The Relationship Between Background Education, Socio-Demographic And Lifestyle Factors And Academic Performance

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ABSTRACT

Objectives: To assess the association between the socio-demographic factors, parental support, lifestyle, time management and academic history with academic performance of health science students.

Materials and Methods: A cross-sectional study was conducted including health science students in Ajman, United Arab Emirates between September 2013 and March 2014. A validated pilot tested self-administered questionnaire was used to collect the data which contained questions about demographic factors, lifestyle and academic history. Academic performance was defined as self-reported grade achieved in the previous academic year. The study was ethically approved and informed consent was taken from participants. The SPSS version 20 was used to analyze the data and Chi-square test was used to test the significance of association. A p value of <0.05 was accepted as a significant level.

Results: The study included 277 respondents aged between 18 and 32, with 88 males (32%) and 189 females (68%). Majority were from the Eastern Mediterranean region countries (48%). Most of respondents (44.7%) achieved grades between 75 and 84%. Better performance was seen amongst females (p=0.023) and among students with excellent time management skills (p<0.001). Students who perceived a need for help with their studies performed worse than those who did not (p<0.001). Higher percentage of excellent academic performance was noticed among students who had received parental support and had good sleep. Socioeconomic status was not significantly associated with academic performance.

Conclusion: Better academic performance was significantly associated with gender and time management skills. Students who perceived a need for extra help with their studies performed significantly poorer than those who did not. Excellent academic performance was found more frequently among students who had received parental support and had good sleep. Socioeconomic status was not significantly associated with academic performance.

Keywords: Academic performance, health science, lifestyle factors, academic achievement, socio-demographic factors.
INTRODUCTION

The factors that influence academic performance are innumerable; they may have a direct or indirect effect on the students’ academic achievements during their university life. Identifying these factors may highlight which factors enhance and others which decrease the students’ performance and serve as a guide for them to identify which significant factors may specifically apply to them.

These factors include and are not limited to personal factors and lifestyle factors such as age, gender, socioeconomic status, parental involvement, social life, sleeping habits and previous academic background such as language of instruction, high school study system. A previous study showed that students in their experiential years performed better than the students in their earlier years, in terms of time management skills, academic competence and test anxiety. Also a positive correlation was seen between physical activity and academic performance.

A significant association was revealed between parental involvement and academic performance, where the parental involvement was defined as the parent’s positive attitude towards the child’s education, resulted in an increase in their overall performance.

In a university in Uganda it was found that students with university education performed better at their current university. Also a significant relationship was noticed between socioeconomic status and academic performance, where students with a higher economic status performed better than their peers with lower socioeconomic status. In addition to these factors, gender illustrated a role in academic performance where girls performed better than boys in one study, factors such as parental education and employment showed no association with the academic performance.

In October 2007, numerous factors such as sleeping habits (sleeping/waking time and naps) were studied in relation to academic performance. Reported results showed a higher academic performance in students who had earlier bedtimes and waking times and those who napped. Additional factors such as total sleep time, gender, race and use of caffeinated beverages showed no significant association with academic performance. The American psychological association concluded that students from the lower socioeconomic status acquired language skills slowly and had delayed letter recognition and phonological awareness that has an impact on their academic performance.

Spending time playing videogames was investigated for any effect on academic performance. The only significant result was that the same persistence showed by students in playing video games was also shown in other tasks such as studying.

In the UAE, minimal studies have been carried out with regard to the factors that affect the academic performance of health science university students. Availability of this information may enable institutions and universities to plan support activities according to the students’ needs.

The objective of this study was to analyze the association between the socio-demographic factors, parental support, lifestyle, time management and satisfaction and self-perception with academic performance of health science students.
MATERIALS AND METHODS

Study design: This research was a Cross-Sectional study.

Setting: The study was conducted in Gulf Medical University in Ajman, United Arab Emirates.

Duration: The duration of the study was six months, carried out between September 2013 and March 2014.

Study population/ Sample size: All students in second and third year MBBS, DMD, BPT and Pharm D including fourth year Pharm D with a total of 312 students were our target population.

Inclusion criteria: students 18 and above in the GMU

Exclusion criteria: Students below 18 years, 1st year students of MBBS, BPT and Pharm D, Students not present at the time of study

Dependent variable: Self-reported academic performance.

