Impact of Fitness Wearable on Consumer Behavior - Survey Data Analysis

April 21, 2023

[20]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
```

[3]:
```
df=pd.read_excel("C:\\Users\\ASUS\\Downloads\\survey 605.xlsx")
```

[4]:
```
df.head()
```

[4]:

	Timestamp	What is your age?	What is your gender?	What is your highest level of education?	What is your current occupation?	How often do you exercise in a week?	How long have you been using a fitness wearable?
0	2023/03/30 9:43:19 PM GMT+5:30	18-24	Male	Some college or associate degree	Student	5 or more times a week	Less than 6 months
1	2023/03/31 5:07:46 PM GMT+5:30	Under 18	Male	Bachelor's degree	Student	5 or more times a week	Less than 6 months
2	2023/03/31 7:44:46 PM GMT+5:30	18-24	Female	Bachelor's degree	Student	Less than once a week	Less than 6 months
3	2023/03/31 9:36:07 PM GMT+5:30	25-34	Female	Some college or associate degree	Employed part-time	3-4 times a week	6-12 months
4	2023/03/31 9:37:32 PM GMT+5:30	18-24	Male	Bachelor's degree	Student	1-2 times a week	Less than 6 months

```
  How frequently do you use your fitness wearable?  \
0                                            Daily
1                                  3-4 times a week
2                                           Rarely
3                                  3-4 times a week
4                                            Daily

  How often do you track fitness data using wearable?  \
0                                         Every day
1                                        Once a week
2                                             Rarely
3                                         Every day
4                                    Every other day

  How has the fitness wearable impacted your fitness routine?  …  \
0             Positively impacted my fitness routine           …
1             Positively impacted my fitness routine           …
2             Positively impacted my fitness routine           …
3                                     I don't know           …
4             Positively impacted my fitness routine           …

  How engaged do you feel with your fitness wearable?  \
0                                       Very engaged
1                                  Somewhat engaged
2                                  Not very engaged
3                                  Somewhat engaged
4                                           Neutral

  Does using a fitness wearable make you feel more connected to the fitness
community?  \
0                                             Agree
1                                             Agree
2                                    Strongly agree
3                                    Strongly agree
4                                             Agree

  How has the fitness wearable helped you achieve your fitness goals?  \
0                    No impact on achieving my goals
1   Helped me achieve my goals somewhat more quickly
2       Helped me achieve my goals much more quickly
3   Helped me achieve my goals somewhat more quickly
4       Helped me achieve my goals much more quickly

  How has the fitness wearable impacted your overall health?  \
0                     No impact on my overall health
1                Improved my overall health somewhat
```

```
2           Improved my overall health significantly
3                Improved my overall health somewhat
4           Improved my overall health significantly

  Has the fitness wearable improved your sleep patterns?  \
0                                                  Agree
1                                                  Agree
2                                       Strongly agree
3                                                  Agree
4                                                  Agree

  Do you feel that the fitness wearable has improved your overall well-being?  \
0                                                Neutral
1                                       Strongly agree
2                                       Strongly agree
3                                       Strongly agree
4                                       Strongly agree

  Has using a fitness wearable influenced your decision? [To exercise more?]  \
0                                       Strongly agree
1                                                  Agree
2                                                  Agree
3                                                  Agree
4                                                  Agree

  Has using a fitness wearable influenced your decision? [To purchase other
fitness-related products?]  \
0                                              Neutral
1                                              Neutral
2                                                Agree
3                                             Disagree
4                                              Neutral

  Has using a fitness wearable influenced your decision? [To join a gym or
fitness class?]  \
0                                                Agree
1                                              Neutral
2                                       Strongly agree
3                                              Neutral
4                                                Agree

  Has using a fitness wearable influenced your decision? [To change your diet?]
0                                                Agree
1                                              Neutral
2                                                Agree
3                                                Agree
4                                       Strongly agree
```

```
[5 rows x 22 columns]
```

[5]:
```
df.tail()
```

[5]:
```
                          Timestamp What is your age? What is your gender?  \
25  2023/04/07 12:22:25 PM GMT+5:30          Under 18                Female
26  2023/04/07 12:23:16 PM GMT+5:30             35-44                Female
27  2023/04/07 12:23:59 PM GMT+5:30          Under 18                  Male
28  2023/04/07 12:25:16 PM GMT+5:30             18-24                  Male
29  2023/04/07 12:26:47 PM GMT+5:30          Under 18                  Male

   What is your highest level of education? What is your current occupation?  \
25                          Master's degree               Employed part-time
26         Doctorate or professional degree                    Self-employed
27                       High school diploma                          Student
28                    Less than high school               Employed full-time
29                       High school diploma                          Student

   How often do you exercise in a week?  \
25                    3-4 times a week
26                    3-4 times a week
27               5 or more times a week
28                    1-2 times a week
29                    1-2 times a week

   How long have you been using a fitness wearable?  \
25                                     6-12 months
26                                     6-12 months
27                                More than 2 years
28                               Less than 6 months
29                                       1-2 years

   How frequently do you use your fitness wearable?  \
25                                 1-2 times a week
26                                 3-4 times a week
27                                           Daily
28                                          Rarely
29                                 1-2 times a week

   How often do you track fitness data using wearable?  \
25                                      Once a week
26                                Every other day
27                                     Every day
28                                     Every day
29                                Every other day
```

```
   How has the fitness wearable impacted your fitness routine?  …  \
25             Positively impacted my fitness routine           …
26                                     I don't know             …
27             Positively impacted my fitness routine           …
28             Positively impacted my fitness routine           …
29             Positively impacted my fitness routine           …

   How engaged do you feel with your fitness wearable?  \
25                                           Neutral
26                                  Somewhat engaged
27                                      Very engaged
28                                           Neutral
29                                      Very engaged

   Does using a fitness wearable make you feel more connected to the fitness
community?  \
25                                           Neutral
26                                             Agree
27                                    Strongly agree
28                                             Agree
29                                             Agree

   How has the fitness wearable helped you achieve your fitness goals?  \
25   Helped me achieve my goals somewhat more quickly
26   Helped me achieve my goals somewhat more quickly
27       Helped me achieve my goals much more quickly
28   Helped me achieve my goals somewhat more quickly
29       Helped me achieve my goals much more quickly

   How has the fitness wearable impacted your overall health?  \
25                Improved my overall health somewhat
26                                     I don't know
27           Improved my overall health significantly
28                Improved my overall health somewhat
29           Improved my overall health significantly

   Has the fitness wearable improved your sleep patterns?  \
25                                    Strongly agree
26                                             Agree
27                                    Strongly agree
28                                             Agree
29                                    Strongly agree

   Do you feel that the fitness wearable has improved your overall well-being?
\
25                                    Strongly agree
26                                           Neutral
```

```
27                                    Strongly agree
28                                             Agree
29                                             Agree

   Has using a fitness wearable influenced your decision? [To exercise more?]  \
25                                             Agree
26                                             Agree
27                                    Strongly agree
28                                             Agree
29                                             Agree

   Has using a fitness wearable influenced your decision? [To purchase other
fitness-related products?]  \
25                                             Agree
26                                           Neutral
27                                    Strongly agree
28                                             Agree
29                                    Strongly agree

   Has using a fitness wearable influenced your decision? [To join a gym or
fitness class?]  \
25                                    Strongly agree
26                                             Agree
27                                    Strongly agree
28                                             Agree
29                                             Agree

   Has using a fitness wearable influenced your decision? [To change your diet?]
25                                             Agree
26                                    Strongly agree
27                                             Agree
28                                             Agree
29                                             Agree

[5 rows x 22 columns]
```

[6]:
```
df.shape
```

[6]:
```
(30, 22)
```

[7]:
```
df.size
```

[7]:
```
660
```

[8]:
```
df.columns
```

[8]:
```
Index(['Timestamp', 'What is your age?', 'What is your gender?',
       'What is your highest level of education?',
       'What is your current occupation?',
       'How often do you exercise in a week?',
       'How long have you been using a fitness wearable?',
       'How frequently do you use your fitness wearable?',
       'How often do you track fitness data using wearable?',
       'How has the fitness wearable impacted your fitness routine?',
       'Has the fitness wearable helped you stay motivated to exercise?',
       'Do you think that the fitness wearable has made exercising more
enjoyable?',
       'How engaged do you feel with your fitness wearable?',
       'Does using a fitness wearable make you feel more connected to the
fitness community?',
       'How has the fitness wearable helped you achieve your fitness goals?',
       'How has the fitness wearable impacted your overall health?',
       'Has the fitness wearable improved your sleep patterns?',
       'Do you feel that the fitness wearable has improved your overall well-
being?',
       'Has using a fitness wearable influenced your decision? [To exercise
more?]',
       'Has using a fitness wearable influenced your decision? [To purchase
other fitness-related products?]',
       'Has using a fitness wearable influenced your decision? [To join a gym or
fitness class?]',
       'Has using a fitness wearable influenced your decision? [To change your
diet?]'],
      dtype='object')
```

[9]:
```
df.isnull().sum()
```

[9]:
```
Timestamp
0
What is your age?
0
What is your gender?
0
What is your highest level of education?
0
What is your current occupation?
0
How often do you exercise in a week?
0
How long have you been using a fitness wearable?
0
How frequently do you use your fitness wearable?
0
```

```
How often do you track fitness data using wearable?
0
How has the fitness wearable impacted your fitness routine?
0
Has the fitness wearable helped you stay motivated to exercise?
0
Do you think that the fitness wearable has made exercising more enjoyable?
0
How engaged do you feel with your fitness wearable?
0
Does using a fitness wearable make you feel more connected to the fitness
community?                    0
How has the fitness wearable helped you achieve your fitness goals?
0
How has the fitness wearable impacted your overall health?
0
Has the fitness wearable improved your sleep patterns?
0
Do you feel that the fitness wearable has improved your overall well-being?
0
Has using a fitness wearable influenced your decision? [To exercise more?]
0
Has using a fitness wearable influenced your decision? [To purchase other
fitness-related products?]    0
Has using a fitness wearable influenced your decision? [To join a gym or fitness
class?]                0
Has using a fitness wearable influenced your decision? [To change your diet?]
0
dtype: int64
```

[11]:
```
df.duplicated().value_counts()
```

[11]:
```
False    30
dtype: int64
```

[12]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 30 entries, 0 to 29
Data columns (total 22 columns):
 #   Column
Non-Null Count  Dtype
---  ------
--------------  -----
 0   Timestamp
30 non-null     object
 1   What is your age?
30 non-null     object
```

```
 2   What is your gender?
30 non-null     object
 3   What is your highest level of education?
30 non-null     object
 4   What is your current occupation?
30 non-null     object
 5   How often do you exercise in a week?
30 non-null     object
 6   How long have you been using a fitness wearable?
30 non-null     object
 7   How frequently do you use your fitness wearable?
30 non-null     object
 8   How often do you track fitness data using wearable?
30 non-null     object
 9   How has the fitness wearable impacted your fitness routine?
30 non-null     object
 10  Has the fitness wearable helped you stay motivated to exercise?
30 non-null     object
 11  Do you think that the fitness wearable has made exercising more enjoyable?
30 non-null     object
 12  How engaged do you feel with your fitness wearable?
30 non-null     object
 13  Does using a fitness wearable make you feel more connected to the fitness
community?                   30 non-null     object
 14  How has the fitness wearable helped you achieve your fitness goals?
30 non-null     object
 15  How has the fitness wearable impacted your overall health?
30 non-null     object
 16  Has the fitness wearable improved your sleep patterns?
30 non-null     object
 17  Do you feel that the fitness wearable has improved your overall well-being?
30 non-null     object
 18  Has using a fitness wearable influenced your decision? [To exercise more?]
30 non-null     object
 19  Has using a fitness wearable influenced your decision? [To purchase other
fitness-related products?]  30 non-null     object
 20  Has using a fitness wearable influenced your decision? [To join a gym or
fitness class?]              30 non-null     object
 21  Has using a fitness wearable influenced your decision? [To change your
diet?]                         30 non-null     object
dtypes: object(22)
memory usage: 5.3+ KB
```

