenomenon—*creativity*—is often considered to be one of the most defining human capacities [13]. Sokół [14] generalized that it does not matter how much knowledge an individual has; what is important is how creatively s/he can transform and use it (p. 19). Thus, creativity can be defined as an “imaginative activity fashioned so as to produce outcomes that are both original and of value” [15] (p. 286). As the places which have the ability to generate unique yet useful solutions for humanity, it is the universities where creativity (based on motivation) should be the most focused area of interest.

The third phenomenon, *trust*, is one of the key determinants of the effective processes of motivating and developing the creativity of academic staff and students. Trust significantly affects overall academic performance [16–18]. Trust is an essential pillar of perceived civil security and a sense of security in the country. “It can be seen as a supra-individual phenomenon, like the opinion or attitude of some abstract public regarding individual, organization, institution, institutional system” [5] (p. 149).

(2) The above-mentioned construct, defined within the first research premise, can be accentuated by another unique perspective: the perspective of *sustainability*. The concept of sustainability is becoming an integral part of modern government and universities [10]. Developing motivations within a sustainable system will require instilling a long-term

world-view perspective in all international leaders and industrialists, business owners, academic teachers, and students [19]. Specifically, the university managers are expected to motivate teachers to be more creative and innovative through academic supervision that is carried out professionally and sustainably [20]. This means that all of the university lecturers, scientists, clerks, and managers have to obtain the knowledge, skills and attitudes required for proper behavior that aims to seek a sustainable future for the next generation [21].

The above-mentioned opinions link two of the three researched phenomena with sustainability in a specific way. Specifically, the managers are viewed here as the motivating subjects (their active role is accented) in their effort to strengthen the creativeness of university staff (the goal or direction of the expected behavior is formulated) through professional and sustainable behavior (the form of the managers' needed behavior is defined). Moreover, this paper focuses not only on sustainability viewed as a kind of supported or instructed action of the academic managers; it focuses on sustainability intended as the clear and challenging goal of all individual and team behaviors at the university. Moreover, trust has to operate as the 'glue' between everyone and everything. This glue can enhance a sense of understanding, belonging, and openness which will contribute to the country's common growth and the prevention of various security crises.

The second logical premise of the study defined in this way presupposes that creativity and motivation, interconnected and supported by the achieved and provided trust, determine the progress and sustainability of universities. It is worth mentioning that academic motivation, creativity, and trust perceived through the prism of sustainability are not treated as such in the professional literature. Therefore, the paper introduces and explains new concepts: sustainable academic creativity and sustainable academic trust.

(3) The basis of the third logical premise is the existence of a *potential spiral effect of motivation and related event phenomena*. The spiral effect can be perceived as the dynamically accelerated and increasing impact over time of motivation on selected processes or states, and at the same time, the dynamic and increasing influence over time of these processes on motivation. This paper's authors confirmed the existence of spiral effects among the crucial processes of human potential management in relation to the process of motivating in productive and non-productive organizations [22,23]. Abstracting from the various specifics of the academic environment in comparison with other organizations, the logical basis of the spiral process can theoretically be assumed to exist in the university environment as well. In this respect, the third premise of the article is of particular importance. The planned efforts to validate it have considerable potential for enriching the current science on higher education.

In relation to the above intentions, the *aim of the paper* is to confirm the existence of the hypothesized construct on potential mutual spirals in higher education and to enrich the current science with new insights, concepts, and inspirations. It examines varied variations of the relationships between motivation, creativity, trust, and sustainability in higher education, i.e., academic motivation for creativity; creativity in motivation; trust in transmitting one's own creative results; motivation to strengthen trust; the perception of sustainability through motivation; academic sustainable creativity; academic sustainable trust; and the mutual relationship of motivation, creativity, and trust, etc. Such research efforts therefore provide not only a particularly suitable research space, but also a desirable societal ambition and legitimacy. In addition, motivational, creative, and trust-building processes and measures can multiply [24] academic results and enhance the impact on the motivated, creative and trustworthy work behavior of higher education staff in the future. To achieve these goals, several methods will be used in the paper, e.g., analysis, synthesis, comparison, deduction, induction, generalization, modelling, testing of hypotheses, and statistical methods (chi-square, z-score), etc. The paper's conclusion will contain a basic summary of the whole text and the explanations for the potential emergence of three types of sustainable systems and complexes.

2. Sustainability in Higher Education

Sustainability *in or of* higher education has attracted the scientific attention of a permanently increasing number of individual researchers or research teams [25–30]. In this regard, the sustainable university is like a “scientific–societal perpetual mobile” that permanently aims to achieve progressive excellence in developing, disclosing, and disseminating new, innovative, creative, and simultaneously true and useful knowledge and inspirations which are full of potential to break down barriers and move humans toward a responsible future. The sustainable university represents “an educational institution that trains properly all the willing and interested persons for sustainable development, provides new insights into urgent social challenges and decreases the environmental and social footprints of its campus operations” [21] (p. 3).

The concept of the sustainable university relates to various topics, e.g., interactive learning environs [26]; academic production, research teams and marketing [31]; a multi-institutional approach [32]; an integrative approach to internationalization [33]; intensive academic supervision activities [20]; the objective evaluation of research competence [34]; and the embrace of both sustainability and wellbeing [1] etc.

On the other hand, the basis of sustainability cannot consist only in demanding and defined performance parameters. These parameters have to be accompanied, and maybe replaced, by positively anchored intrapersonal reflections on the process-advanced measures implemented at the university. In this view, true sustainability should be strengthened through “happy healthy researchers and reasonable realistic academic processes” [35] (p. 1), incorporated principles of social sustainability [36], and it has to be advanced through “celebration, elation, and enjoyment in appreciating everything that is sustainable and enduring (and trying to change) most everything that isn’t (yet)” [37] (p. 1). In addition, the cooperation with stakeholders is also an important factor in the field of university management as part of long-term sustainability issues [38].

The above-mentioned attributes underline that in relation to this paper, it is important to examine the crucial intra and inter-personal elements of the modern university, i.e., motivation, creativity, and trust, and define them from the viewpoint of sustainability. It is important to both draw attention to the very content of these phenomena and to also examine them from the perspective of their potential spiral relationships (Figure 1).

