Macrothink Institute™

Journal of Social Science Studies
ISSN 2329-9150
2022, Vol. 9, No. 1

How Does the Nature of Academics Affect the Study-Life Balance of International Students in Chinese Universities?

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Received: May 13, 2022 Accepted: May 31, 2022 Published: June 2, 2022

doi: 10.5296/jsss.v9i1.19859 URL: https://doi.org/10.5296/jsss.v9i1.19859

Abstract

Study-life balance is an emerging issue in contemporary management and administrative thought. Without a balance between study and life, students will not be happier and wiser in their academic and personal lives. During the doctoral study period of foreign students, most students live alone and need to adapt to the new environment, but some students live with their families. So they have to maintain their normal lab work, family life and social life at the same time. Consistent with this, the prevailing perception is that students majoring in applied sciences spend more time and stress than students majoring in social sciences. Therefore, it is a big concern for the researchers and the academicians how the students of Applied Science and Social Science make balance between study and social life. Following

this, the purpose of this study is to identify differences in applied science and social science students' participation in laboratory and sociocultural activities, and to explore important factors related to the laboratory environment that promote study-life balance for foreign PhD students. This study is experimental survey based research. In this study, it is found that the students of Applied Science at the University of Science and Technology of China (USTC) spend more time in lab than Social Science students. In addition, the Applied Science students were found more stressful than Social Science. However, lab pressure negatively influences on the productivity of both disciplines that is the interesting finding in this study. It is also found that internal congenial lab environment (supervisor's cooperative role, supportive relationship with peers, reasonable work load in lab) influences positively to make balance study-life but the relationship among all these internal lab environment factors are not always found correlated.

Keywords: work-life balance, study-life balance, applied science, social science, USTC

1. Introduction

Work-life balance (WLB) is an important area of human resource management, which received growing attention from the government as well as management practitioners, academicians, researchers and the mass media (McPherson & Reed, 2007; De Cieri et al., 2002; Yesbek, 2004). McPherson and Reed (2007) have acknowledged the term 'life' as a combination of study and paid work for students. For older people it combines leisure activities with paid work, whereas for young people it is the association of paid work to travel, leisure and social activities to maintain and balance life. Consequently, work life balance is defined as the satisfactory level of involvement in multiple roles in a person life. WLB is all about adjusting working patterns, by which people are able to achieve a satisfied life inside and outside paid employment (Pocock, 2005; Bruin & Dupis, 2004). In this regard, life not only represents family but also it includes community activities, voluntary works, personal development, leisure and recreation. On the other hand, work life balance does not mean allocation of equal time in work, family & personal need but can be defined as an art of an individual, to allocate the time among the different aspects of life without conflicting their roles (Lowe, 2005). WLB is immensely focused on the corporate profit through providing many benefits for organizations i.e. reduced organizational turnover, intention to leave, increased attraction and retention of employees (Ang, 2008). Lowe (2005) pointed out that work life imbalance affects overall well-being of individual that causes dissatisfaction, prolonged stress, using drugs or alcohol.

According to Byron (2005), the concept of WLB is mainly focuses on employees but presently students are also over burdened by their academic workload. Moreover, study-life balance means putting enough effort into the academic work, while also spending time to enjoy with family, to connect with the socio-cultural aspect as a part of the society. Balance should be established between study pressure, leisure time and extracurricular activities to reach academic as well as personal excellence (Byron, 2005). Moreover, the employees with work-life balance feel their lives are fulfilled both inside and outside of work (Byron, 2005), and they face minimal conflict between work and non-work roles (Rife & Hall, 2015). From an employer's viewpoint, encouraging work-life balance may attract new hires, help to reduce turnover and absenteeism, and increase the chances of employees voluntarily engaging in social behaviors that rise above and beyond their job requirements (Rife & Hall, 2015). Work-life balance policies around the world frequently include benefits i.e. flexible work hours, child and elder care provisions, paid maternity leave, adoption assistance, time off, education, health and accommodation assistance (Rife & Hall, 2015). However, this

study also showed that regardless of what the organization promotes, the research supervisors greatly influence on work-life balance of their subordinates.

