Abstract

**Background:** Entrepreneurship refers to an individual’s ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. Entrepreneurship education has a positive impact on entrepreneurial attitudes and intentions, individuals get a job earlier, innovate more even as employees and start more companies.

**Aims & Objectives:** To determine the entrepreneurship potential among students of physiotherapy in Punjab. Methods: A cross-sectional survey conducted at 15 Physiotherapy institutes of Punjab. Entrepreneurship potential were recorded using standardized questionnaire tool used by National Council for Graduate Entrepreneurship (NCGE).

**Results:** A total of 522 students participated in the survey among whom 26.04% males and 73.96% females were undergraduates and 55.38% males and 44.62% females were postgraduate. The mean age of participants was 21.36 ± 8.82. 3.25% students show very high potential for entrepreneurship, 37.93% have high potential for entrepreneurship, 32.37% students have potential but are less likely to pursue their career as entrepreneurs in Physiotherapy and 26.43% students will not be entrepreneurs at all.

**Conclusion:** The study concludes that a high potential exists among both undergraduate and postgraduate students. However the postgraduate students exhibit double the potential than that of undergraduate students. Male respondents showed double the potential to become future entrepreneurs as compared to female respondents.

**Keywords:** Entrepreneurship Potential, Physiotherapy, Entrepreneurship Education.

Introduction:
The term “entrepreneur” was first published in 1723 in a French dictionary “Dictionnaire Universel de Commerce” of Jacques des Bruslons. It roots from a thirteenth-century French verb, entreprendre, meaning “to undertake.” or “to do something”. It was not until 1732 when the Irish economist Richard Cantillon used the word for referring to individuals having “willingness to carry out forms of arbitrage involving the financial risk of a new venture”(1,3). Entrepreneurship has been defined variously by different professions since Middle Ages as it lacks a comprehensible framework. However its meaning actually depends upon the definer’s own point of view (3). Oxford Dictionaries describe “entrepreneur” as “A person who sets up a business or businesses, taking on financial risks in the hope of profit”.

Entrepreneurship refers to an individual’s ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. This helps one and all in daily life at home and in society, makes employees more conscious of the context of their work and better able to grab opportunities, and endows with a foundation...
for entrepreneurs launching a social or commercial activity\(^4\).

Entrepreneurship is a two staged process of becoming self employed and building an individual identity\(^5\). The entrepreneurial attitude of taking responsibility of one’s own career and life; entrepreneurial skills of originality, problem solving, motivation, networking, flexibility and adaptability; and entrepreneurial knowledge that refers to have wide based understanding of role of entrepreneurship in modern societies and economies, are the key competence attributes of a successful entrepreneur. The major rationale behind the preference of being self employed are the craving for personal autonomy in terms of decision making and financial matters, the independence of choosing time and place of work and realization of a business opportunity\(^4\). Societal entrepreneurship refers to initiatives which aim at improving what is lacking or non-functioning in society; new solutions intended at creating a sustainable society – economically, socially and ecologically – by applying entrepreneurial logic\(^6\).

Classification of Entrepreneurs based on functional characteristics:

a. **Innovator:** they introduce new products or method of production or discover new market for enterprise. They are aggressive in approach and build modern capitalism by adding possible attractions into practice intelligently.

b. **Imitative:** they copy the techniques of others to establish the enterprise or accomplish objectives. They are revolutionary and important for growth of underdeveloped economies.

c. **Fabian:** They are second generation entrepreneurs and have fundamental and rigid approach regarding their family owned business and follow their predecessors’ footsteps.

d. **Drone:** They are conventional in approach and hardly take chances to bring changes in their existing enterprise.\(^2,\,7\)

Classification of Entrepreneurs based on motivation level:

a. **Spontaneous:** They are driven by their self desire and sense of actualization or otherwise born.

b. **Induced:** They are formed by government support in terms of financial assistance, incentives, concessions etc. to start an enterprise or business.

c. **Motivated:** They are encouraged by their desire of using their technical knowledge and expertise to establish and promote an enterprise.\(^7\)

