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[](https://assignbuster.com/)[Food & Diet](https://assignbuster.com/essay-subjects/food-n-diet/), [Coffee](https://assignbuster.com/essay-subjects/food-n-diet/coffee/)

Stage  1  Psychology   Research  Report   Affects  of  caffeine  on  reaction  time   Proposal:   Caffeine  is  used  by  many  people  to  increase  their  energy  levels.  It  alters  an   individual’s  alertness  and  their  reaction  time.  Though  the  most  common  form  of   caffeine  is  coffee,  it  can  also  be  found  in  certain  soft  drinks,  chocolate,  energy   drinks  and  tea.  When  a  person  takes  in  caffeine,  it  increases  the  heart  rate,  which   makes  the  blood  get  pumped  around  the  body  faster.  Many  people  use  caffeine  to   increase  alertness  throughout  the  day.   The  aim  of  this  research  is  to  investigate  the  link  between  caffeine  intake  and   reaction  time.  Year  11  Psychology  Students  have  participated  in  the  study  of  a   person’s  reaction  time  after  the  intake  of  caffeine.  Participants  between  the  ages   of  15  to  17  took  part  in  this  study.  The  class  was  split  up  into  three  randomly   allocated  groups  and  each  ingested  a  cup  of  coffee.  One  group  was  given  100%   caffeine,  another  group  was  given  50%  caffeine  (half  caffeinated,  half  de-­" caffeinated)  and  the  third  group  was  given  0%  caffeine  (de-­"caffeinated).  After   half  an  hour  was  given,  all  participated  in  a  reaction  time  test  online.   The  data  that  was  obtained  from  the  study  is  objective  quantitative  data.  The   data  will  be  presented  in  tables  and  box  plots;  to  show  how  affects  the  reaction   time  of  the  participants.   These  results  will  be  analyzed  and  used  to  answer  the  question:   How  does  caffeine  affect  reaction  time?   Method:   Each  participant  took  part  in  an  online  reaction  time  test.  This  occurred  30   minutes  after  the  consumption  of  coffee  for  all  participants.  Each  participant   took  the  test  4  times  and  then  calculated  the  mean  of  their  results.   Results:   Average  reaction  time,  30  minutes  after  coffee  consumption   Percentage  of  caffeine   Reaction  time  in  seconds   0%   0. 57  (0. 51  without  outliner)   50%   0. 328   100%   0. 334   Each  average  was  calculated  from  a  sample  size  of  21  participants  between  the   ages  of  15-­"18.  This  table  shows  that  the  average  reaction  time  of  the  students   who  either  consumed  50%  or  100%  caffeine  had  quicker  reaction  times  than  the   group  that  consumed  none  (the  control  group).   Discussions:   The  sample  size  of  this  experiment  was  not  adequate  to  say  that  our  results   would  be  true  for  everyone.  However,  the  conclusion  that  the  intake  of  caffeine   increases  reaction  time  is  generally  increased  in  Year  11  Eynesbury  students  can   be  made.   Alice  Winter Stage  1  Psychology   Research  Report   Affects  of  caffeine  on  reaction  time   The  results  were  not  consistent  to  how  many  decimal  places  the  participants   recorded  their  reaction  times  as.  Therefore,  the  accuracy  of  the  results  would  be   altered.  This  is  a  random  error  and  to  decrease  the  affect  on  the  results  the   reaction  time  test  would  have  to  be  repeated  and  each  participant  would  need  to   consistently  record  the  times.   As  caffeine  is  not  the  only  variable  that  affects  reaction  time,  the  reaction  time   test  should  have  been  taken  before  the  participants  consumed  caffeine  as  well  as   after.  The  difference  between  these  two  results  would  be  a  better  indicator,  as   the  difference  of  the  individuals  would  lessen.   The  amount  of  milk  and  sugar  that  the  participants  had  in  their  coffee,  if  they  had   breakfast  prior  to  the  experiments,  and  the  amount  and  frequency  of  caffeine  the   participants  normally  consume  may  have  also  altered  the  results. Alice  Winter