2. Literature Review

2.1 Brief Statement on Work-Life Balance Literature

The concept of WLB focused on harmonizing the relationship between paid work and personal life. Work Life balance has always been concerned for those interested in the quality of working life and its relation to the quality of personal life (Guest, 2002). Straub (2007) identified a positive relation between WLB practices with women's career development. Since 1960's work-life balance literature has concentrated narrowly on women and the double burden of family responsibilities, which excluded employees without children or other caring commitments (Lewis et al., 2007; Ransome, 2007). The trend for students to combine work and study has been increasing rapidly in recent years due to increase costs of living and tuition fees (Ang, 2008). Felstead et al. (2002) defined WLB as the association among institution and cultural time and space of work and non-work in the society. According to Kirchmeyer (2000), living a balanced life is "achieving satisfying experiences in all domains of life that requires personal resources such as energy, time and commitment to be well distributed across domains". Kofodimos (1993) concluded that, imbalance in work creates high level of stress, isolated individual from quality of life and ultimately reduce individuals' effectiveness towards work. Hughes and Bozionelos (2007) identified the link between the problems with WLB and withdrawal behavior.

According to Dunne and Teg (2007), WLB is required to recruit and retain highly skilled employee to satisfy the need of the workforce and the company. Beauregard and Henry, (2009) suggested that different directions should be revealed by which, WLB practices can influence organizational performance including boosted social exchange process, increased cost savings, improved productivity and reduced turnover. McNamara et al. (2013) concluded that hourly works per week and satisfaction with WLB were negatively associated with each other. Haar et al. (2014) observed that WLB positively linked with job satisfaction while negatively allied with anxiety and depression across seven different cultures where individualism, collectivism and gender equality act as a moderator. Parakandi and Behery (2015) mentioned that organizations have given importance to WLB initiatives for sustainable human capital in the long term.

2.2 Brief Statement on Study-Life Balance Literature

Sanchez et al. (2016) concluded that currently students are overloaded due to the high academic pressure, personal commitment and family responsibilities. Brown et al. (2010) in their study reported that student often experience high level of stress that effects on mental health problems. Ang (2008) revealed that students had difficulties when balancing the multiple types of work, study and social activities. The effects of study-life imbalance were found in the form of missing lectures, health problems, increased stress and lack of sleeping (Ang, 2008). According to Kelly et al. (2001), study life imbalance lead to sleeping disorder, hyper tension and poor academic performances. Pookaiyaudom (2015) in his study found that students were well aware about the concept of WLB for optimal and valued life but unable to practice in their life due to overload of university's assignments and projects. It also found that single students with no children faced more challenges to obtain a school-work-life balance in comparison to their peers with families (Martinez et al., 2013).

Furthermore, work-life balance has been explored in higher educational institution (Marshall et al., 2012; Stimpson & Filer, 2011; Bardoel et al., 2008; Sallee, 2008; Brus, 2006; Byron, 2005; Rosser, 2004; Moyer et al., 1999). In academia, work-life balance policies have become an important topic in faculty recruitment tool over the past decade (Sallee, 2008). However, work-life balance has been emerged as a topic of study and stimulus for policy initiatives in higher education, few studies have considered doctoral student study-life. According to Stimpson and Filer (2011), work-life balance is a more discussed topic that is concerned about faculty than graduate students in the higher education.

2.3 Research Gap

Although work-life balance is a broad area ofresearch (Byron, 2005), few studies have explored the experiences of doctoral students (Stimpson & Filer, 2011). We also found that doctoral student withdrawals are associated with financial constraints (Kluever, 1997), stress (Offstein et al., 2004; Lovitts, 2001), negative social support (Jairam & Kahl, 2012), problems with consultant inappropriateness (Golde , 1998), isolation (Ali & Kohun, 2006), and unmet expectations (Golde, 1998). As in Hadjioannou et al. (2007) mention that "doctoral work is challenging at all levels, often overstretched, and has implications for the mind and emotions, stamina, and financial well-being of PhD students". Therefore, Brus (2006) suggests that doctoral students must strive to strike a balance between academic pursuits and personal life and responsibilities。 Balancing the personal and academic pursuits of student life has been identified as a tool for successful degree completion (Stimpson & Filer, 2011; Brus, 2006) and continued employment in an academic career (Brus, 2006). In addition to this, students generally agree that applied science majors spend more time in the lab and experience greater stress than social science majors. However, no comparative studies have been found on the study-life balance between students majoring in applied sciences and social sciences, especially foreign doctoral students far away from their home countries.