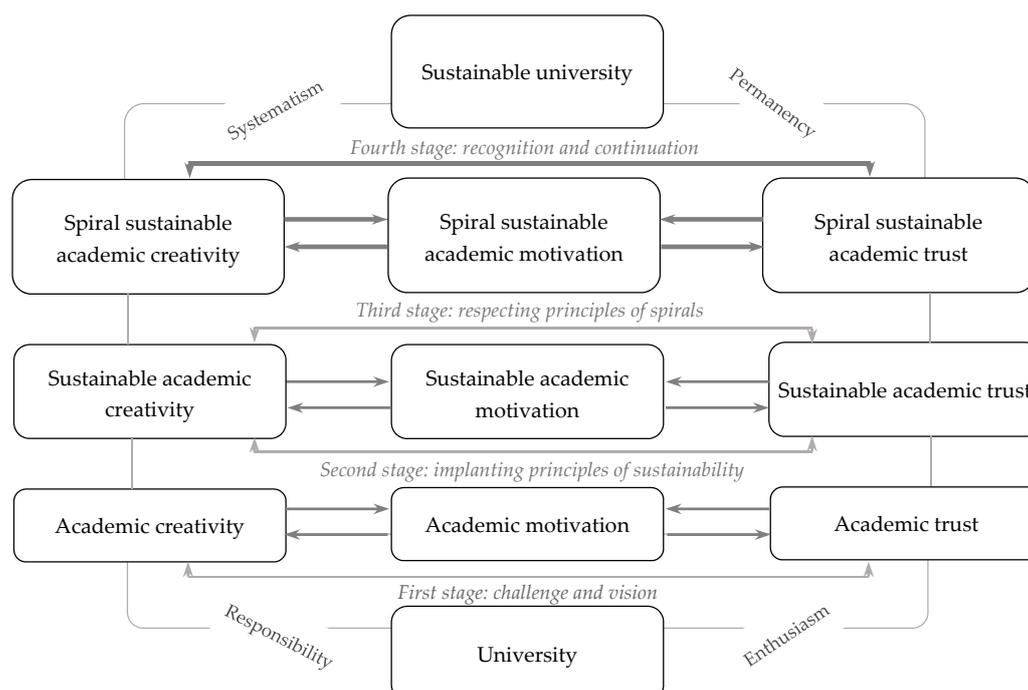


Figure 1. Construct of the paper: academic motivation, creativity, trust, sustainability, and spirals.

Figure 1 introduces a thought model that illustrates the decomposition of the elements of the sustainable higher education institution related to sustainable academic motivation (SAM), sustainable academic creativity (SAC), and sustainable academic trust (SAT). At the same time, it is a model with significant interpersonal–behavioral attributes. The modeled construct illustrates the temporal dynamics associated with a deliberate focus on strengthening management support. It demonstrates the need to respect and permanently evoke the mutual ties of all elements.

2.1. Motivation, Academic Motivation and Sustainable Academic Motivation

Motivation is a vital force, giving every human being a reason to exist, work, help, share, cultivate, inspire, and so on. It is a system of many acceptable, mutually combined and contradictory intra-psychical causes, conditions, and consequences. These concern current and future behaviors. They are conditioned by experience gained, self-reflection, feedback from others, tensions, movements, and betterments, etc. “Motivation might be understood as an inner state, as a profile of motives, as an instigative force, as a strength of/for behavior, as a complex of behavioral reasons, as a reaction to various situations, as a systems of attitudes, etc.” [22].

Although the current literature is largely concerned with student motivation, the motivation of the university lecturer has been examined less. However, after consulting many works, the motivation of academic staff is incorporated in the studies of Bett [39] and Munyengabe et al. [40]. These studies studied motivation from the viewpoint of Herzberg’s two-factor theory. Nhung and Do [41] focused their research on the applicability of Vroom’s expectancy theory, while Johnson’s [42] scientific effort was based on the equity theory. Daumiller, Stupnisky and Janke [3] approached motivation research from various perspectives searching for a generalization of motivational theories. Ryan and Deci [43] developed their self-determination theory by placing the emphasis on people’s inherent motivational propensities for learning and growing, and how they can be supported. Based on [44], motivation can be understood as a multidimensional construct, with distinctions between different types of motivation such as demotivation, external regulation, injected regulation, identified regulation, and intrinsic regulation [45].

Academic intrinsic motivation is the enjoyment of performing activities for their own sake in which pleasure is inherent in the activity itself [46]. Although “it is often difficult to find time for interdisciplinary cooperation with an increasing workload, this makes it a challenge for the lecturers to be motivated” [47] (p. 10). This is because the motivation includes a lot of various elements, energizers, and movers. Motivational competence contains “knowledge of motivational theories and approaches, awareness of basic human motives as well incentives to achieve the goal, the ability to attract oneself and others to work, unite the team, etc.” [48] (p. 55).

Because the academic activities, and especially, the progress of research, are important criteria in the quality evaluation of the university, “the key questions are what prompts faculty members to do research and how to motivate them” [41] (p. 490). In the framework of meta-motivation, people evaluate what types of motivation are mostly supportive in allowing them to achieve their goal: “any given motivational state involves performance trade-offs, such that it may be relatively beneficial for some tasks, but detrimental for others” [49] (p. 1).

However, “the amount of research on faculty motivation conducted to date is less than the amount of research in many other higher education and professional populations” [3] (p. 2), while the motivation shown by each lecturer is not identical [50]. To advance existing motivation in higher education, the concept of *sustainability* can be implanted into the theory of academic motivation.

Sustainability is a necessary thought–action approach that progresses all the organizational processes and retains the dynamics, acceleration, and value-creating balance between the present and the future. When disclosing the prior perspectives of sustainability, attention is mostly placed on three dimensions: environmental or green aspects [51,52];

economic progress and profit [53]; and social and cultural conditions [54]. However, the scientific efforts of many authors has led to the linking of the principles of sustainability with other disciplines or concepts. For example, Ehnert [55] has developed a sustainable human resource management concept, Filho [56] has linked sustainable development with research, Akins et al. implanted sustainability in higher education [57]; and Astarina, Hapsila and Fitrio [50] have examined the *sustainable academic motivation* from the perspective of discipline.

From this view, universities in Europe and around the world are crucial to global sustainable development [58] while the responsible principles of sustainability [59] have to be incorporated and kept in all the processes related to the universities' advancement. However, the most important aim is to build sustainable academic motivation, i.e., to keep the motivation sustainably high, and to embolden or enervate motivation and morale [60]. So, sustainable academic motivation can be defined as a conscious, firm, persistent, responsible, and action-capable force, as well as a mixture of other reasons, and requires the commitment of key participants in university activities. It is a proactive interconnection and even represents the penetration of sustainability and academic motivation into one unique behavioral system [61].

2.2. Creativity, Academic Creativity, and Sustainable Academic Creativity

Creativity and innovation are crucial factors that can move societies towards more sustainable paths [62]. The installation of creative industries, creative businesses, and entrepreneurship programs at universities worldwide has taken on a growing momentum [63]. Creativity has to be respected as "an inexhaustible resource for present education institutions" [64] and has become a major focus of research in the organization sciences [65].

Creativity is the generation of new ideas, talents, skills, underlying new achievements, technologies and so on [63] (p. 12). Following the views expressed in the introduction, creative action or thinking is considered that which meets the criteria of originality, accuracy, applicability, and value-benefit [66] (p. 34). "When guided by pro-societal motivation to take others' perspectives, employees will channel their intrinsic motivation toward producing ideas that are not only novel, but also useful, thereby achieving higher creativity" [67] (p. 74). This means that societal usefulness can be considered as not only important but also as a conditioning and reciprocal criterion.

Creativity should be considered as a malleable and potentially contested notion in science education, framed as it is within divergent and contrasting views of science and technology [68]. With this regard, creativity is the new core competence: "it is about creativity, imagination, insight and above all, innovation—the knowledge is commoditized" [69] (p. 433).