Independent variables:

Socio-demography: Gender, Age, Nationality, Living conditions (home with family or independently), Socioeconomic status, Social relationships

Parental Support: Encouragement, Assistance with Studies, Contributing in the choice of joining course

Life style: Sleep habits, Time management, Smoking

The Satisfaction and Self Perception related to the current academic performance.

Tool: A self-administered questionnaire was used in this study, which included questions about personal, family, lifestyle and self reported academic performance in the last academic year.

Validity: The tool was validated by experts from Community Medicine and Medical Education Unit.

Pilot study: A pilot study was carried out on ten students from the study population.

Data collection method: After getting approval from the included colleges, the questionnaires were distributed during time assigned by the secretary of each college.

Storage: The data was stored in Community Medicine Department for 3 years according to GMU policy.

Analytical approach: Data was collected and entered into Excel and transferred into SPSS version 20. The data was presented in Tables, Graphs, Percentages and Chi-Square Test was used to test the association between variables.

The WHO classification of regions\(^{11}\) was used to classify the students’ nationalities.

Socioeconomic status was defined as self-perceived socioeconomic status of participants.

Self-reported academic performance was grouped into three categories:

- 85 and above – Excellent
- 75 to 84 – Good
- Less than 75 – Poor

Hours of sleep was classified based on the recommendations of the National Heart Lung and Blood Institute\(^{12}\) into:

- \(\geq 8\) hours – Recommended
- \(< 8\) hours

Self-evaluated time management skills were rated on a scale of 1-10 and then grouped into:
RESULTS

Table 1 shows the association between academic performance and socio-demographic factors.

A statistically significant association was found between gender and academic achievement (p=0.023). 34.4% of females scored excellent versus males (27.6%). The same observation was seen for the good score category, which were achieved by 47.3% of females as compared with 39.1% of males. Following the same pattern, it was found that there were less female students (18.3%) scoring poor compared to male students (33.3%). With regards to the rest of the socio-demographic factors, no other statistically significant association could be found. A slightly better performance was seen in the students who were not involved in a romantic relationship compared with those who were (32.5% vs 31.8%).

Table 1: The Association between Academic Performance and Socio Demographic Factors.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>≥85</th>
<th>75–84</th>
<th>&lt;75</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>24</td>
<td>34</td>
<td>29</td>
<td>87</td>
<td>P=0.023</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>64</td>
<td>88</td>
<td>34</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>≤20</td>
<td>56</td>
<td>76</td>
<td>31</td>
<td>163</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>&gt;20</td>
<td>32</td>
<td>46</td>
<td>32</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>Nationality*</td>
<td>African</td>
<td>17</td>
<td>28.8</td>
<td>14</td>
<td>59</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South-East Asian</td>
<td>17</td>
<td>41.5</td>
<td>6</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eastern</td>
<td>38</td>
<td>29.5</td>
<td>32</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mediterranean</td>
<td>13</td>
<td>32.5</td>
<td>11</td>
<td>40</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>55</td>
<td>35.5</td>
<td>36</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td></td>
<td>With family</td>
<td>33</td>
<td>28.0</td>
<td>27</td>
<td>118</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Independently</td>
<td>47</td>
<td>37.0</td>
<td>28</td>
<td>127</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parents</td>
<td>7</td>
<td>28.0</td>
<td>8</td>
<td>25</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Non-parents</td>
<td>16</td>
<td>37.2</td>
<td>15</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-Hostel</td>
<td>43</td>
<td>35.0</td>
<td>27</td>
<td>123</td>
<td>NS</td>
</tr>
<tr>
<td>Socio-economic</td>
<td>Middle/Higher</td>
<td>39</td>
<td>27.7</td>
<td>34</td>
<td>141</td>
<td>NS</td>
</tr>
<tr>
<td>Status</td>
<td>middle/Higher</td>
<td>54</td>
<td>32.5</td>
<td>36</td>
<td>166</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>34</td>
<td>31.8</td>
<td>27</td>
<td>107</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>46</td>
<td>43.0</td>
<td>25.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2 describes the association between parental influence and academic performance. No significant association was found between academic performance and any of the studied variables related to parental support.
A higher percentage of students who received support via encouragement scored excellent compared to those who did not receive encouragement (33.8% vs 15%). A similar finding was noticed for those who receive assistance from their parents with their studies as compared to those who did not (36.4% vs 31.3%).