2.4 Rationale behind Choosing USTC

The University of Science and Technology of China (USTC) is one of the most prestigious universities in China, ranked 6th (Best Universities in China 2017) and 104th in the World University Education Rankings (QS World University Rankings 2017). Although the University of Science and Technology of China was established in 1958, it has made great contributions in the field of scientific and technological innovation mainly completed by the applied science department. It not only contributes in the field of science, but also in the field of social sciences under the School of Management, School of Public Affairs and School of Humanities and Social Sciences. According to the statistics of the International Student Office (ISO) of USTC, there are currently more than 600 foreign students studying at USTC, of which about 300 foreign students are studying for doctoral degrees.We, the researchers, as foreign student of USTC observed that there is a general perception among the students, Applied Science students spend more time and take more pressure that Social Science students. Is it true? There is no empirical result among us. On the other hand, USTC is providing well decorated family apartment as a unique opportunity for the foreign students by receiving certain housing rent of respective scholar that is very uncommon scenario in other renowned Chinese universities; even though those who are interested to live outside of the campus with their family, USTC provides housing rent that is allocated against respective student. That’s why, most of the foreign students those who have family, they live at USTC campus or nearby places with their families. Besides that the students have to spend some time in cultural and social activities, recreational events, and travel somewhere with friends & family etc. So, there is a big question how the foreign PhD students balance their study-life

maintaining huge lab pressure, family time and so on? Considering academic positions of USTC, availability of diverse foreign PhD students, opportunity to study Applied and Social Science at USTC, provided family accommodation; USTC can be the good reflection for other universities how foreign PhD students make balance their study-life during PhD time.

2.5 Purpose of the Study

The purpose of the research is to identify differences in the participation of applied science and social science students in laboratory and sociocultural activities, and to identify important factors related to the laboratory environment, thereby accelerating foreign doctoral students' study-life balance.

3. Conceptual Framework

Full time doctoral students strive to attain study-life balance by managing their time, priorities, roles and responsibilities. Previous studies have identified the attrition rates of doctoral students which is as high as 40 percent to 60 percent (Bair et al., 2004) due to stress (Offstein et al., 2004), unmet expectations (Golde, 1998) and negative social support (Jairam & Kahl, 2012). Time is an integral part of study-life balance, as doctoral students have to balance the competing roles and responsibilities each of which need time and attention. If more time is allocated to lab, less time will remain for social/ personal life, which may hinder the study-life balance. Challenges with the time management to meet deadlines is a primary pressure felt by most of the students (Martinez et al., 2013). According to Lazarus and Folkman (1984), an individual or person perceived stress when they don't have enough resources to cope up with the situation. Studying with deadlines and overwhelmed feeling of workload, family issues are considered as an important factor that causes stress (Harvey et al., 2006; Misra et al., 2000; Reisberg, 2000). Students who are studying abroad they sometime experience stress due to adjustment with a new culture and new language (Akgun & Ciarrochi, 2003; Chwee et al., 1998; Oropeza et al., 1991). As our study is focusing on foreign students, along with deadlines and family issues, adjustment in a new environment could also create stress, which would hamper the study-life balance. There are a lot of internal and external factors that can easily influence student's study-life balance. Among these factors, internal lab environment i.e. flexibility in work schedule, good interpersonal relation with peers and supervisor's cooperative role is very important for PhD students, because they have to stay most of the time in lab. So, the balanced study-life basically depends on to what extent the relationship is maintained among these internal lab environment factors. In this study, we consider discipline as moderator because it is known that, applied science students have to perform their work in lab but it is not mandatory for the social science students. Following the above discussed literature, people's perception and our observation, we developed the conceptual framework for this study as below:

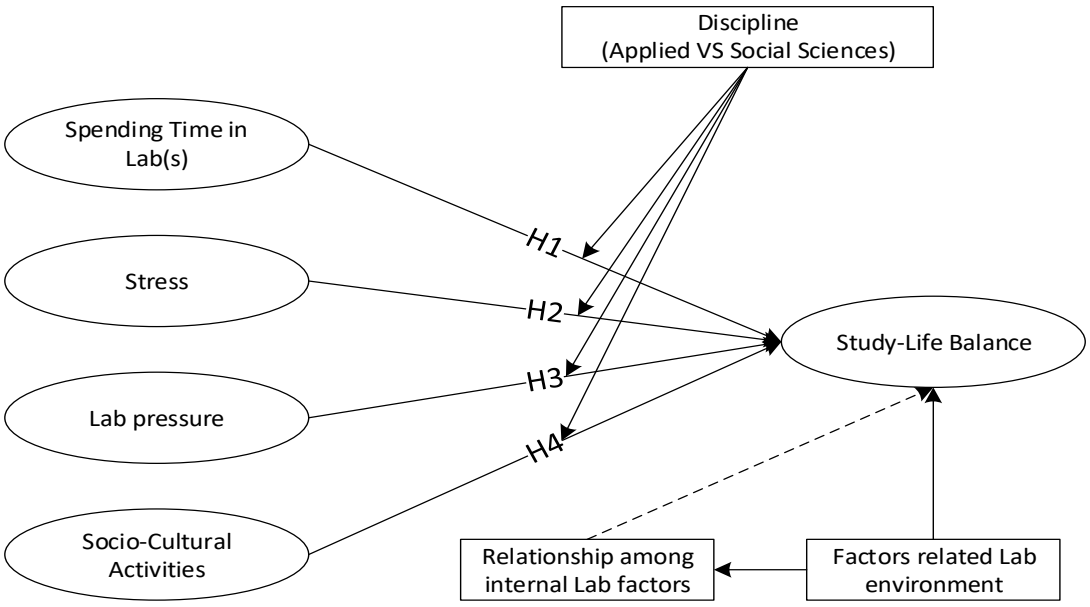

Figure 1. Conceptual Framework for the current study

Based on the literature review, conceptual framework, people's general perception and the researcher's observation, the following hypothesis has been made in this study:

H1: The students of Applied Science spend more time in lab activities than Social Science.

H2: The students of Applied Science feel stress than Social Science.

H3: Pressure of lab work negatively influence on the productivity of all students.

H4: The students of Social Science involve in more socio-cultural activities than Applied Science.

4. Methodology of the study

The study follows mainly inductive approach whereas there is no predetermined theory to understand the phenomenon (6 & Bellamy, 2012). It is an experimental research based on some independent and dependent variables. Survey research method has been considered for this study. Likert 7 Points scale has been considered to measure the way of balancing study-life between Applied Science and Social Science students and factors affecting study-life balance among foreign PhD students. Convenient sampling has been considered for this study due to time limitation and availability of the respondents. To determine the sample size from the universe/population, standard statistical formula in case of known population as mentioned by Godden (2004) and Cochran (1977) were used. Sample size was also be calculated at 95% confidence level and 5% margin of error.

The formula for calculating the sample size is as follows:

$$n = \frac{z^{2.} pqN}{e^2(N-1) + z^{2.} pq}$$

Where,

n = Sample size;

z = the value of the standard variate at a given confidence level and to be worked out

from the table showing area under Normal Curve. In the present study it would be considered standard normal deviate at 95% confidence level =1.96;

p = Sample proportion, which may either be based on personal judgment, experience or may be result of a pilot study. In absence of such estimation one method may be to take the value of p=0.50 in which case'n' will be the maximum and the sample will yield at least the desired precision. In the present study value of p will be estimated as 0.50;

q = 1-p (In the present study q=1 - 0.50 =0.50)

e = Acceptable margin of error (the precision), usually considered 0.05

N = Size of Target Population= 300 (Foreign PhD students at USTC)

n = Sample size = 60 [After calculating the formula]

Data has been collected through primary sources. This study has selected these 60 samples purposively as per availability. Data has also been collected through semi-structured interviews and participant observations during January to February 2019. It is mentioned that all the sample respondents were foreign doctoral students at the University of Science and Technology of China (USTC). Semi-structured interviews were conducted one-to-one and in-person with each participant to gain an understanding of their study-life balance. IBM SPSS Statistics 21 has been used to tabulate and analyze the data. Independent sample t-test with bar diagram, correlation, and factor analysis has been used to analyze the data in this study to meet the research objectives.