[15]:
```
df.drop(['Timestamp'], axis=1, inplace=True)
```

[17]:
```
df.rename(columns={'What is your age?':'Age', 'What is your gender?':'Gender',
```

```
'What is your highest level of education?':'Education', 'What is your current␣
 ↪occupation?':'Occupation',
'How often do you exercise in a week?':'Workout Freq per Week',
'How long have you been using a fitness wearable?':'Usage Duration',
'How frequently do you use your fitness wearable?':'Freq Usage',
'How often do you track fitness data using wearable?':'Tracking data',
'How has the fitness wearable impacted your fitness routine?':'Fitness Routine',
'Has the fitness wearable helped you stay motivated to exercise?':'Motivation',
'Do you think that the fitness wearable has made exercising more enjoyable?':
 ↪'Enjoyment',
'How engaged do you feel with your fitness wearable?':'Engagement',
'Does using a fitness wearable make you feel more connected to the fitness␣
 ↪community?':'Connection',
'How has the fitness wearable helped you achieve your fitness goals?':'Fitness␣
 ↪Goals',
'How has the fitness wearable impacted your overall health?':'Health',
'Has the fitness wearable improved your sleep patterns?':'Sleep',
'Do you feel that the fitness wearable has improved your overall well-being?':
 ↪'Well Being',
'Has using a fitness wearable influenced your decision? [To exercise more?]':
 ↪'Exercise More',
'Has using a fitness wearable influenced your decision? [To purchase other␣
 ↪fitness-related products?]':'Purchase Products',
'Has using a fitness wearable influenced your decision? [To join a gym or␣
 ↪fitness class?]':'Join Gym',
'Has using a fitness wearable influenced your decision? [To change your diet?]':
 ↪'Change Diet'}, inplace=True)
```

[18]:
```
df
```

[18]:

	Age	Gender	Education	\
0	18-24	Male	Some college or associate degree	
1	Under 18	Male	Bachelor's degree	
2	18-24	Female	Bachelor's degree	
3	25-34	Female	Some college or associate degree	
4	18-24	Male	Bachelor's degree	
5	18-24	Female	Master's degree	
6	18-24	Male	Bachelor's degree	
7	18-24	Female	Bachelor's degree	
8	18-24	Male	High school diploma	
9	35-44	Male	High school diploma	
10	35-44	Female	Doctorate or professional degree	
11	18-24	Female	Bachelor's degree	
12	25-34	Female	High school diploma	
13	45-54	Prefer not to say	Master's degree	
14	55-64	Prefer not to say	Doctorate or professional degree	

```
15     45-54             Female                 Bachelor's degree
16     25-34             Female  Some college or associate degree
17     25-34               Male  Some college or associate degree
18     25-34             Female  Doctorate or professional degree
19     55-64             Female  Doctorate or professional degree
20  Under 18               Male               High school diploma
21     35-44               Male                   Master's degree
22     25-34             Female                   Master's degree
23     45-54             Female  Doctorate or professional degree
24     18-24               Male                 Bachelor's degree
25  Under 18             Female                   Master's degree
26     35-44             Female  Doctorate or professional degree
27  Under 18               Male               High school diploma
28     18-24               Male             Less than high school
29  Under 18               Male                 High school diploma

            Occupation   Workout Freq per Week      Usage Duration  \
0              Student  5 or more times a week  Less than 6 months
1              Student  5 or more times a week  Less than 6 months
2              Student   Less than once a week  Less than 6 months
3   Employed part-time        3-4 times a week         6-12 months
4              Student        1-2 times a week  Less than 6 months
5   Employed full-time  5 or more times a week           1-2 years
6              Student   Less than once a week           1-2 years
7              Student   Less than once a week  Less than 6 months
8   Employed part-time        1-2 times a week  Less than 6 months
9   Employed full-time   Less than once a week         6-12 months
10       Self-employed  5 or more times a week   More than 2 years
11       Self-employed        1-2 times a week  Less than 6 months
12  Employed part-time   Less than once a week         6-12 months
13          Unemployed        3-4 times a week         6-12 months
14             Retired  5 or more times a week         6-12 months
15       Self-employed   Less than once a week  Less than 6 months
16          Unemployed        3-4 times a week  Less than 6 months
17       Self-employed        1-2 times a week         6-12 months
18       Self-employed        3-4 times a week           1-2 years
19             Retired        1-2 times a week  Less than 6 months
20             Student        3-4 times a week         6-12 months
21  Employed full-time   Less than once a week  Less than 6 months
22       Self-employed        3-4 times a week         6-12 months
23  Employed part-time        1-2 times a week  Less than 6 months
24  Employed full-time        3-4 times a week           1-2 years
25  Employed part-time        3-4 times a week         6-12 months
26       Self-employed        3-4 times a week         6-12 months
27             Student  5 or more times a week   More than 2 years
28  Employed full-time        1-2 times a week  Less than 6 months
29             Student        1-2 times a week           1-2 years
```

	Freq Usage	Tracking data	Fitness Routine	\
0	Daily	Every day	Positively impacted my fitness routine	
1	3-4 times a week	Once a week	Positively impacted my fitness routine	
2	Rarely	Rarely	Positively impacted my fitness routine	
3	3-4 times a week	Every day	I don't know	
4	Daily	Every other day	Positively impacted my fitness routine	
5	Daily	Every day	Positively impacted my fitness routine	
6	1-2 times a week	Once a week	Positively impacted my fitness routine	
7	Daily	Once a month	No impact on my fitness routine	
8	1-2 times a week	Every other day	Positively impacted my fitness routine	
9	Daily	Every day	Positively impacted my fitness routine	
10	Daily	Every day	Positively impacted my fitness routine	
11	3-4 times a week	Every day	Positively impacted my fitness routine	
12	3-4 times a week	Once a month	Positively impacted my fitness routine	
13	1-2 times a week	Once a week	Negatively impacted my fitness routine	
14	3-4 times a week	Every other day	Positively impacted my fitness routine	
15	3-4 times a week	Every other day	Positively impacted my fitness routine	
16	3-4 times a week	Once a week	Positively impacted my fitness routine	
17	1-2 times a week	Once a week	Positively impacted my fitness routine	
18	3-4 times a week	Every other day	Positively impacted my fitness routine	
19	1-2 times a week	Once a week	I don't know	
20	3-4 times a week	Every other day	Positively impacted my fitness routine	
21	Rarely	Rarely	I don't know	
22	3-4 times a week	Once a week	Positively impacted my fitness routine	
23	1-2 times a week	Once a month	Positively impacted my fitness routine	
24	Daily	Every day	Positively impacted my fitness routine	
25	1-2 times a week	Once a week	Positively impacted my fitness routine	
26	3-4 times a week	Every other day	I don't know	
27	Daily	Every day	Positively impacted my fitness routine	
28	Rarely	Every day	Positively impacted my fitness routine	
29	1-2 times a week	Every other day	Positively impacted my fitness routine	

	Motivation	…	Engagement	Connection	\
0	Strongly agree	…	Very engaged	Agree	
1	Neutral	…	Somewhat engaged	Agree	
2	Strongly agree	…	Not very engaged	Strongly agree	
3	Strongly agree	…	Somewhat engaged	Strongly agree	
4	Neutral	…	Neutral	Agree	
5	Strongly agree	…	Very engaged	Strongly agree	
6	Strongly agree	…	Very engaged	Strongly agree	
7	Agree	…	Very engaged	Strongly agree	
8	Strongly agree	…	Very engaged	Neutral	
9	Strongly agree	…	Very engaged	Agree	
10	Strongly agree	…	Very engaged	Strongly agree	
11	Strongly agree	…	Neutral	Neutral	
12	Strongly agree	…	Neutral	Agree	

```
13  Strongly disagree  …  Not very engaged         Neutral
14     Strongly agree  …  Somewhat engaged         Neutral
15              Agree  …  Somewhat engaged           Agree
16     Strongly agree  …  Somewhat engaged           Agree
17     Strongly agree  …  Somewhat engaged           Agree
18              Agree  …  Somewhat engaged           Agree
19            Neutral  …           Neutral         Neutral
20     Strongly agree  …  Somewhat engaged  Strongly agree
21            Neutral  …           Neutral         Neutral
22              Agree  …  Somewhat engaged           Agree
23              Agree  …  Somewhat engaged  Strongly agree
24     Strongly agree  …      Very engaged  Strongly agree
25              Agree  …           Neutral         Neutral
26            Neutral  …  Somewhat engaged           Agree
27     Strongly agree  …      Very engaged  Strongly agree
28              Agree  …           Neutral           Agree
29              Agree  …      Very engaged           Agree

                                      Fitness Goals  \
0                    No impact on achieving my goals
1   Helped me achieve my goals somewhat more quickly
2       Helped me achieve my goals much more quickly
3   Helped me achieve my goals somewhat more quickly
4       Helped me achieve my goals much more quickly
5       Helped me achieve my goals much more quickly
6       Helped me achieve my goals much more quickly
7   Helped me achieve my goals somewhat more quickly
8       Helped me achieve my goals much more quickly
9       Helped me achieve my goals much more quickly
10      Helped me achieve my goals much more quickly
11  Helped me achieve my goals somewhat more quickly
12  Helped me achieve my goals somewhat more quickly
13                   No impact on achieving my goals
14  Helped me achieve my goals somewhat more quickly
15  Helped me achieve my goals somewhat more quickly
16  Helped me achieve my goals somewhat more quickly
17      Helped me achieve my goals much more quickly
18      Helped me achieve my goals much more quickly
19  Helped me achieve my goals somewhat more quickly
20      Helped me achieve my goals much more quickly
21  Helped me achieve my goals somewhat more quickly
22  Helped me achieve my goals somewhat more quickly
23  Helped me achieve my goals somewhat more quickly
24      Helped me achieve my goals much more quickly
25  Helped me achieve my goals somewhat more quickly
26  Helped me achieve my goals somewhat more quickly
27      Helped me achieve my goals much more quickly
```