Academic creativity can be viewed as the future of sustainable education for sustainability and as a sustainability [70]. In order to produce sustainable outputs, there are important actions that are required, starting with an adequate curriculum design, teaching methodologies, teacher training and equity-enhancing programs [21]. Of course, constructing an innovative environment may be crucial to enhance both the creativity of the students [71] and the creativity of the academic staff. Although the lecture continues to be valuable in contemporary higher education, more innovative approaches to lecturing [72] have to be permanently implanted. It should be noted that creativity is an essential part of sustainable learning [62]. Of course, the number of academic papers and citations is less important than the creative involvement of teachers and students in solving industry problems [64]. This confirms that the creative conditions offered to the lecturers and researchers need to be offered subsequently to the students and citizens. In such a view, creativity creates additional creativity.

In line with the stated aims, the paper introduces the concept of sustainable academic creativity:

Sustainable academic creativity represents the enormous advantages as well the strong commitment of the 21st century universities and all the academic staff. It is the unique mental and intellectual disposition of an individual that enables him or her to repeatedly

disclose new scientific principles, procedures, methods, solutions, proofs, relevant and inspirational knowledge, or competence which will be useful and will contribute to the improvement of mankind in the near and distant future, respectively. The attributes of truth, applicability, and responsibility are crucial for academic creativity. Because of this, in order to keep and utilize academic creativity, and especially for fixing its roots that will provide new ideas and instigations in the future, it has to be intentionally connected with and completed via the principles of sustainability.

This means that sustainable academic creativity is a creativity that does not “exhaust itself”. The individual has to therefore use their own creativity effectively at a given time—at the time of the birth and the completion of a thought, respectively. However, s/he has to carefully consider and respect the need to achieve creative outputs in the future. Indeed, like any other “mentally demanding activity”, creative thinking and effort draw from the energy of the individual. The individual, as in the case of motivation, must constantly replenish this creative energy. Individuals, as thinking and re-evaluating beings, must carefully consider, calculate, and recalculate all the effects versus the personal contribution to the creative processes that take place in an individual’s intra-psychic personality system.

In relation to the homeostasis theory [73,74], the cost or price for each creative effort and each original or pioneering idea is a palpable loss of energy, leading to the total fatigue of the “thinking, creative” part of the personality. The benefits of creative work are joy, pride [75], a feeling of relief, fulfillment of one’s own creative ambitions and the like. In essence, with the success of a creative result, one finds oneself in euphoric stress. On the contrary, in a situation in which one’s own idea fails, the individual “falls” into distress. Similar to many others, Schwartz and Canetti found a connection between emotional distress and creativity [76].

Almost every scientist or academic experiences this permanently. S/he experiences joy in the birth of a new idea, feels long-term above-average enthusiasm, and experiences the fear of failure. As Sims has pointed out, the fear of failure is the strongest enemy of creativity [77]. It is important to warn that the mentioned ‘cyclicity’ exhausts the individual’s sustainable creativity in relation to developing and perfecting novelties.

That is, it is extremely difficult to start at university and move from sudden creativity to achieve sustainable academic creativity. Appropriate managerial and especially, motivational measures that seek to support individual and group creativity through organizational processes and conditions, can establish and energize this effort. Only in this way will individuals be willing to experience the aforementioned euphoric–anxiety spiral repeatedly and incorporate creative processes into their personality performance repertoire.

Moreover, developments in creativity in the field of security are also needed, i.e., creativity in preventing and effectively solving/managing all the security conflicts, collisions, and even catastrophes that arise. This fulfills the elements of continuing betterment and sustainability and generates potential multiplications.

2.3. Trust, Academic Trust and Sustainable Academic Trust

Trust is the general belief of the individual in the integrity and cooperative intentions of others [78]. It is a complex notion that spans the capability of the trustee and the willingness of the trustor to be vulnerable [79].

As with the other psychological elements of the personality of an individual (i.e., motivation and creativeness), trust has also currently become the subject of various neuro-transdisciplinary investigations [80–83]. For example, trust has been investigated from the viewpoint of the brain mechanisms, i.e., via neuropsychology: the resultative decision to trust, transformed by good function of neurotransmitters, “is the foundation for proper functioning in technology, work, and social environments” [80] (p. 451). Because the brain needs to be permanently provided with appropriate impulses (in some special situations, with desirable warnings, respectively), the quality of social environs and relational instigators is substantial.

From the general perspective of psychology, trust has been studied from several viewpoints. The most common viewpoint understands trust as an intrapersonal state of the individual [84]. In a situation of higher education conditions, the individual's *academic trust* is that which is aimed at the individual, e.g., trust in their own professional experience, trust in their own pedagogical and communicational skills, and trust in their own scientific innovative skills, etc. In addition, the individual's academic trust is orientated to other individuals and groups (e.g., colleagues, students, senior staff; and stakeholders, etc.). A further type of trust is the trust in relation to various institutions. In this sense, an institutional academic trust is defined as a confidence and belief in the department, faculty, university, professional community, and government, etc.

From the societal perspective, trust is an interpersonal reaction based on relations experienced from other individual/s. Indeed, reciprocal trust emerges only in a social context [85]. The ability to trust in others versus the decision to reciprocate trust, are influenced through "the lens of implicit and explicit social appraisal and learning processes" [86], and sensible leadership [87], etc. Additionally, writing on the possibility of sustaining trust, Baier opined that the sacredness of commitments or encouraged trust both lie at the heart of morality [88]. Blomqvist added that mindfulness is required to build sustainable trust [89].

Therefore, in relation to the described, logical structure of the paper, academic trust must be constantly supported, shared, developed, anchored, i.e., sustained. The university must prepare mechanisms that will draw on existing trust and transform its positive elements into elements of permanence and sustainability. In this view, *sustainable academic trust* can be seen as a necessary basis for achieving sustainable academic motivation and sustainable academic creativity.

Sustainable academic trust represents a unique type of trust that has arisen and exists in higher education, characterized by the key principles of sustainability, e.g., permanency, firm roots, self-renewing ability, and current intensity combined with future impacts and consequences, etc. Special attributions of SAT include, namely, maintaining one's conscience, protection and responsibility towards the individual, and dignity and integrity between individuals on the one side of trust continuum, versus tolerance, generosity, forgiveness, and a focus on the future and mutual support on the opposite side of the trust continuum.

In order for sustainable academic trust to keep its own essence, strength, and ability for continual conflagration, it needs psycho-sociological précising and firming, and overall, for its sensitivity to be taken into account. It needs "nurturing, but if for any reason it deteriorates, leaders must act rapidly to restore it" [87]. This is because the support of the top management staff has a positive impact on affiliation and trust, and affiliation and trust also have a positive impact on knowledge sharing [90].

On the other hand, according to the opinion of Shiriajev et al., there is a crisis of trust in science and education caused by optimization which destroys the trust between actors and changes the prevailing types of trust [5]. This substantially contradicts the facts of sustainability, and especially, academic trust. Therefore, in an effort to concretize an internal structure of sustainable academic trust, educators and academic leaders have to share the responsibility to inculcate and sustain the principles of professionalism [91], competent and moral actions [92]; and academic integrity [93]; etc. Or, rather than individual researchers, we should trust in the academic process of the never-ending peer review [94]. Although employers could develop trust to augment employee cooperation via the provision of excessive extrinsic rewards [95], this can only have a short-term potency and efficiency. At the university, academics are very sensitive to every omitting relation—rules and habits must be kept without any compromises.