**Literature Review:**

The correlation between entrepreneurship and economic expansion is appreciably recognized these days. Moreover, it is also recognized that enhancing rate of self employment tends to decrease rates of unemployment consequently. The Green Paper on entrepreneurship in Europe (2003) verifies that development of entrepreneurship has vital benefits economically (contributing to job creation and growth) and socially (unleashing personal potential, promoting social interests, personal accomplishment and social aims)\(^8\). According to a study it is well established that entrepreneurship education has a positive impact on entrepreneurial attitudes and intentions, individuals get a job earlier, innovate more even as employees and start more companies. It seeks to prepare enterprising individuals to be responsible to achieve the objectives set forth for a complete life by refining entrepreneurship key competence which leads to more innovative behavior. Entrepreneurs who received formal education regarding entrepreneurship are more determined and ambitious unlike those who did not undergo any of such programs. However it should be emphasized that entrepreneurship education does not mimic the pattern of economic studies and general business. Entrepreneurship education is also
not directly focused on the creation of new enterprises. In fact, it enables the students to think creatively, to become an efficient problem solver, to communicate and network and to lead from front. It is a way of teaching and equipping young minds to develop their potentials fully \(^{(4)}\). For this exclusive reason it should be expanded to all disciplines as obligatory subject of regular curriculum.

The entrepreneurship potential is influenced positively by personality and family role models. Urgency in Entrepreneurial intent is inspired by creativity, personal willingness and risk taking abilities. The desire of economic autonomy is encouraged by self determination and motivation which differs from person to person and shows fluctuations between genders \(^{(9)}\). Nevertheless all these three qualitative parameters for the assessment of Entrepreneurial potential among students are augmented under a well designed and well executed entrepreneurial education program. Several authors have highlighted the demand of entrepreneurial education as “any pedagogical program or process of education for entrepreneurial attitudes and skills which involves developing certain personal qualities. It is therefore not exclusively focused on the immediate creation of new businesses”\(^{(5)}\).

Physical therapists are health care professionals who maintain, restore, and improve movement, activity, and health enabling individuals of all ages to have optimal functioning and quality of life, while ensuring patient safety and applying evidence to provide efficient and effective care\(^{(10)}\). The Bureau of Labor and Statistics USA has predicted a boost in the demand of Physiotherapy services up to 36% by 2022. In an article, published in Time magazine, physical therapists were listed as the sixth most recession-proof job. According to US News and World Report it was included in the list of best jobs in 2012. According to CNN Money.com it was included in the top 10 fastest growing professions in 2012. According to MSNBC.com it was ranked as 4th top paying profession as of 2012. Physical therapists (PT) play essential roles in present health care environment and are recognized as vital providers of habilitation and rehabilitation, prevention and risk reduction services. Physical therapists can also assume roles like clinical consultant, educationist, administrator and researcher. Physical Therapy addresses impairments and limitations due to neuromuscular, musculoskeletal, cardiopulmonary or integumentary disorder of all ages groups.\(^{(10)}\)

“The Guide to Physical Therapist Practice” (2nd Edition) is a useful framework for understanding the scope of physical therapist practice in patient care. However, the organizational perspective of physical therapy practice is quite neglected in the Guide also. Furthermore, when physical therapists consider the delivery of patient care, they need to use knowledge and skills in administration/business management to lead their actions. The appropriate guidelines of knowledge and skills in administration and management required by physical therapist graduates are still unclear. Nonetheless the addition of substance about administration/management in “A Normative Model of Physical Therapist Professional Education”, widely used by physical therapist educators for curricular development, suggests that familiarity with administration/management knowledge is significant for new graduates\(^{(11)}\).

According to a study at Alexander Technological Educational Institute of Thessaloniki, Greece 26% physiotherapy graduates were self employed soon after their studies which seem to be highest among all healthcare professions\(^{(8)}\). In Pakistan the number of enrollments, in Physiotherapy undergraduate and graduate programs, is on rise ever since the introduction of doctor of physiotherapy course and Masters in specialties. Vision 2020 of APTA stipulates that Physical therapist is an autonomous, first contact practitioner and allows direct access of patients to physiotherapy services irrespective of referral\(^{(10)}\). However the niche of private practice and fresh startup remains an undiscovered arena among most
of physiotherapy graduates which is primarily due to lack of entrepreneurial education and scarce motivation role models for independent successful practice. There is very little or no significant work on this side of profession in Pakistan to-date. Therefore this study is unique in sense to shed light on existing entrepreneurial potential among physiotherapy students of Pakistan and necessitates implementation of proper educational reforms in present curriculum regarding entrepreneurship.