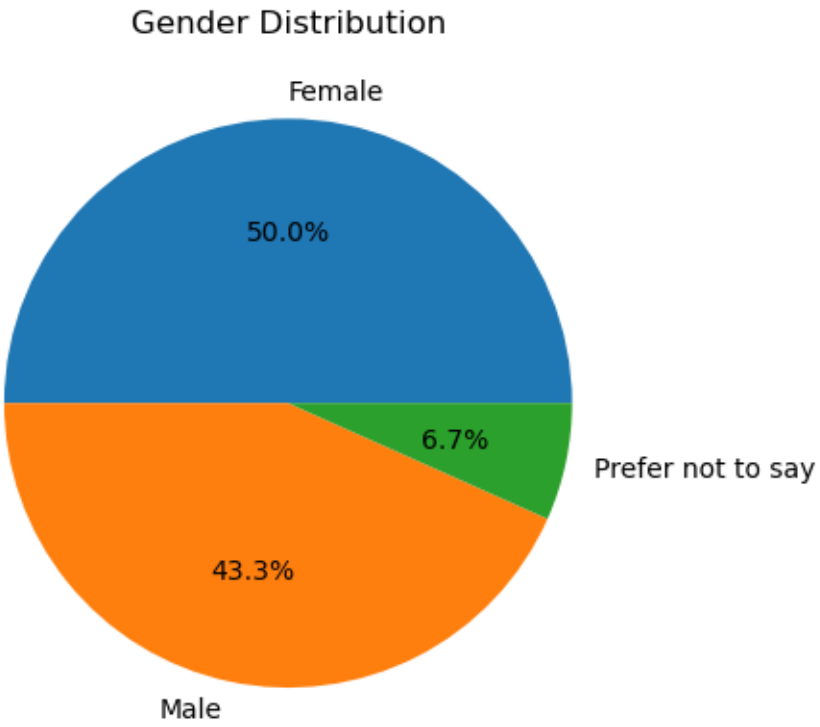
```
28  Helped me achieve my goals somewhat more quickly
29      Helped me achieve my goals much more quickly
```

	Health	Sleep	Well Being
0	No impact on my overall health	Agree	Neutral
1	Improved my overall health somewhat	Agree	Strongly agree
2	Improved my overall health significantly	Strongly agree	Strongly agree
3	Improved my overall health somewhat	Agree	Strongly agree
4	Improved my overall health significantly	Agree	Strongly agree
5	Improved my overall health significantly	Strongly agree	Strongly agree
6	Improved my overall health significantly	Strongly agree	Strongly agree
7	Improved my overall health somewhat	Agree	Agree
8	Improved my overall health significantly	Agree	Agree
9	Improved my overall health somewhat	Neutral	Neutral
10	Improved my overall health significantly	Strongly agree	Strongly agree
11	Improved my overall health somewhat	Agree	Agree
12	Improved my overall health somewhat	Agree	Agree
13	I don't know	Disagree	Disagree
14	No impact on my overall health	Neutral	Agree
15	No impact on my overall health	Neutral	Agree
16	Improved my overall health somewhat	Strongly agree	Agree
17	Improved my overall health somewhat	Agree	Agree
18	Improved my overall health significantly	Agree	Agree
19	Improved my overall health somewhat	Neutral	Neutral
20	Improved my overall health significantly	Strongly agree	Strongly agree
21	I don't know	Neutral	Neutral
22	Improved my overall health somewhat	Agree	Agree
23	Improved my overall health significantly	Agree	Strongly agree
24	Improved my overall health significantly	Strongly agree	Strongly agree
25	Improved my overall health somewhat	Strongly agree	Strongly agree
26	I don't know	Agree	Neutral
27	Improved my overall health significantly	Strongly agree	Strongly agree
28	Improved my overall health somewhat	Agree	Agree
29	Improved my overall health significantly	Strongly agree	Agree

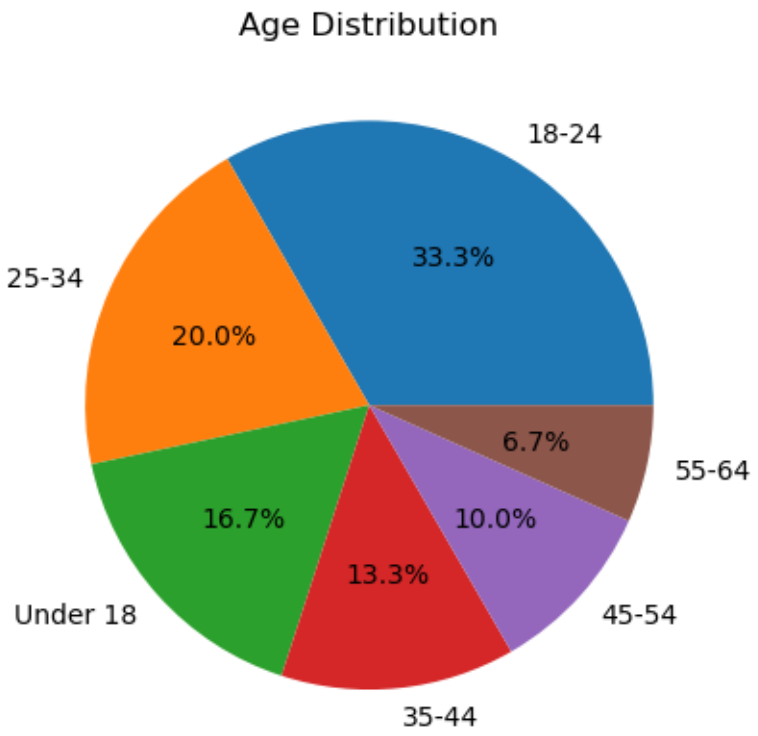
	Exercise More	Purchase Products	Join Gym	Change Diet
0	Strongly agree	Neutral	Agree	Agree
1	Agree	Neutral	Neutral	Neutral
2	Agree	Agree	Strongly agree	Agree
3	Agree	Disagree	Neutral	Agree
4	Agree	Neutral	Agree	Strongly agree
5	Strongly agree	Agree	Strongly agree	Strongly agree
6	Neutral	Neutral	Neutral	Neutral
7	Agree	Disagree	Agree	Agree
8	Neutral	Agree	Agree	Agree
9	Strongly agree	Agree	Strongly agree	Strongly agree
10	Strongly agree	Agree	Neutral	Agree

```
11          Agree    Strongly agree          Agree  Strongly agree
12  Strongly agree             Agree  Strongly agree  Strongly agree
13         Neutral             Agree          Agree         Neutral
14  Strongly agree             Agree          Agree  Strongly agree
15          Agree             Agree          Agree           Agree
16          Agree    Strongly agree          Agree  Strongly agree
17  Strongly agree             Agree          Agree  Strongly agree
18          Agree           Neutral  Strongly agree           Agree
19          Agree           Neutral         Neutral           Agree
20  Strongly agree    Strongly agree  Strongly agree  Strongly agree
21         Neutral           Neutral         Neutral         Neutral
22          Agree             Agree          Agree           Agree
23  Strongly agree             Agree          Agree  Strongly agree
24  Strongly agree             Agree  Strongly agree  Strongly agree
25          Agree             Agree  Strongly agree           Agree
26          Agree           Neutral          Agree  Strongly agree
27  Strongly agree    Strongly agree  Strongly agree           Agree
28          Agree             Agree          Agree           Agree
29          Agree    Strongly agree          Agree           Agree

[30 rows x 21 columns]
```

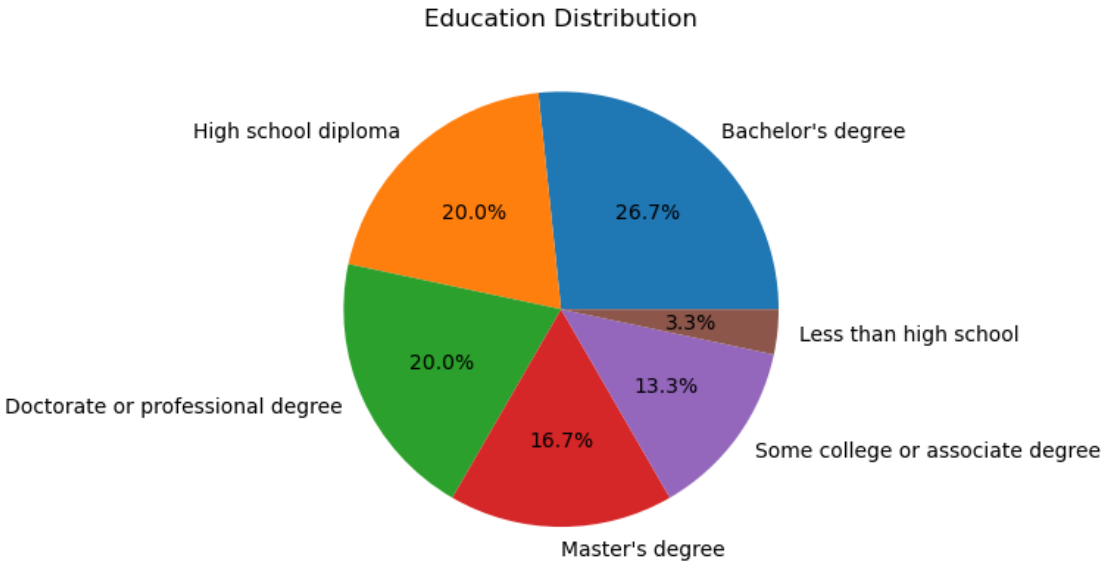
[69]:
```
# Calculate the count of each gender
gender_count = df['Gender'].value_counts()

# Create pie chart
fig, ax = plt.subplots()
ax.pie(gender_count, labels=gender_count.index, autopct='%1.1f%%')
ax.set_title('Gender Distribution')

plt.show()
```



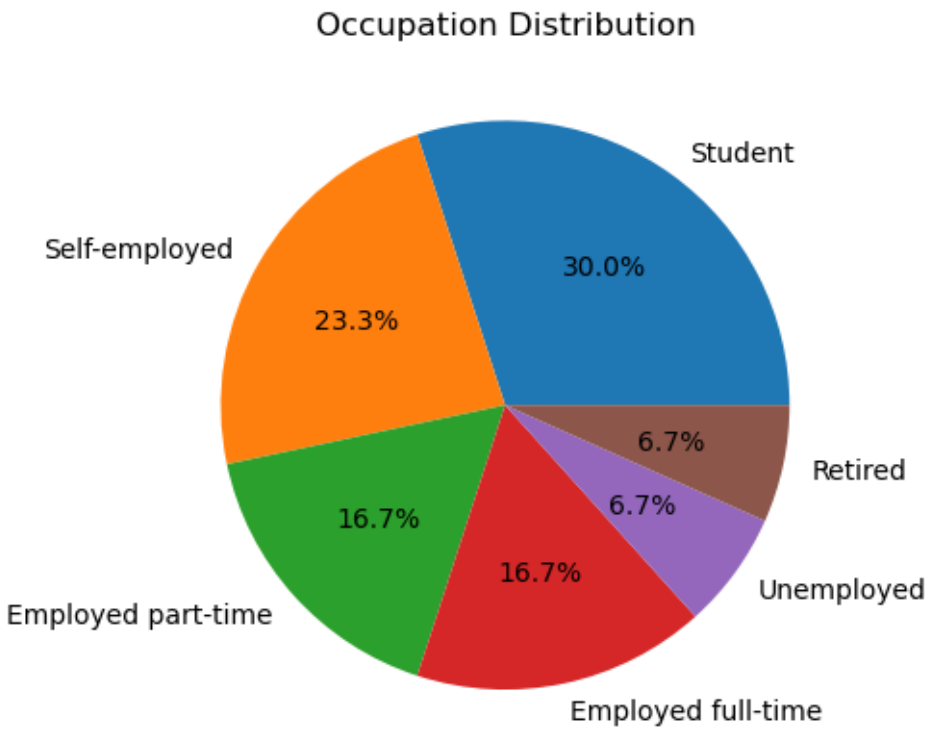
[70]:
```
# Calculate the count of each age group
age_count = df['Age'].value_counts()

# Create pie chart
fig, ax = plt.subplots()
ax.pie(age_count, labels=age_count.index, autopct='%1.1f%%')
ax.set_title('Age Distribution')

plt.show()
```