2.4. Setting the Hypotheses

Similarly, as in a situation of motivation and creativity, trust has also been proven to be connected with joy. Jena and Pradhan confirmed the concept of the joy at work scale (JWS)

with three discrete dimensions (1) meaning, engagement and growth; (2) compassion, sensitivity, and respect; and (3) trust, support and flexibility [96]. In this way, the hypothetical construct on the existing spiral ties between SAM, SAC, and SAT obtains a further positive argument.

Flowing from the opinions mentioned in previous sub-sections, and inspired by [22,23], the paper can state the Hypothesis 1 (H1) in this way:

Hypothesis 1 (H1). *Sustainable academic motivation, creativity, and trust represent the dependent phenomena.*

For support for H1, the validation of the construct of spiral bonds needs to be understood in a more complex way. One of the ways that it is related to the topic of the paper is in the examination of self-motivating factors. Several studies have examined the partial ties between sustainability, creativity, trust, and self-motivation. For example, the authors of [97] have pointed out that “the presence of a centralized sanctioning system may affect the quality of a person’s motivation, the type of goals a person may pursue, the level of sustainable behavior a person demonstrates” (p. 1). Individuals with extrinsic value orientations are more likely to act unsustainably in a resource dilemma [98] while intrinsically motivated individuals prefer to behave responsibly and creatively. Although if conventional performance is rewarded, it will decrease the intrinsic motivation and creativity [99], while a positive motivational impact establishes the sustainable trust-based relationship [100]. Trust is an essential element of leaders and managers [101]. In this line, the paper searches for further correlations through Hypothesis H2.

Hypothesis 2 (H2). *Sustainable academic motivation correlates with the self-motivation and academic sustainability.*

The third premise of the empirical part of this paper is that the intensity of perceived motivation has a *fundamental influence on the potential willingness* of individuals to give their best work effort in the future. The premise acquires its justification, on the one hand, from the generally accepted opinion that the level of academic motivation strongly influences the level of academic performance [2,3,7,8]. On the other hand, if the current motivation is accentuated by the principles of social responsibility, the awareness of the consequences of one’s own actions on future events and the consideration of the expected financial and non-financial effects of future behavior meet the basic attributes of sustainability [26,36–38]. Therefore, Hypothesis 3 (H3) is defined in this way:

Hypothesis 3 (H3). *Although the current academic motivation is high, the future effort could be increased.*

3. Materials and Methods

To achieve overall and continual progress, senior managers have to build systems to ensure the sustainability and continuity of the organization’s capabilities (Barratt, 2009) [102].

Scientists’ creativity is sought to produce new knowledge and it is often invoked as a means for innovation leading to social and economic development [68]. Creativity can be stimulated by intrinsic motivation, and by certain forms of extrinsic motivation, such as rewards that signal competence or support future achievement [103]. Because of this, motivation belongs to the most sophisticated parts of psychology and requires a lot of effort and research to be completed [104]. With regard to self-determination theory, it is assumed that “people are inherently prone toward psychological growth and integration, and thus toward learning, mastery and connection with others. However, these proactive human tendencies are not seen as automatic—they require supportive conditions to be robust” [43] (p. 2). Based on the aforementioned arguments, the authors of this paper decided to conduct a survey on the academic motivation, creativity and trust.

3.1. Study Design and Sample

The main task of the survey was to obtain the opinions of employees and managers in higher education regarding the main reasons for their motivational work efforts, the quality of their motivation, and the conditions created from the part of the university, faculty and/or department to support their creativity and trust. To carry out the survey, a structured questionnaire on motivation, created by the authors in 2001 and improved to the present study, was chosen (in Supplementary Materials). The reason for using this analytical tool was the effort to continue the longitudinal research started in 2001. More than 12,000 respondents from four European countries (Slovak Republic, Poland, Lithuania, and Czech Republic) have participated in the questionnaire up to the present day. The number of respondents allowed for many views, expressions and inspirations to be collected as well as warnings in the area of motivation and the related processes of human potential development. In addition, based on the systematic betterment of this tool, a high degree of reliability was obtained: 0.846 for processes that affect motivation and 0.895 for basic orientations of motivation [22,105]. For the current survey, the reliability analysis was extended, and Cronbach's Alpha was calculated for all of five of the evaluated items using SPSS Statistics software [106]. The resulting value was **0.882**, which indicated a good interconnection of the examined items.

To increase the scientific value of the paper, the authors decided to perform the current survey at universities in two countries: Poland and Slovakia. Overall, $N = 181$ higher education staff participated in the survey. From Slovakia, $n = 90$ respondents participated, of which 81 were pedagogic, scientific, and administrative staff, and 9 were managers (deans, vice-deans, and heads of department). From Poland, $n = 91$ Polish respondents took part in the survey (65 academic staff and 25 managers). Table 1 shows the details of the respondents.

Table 1. Sample of the respondents.

Basic Characteristics		Slovak ($n = 90$)		Poland ($n = 91$)	
		Frequency	[%]	Frequency	[%]
Gender	Female	35	39	57	63
	Male	55	61	34	37
Education	Secondary	9	10	42	46
	Higher	14	16	35	39
	PhD.	39	43	5	5
	Assoc. Prof.	19	21	9	10
	Prof.	9	10	0	0
Work position	Managers	9	10	25	27
	Employees	81	90	66	73
Average age in years		47.51		44.58	
Average employment in years		23.07		21.22	

The questionnaire contained 20 questions in the version for academic staff and 21 questions in the version for academic managers. The questions consisted of 10 items on average, with the use of adequate scales. For example, the group of questions on sustainable motivation were aimed at the type and importance of the motivators applied (14 items; simple choice) and the factors of motivation change and the type of this change (18 items; simple choice; positive influence on the scale +1, +2, +3; negative influence on the scale -1, -2, -3), etc. The group of questions aimed at sustainable creativity consisted of several questions too. For example, questions with the use of the 5-point Likert's scale (from yes to no): does the superior build an atmosphere of trust; does s/he motivate the employee to work creatively; and does s/he appreciate the creative ideas and propositions. Further questions used simple choice e.g., the character of the working methods used in building a

creative atmosphere (3 items); simple choice with the subsequent mark of positive versus negative effect, e.g., and elements that influence the creativity (20 items); etc.

Because some aspects of the survey, e.g., the efficiency of motivators, the measures proposed by respondents for increasing and sustaining their motivation, and the flexibility of the motivator's application, etc., have already been included in a previous paper on sustainable academic motivation [61], elements have been chosen for this paper that have never been published before. Simultaneously, the selected perspectives examined phenomena that could potentially confirm the original idea on the existing spiral effect among sustainable academic motivation, creativity, and trust.

3.2. Results on Sustainable Motivation, Trust, Creativity, and Self-Motivation

In relation to the established hypotheses, this section selects the specific issues of the survey. The first question focused on revealing the level of *motivation in three areas*: (Ma) motivation to produce work of quality, (Mb) motivation to constantly increase the level of professional knowledge and skills, (Mc) motivation to submit new ideas and to increase the efficiency of the educational process (Table 2).

Table 2. Level of three motivations in the researched countries (in %).