Methodology:
A cross-sectional survey conducted at 15 Physiotherapy institutes of Punjab, Pakistan including SPT King Edward Medical University LHR, University of Health Sciences LHR, UIPT University of Lahore LHR, University of Sargodha Lahore and Sargodha Campuses, RCRS Riphah International University Lahore and Islamabad Campuses, Allama Iqbal College of Physiotherapy AICM Lahore, Institute of Allied Health Sciences Fatima Memorial Hospital Lahore, LCPT Lahore Medical and Dental College Lahore, School of Allied Health Sciences Children Hospital Lahore, The University of Faisalabad, Bahauddin Zakria University Lahore and Other institutes including Shifa Tameer Millat University Islamabad. A total of 522 students were enrolled in the study if they fulfilled the following criteria:

a. They were regular students in discipline of Physiotherapy at any of the above mentioned institutes.
b. They were enrolled in either undergraduate or postgraduate physiotherapy program at that time at any of the above mentioned institute.
c. They were both mentally and physically healthy.
d. They were willing to volunteer their information for the survey.

Students having following characteristics were excluded from survey sample:

a. They were enrolled in Ph.D. program of Physiotherapy.
b. They had any mental or physical disability.

Demographic data like age, gender, current level of study, institution, entrepreneurship potential were recorded using standardized questionnaire tool used by National Council for Graduate Entrepreneurship (NCGE) United Kingdom and published in working paper series. The statistical analysis of the data was prepared by using SPSS v.16. Qualitative data was evaluated via frequency percentage and bar charts. Quantitative data was evaluated by taking mean ± SD.

Results:
A total of 522 students participated in the survey among whom 26.04% males and 73.96% females were undergraduates and 55.38% males and 44.62% females were postgraduate. The mean age of participants was 21.36 ± 8.82. According to National Council for Graduate Entrepreneurship (NCGE), the scale of scoring the responses regarding potential for entrepreneurship states that:

b. Score: 10-13 shows High Potential for Entrepreneurship.
c. Score: 07-09 shows Potential but less likelihood for Entrepreneurship.
d. Score: 01-06 shows Least likelihood to be Entrepreneurs. *(9)*

The results of the study conducted to determine entrepreneurship potential among students of Physiotherapy in Punjab, Pakistan are summarized and tabulated as under in table 1:

In accordance with the results computed above 35.66% undergraduates possess potential but are less likely to pursue career in the field as entrepreneurs and independent practitioners. On the contrary 70.76% postgraduate students possess high potential and are likely to follow their career as independent practitioners in the field becoming entrepreneurs. Overall only 3.25%
students show very high potential for entrepreneurship, 37.93% have high potential for entrepreneurship, 32.37% students have potential but are less likely to pursue their career as entrepreneurs in Physiotherapy and 26.43% students will not be entrepreneurs at all. (Table 1)

<table>
<thead>
<tr>
<th>SCORE</th>
<th>UNDERGRADUATE</th>
<th>POSTGRADUATE</th>
<th>TOTAL</th>
<th>INTERPRETATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>14-15</td>
<td>10</td>
<td>2.18</td>
<td>07</td>
<td>10.76</td>
</tr>
<tr>
<td>10-13</td>
<td>152</td>
<td>33.26</td>
<td>46</td>
<td>70.76</td>
</tr>
<tr>
<td>7-9</td>
<td>163</td>
<td>35.66</td>
<td>06</td>
<td>9.23</td>
</tr>
<tr>
<td>1-6</td>
<td>132</td>
<td>28.88</td>
<td>06</td>
<td>9.23</td>
</tr>
<tr>
<td>TOTAL</td>
<td>457</td>
<td>87.54</td>
<td>65</td>
<td>12.45</td>
</tr>
</tbody>
</table>

It is evident from the above bar chart that, 5.16% males and 2.45% females possess very high potential, 54.83% males and 30.96% females possess high potential for entrepreneurship. While 23.87% males and 35.96% females possess potential but are less likely to be entrepreneurs. Also 16.12% males and 30.79% females totally lack potential for entrepreneurship. (Figure 1)

![Bar chart showing entrepreneurship potential among male and female participants](image1)

**Figure 1:** The colored bars represent the Entrepreneurship potential among male and female participants

The above chart indicates the participants from each institution enrolled in this survey. Out of 522, 37.4% respondents (42.58% males and 35.14% females) consider to be self employed within next five years, 61.1% respondents (67.7% males and 58.31% females) agree to have desire to have economic autonomy. (Figure 2)

![Bar chart showing percentage of participants from different physiotherapy institutions of Punjab](image2)