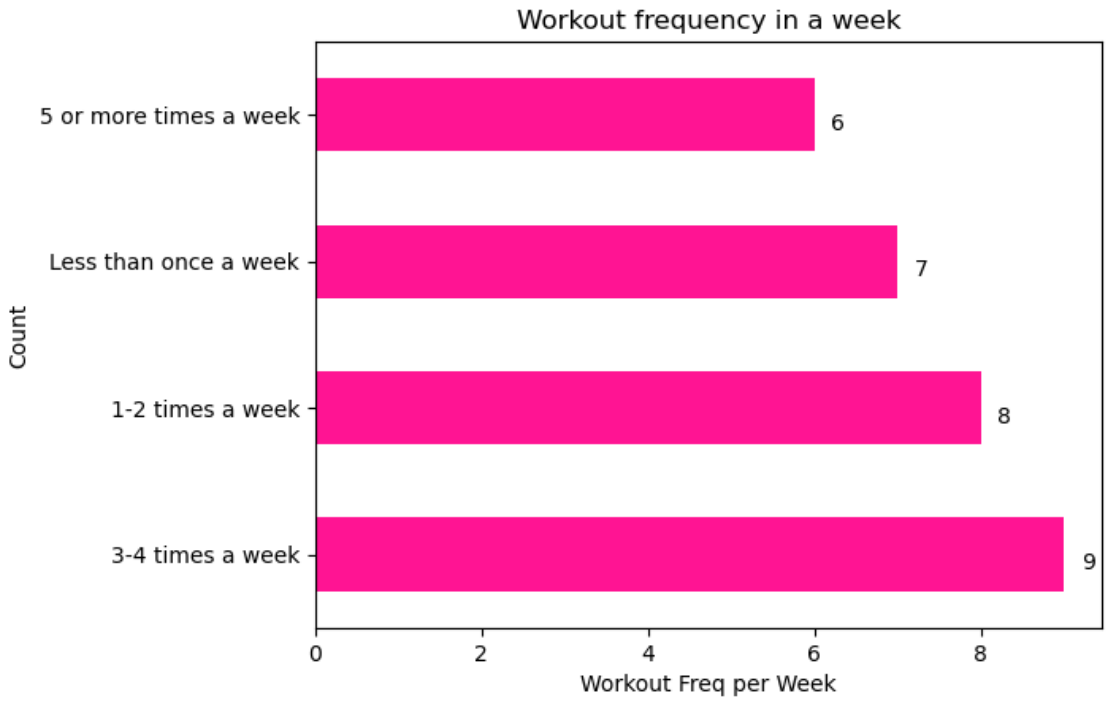
[71]:
```
# Calculate the count of education
education_count = df['Education'].value_counts()

# Create pie chart
fig, ax = plt.subplots()
ax.pie(education_count, labels=education_count.index, autopct='%1.1f%%')
ax.set_title('Education Distribution')

plt.show()
```



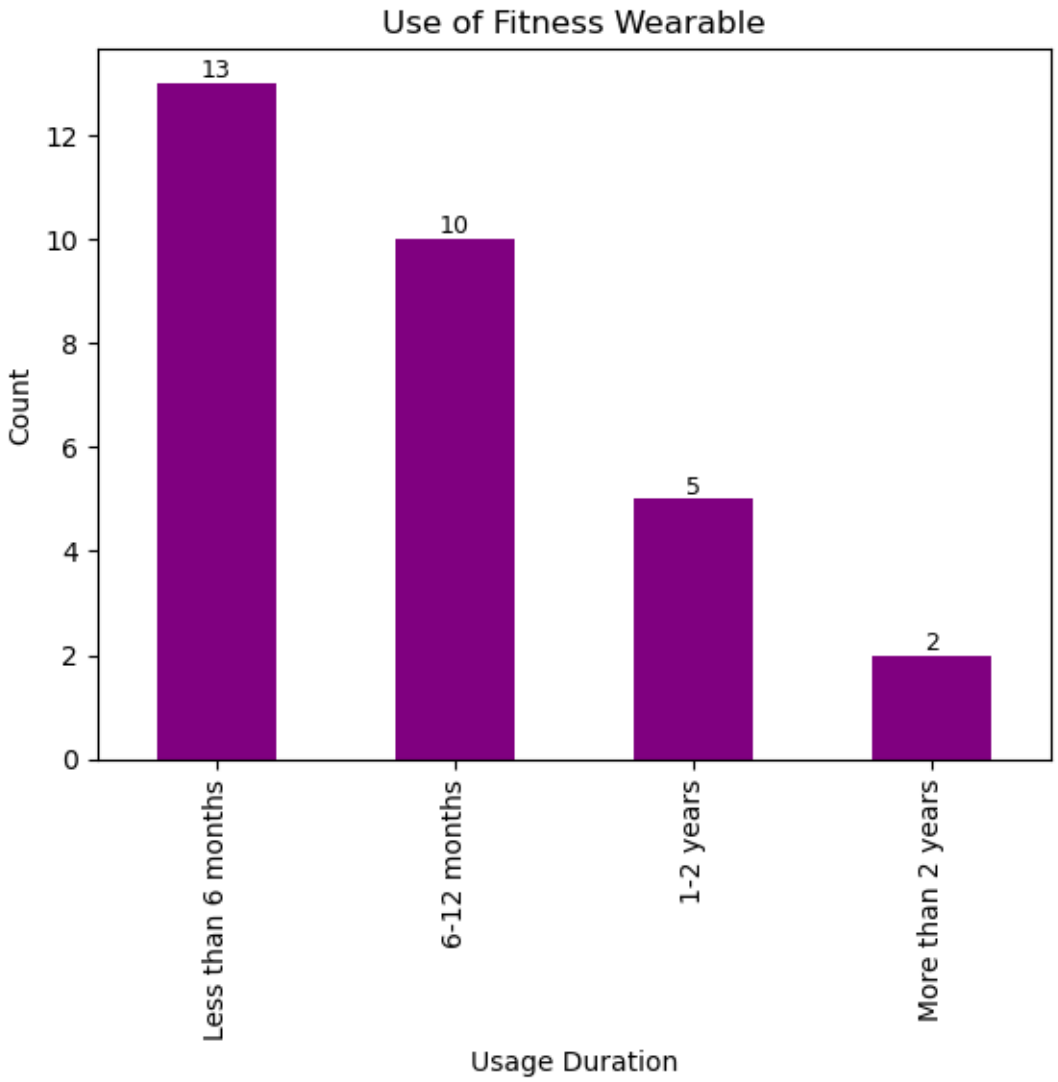
[72]:
```
# Calculate the count of each occupation
occupation_count = df['Occupation'].value_counts()

# Create pie chart
fig, ax = plt.subplots()
ax.pie(occupation_count, labels=occupation_count.index, autopct='%1.1f%%')
ax.set_title('Occupation Distribution')

plt.show()
```



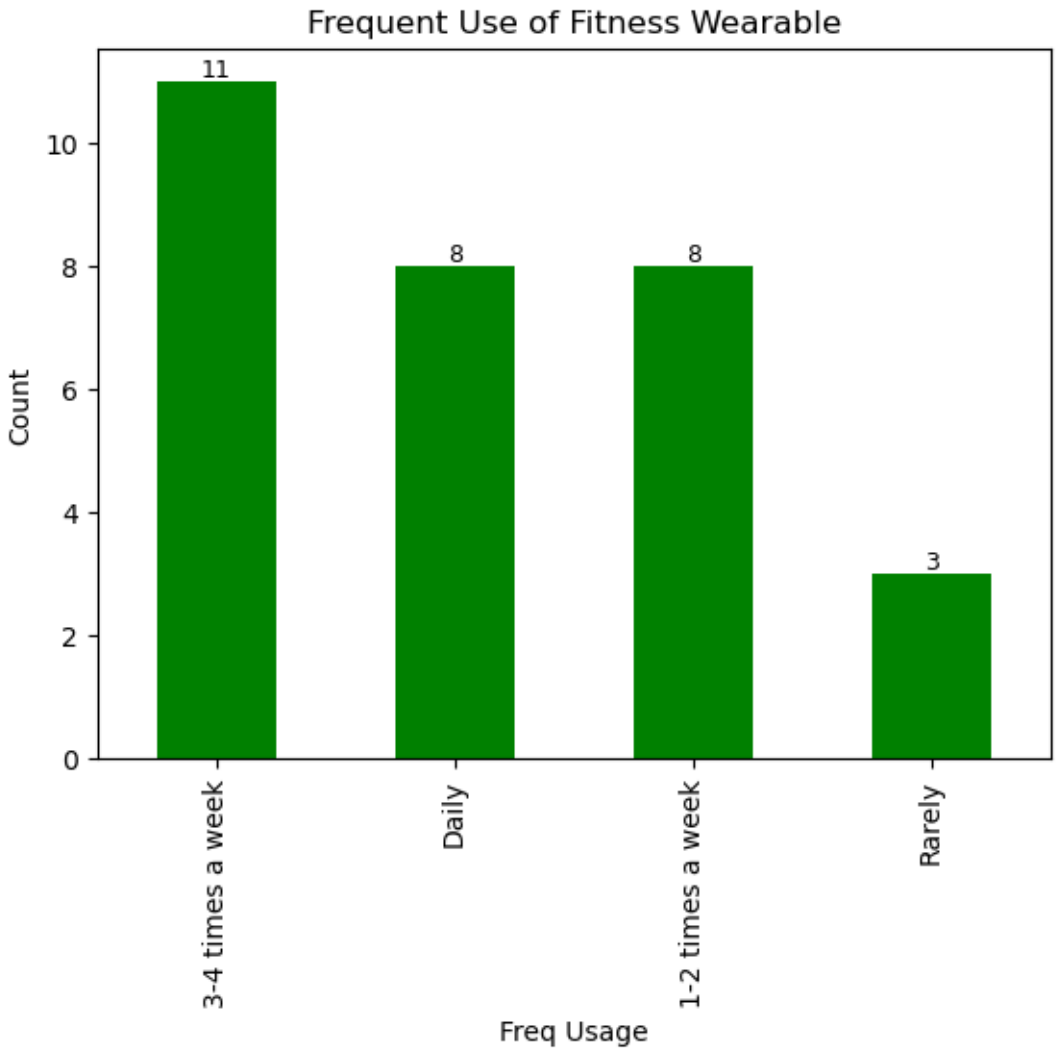
[90]:
```
workout_week = df['Workout Freq per Week'].value_counts()

ax = workout_week.plot(kind='barh', color='deeppink')
ax.set_xlabel('Workout Freq per Week')
ax.set_ylabel('Count')
ax.set_title('Workout frequency in a week')

# Add labels to the bars
for i, v in enumerate(workout_week):
    ax.text(v + 0.2, i - 0.1, str(v), fontsize=10)

plt.show()
```