Levels	(Ma) Motivation to Quality Work (Mb) Motivation to Permanent Increase in Knowledge and Skills (Mc) Motivation to New Suggestions and Increase in Education Process Effectiveness								
	Slovak			Poland			Together		
	(Ma)	(Mb)	(Mc)	(Ma)	(Mb)	(Mc)	(Ma)	(Mb)	(Mc)
	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]	[%]
Very high = 1	47	28	14	34	31	24	40	29	19
Rather high = 2	41	47	37	25	26	29	33	36	33
Average = 3	10	22	34	29	27	32	19	25	33
Rather low = 4	0	0	10	9	12	12	4	6	11
Low = 5	2	3	4	3	3	3	3	3	4

The responses were assessed on a Likert's scale of 1–5 (very high = 1; rather higher = 2; average = 3; rather lower = 4; low = 5). In the first area—*motivation for quality work*, respondents chose a very high level most often: 47% of Slovak and 34% of Polish. Overall, the level of motivation in all areas for both countries surveyed was *above average*.

The *Correlation Matrix* (Table 3) was calculated using Gretl software to verify the relationships between the three areas of motivation examined. This matrix captures the correlation coefficients between the investigated areas [107,108]. Based on the coefficients, the following can be stated: there was a *very strong dependence* between the areas of motivation (Ma) and (Mb); the relationships between the areas (Ma) and (Mc), as well as (Mb) and (Mc) were *moderately strong*.

Table 3. Correlation matrix for the three areas of motivation *.

Correlation Coefficients	(Ma) Motivation to Quality Work	(Mb) Motivation to Increase in Knowledge and Skills	(Mc) Motivation to New Suggestions and Increase Effectiveness
Motivation to quality work (Ma)	1	0.8225	0.6829
Motivation to increase in knowledge and skills (Mb)	0.8225	1	0.7372
Motivation to new suggestions and increase in effectiveness (Mc)	0.6829	0.7372	1

* Note: 5% critical value (two-tailed) = 0.1459 for $n = 181$.

Using SPSS Statistics, three statistical models were created that captured the dependence of the relationships and their strength between the three areas of motivation examined, referred to as (Ma), (Mb), and (Mc). The models' significance was set by ANOVA and is shown graphically in Figure 2. The significance of the coefficients was confirmed by *t*-statistics and the *p*-value and additionally verified using Gretl software via OLS (Table 4).

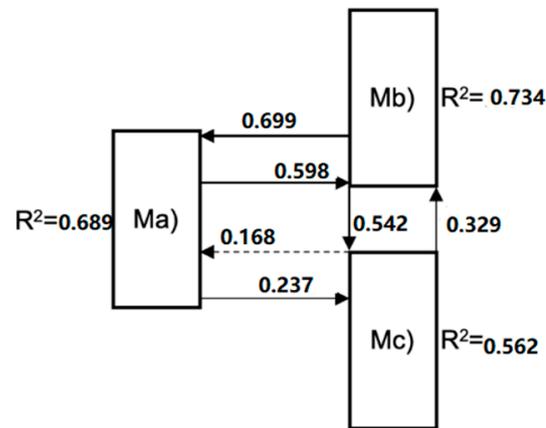


Figure 2. Full model (Ma) = Motivation to quality work; (Mb) = Motivation to permanent increase in knowledge and skills; (Mc) = Motivation to new suggestions and increase in effectiveness).

Table 4. Regression models for three areas of motivation.

Model	ANOVA		Coefficients	t		Sig
1	F	Sig	(Mb)	11.305	0.000	***
	197.553	0.000	(Mc)	2.714	0.007	***
<i>Dependent variable = (Ma), predictors = (Mb), (Mc).</i>						
Model	ANOVA		Coefficients	t		Sig
2	F	Sig	(Mc)	6.215	0.000	***
	245.882	0.000	(Ma)	11.305	0.000	***
<i>Dependent variable = (Mb), predictors = (Ma), (Mc).</i>						
Model	ANOVA		Coefficients	t		Sig
3	F	Sig	(Ma)	2.714	0.007	***
	113.984	0.000	(Mb)	6.215	0.000	***
<i>Dependent variable = (Mc), predictors = (Mb), (Ma).</i>						

*** $p < 0.001$.

It can be stated that the significance of $F = 0.000$ was less than the significance level of 0.05 for each of the presented models. The interpretation of the ANOVA results meant that the models were chosen correctly. The graphical model captured R-squared for each of the three statistical sub-models. The relationships between the variables was based on standardized Beta coefficients [107]. The thickness of the lines in the model shows the strength of the mutual relations.

The next questions were about (a) *motivating to sustainable creativity*, and (b) creating an *atmosphere of trust, helpfulness and belonging* on the part of the superior, viewed as the important factors of/for sustainable work conditions. An evaluation of the responses revealed some differences between the countries (Table 5). As many as 60% of the Slovak respondents stated that their superior motivated them to sustainable creativity (answers yes + rather yes). However, among the Polish respondents, positive attitudes towards both areas were not demonstrated (a: no + rather no = 37%; b: no + rather no = 36%).

Table 5. (a) Motivating to sustainable creativity and (b) building the sustainable trust atmosphere.

Answer	Slovak				Poland				Together			
	Freq.	[%]	Freq.	[%]	Freq.	[%]	Freq.	[%]	Freq.	[%]	Freq.	[%]
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Yes = 1	19	47	21	52	20	18	22	20	39	65	22	36
Rather yes = 2	35	21	39	23	19	19	21	21	54	40	30	22
Both yes and no = 3	23	14	26	16	18	21	20	23	41	35	23	19
Rather no = 4	13	7	14	8	10	10	11	11	23	17	13	9
No = 5	0	1	0	1	24	23	26	25	24	24	13	13

3.3. Testing Hypothesis 1 (H1): Potential Spirals of SAM, SAC and SAT

The future of education depends solely on the power (i.e., motivation) to enhance creativity and develop technological skills [109]. If the previous examination is combined with the subsequent examination of the *strength of interdependence* between academic motivation, creativity, and trust, and subsequently the examination of the self-motivating elements of the respondents, the premise of the existence of mutual relationships between these elements can be officially confirmed.

The examination focused on the relationships between the strength of academic motivation and the quality of the other two elements. In detail, the statistic investigation analyzed the dependence between the three orientations of motivation and the existence of conditions for the sustainable creativity as well as the sustainable trust. It focused on the combination of the resultant subjective level of motivation of each academic worker (viewed as the result of previous processes of sustainable motivating) and the assessment of the level of the sustainable pro-creative and pro-trustworthy influences by university managers. *All of the cases* confirmed the statistical interdependence (Table 6).

Table 6. Dependencies of motivating to sustainable creativity and building sustainable trust.

	Chi-Square Test	Motivation to Quality Work	Motivation to Knowledge Increase	Motivation to New Suggestions
Conditions for sustainable creativity	χ^2 (16)	87.739	82.789	61.068
	Critical Value		26.296	
	Significant	yes	Yes	Yes
Conditions for sustainable trust	χ^2 (16)	85.699	66.501	33.654
	Critical Value		26.296	
	Significant	yes	Yes	Yes

For example, the *analysis of the frequency of answers* shows that 97.85% of respondents, who positively perceived the support of creativity ($n = 93$), had very high or a rather higher level of motivation for quality work, compared to 34.04% of respondents whose motivation was at the same level but they perceived the promotion of sustainable creativity negatively. A total of 94.29% of the respondents who perceived the sustainable atmosphere of trust positively ($n = 105$), expressed a very high or rather higher motivation for quality work, compared to 36.59% of the respondents whose motivation was at the same level but perceived the trust negatively. The above analysis allows us to consider *hypothesis H1 as confirmed*.