Students who had selected their program of study by their own choice showed a higher proportion of excellent scores compared to those who had joined based on their parents’ insistence (32.5% vs 28.2%).

Table 2: The Association between Parental Influence and Academic Performance.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Criteria</th>
<th>≥85 No.</th>
<th>≥85 %</th>
<th>75–84 No.</th>
<th>75–84 %</th>
<th>&lt;75 No.</th>
<th>&lt;75 %</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental support</td>
<td>No</td>
<td>19</td>
<td>33.9</td>
<td>27</td>
<td>48.2</td>
<td>10</td>
<td>17.9</td>
<td>56</td>
<td>P=0.0580</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>69</td>
<td>31.8</td>
<td>95</td>
<td>43.8</td>
<td>53</td>
<td>24.4</td>
<td>217</td>
<td>NS</td>
</tr>
<tr>
<td>Encouragement</td>
<td>No</td>
<td>3</td>
<td>15.0</td>
<td>10</td>
<td>50.0</td>
<td>7</td>
<td>35.0</td>
<td>20</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>66</td>
<td>33.8</td>
<td>84</td>
<td>43.1</td>
<td>45</td>
<td>23.1</td>
<td>195</td>
<td>NS</td>
</tr>
<tr>
<td>Assistance with Studies</td>
<td>No</td>
<td>57</td>
<td>31.3</td>
<td>79</td>
<td>43.4</td>
<td>46</td>
<td>25.3</td>
<td>182</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>12</td>
<td>36.4</td>
<td>15</td>
<td>45.5</td>
<td>6</td>
<td>18.2</td>
<td>33</td>
<td>NS</td>
</tr>
<tr>
<td>Choice of joining program</td>
<td>Own choice</td>
<td></td>
<td></td>
<td>43.9</td>
<td>54.0</td>
<td>23.7</td>
<td>228</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parents’ insistence</td>
<td>11</td>
<td>28.2</td>
<td>20</td>
<td>51.3</td>
<td>8</td>
<td>20.5</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows the association between academic performance and the sleep variables. There was no significant association between academic performance and the sleep variables studied.

The percentage of students who scored excellent was highest among students who slept 8 hours or more (34.8% vs 30.8%), slept adequately and were never/sometimes sleepy during class (32.8% vs 30.7%).

Table 3: Association between Academic Performance and the Sleep Variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>≥85 No.</th>
<th>≥85 %</th>
<th>75–84 No.</th>
<th>75–84 %</th>
<th>&lt;75 No.</th>
<th>&lt;75 %</th>
<th>Total</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleeping hours per day</td>
<td>&lt;8</td>
<td>56</td>
<td>30.8</td>
<td>79</td>
<td>43.4</td>
<td>47</td>
<td>25.8</td>
<td>182</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>≥8</td>
<td>31</td>
<td>34.8</td>
<td>42</td>
<td>47.2</td>
<td>16</td>
<td>18.0</td>
<td>89</td>
<td></td>
</tr>
<tr>
<td>Sleepy during class</td>
<td>Never/sometimes</td>
<td>66</td>
<td>33.0</td>
<td>86</td>
<td>43.0</td>
<td>48</td>
<td>24.0</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Most of the time/always</td>
<td>22</td>
<td>30.1</td>
<td>36</td>
<td>49.3</td>
<td>15</td>
<td>20.5</td>
<td>73</td>
<td>NS</td>
</tr>
</tbody>
</table>
Table 4 shows the association between time management, smoking and academic achievement. A significant association (p<0.001) was observed between self-reported time management skills and academic performance. The highest performance was observed in students who had rated themselves as having excellent time management skills (48.1% scored excellent). Students who were non-smokers scored higher overall than smokers (79.3% scored excellent and good in comparison to 64.1 % in smokers).