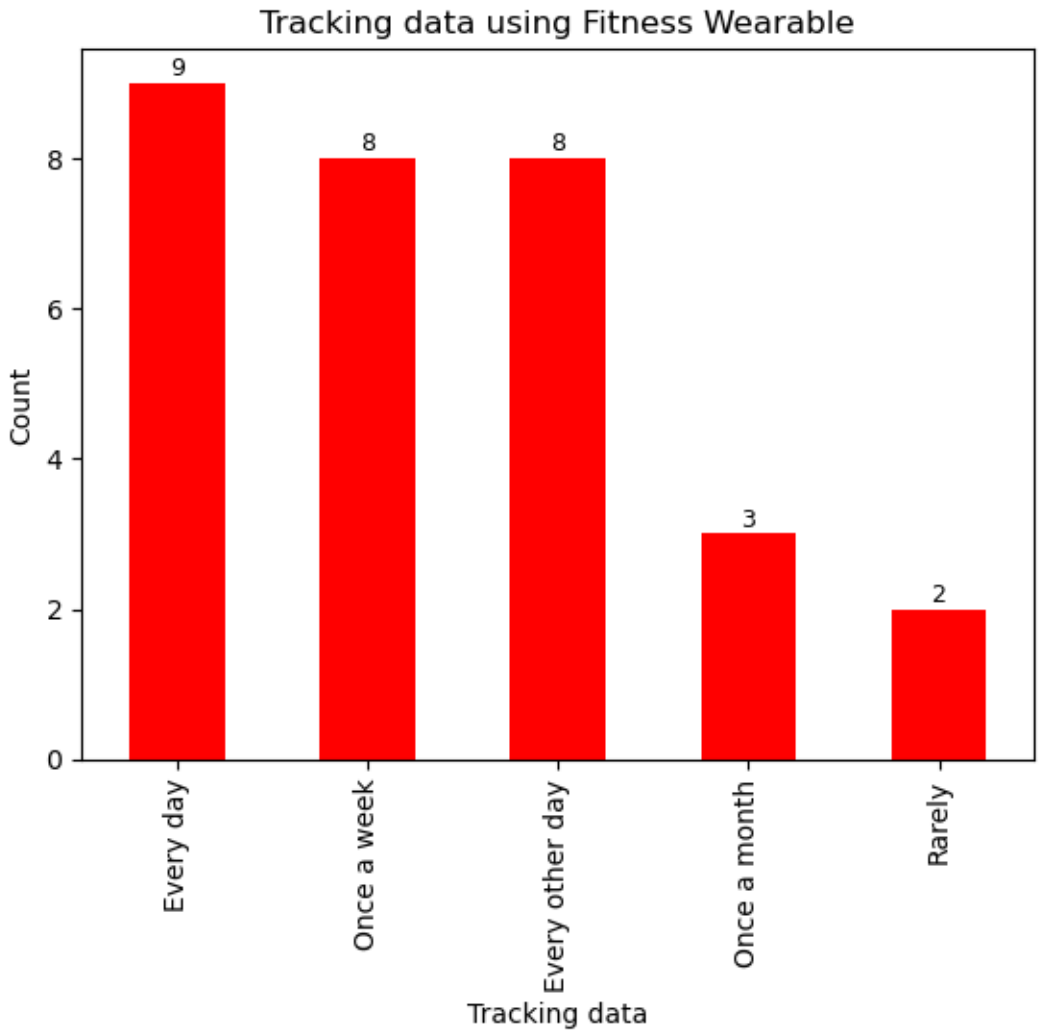
[40]:
```
usage_duration = df['Usage Duration'].value_counts()
usage_duration.plot(kind='bar', color='purple')
plt.xlabel('Usage Duration')
plt.ylabel('Count')
plt.title('Use of Fitness Wearable')

# add labels to the bars
for i, count in enumerate(usage_duration):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



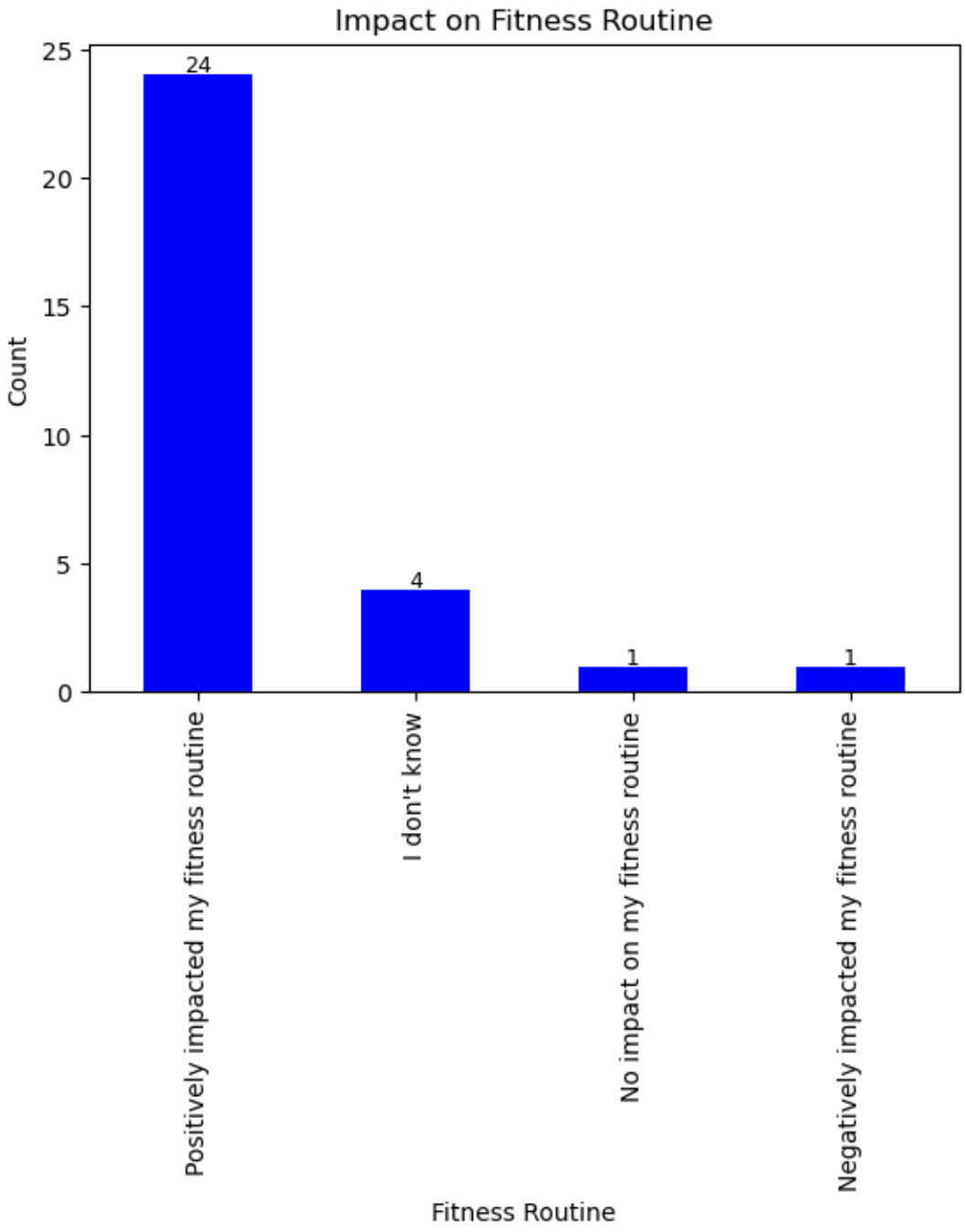
[41]:
```
freq_usage = df['Freq Usage'].value_counts()
freq_usage.plot(kind='bar', color='green')
plt.xlabel('Freq Usage')
plt.ylabel('Count')
plt.title('Frequent Use of Fitness Wearable')

# add labels to the bars
for i, count in enumerate(freq_usage):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



[43]:
```
tracking_data = df['Tracking data'].value_counts()
tracking_data.plot(kind='bar', color='red')
plt.xlabel('Tracking data')
plt.ylabel('Count')
plt.title('Tracking data using Fitness Wearable')

# add labels to the bars
for i, count in enumerate(tracking_data):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```

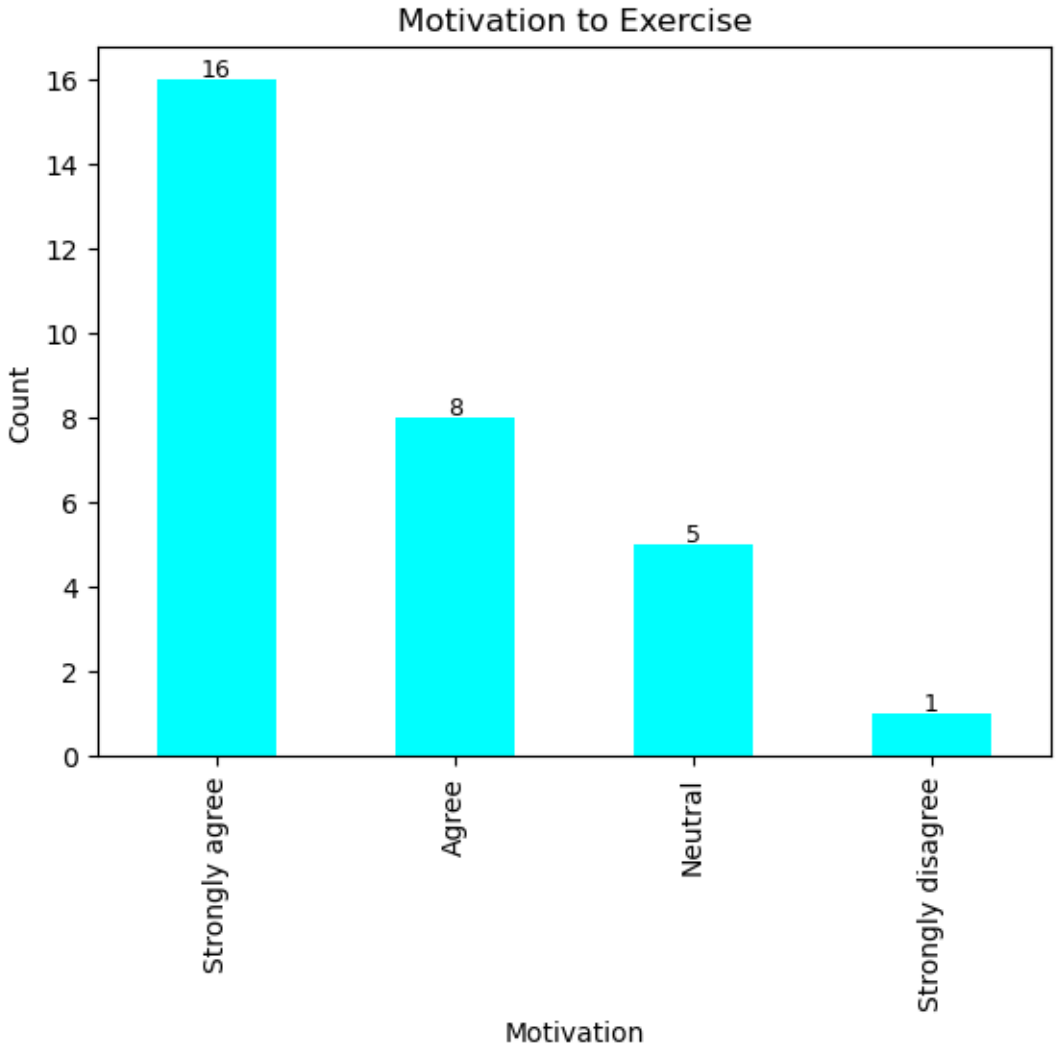


[47]:
```
fitness_routine = df['Fitness Routine'].value_counts()
fitness_routine.plot(kind='bar', color='blue')
plt.xlabel('Fitness Routine')
plt.ylabel('Count')
plt.title('Impact on Fitness Routine')