Subsequent calculations also examined the potential dependence by *gender*. Although the dependence of motivation has not been statistically confirmed, in building the *atmosphere of sustainable trust* as well as support for the *sustainably creativity*, the importance of the relation to gender has been successfully confirmed (Table 7). The Chi-Square Test and Student's T-Test confirmed this dependence.

Table 7. Dependencies of creative environs and perceived trust on gender.

Gender	Conditions for Sustainable Creativity				Conditions for Sustainable Trust			
	Chi-Square Test		Student's T-Test		Chi-Square Test		Student's T-Test	
	χ^2 (4)	22.621	t (179) *	2.898	χ^2 (4)	17.325	t (179)	4.27
	Critical Value	9.488	Critical Value	1.973	Critical Value	9.488	Critical Value	1.973
	Significant	yes	Significant	yes	Significant	yes	Significant	yes

* t > C = yes; t < C = no.

Based on the confirmation of the statistical significance of the investigated relationships, a detailed analysis of abundance was performed. A total of 43.82% of the total number of males (n = 89), felt the support of sustainable trust, compared to 28.26% of females, which was statistically significant. This was confirmed by the mean value resulting from the ANOVA test performed in the Gretl software [110,111]. Males had a lower mean (mean = 1.98876; SD = 1.0818) than females (mean = 2.83696; SD = 1.5426), and therefore males were more aware of the conditions for sustainable trust. When analyzing the frequency in relation to the promotion of creativity, 22.83% of the total number of women did not perceive the support of creativity, compared to only 3.37% of men who stated this opinion. As in the previous case, men had a lower mean (mean = 2.38202; SD = 1.0714) than women (mean = 2.93478; SD = 1.4586), and therefore men were more aware of the conditions for the support for sustainable creativity. This indicates an inappropriate situation in a case of higher education's female members.

3.4. Testing Hypothesis 2 (H2): Correlation of SAM, Self-Motivators and Academic Sustainability

In order to further demonstrate the interconnectedness of SAM, SAC, and SAT, and to show a statistically relevant demonstration of the existence of spiral relationships between them, the paper also examines the factors of the *respondent's self-motivation*. The self-motivating factors identified by the respondents testify to this spiral relationship. From the procedural viewpoint, the respondents obtained a list of 14 items. Their task was to choose those that motivated them to make further progress. In accordance with the premise of the spiral effect, the authors ranked the self-motivators into three corresponding groups: sustainability, creativity, and trust. Self-motivators included in the first group were related to sustainability's philosophy. The second group contained self-motivators characterized by creativity's features. The third group was devoted to the motivational factors linked to trust (Table 8).

Table 8. Classification of listed self-motivators and the frequency of all respondents (in %).

Sustainability	Factors of Self-Motivation	
	Creativity	Trust
Fast versus long duration of goal achievement (37%)	Simplicity versus difficulty in achieving the goal (30%)	Expected satisfaction of colleagues (12%)
Acceleration of career growth (17%)	The need to do something and not be unsuccessful (10%)	Expected satisfaction of the superior (32%)
Sense of responsibility (35%)	Opportunity to learn new (64%)	Expected self-satisfaction (64%)
Obtaining a financial reward (45%)	Gaining a sense of usefulness (34%)	Fears of failing in overly demanding target (19%)
	Trying to prove you can do it (39%)	Suppression of remorse (3%)

For Slovak respondents, the most used self-motivator was 'the opportunity to learn something new' (73%), for Polish respondents it was 'expected self-satisfaction and fulfillment' (74%).

Subsequently, the presented groups of self-motivators in terms of the *size of the group* (not only the individual motivators) were investigated. In order to make comparisons between the groups as well as the countries, the following recalculations had to be per-

formed (Table 9): The first step was to create the number of motivators in a given group per country, which is the sum of the frequencies of self-motivator designations belonging to a particular group. This step led to the creation of an average frequency of motivators in a group per country, which represented the number of motivators in the group per country divided by the number of motivators in the group.

Table 9. Examination of self-motivators in researched countries.

Frequency of Motivators in the Group			
Country	Groups of self-motivators		
	Sustainability	Creativity	Trust
Slovak	126	172	103
Poland	117	150	131
Average Frequency of Motivators in the Group			
Country	Groups of self-motivators		
	Sustainability	Creativity	Trust
Slovak	31.50	34.40	20.60
Poland	29.25	30.00	26.20
Average Frequency of Motivator Group by Respondent			
Country	Groups of self-motivators		
	Sustainability	Creativity	Trust
Slovak	0.35	0.38	0.23
Poland	0.32	0.33	0.29

Thanks to this, it was possible to create an average frequency of the group of motivators per respondent and to compare the individual values with each other in relation to the two participating countries. In the view of the average frequency per respondent from Slovakia, the self-motivators belonging to the group of *creativity* were the most represented (0.38). In the case of Polish respondents, it was the area of *creativity* also (0.33).

Furthermore, the dependence of *self-motivators on gender and education* was also focused on. The sustainability's self-motivators did not statistically confirm the gender dependence in any of the studied motivators. However, the conditions for *sustainable creativity* identified a low strength of gender dependence. Within this area, the factor "trying to prove you can do it" proved the statistical dependence. In detail, significantly more women (52.17%) stated that this factor influenced their self-motivation, compared to 25.84% of men. The group of *trust* identified a medium strength of gender dependence (Table 10). The results show that women applied the self-motivators from the group of trust more frequently than men.

In terms of dependence on education, the relevance was confirmed only in the case of three motivators: responsibility (group of sustainability; $\chi^2 = 21.006$), usefulness (group of creativity; $\chi^2 = 21.403$), and worry from over-demanding goals (group of trust; $\chi^2 = 10.425$).

In sum, when taking into account all of above-mentioned results, the mixed outputs of the performed calculations mutually connect and complete the real nature of the self-motivators from all of the three structured groups: sustainability, creativity, and trust. Based on this, the Hypothesis 2 (H2) can be evaluated as confirmed.

3.5. Testing Hypothesis 3 (H3)

One of the questionnaire's further items was the expression of agreement or disagreement (dichotomous question) that the individual would be willing to increase the level of his or her efforts in the future. The condition for this was the necessity that the motivation applied to the academic staff would be permanently improved and sustained. If so, the respondents' task was to indicate to what extent (by what percentage) s/he would be

willing to increase his/her future work effort. A total of 50% of Slovak and 95% of Polish respondents indicated a positive answer (Table 11).

Table 10. Dependence of self-motivators on gender.

Gender	z-Score	Creativity					Trust				
		Simplicity Versus Difficulty in Achieving the Goal	The Need to do Something and not Be Unsuccessful	Opportunity to Learn New	Gaining a Sense of Usefulness	Trying to Prove You Can do It	Expected Satisfaction of Colleagues	Expected Satisfaction of the Superior	Expected Self-Satisfaction	Fears of Failing in Overly Demanding Target	Suppression of Remorse
	z	1.925	0.92	1.228	1.101	3.627	1.241	2.077	1.871	2.17	0.416
	Critical Value			1.96					1.96		
	Significant	no	no	no	no	yes	no	yes	no	yes	no

Table 11. Willingness to increase future academic effort in the researched countries.