**Figure 2:** The bar chart shows percentage of participants from different physiotherapy institutions of Punjab
Discussion:
In Pakistan, awareness about and utilization of physiotherapy services is on rise ever since its introduction in 1959 at JPMC Karachi. However the importance of Physiotherapy services has been realized three folds more in the last decade in Pakistan especially after the up-gradation of Physiotherapy educational degree world over. According to Vassilis Kostoglou et al (2008) gender, degree grade and specialty are the significant factors for intent of entrepreneurship and self employment. Physiotherapy is the third greatest specialty with 26.2% self employment rate in Greece (8). The results of this study are in consistence with that of Vassilis Kostoglou. Sarri and Trihopoulou (2005), argued that social factors like dependency and lack of support are the hurdles for female entrepreneurs (9). These results were consistent with the results of the conducted study that in total 60% males possess high potential for entrepreneurship in contrast to 66.75% female who are least likely to be entrepreneurs in future. Eurobarometer (2007) enunciates that the choice of time and place are imperative issues to females for practice as independent professionals in the community (8). Eurobarometer (2007 and 2009) suggests that the main explanation behind not opting to be self employed is the lack of funds (4,8). Dunn et al. (2000) and Hout et al (2000) discovered that people who owned a family business presented themselves as the role models to new generation and had positive impact on their decision to be entrepreneurs (9).

Nonetheless, the results of this study contradict with those archived by Babur MN and Arjumand M (2013) regarding the potential of entrepreneurship among physiotherapy students. (12) The current study shows in detail that only 3.25% students both postgraduate and undergraduate possess very high potential for entrepreneurship, 37.93% have high potential whereas 32.37% have potential but are not likely to be entrepreneurs and 26.47% students lack potential for entrepreneurship. It was also found that junior undergraduate and senior postgraduate students of Physiotherapy exhibited more potential of entrepreneurship which is in conflict with the results obtained by Babur MN and Arjumand M (2013) (12).

Conclusion:
The study concludes that a high potential exists among both undergraduate and postgraduate students. However the postgraduate students exhibit double the potential than that of undergraduate students. It is primarily because of acquiring higher degree and more exposure towards the diverse clientage and market situation. Male respondents showed double the potential to become future entrepreneurs as compared to female respondents. Nevertheless the potential can be converted into resourcefulness by proper guideline and education about entrepreneurship and its advantages. The results of the study can be generalized for all the current enrolled population of Physiotherapy students in Pakistan.

Recommendations
Vassilis Kostoglou et al (2008) found that entrepreneurs are generally taken as Job Creators (8). Galloway et al. (2004) agree that entrepreneurship education does play a significant role in equipping the students of different fields with required set of skills and knowledge based on needs of students and profession and circumstances around for related startup as promising economy enterprise in their future professions (13). Solomon and Ohman et al.
(2002) are in agreement that biggest challenge for current physiotherapy education programs is to harmonize the critical thinking, self directedness and reflective practice with clinical skills practically.

Lahteenmaki (2005) found that physiotherapy students were anxious and reluctant to practice independently and uncertain in applying physiotherapy treatment on their own at the beginning of their clinical training but were eager to work with actual clients (Lindquit et al. 2004)(14).

This wish and spirit of putting clinical skill and knowledge into practice can be turned into real time professional outcome oriented practice by introducing appropriate supervised practical based set of courses within the physiotherapy education programs for both undergraduates and postgraduates.

In the light of importance of Entrepreneurship education in context of Physiotherapy practice following are the recommendations:

1. Seminars and workshops must be organized to promote awareness and encourage the entrepreneurial attitudes, skills and knowledge from time to time for students of Physiotherapy.
2. Topics related to entrepreneurship and development of entrepreneurial skills should be incorporated as a subject or module into the curriculum at both undergraduate and postgraduate study levels.
3. Entrepreneurial role models of Physiotherapy in Pakistan in particular and across the world in general must be highlighted as examples to instigate the thought process and boost the willingness among the students to be future entrepreneurs.
4. Since Entrepreneurs and enterprises yield into creation of job opportunities, it is highly imperative to promote entrepreneurial education to nurture the future employers and to subsequently increase employability rate of physiotherapists in variety of settings in Pakistan and world over.

**Limitations:**
The study analysis comprised of qualitative data survey. The results of the survey cannot be generalized for world population of Physiotherapy students where socio-political culture varies from that of Pakistan. Moreover the effectiveness of results can be evaluated by enacting the recommendations of incorporating entrepreneurship education in regular physiotherapy curriculum and observing its impact on future physiotherapists employability. Moreover policies regarding professional autonomy for various health professions vary from country to country.

**References**


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