# add labels to the bars
for i, count in enumerate(fitness_routine):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



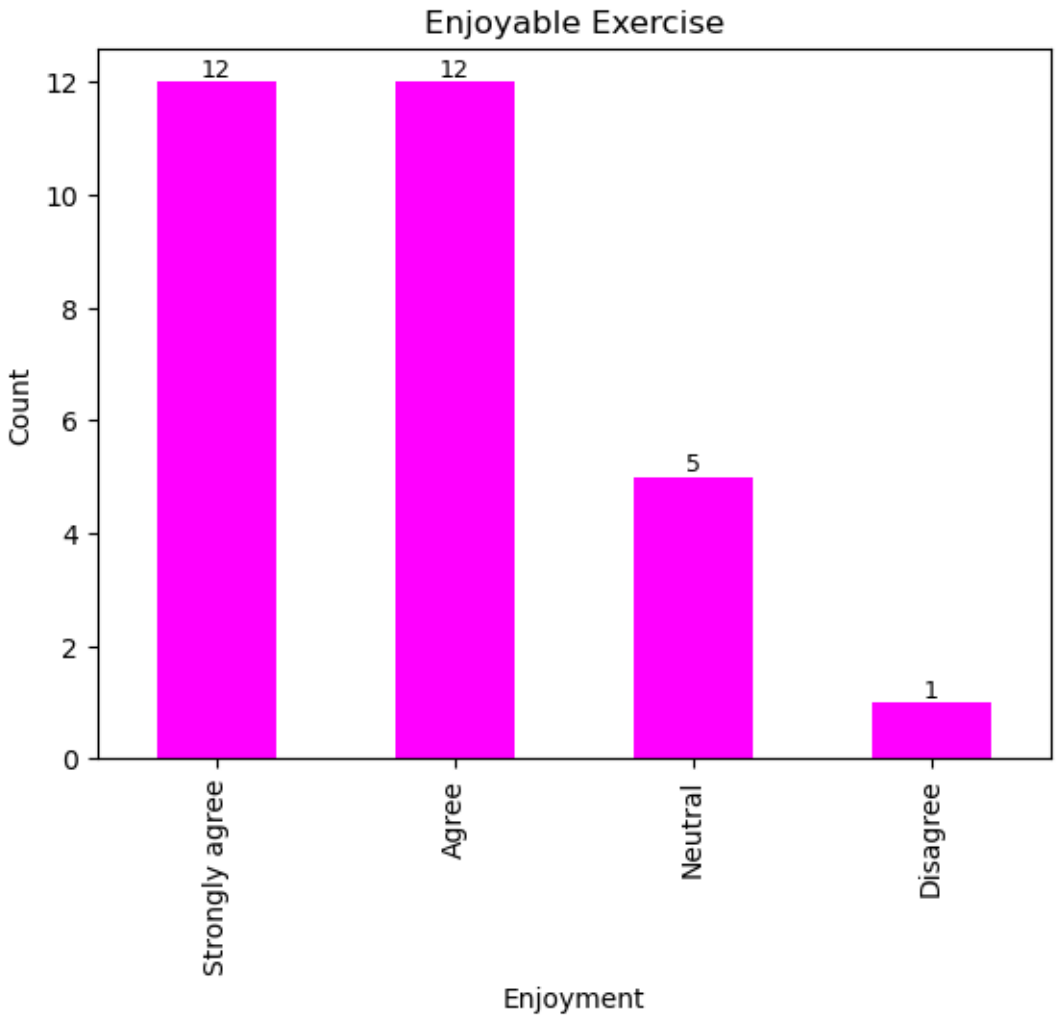
[48]:
```
motivation = df['Motivation'].value_counts()
motivation.plot(kind='bar', color='cyan')
plt.xlabel('Motivation')
plt.ylabel('Count')
plt.title('Motivation to Exercise')
```

```
# add labels to the bars
for i, count in enumerate(motivation):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```

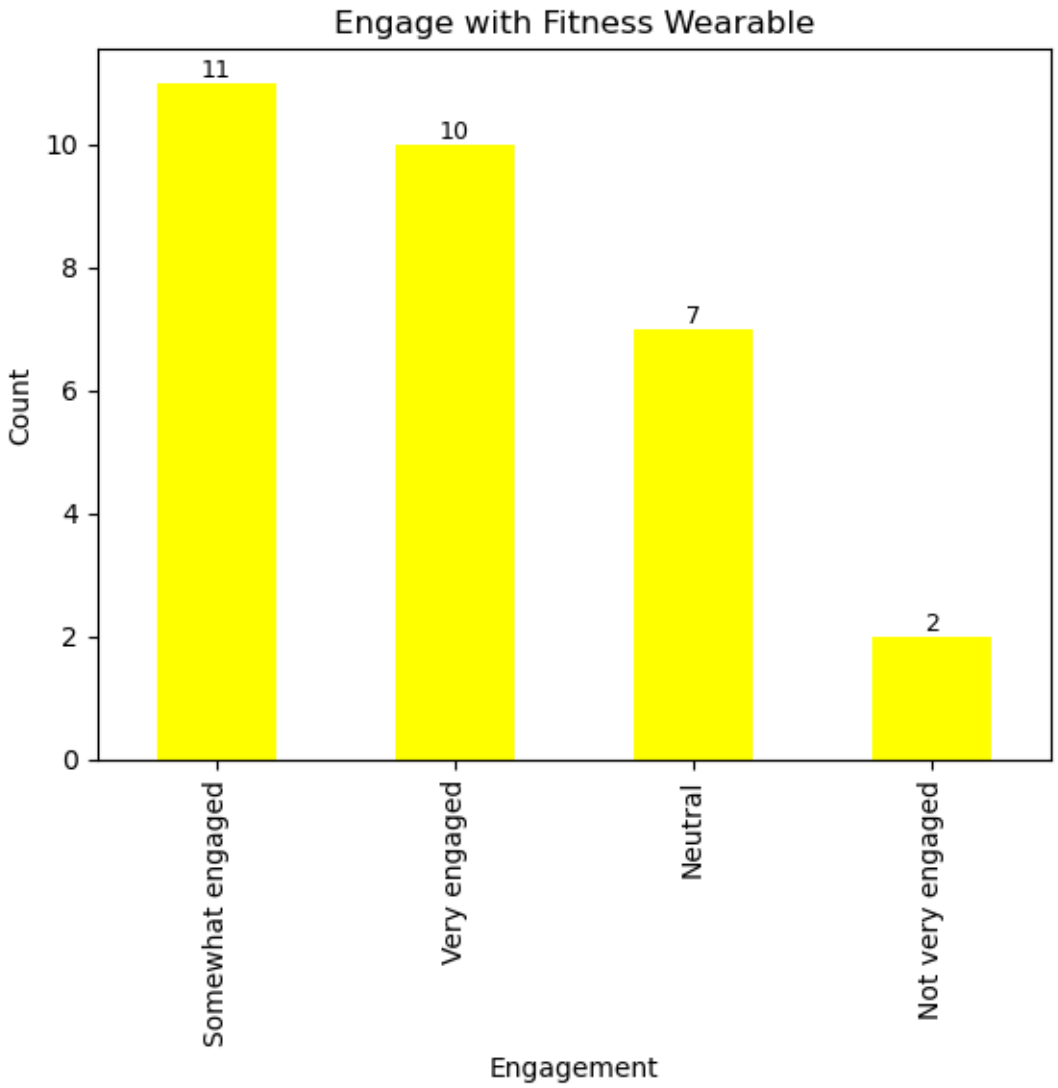


[50]:
```
enjoyment = df['Enjoyment'].value_counts()
enjoyment.plot(kind='bar', color='magenta')
plt.xlabel('Enjoyment')
plt.ylabel('Count')
plt.title('Enjoyable Exercise')