Options	Slovak		Poland		Together	
	Frequency	[%]	Frequency	[%]	Frequency	[%]
yes = 1	45	50	86	95	131	72
no = 2	45	50	5	5	50	28

The statements of the respondents with a positive approach to improvement were then analyzed in terms of the specific percentage increase in this effort (Table 12). The expressions were grouped into two intervals: a) an increase in the range of 50–100% (level of “higher performance increase”); (b) an increase in the range of 0–49% (level of “lower power increase”). As many as 92% of Slovak and 84% of Polish respondents favored a lower level of increase in future performance. This statement suggests that their current performance is at a relatively high level and that is why the increase cannot be so marked in the future (realistically, only a slight increase can be expected).

Table 12. Potential increase in future academic effort in the researched countries.

Options	Slovak		Poland		Together	
	Frequency	[%]	Frequency	[%]	Frequency	[%]
(0–49%) = 1	83	92	76	84	159	88
(50–100%) = 2	7	8	15	16	22	12

It is presumed that a higher level of current motivation will cause a higher level of self-realization in the respondents (e.g., [26,28]). This will trigger a level of capacity for future increases in academic performance. Although the individual achieves a completion of their motivation in the present, s/he will continually feel the compulsive desire for more performance in the future, i.e., the level of *motivational–performance frustration is low*. On the contrary, if at present the individual feels low motivation in the faculty or department, s/he will feel an urgent urge to work more, i.e., the level of *motivational–performance frustration is high*. Table 13 demonstrates the statistically significant dependence in the Slovak respondents.

Subsequent analyses examined the differences in the abundance between those whose future performance belonged to the level of lower growth and those with a higher level

of growth in relation to the overall level of academic motivation. Among the respondents whose motivation was currently very high, a statistically significant majority (95%) belonged to the interval with a lower level of future increase in effort.

Table 13. Relations of overall level of academic motivation and the will to increase future effort.

Overall Perceived Level of Academic Motivation	Chi-Square Test	Potential Increase in Respondents' Level of Effort	
		Slovak	Poland
	χ^2 (3) *	15.138	1.873
	Critical Value		7.815
	Significant	yes	no

* $\chi^2 > C = \text{yes}$; $\chi^2 < C = \text{no}$.

In total, 52 respondents from Slovakia indicated that their level of motivation was now at a very high level and 28 respondents indicated a higher level of motivation. Both of these groups fall into the level of lower future performance growth. This confirms the presumption that although the current level of motivation is very high, the potential for the expected increase in future effort exists; however, it will no longer be so intensive.

Based on the character and the frequency of respondents' expressions, but also from the reflection on the mutual relations examined by the selected analytical tool, the above-mentioned findings confirm the Hypothesis 3 (H3).

4. Discussion

Education and training retain a significant role in the development of knowledge and the creation of sustainable social values [112]. This leads to the need to reconcile all individual and group motivations, creative abilities, and relationships of reciprocity and to strengthen their future functionality and justification.

4.1. Discussion on Sustainable Academic Motivation, Creativity and Trust

In terms of support for higher education sustainability, it is necessary to identify elements that may contribute to strengthening academic motivation and research creativity. In the study of Mancuso et al. [113], twenty-two experienced university mentors were interviewed about their suggestions for improving and continuing the research mentoring when helping young researchers. Participants believed in "more comprehensive institutional acknowledgment for their efforts, including their time spent and service in multiple in-person and behind-the-scenes tasks" [113] (p. 1). Using the example of Togliatti State University, a government program aimed to build appropriate conditions for innovative socially oriented development was implemented. According to Shipilova and Mkrtychev [114], to improve publication activity, a mechanism controlling motivation and stimulation was used; all types of publications included in the Scopus and Web of Science Core Collection were subject to remuneration: "this system allowed the university to increase the number of publications in these databases by 151 and 202%, respectively" (p. 793).

Zhu, Gardner and Chen's interesting study [65] was participated in by R&D engineers and their managers at a large high-tech company. Although the participants were not university lecturers, the main part of their work was almost identical: research. Thus, these results confirmed that a collaborative team climate was positively related with creativity that "operated through intrinsic motivation, which in turn was moderated by employee's extrinsic motivation level. However, extrinsic motivation did have strong relationships with creativity when intrinsic motivation was low" (p. 2094).

Munyengabe et al.'s study [115] disclosed that "the motivational level of lecturers was satisfactory and mostly affected by incentives and promotions and salary" and when sustaining the continuity of lecturers' motivation, it is necessary to take into consideration all relevant factors (p. 6415). Additionally, data collected from a survey of 475 faculty members at universities in Hanoi showed that "faculty members are motivated by the in-

trinsic instrumentality factor, financial value factor and expectancy factor while the research motivation of lecturers has a positive correlation with academic degree, administrative position and has no relationship with age and gender" [41] (p. 490).

The above-mentioned examples confirm the results in Tables 4 and 5 which document the dependency between the motivation for new proposals and the perceived creative conditions built at the university. Although it is hard to believe, because all of the new scientific papers are published only when they contain both relevant original ideas and clear scientific contributions which are the result of the author's activated creativity and long-term motivation, this indirectly suggests that the creativity could be improved, i.e., via the enhanced and sustained motivation of university staff. Therefore, based also on the results in Tables 6–8, it might be accented that the perceived quality of trust is just an instigator and sustainer for both creativity and motivation. This is in accordance with the opinion of Cheng [116], whose study discovered that creativity, as a kind of self-actualization, had developed both individual competences and intrinsic motivation [80].

As mentioned above, Table 10 also documents the substantial dependency existing between the motivation and the trust. From the perspective of the reciprocal exchange game "one party (trustor) is willing to be vulnerable to the risk of treachery (affect) based on the expectations (cognition) that the action of another party (trustee) will produce some anticipated reward (motivation) due to reciprocity in the future" [117] (p. 94). The impact of disturbed academic trust is an increase in dissatisfaction. In relation to this, Shiriaev with his colleagues performed a qualitative survey on the Southern Federal University, Russia and found: "scientific and pedagogical workers, forced to distract from their main activities to participate in bureaucratic processes, in turn, lose confidence in university management, which demonstrates inability to organize an effective workflow and save on management costs" [5] (p. 158). Moreover, subsequently, when transferring the teachers' trust and motivation to the students, a lack of teacher trust can cause a decrease in student trust and motivation. In this view, "lecturers need to be aware of the importance of trust to their students and how this is generated through the process of belief building and action" [118] (p. 189).

When comparing the results on academic motivation, creativity, and trust between the researched countries, Tables 2–13 confirm some similarities as well as discrepancies. According to Oishi and Choi [119], cultural differences in motivation could be explained by different social ecologies including residential mobility, population density, and economic and environmental threats [119]. This deduction could also be valid for explaining the results regarding creativity and trust. The Slavic nature is generally characterized by patience, modesty, diligence and respect for the rules, but also pride and the required dignity of treatment. However, this paper deals with such sensitive themes as academic motivation, creativity, and trust, additionally accented by principles of sustainability. Therefore, because the individuality of every of university staff member and the respect for individual personal specificities has to be uncompromisingly kept in all cultures [3,50,120], individual differences may occur—these ones are natural.