Table 4: The Association between Time Management, Smoking and Academic Achievement.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Hours</th>
<th>≥85 No.</th>
<th>≥85 %</th>
<th>75 –84 No.</th>
<th>75 –84 %</th>
<th>&lt;75 No.</th>
<th>&lt;75 %</th>
<th>Total No.</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time management skills</td>
<td>Poor</td>
<td>11</td>
<td>36.7</td>
<td>9</td>
<td>30.0</td>
<td>10</td>
<td>33.3</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td>51</td>
<td>27.4</td>
<td>85</td>
<td>45.7</td>
<td>50</td>
<td>26.9</td>
<td>186</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excellent</td>
<td>26</td>
<td>48.1</td>
<td>26</td>
<td>48.1</td>
<td>2</td>
<td>3.7</td>
<td>54</td>
<td>P=0.001</td>
</tr>
<tr>
<td>Smoking</td>
<td>No</td>
<td>78</td>
<td>33.6</td>
<td>106</td>
<td>45.7</td>
<td>48</td>
<td>20.7</td>
<td>232</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>9</td>
<td>23.1</td>
<td>16</td>
<td>41.0</td>
<td>14</td>
<td>35.9</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

Table 5: shows self-satisfaction and self-perception in relation to the current academic performance. Satisfaction with academic achievement was significantly associated with academic performance. Most of the students who were satisfied with their academic performance had scored excellent or good. A small proportion of students scoring excellent were dissatisfied with their performance (19.6%). Among the students who were dissatisfied with their performance, a large proportion performed poorly (34.8%).

Table 5: The Satisfaction And Self Perception Related To The Current Academic Performance.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Groups</th>
<th>≥85 No.</th>
<th>≥85 %</th>
<th>75 –84 No.</th>
<th>75 –84 %</th>
<th>&lt;75 No.</th>
<th>&lt;75 %</th>
<th>Total No.</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with academic performance</td>
<td>Satisfied</td>
<td>57</td>
<td>50.0</td>
<td>50</td>
<td>43.9</td>
<td>7</td>
<td>6.1</td>
<td>114</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Dissatisfied</td>
<td>31</td>
<td>19.6</td>
<td>72</td>
<td>45.6</td>
<td>55</td>
<td>34.8</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>Perceive the need for additional help with studies</td>
<td>No</td>
<td>66</td>
<td>40.5</td>
<td>74</td>
<td>45.4</td>
<td>23</td>
<td>14.1</td>
<td>165</td>
<td>P&lt;0.001</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>22</td>
<td>20.2</td>
<td>48</td>
<td>44.0</td>
<td>39</td>
<td>35.8</td>
<td>109</td>
<td></td>
</tr>
</tbody>
</table>

Perception of need for additional help with studies was also significantly related to academic performance. Majority of those who felt they did not need help scored excellent or good (85.9%), and a high proportion of those who felt they did scored poor (35.8%). Perception of need for additional help with studies was also significantly related to academic performance. Majority of those who felt they did not need help scored excellent or good (85.9%), and a high proportion of those who felt they did scored poor (35.8%).
DISCUSSION
The research was conducted amongst 277 students, from 2nd and 3rd year of MBBS, DMD, BPT and Pharm D programs including 4th year Pharm D at Gulf Medical University, Ajman, UAE

Socio-Demographic Factors
A significant association was found between gender and academic performance, where females performed better than males (p=0.023). This finding is in agreement with other studies. The explanation given by these studies is that females are usually more eager to learn, more organized and are better at multitasking.

A study conducted in Kanglung, Kingdom of Bhutan on demographic and socioeconomic factors associated with academic performance observed that female students performed better than their male counterparts. Another study from a Turkish university showed that females performed better than males due to factors such as better class attendance, study skills and motivation.

Contrary to our presumption that older students would perform better as they would be more mature and oriented towards their education, a higher performance was seen in younger students (20 years or less) with a higher percentage of them scored excellent or good. This finding was in accordance with another study which also assumed that older students would perform better but found otherwise. This could be because the younger students outnumbered the older group. This can also be explained by the fact that older students may face more responsibilities that may hinder their academic performance. It was proposed in another study that mature students may have more difficulties coping with the demands of learning, as they may lack basic skills required for effective study.