5. Analysis and Findings

The four research hypothesis has been tested through independent sample t-test whether study hypothesis is true or not. Besides that the researcher tried to analyze the factors through factor analysis by which we got some trends of factors that make study-life balance among the PhD students. The researchers also tried to make relationship among the factors in lab environment through correlation.

5.1 Time Spend in lab between Applied Science and Social Science Students

In general, applied science majors have intensive lab work to test their experiments, while social science majors mostly spend time doing social research. Social science students can conduct research at home, in the laboratory, in the library, in the field, and more, allowing researchers to easily explore ideas, read papers, collect data, and analyze data through statistical computing to draw conclusions. Conversely, applied science students cannot conduct experiments without a laboratory and laboratory materials.

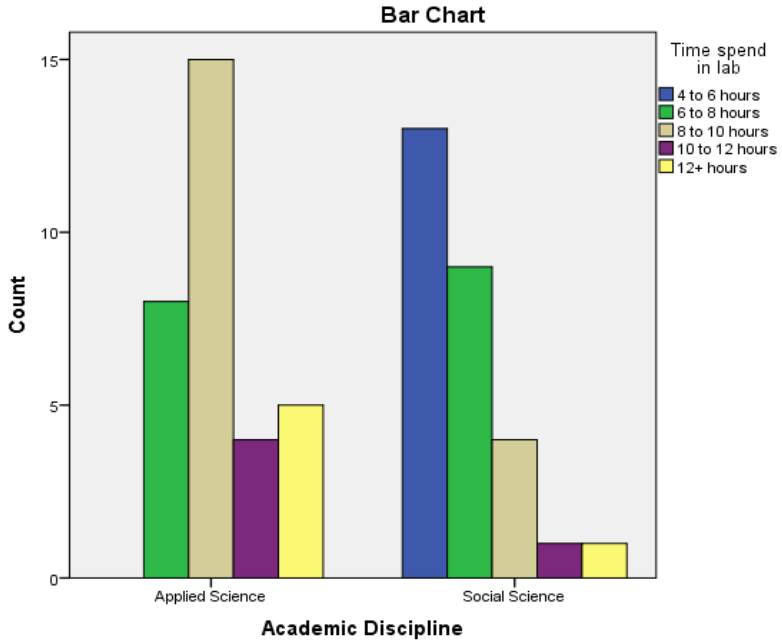

Figure 2. Discipline wise spending time in the lab

Figure 2 shows that applied science majors spend more time in the lab than social science majors. Applied science students spend 8 to 10 hours a day, while social science students spend 4 to 6 hours a day. While many applied science majors spend more than 12 hours in the lab, social science majors are found to be insignificant in this regard.

Table 1. Time spend on lab activities

Time spend in the lab	Independent Sample t-test				
	F	t	Df	Sig (2-tailed)	Mean Differences
Academic Discipline	14.539	5.000	5.000	.004	.833

From the Table 1, the number 1 hypothesis is found significant (p value=.004). That means H1 ‘the students of Applied Science spend more time in lab activities than Social Science’ is statistically true and tested.

5.2 Stress Associated with Discipline

Stress is a kind of pressure that primarily hinders normal activities. There is a limit to the amount of time humans can spend at work. If it's over, then the stress will come automatically. Lab work requires long hours of intensive training and some relaxation is unacceptable, which can be stressful for students. There is a great opportunity for social science students to engage with societies and social phenomena that can bring some freshness and variety.