4.2. Discussion on Relations/Spirals of Sustainable Motivation, Creativity and Trust

Generally, an organization or any social entity exists because it is sustained by its human resources [115]. How to achieve sustainability needs to be truly identified; it will require new heights and contents of creativity, and new ways to judge creativity which will enable future development [19,121]. This is based on the premise of the productive process as well as the output of creativity, i.e., "creative thinking is a fast-growing topic among the global community for the way that it enables sustainable development initiatives" [122] (p. 172).

Academics, especially university lecturers, scientists, and managers, need for their intensive pro-active efforts supportive, obliging and creative conditions. It is possible to combine creativity with motivation, in the sense of creating and shaping motivation in a creative way. However, it is possible and even inevitable to direct the counter-polar

interconnection which the motivation calls up and which drives the creativity. A similar approach is reflected in the chapter by Hennessey [123]: “Motivation and Creativity—from Individual Differences in Creativity.” According to Amabile [103], people will be most creative when they feel motivated primarily by the interest, enjoyment, satisfaction, and challenge of the work itself, and when they are driven by a deep involvement in their work and a passion for it [103]. In 2016, Amabile’s updated model of creativity and innovation [124] included new elements that substantially interconnected the area of creativity with the area of motivation. The most interesting elements are the following: meaningfulness of work, work progress, affect, work orientations, external influences, and synergistic extrinsic motivation [124]. In this view, the significant, positive interaction effect of the extrinsic motivator, relational rewards, and intrinsic motivation on creativity was demonstrated [125] while the perspective, as generated by the pro-social motivation, also encouraged employees to develop ideas that were both useful and novel [68].

“In order to create motivation and satisfaction for lecturers in fulfill increasing workload and diversifying teaching activities, there should be suitable amendments in policies and regulations” [120] (p. 573). Defined conditions for motivation and support are essential for opening and sustaining the will of all university members to share their creative solutions, inspirations, and premonitions. Sustainable academic creativity is, on the one hand, a unique intellectual ability. On the other hand, it is the permanently high motivation and readiness of individuals and groups to create either completely new, as yet undiscovered ideas and solutions, or a synthesizing ability to combine existing ideas in an absolutely new, as yet unprotected and unknown way. It is a phenomenon that currently combines several scientific disciplines, for example, psychology, biology, genetics, neurology, anthropology, behaviorism, and sociology, etc. Therefore, it is necessary not only to connect motivation with creativity, but also to multiply the effects by the potentials of a multidisciplinary approach.

Miele, Scholer and Furita [49] have suggested that there is a general meta-motivational competency that predicts people’s sensitivity to a broad range of motivationally relevant performance trade-offs (p. 1) according to different types of motivation relative to different types of creativity (incremental versus radical) [65]. This also calls for the connection of a high level of creativity when setting one’s own motivation and self-motivating metes and measures. Simultaneously, some starting level of motivation has to exist for further creative and self-conscious processes that are intended to develop motivated academic behavior.

Müller and Cañal-Bruland [126] have critically assessed the motivation literature and argued that it focuses on “heterogeneous motive measures, the achievement motive at the expense of other motives such as the affiliation and power motives, correlational designs, and divergent findings” (p. 93). Truly, academic motivation has to be orientated toward mastery, curiosity, persistence, task-endogeny, and the disclosure of challenging, difficult, and novel tasks [46]. Of course, the quality of trust in the political and economic situation of the country also needs to be considered because this “has suffered a lot that affected especially its public sector employees’ motivation” [127] (p. 14). In addition, managerial trustworthiness and goal directedness increases the leverage of intrinsic motivation on employee satisfaction, whereas extrinsic rewards expectancy decreases the leverage [128] (p. 382).

These opinions may lead to the deduction that sustainable academic motivation must inevitably be penetrated by self-trust, trust in one’s academic effort, and trust in the general importance of the higher education itself. At the same time, an individual’s success and overall acceptance from the academic public is determined by a sufficiently high extent of creativeness and responsibility included in this effort.

It is clear that a trustworthy environment and relations of partnership and belonging are important motivating elements, supporting both the overall work motivation and the creativity of individuals and groups. Tables 6–8 document this reality. This relationship can also be perceived in reverse, in terms of an *active spiral relationship*: sustainable academic motivation builds the basis for sustainable academic trust, while creative and innovative

measures can accelerate this process and its impacts. Moreover, sustainable academic creativity is the constant prerequisite for efficiency in processes that motivate academic personnel. The more creative the processes of motivating the staff, the better and more creative results that will be achieved.

Therefore, summarizing all of the above-mentioned statistical results, the confirmed hypotheses H1, H2 and H3, and the discussed/related opinions, including in [129,130], the scientific premises of the paper can be *considered as confirmed*.

5. Conclusions

The paper points out some differences that occur in the level of three crucial orientations of motivation, i.e., motivation for quality of work, motivation for permanent increase in knowledge and skills, and motivation for new suggestions and propositions. The third motivation's orientation achieved the lowest level, of course. In reality, based also on many discussions with academics, their motivation to complete scientific papers and to apply for scientific projects is significantly lower.

The introduction analyzed, compared and developed the theoretical ground related to motivation, creativity, trust, and sustainability. In addition, two new concepts were introduced and explained: (a) the concept of sustainable academic creativity, and (b) the concept of sustainable academic trust.

The theoretical and empirical parts of the paper together pointed to strong links between SAM, SAC, and SAT. The results of a survey conducted in two Central European countries confirmed the interdependence of these phenomena, and thus made it possible to accept the idea of the *existence of a spiral relationship* between them. Together with the introduced concepts of SAC and SAT and the results mapping the level and structure of the academic staff's motivation, this can be considered the strongest contribution of the paper and a substantial enrichment of the existing science on higher education management. These spirals were encouraged by the quality and responsibility of the management influence of university management (heads of departments, vice-deans, deans) and functional mechanisms maintaining the validity of the adopted rules and roles.

The *subsequent possible reactions* of the academic staff can also be suggested and reflected on via the *interpersonal transfers and shares*. In relation to this intention, if the complex management system of the university is permanently sophisticated, in order to strengthen the mutual real and potential ties of SAM, SAC, and SAT, the following sustainable spiral systems and complexes can be achieved:

1. Individual sustainable systems of SAM, SAC, and SAT of every member of the university staff while every entirety is inertly complicated and moved by a net of various dynamics, and is always different from others;
2. Group/sectional sustainable systems of SAM, SAC, and SAT of every social or working group existing at the university; these are again contextually distinguished and may be based on plenty of various principles, e.g., organizational, hierarchical, professional, personality, expert, and power, etc.
3. A global sustainable complex of SAM, SAC, and SAT in the university as a whole that contains all of the individual and group motivations, creativities and trusts, while this complex is internally advanced through the attributes of the sustainability.

Based on the above facts, another significant benefit of this paper can be accented: if the current rate of SAM, SAC, and SAT is higher and the future potential increase in performance may be lower, it is a *sign of current sustainability*. Conversely, if this is not the case, there are no conditions for sustainability in the considered conditions, caused (among others) mainly by the motivational–performance frustrations of university staff.

Supplementary Materials: The following are available online at <https://www.mdpi.com/article/10.3390/su13137057/s1>, Questionnaire searching sustainable academic motivation and creativity.

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