# add labels to the bars
for i, count in enumerate(enjoyment):
```

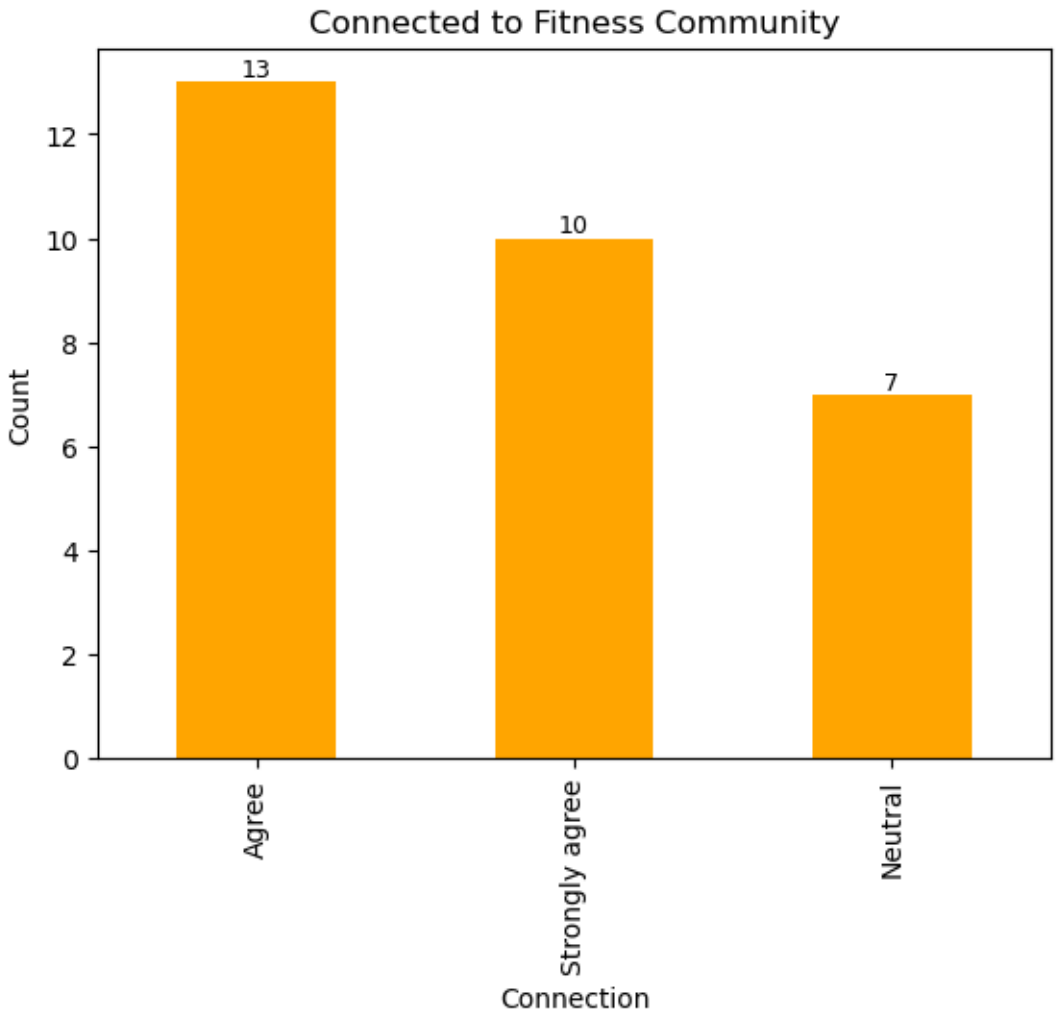
```
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



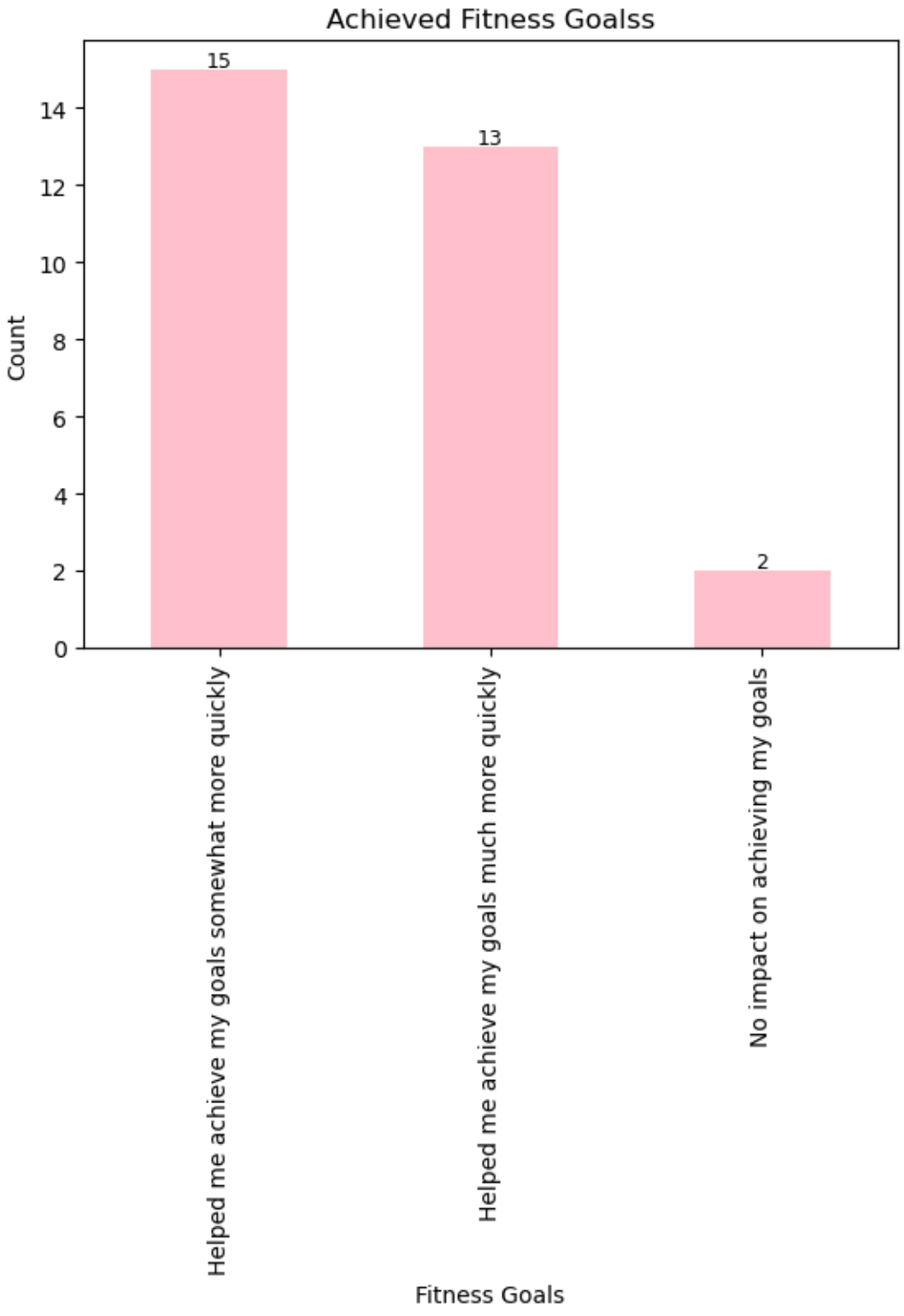
[52]:
```
engagement = df['Engagement'].value_counts()
engagement.plot(kind='bar', color='yellow')
plt.xlabel('Engagement')
plt.ylabel('Count')
plt.title('Engage with Fitness Wearable')

# add labels to the bars
for i, count in enumerate(engagement):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



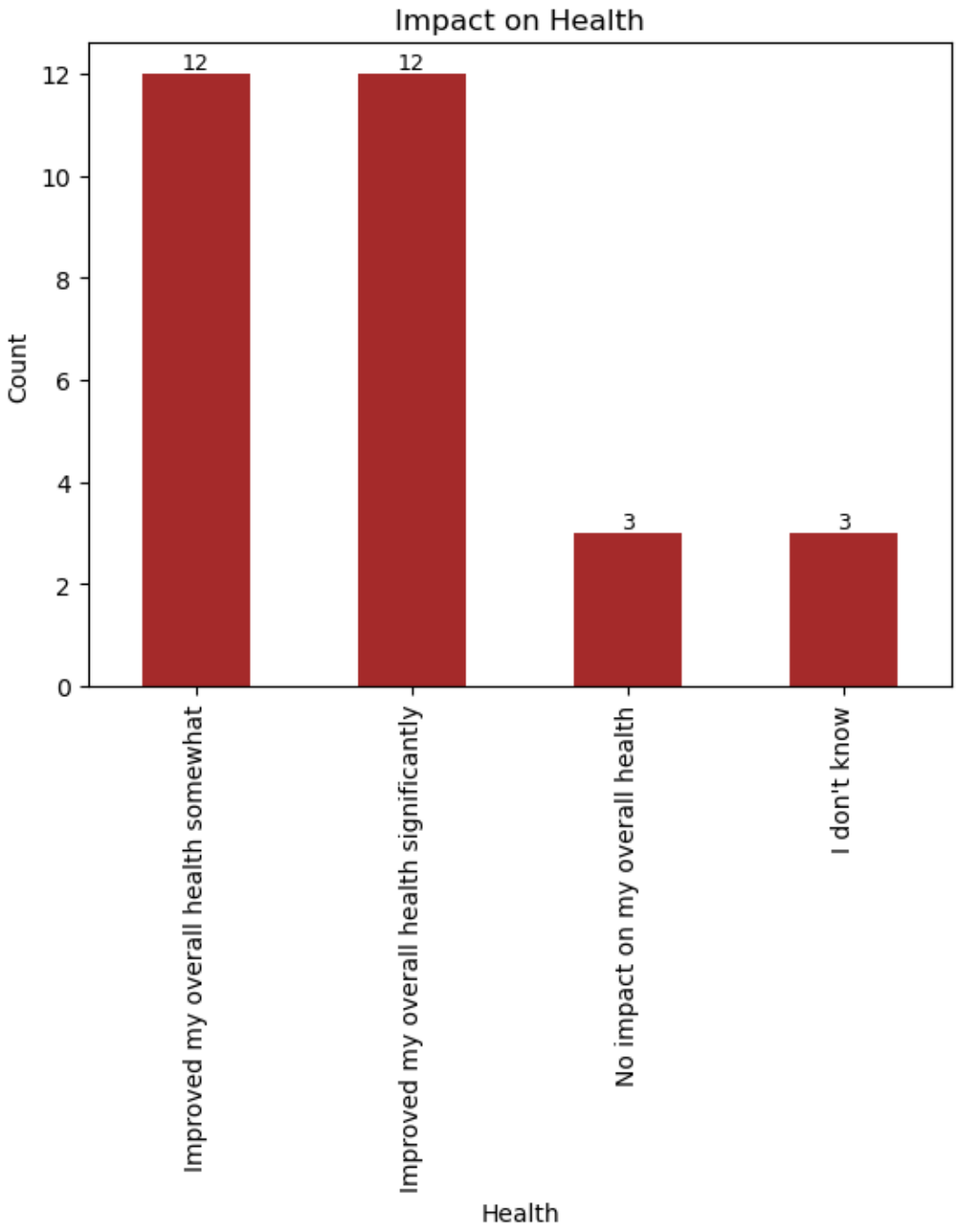
[53]:
```
connection = df['Connection'].value_counts()
connection.plot(kind='bar', color='orange')
plt.xlabel('Connection')
plt.ylabel('Count')
plt.title('Connected to Fitness Community')