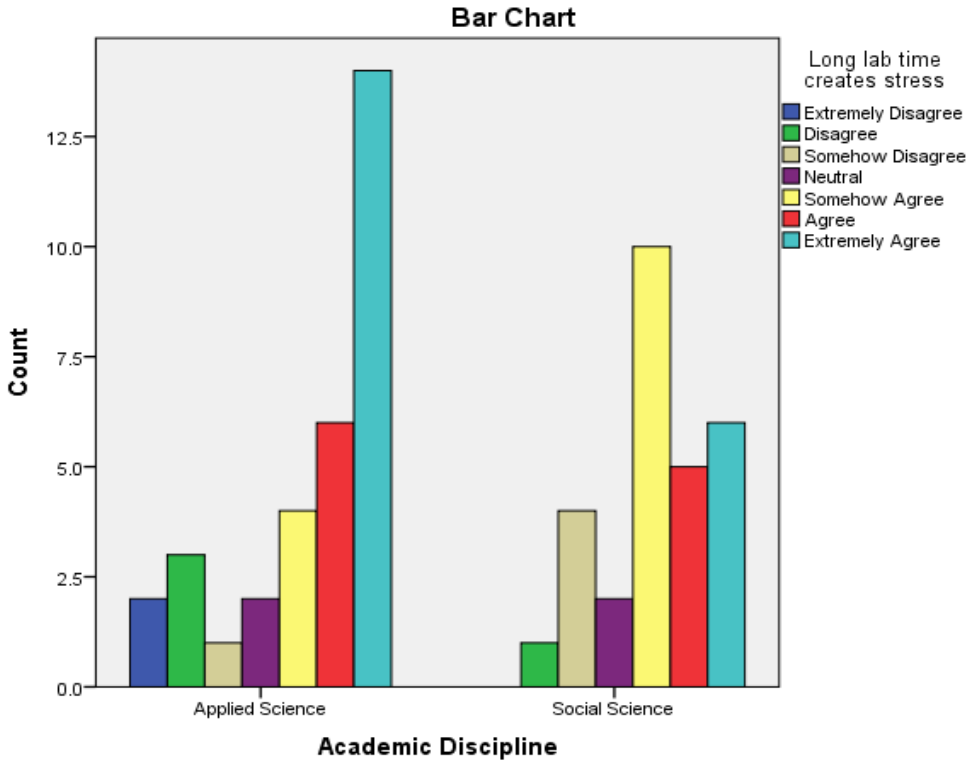

Figure 3. Discipline wise stress management

Figure 3 shows that students majoring in applied sciences feel more mentally stressed than students majoring in social sciences. Most of the students of Applied Science were extremely agree upon on it, whereas the Social Science students were found somehow agreed.

Table 2. Stress associated with discipline

Stress	Independent Sample t-test				
	F	T	df	Sig (2-tailed)	Mean Differences
Academic Discipline	9.549	-2.854	19.00	.010	-.300

The p-value (.010) was found to be statistically significant from Table 2 by independent samples t-test. This means that H2 is correct that "applied science students are more mentally stressed than social science students".

5.3 Relationship between Lab Pressure and Productivity

There is a close relationship between pressure (stress) and productivity. Sometimes stress can speed up performance, and sometimes stress can negatively impact routine success. According to D. McGregor's theory of X and Y, people affected by X do not want to work willingly, they must be stressed. The observation of neoclassical theorists is that if the social and work environment is found to be satisfactory, then employees themselves are under

pressure to increase productivity. In fact, productivity depends on how much pressure is applied when and under what circumstances. Table 3 shows that the p-value (.028) is significant. This means H3 ‘Pressure of lab work negatively influence on the productivity’ is proved by the independent sample t-test.

Table 3. Lab work pressure influences on productivity

Productivity	Independent Sample t-test				
	F	t	df	Sig (2-tailed)	Mean Differences
Time spend in lab	.229	-2.574	9.906	.028	-3.375

5.4 Discipline Wise Involvement in Socio-Cultural Activities

Man is a social being. They are inseparable from social relationships. Conversely, too much social connection or involvement can get in the way of academic or professional life. However, social engagement can be refreshing and healthy, which can motivate students to stay more focused in their studies. In fact, humans naturally want to spend time on such social activities, but some people don't have enough time to spend on it. On the other hand, some people have more time to spend on these issues. In order to balance study and life, participation in laboratory activities and sociocultural activities must be managed skillfully.

As can be seen from Table 4, the p-value (.118) was not statistically significant. This means that H4 "Students in social sciences are more socially engaged than students in applied sciences" is not proven by an independent samples t-test.

