PRIFYSGOL ABERYSTWYTH UNIVERSITY

Sport and Exercise Science

Practical

Changes in Hart Rate and Blood Pressure During Activity

Table 1 has the data for seven participants on who we collected data on Heart rate and blood pressure during three different activities, lying down, standing and exercise.

Table 1: Heart rate and blood pressure for seven participants during lying, standing and exercise

	Lying Down			Standing			Exercise		
Subject	**SBP**	**DBP**	**HR**	**SBP**	**DBP**	**HR**	**SBP**	**DBP**	**HR**
1	105	66	81	121	81	84	152	75	115
2	111	65	74	128	81	97	178	82	124
3	129	70	69	130	82	77	145	65	98
4	131	79	65	135	78	65	149	90	102
5	118	70	89	123	85	80	174	82	139
6	117	71	54	126	81	73	149	93	99
7	109	80	81	127	101	93	138	85	120
Average	**117.1**	**71.6**	**73.3**	**127.1**	**84.1**	**81.3**	**155.0**	**81.7**	**113.9**
SD	**9.9**	**5.9**	**11.7**	**4.6**	**7.7**	**11.1**	**15.1**	**9.4**	**15.2**

These data re also shown below for each of the variables, blood pressure in figure 1 and heart rate in figure 2.

Using your existing understanding and the other resource available online including the PowerPoint presentations please write an explanation for each of the following, you should aim to write approximately 100 words for each.

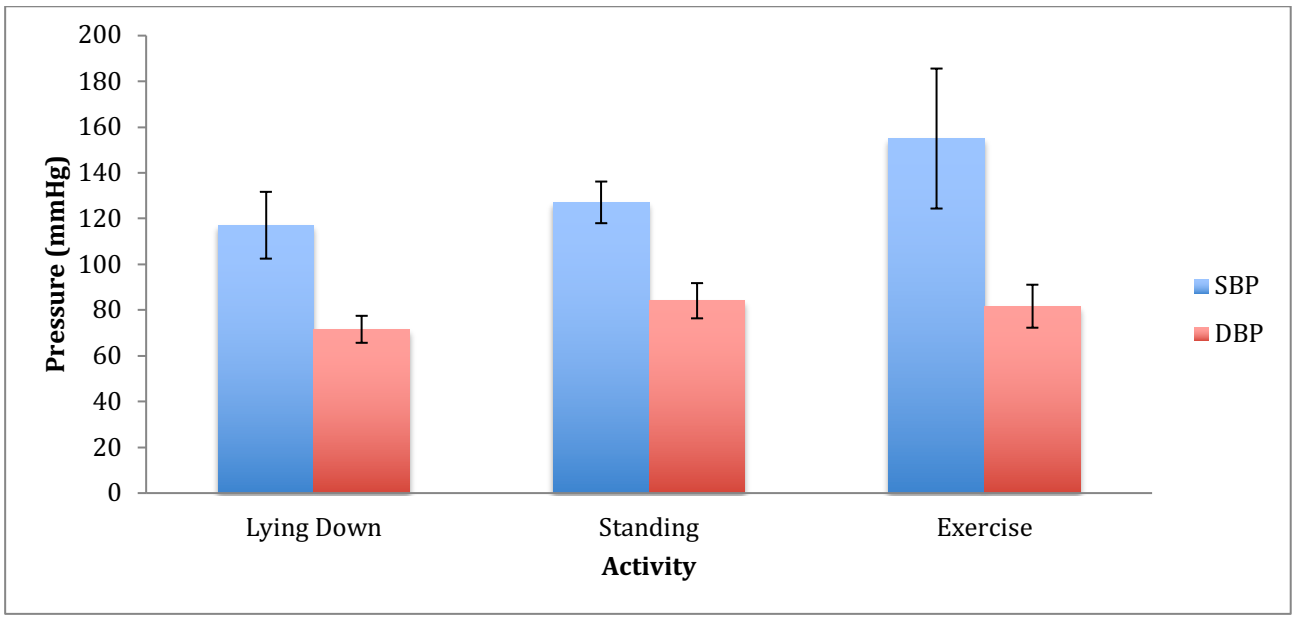

Figure 1: Change in Blood Pressure during different activities

	SBP	DBP
Lying Down	117.1	71.6
Standing	127.1	84.1
Exercise	155.0	81.7

1. Why does Systolic BP increase from lying down to standing and again when the participants start to exercise while Diastolic increase from lying down to standing but does not increase during exercise?

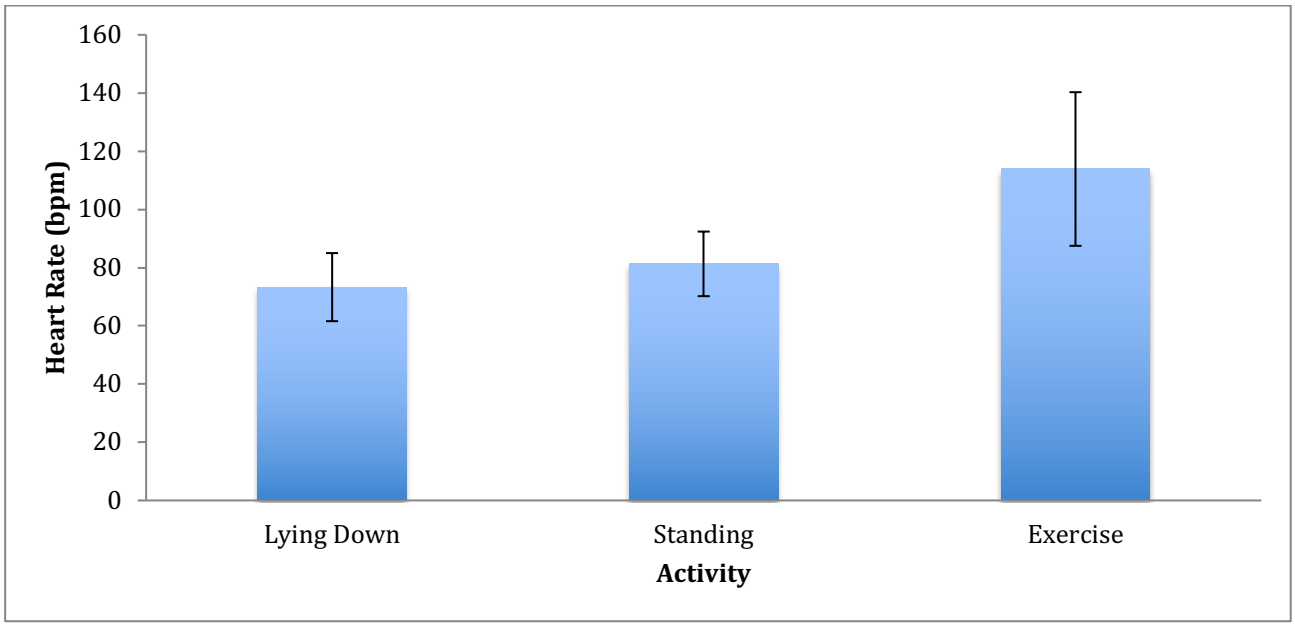

Figure 2: Change in Blood Pressure during different activities

	HR
Lying Down	73.3
Standing	81.3
Exercise	113.9

2. Why does heart rate increase from lying down to standing and again when the participants start to exercise?