With regards to nationality, the highest proportion of students performing excellent was from the Southeast Asian region, this group also had the lowest proportion of students performing poorly. Asian groups generally rank at the front of the achievement scale. This could be a result of their parents being highly educated and having higher educational expectations as proposed by one study. In this study it was presumed that students from the Eastern Mediterranean would have faced challenges in achieving higher scores due to the language barrier but their scores were not remarkably different from the other groups.

It was found that there was no significant difference between academic performance in those from the middle or lower class as compared with the higher class. The same finding was observed in a different study. This could be because at university level, students have become more mature and focused on their future, and socioeconomic status has less of an effect on their achievement. On the contrary, other studies found a significant positive relationship between socioeconomic status and academic achievement – the higher, the better. Socioeconomic status was measured using parent education, parent employment and parent income in combination in these studies. However the results in this study showed that students in the middle/lower socioeconomic level performed better than others for the reason that they may be more motivated to work harder and aim higher unlike those of the higher class who may feel entitled and not work as hard.
Although living status was not significantly associated with academic performance, the highest proportion of students scoring excellent were those who lived with their family. A reason for this could be that students living with their families may receive support physically and mentally, also students living independently may have more responsibilities such as household chores that can be time consuming and interfere with their study time. Another study also showed no significant association between living status and academic performance\textsuperscript{21}. Amongst students living independently, those that lived in hostel performed better possibly owing to the influence of better security, interaction with fellow colleagues and a more favorable social environment.

**Parental Support**

Parental support was not significantly related to academic performance, however, students who received assistance with their studies performed better than others, and this is in agreement with a study from Saudi Arabia\textsuperscript{22}. A study from the Western Australian Aboriginal Child Health Survey also revealed that parental encouragement was positively associated with academic performance\textsuperscript{23}.

As expected students enrolled to their chosen programs performed better than those enrolled by their parents' insistence, this could reflect more dedication and motivation from the former group.

**Lifestyle**

A higher proportion of excellent academic achievement was noticed among students who slept 8 hours or more compared with those who sleep less than 8 hours.

In a study published in 2012, disturbed sleeping pattern resulting in decreased sleeping hours and increased sleepiness during the day was associated with a negative academic performance\textsuperscript{24}. In this study the students who were less sleepy in class performed better possibly due to higher attention and concentration.

The data showed that those who were not in a romantic relationship performed better. Although the result was not significant, students who were involved in a romantic relationship perceived that it had a positive effect on their academic performance even though the results showed otherwise. Another study also showed that romantic relationships had a negative impact on academic achievement, possibly due to a psychological effect on the learning process\textsuperscript{25}.

Time management skills proved to have a significant relationship with academic performance. Students who claimed to have better time management skills performed better than others. This could be explained by the ability of the students to maintain a balance between their studies and other aspects of their lives. This finding is consistent with that of another study done in 2010\textsuperscript{26}.

**Previous and Current Academic History**

High school language was not found to be a barrier to a better performance, as it was found that students coming from non-English high school performed the same as students coming from an English based high school, although this finding was not significant. Prior to the study it was expected that students from English background would outperform the others. The results could be explained by the fact that the students
in this study were of higher years and might have already adjusted to the language barrier that might have hindered them in the earlier years. This result was contrary to a different study that showed a positive relation.$^{27}$

There was a significant relationship between perceived need for extra help in studies and academic performance with those who needed help having the lowest performance which indicate that there is a genuine concern related to the academic support need of those students.

**LIMITATIONS:** The findings of this study cannot be generalized, and there was some missing information in some of the responses.

**CONCLUSION**

Better academic performance was significantly associated with gender and time management skills. Students who perceived a need for extra help with their studies performed significantly poorer than those who did not. Excellent academic performance was found more frequently among students who had received parental support and had good sleep. Socioeconomic status was not significantly associated with academic performance.

**RECOMMENDATIONS**

- Further studies are recommended to find out other factors that can affect the academic performance of university students. These can include qualitative study designs to explore students’ beliefs about what hinders or promotes their performance.
- The importance of proper time management should be emphasized upon while counselling student who have difficulties in academic achievements.
- Organizing time management training sessions, which may help student whose difficulties in academic achievements are related to this skill.

**REFERENCES**