Table 4. Involvement in socio-cultural activities

Involvement in social activity	Independent Sample t-test				
	F	T	df	Sig (2-tailed)	Mean Differences
Academic Discipline	1.117	-1.668	13.685	.118	-.375

From this results, we can say that the Social Science students are not always engaged with socio-cultural activities by utilizing their free time.

5.5 Factors Associated with Study-Life Balance

Some factors accelerate study-life balance, while others hinder study-life balance. These factors depend on individual personality and may vary from time to time and from place to place. Through factor analysis, we found that there are two trends in the factors that balance students' study and life, namely laboratory environment and facilities. The laboratory environment includes supervisory collaborative roles, relationships with peers and a reasonable workload in the laboratory, while facilities include housing and scholarships. Table 6 shows that the factor ‘laboratory environment’ was found to be significant when ‘facility’ was not statistically significant. This means that a suitable laboratory environment is the main factor to balance the study and life of foreign doctoral students.

Table 5. Factors associated with balancing study-life (Model Summary)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.287[a]	.082	.050	1.182

a. Predictors: (Constant). Facilities, Lab Environment

Table 6. Standardized weight observed to define 'Time Spend in Lab' where as 'Lab environment' and 'Facilities' observed as determinants

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.567	.153	-	16.826	.000
Lab Environment	.304	.154	.251	1.978	.053
Facilities	.169	.154	.140	1.100	.276

a. Dependent Variable: Time Spend in lab

5.6 Relationship among the Factors Associated with Internal Lab Environments

Through factor analysis, we confirmed that the laboratory environment is the main factor in balancing study and life. In this regard, we should examine how far the internal laboratory factors are related. But there are many factors in the lab environment that can attract or deter students from entering the lab. This research has identified some factors that affect students' performance in the lab, such as relationships with peers, supervisor's collaborative role, flexible lab time, etc. Among these factors, the relationship between supervisor cooperating roles to produce quality work and relationship with peers found significantly (P value = .004) correlated and the relationship between flexible lab hour and supervisor's cooperative role is also found significantly (P value = .007) correlated that is shown in table 7. On the other hand, relationship with peers and flexible lab hours are not found correlated (P value = .206).

Table 7. Relationship among lab internal factors

		Relationship with peers	Supervisor cooperating roles	Flexible lab hour
Relationship with peers	Pearson Correlation	1	.368**	.166
	Sig. (2-tailed)	-	.004	.206
	Std. Error	0	.141	.121
Supervisor	Pearson Correlation	.368**	1	.343**

cooperating roles	Sig. (2-tailed)	.004	-	.007
	Std. Error	.141	0	.116
Flexible lab hour	Pearson Correlation	.166	.343**	1
	Sig. (2-tailed)	.206	.007	-
	Std. Error	.121	.116	0

From this perspective, we can say that the internal laboratory environment has a positive effect on the study-life balance as a whole, but all internal factors are not closely related in terms of study-life balance.

6. Conclusion

Through the analysis of this study, we found that applied science majors spent more time in laboratory activities than social science majors, and applied science majors felt more mentally stressed than social science majors. It was also demonstrated that laboratory stress had a negative impact on student productivity in both disciplines. On the other hand, social science majors are more involved in social activities than applied science majors, which is not statistically proven in this study. In this regard, it can be argued that relaxing the lab work of social science students does not corroborate greater involvement in sociocultural activities. It may have different factors that can be addressed with further research. Through factor analysis, trends in two main factors for balance between study and life were identified, namely appropriate laboratory environment and facilities. Of these two factors, the laboratory environment was positively related to production work, including the supervisor's cooperative role, relationships with peers, and reasonable workload in the laboratory. On the other hand, the relationship between all these internal laboratory environmental factors are not always correlated.

The main limitation of this study is that only one university and foreign doctoral students were considered. It would be better and more representative to choose a few universities, which can be compared with Chinese doctoral students, and can have more diversified thinking on this issue. However, due to time constraints, we attempted to use only one university's study-life balance as a case study. It would also be better if we obtained different positions on study-life balance based on gender considerations. To address this limitation, future similar studies could further explore the depth of the following questions: What role should universities play in helping foreign students achieve balance their study-life, and to what extent can academic staff play a balancing role? The results presented here also provide a springboard for future research on study-life balance in student affairs and suggest a comparative study of local and foreign doctoral students.

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