# add labels to the bars
for i, count in enumerate(connection):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



[54]:
```
fitness_goals = df['Fitness Goals'].value_counts()
fitness_goals.plot(kind='bar', color='pink')
plt.xlabel('Fitness Goals')
plt.ylabel('Count')
plt.title('Achieved Fitness Goalss')

# add labels to the bars
for i, count in enumerate(fitness_goals):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```

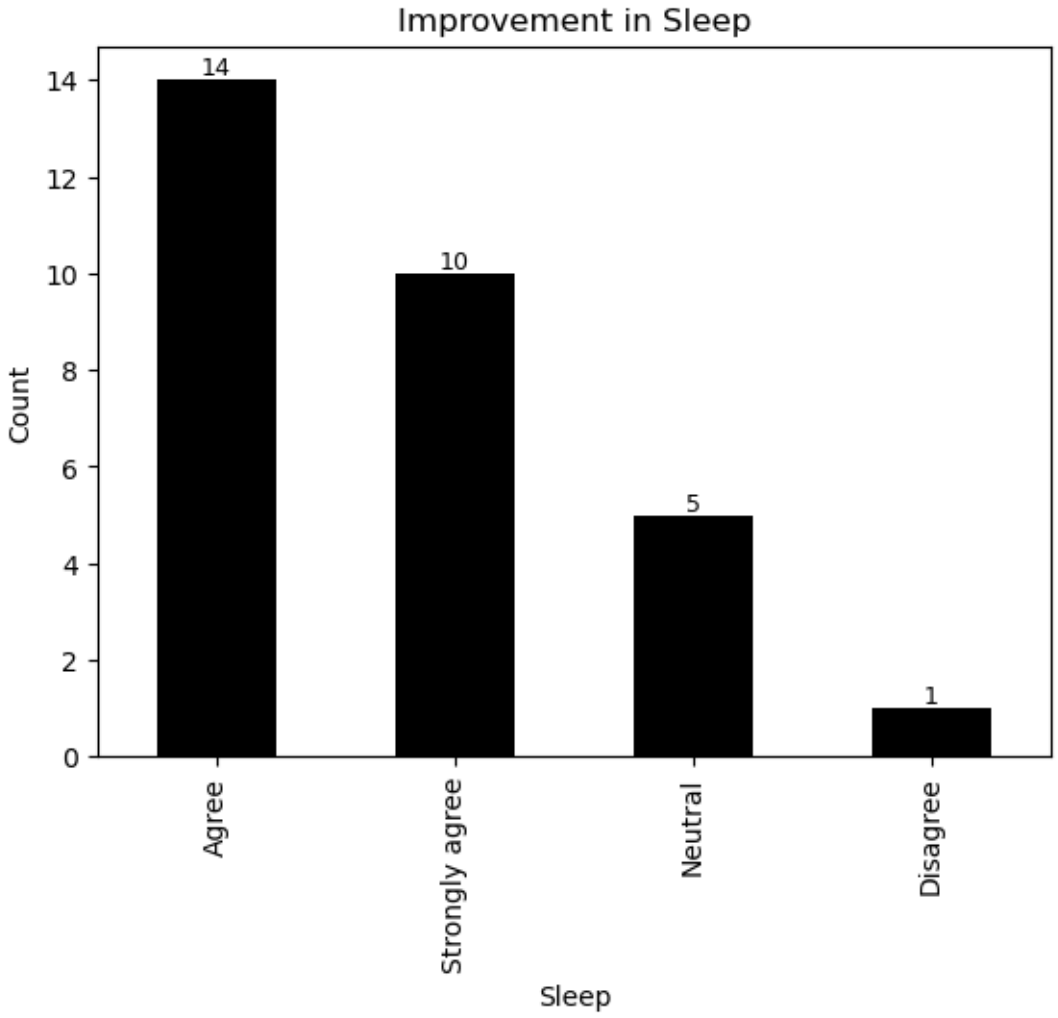

Achieved Fitness Goalss
Count
0
2
4
6
8
10
12
14
15
13
2
Helped me achieve my goals somewhat more quickly
Helped me achieve my goals much more quickly
No impact on achieving my goals
Fitness Goals

[55]:
```
health = df['Health'].value_counts()
health.plot(kind='bar', color='brown')
plt.xlabel('Health')
plt.ylabel('Count')
plt.title('Impact on Health')

# add labels to the bars
for i, count in enumerate(health):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



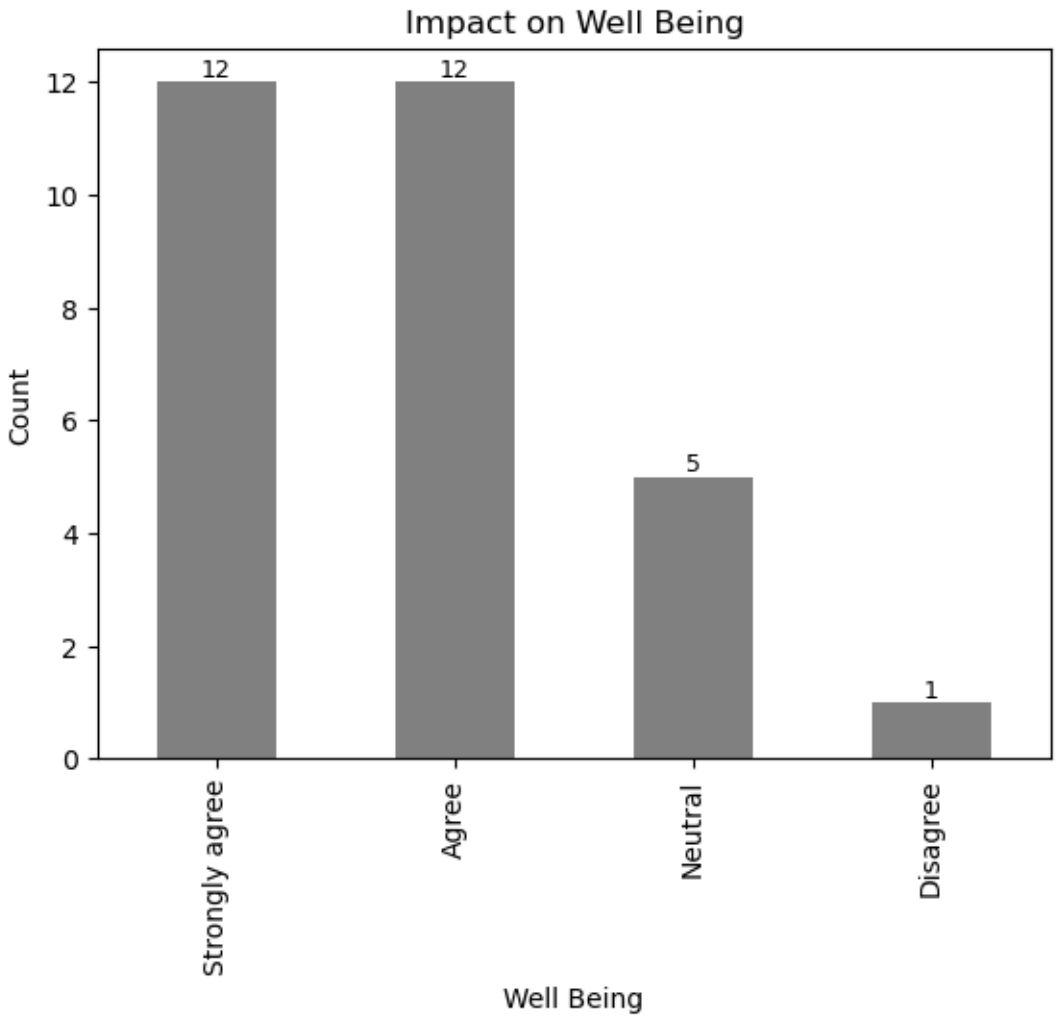
[56]:
```
sleep = df['Sleep'].value_counts()
sleep.plot(kind='bar', color='black')
plt.xlabel('Sleep')
plt.ylabel('Count')
plt.title('Improvement in Sleep')
```

```
# add labels to the bars
for i, count in enumerate(sleep):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```

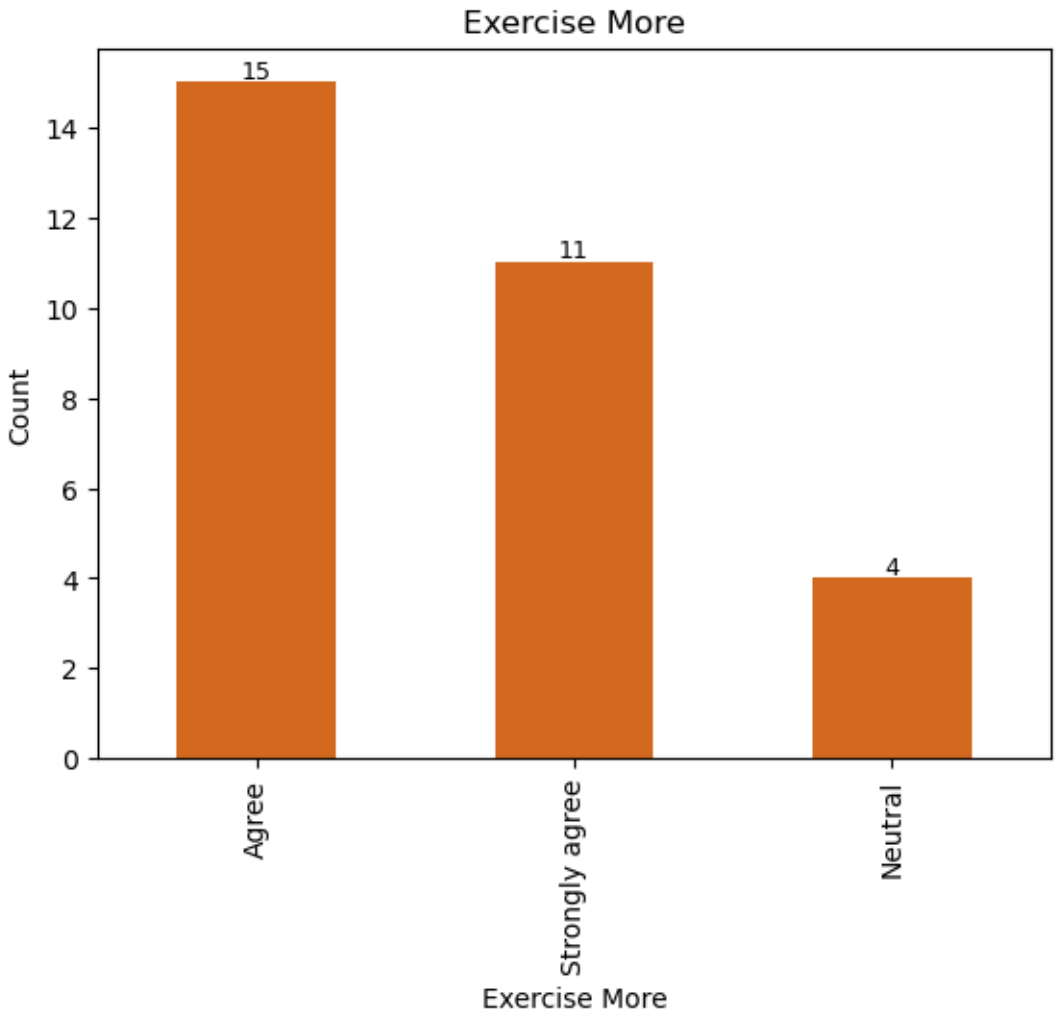


[57]:
```
well_being = df['Well Being'].value_counts()
well_being.plot(kind='bar', color='grey')
plt.xlabel('Well Being')
plt.ylabel('Count')
plt.title('Impact on Well Being')

# add labels to the bars
for i, count in enumerate(well_being):
```

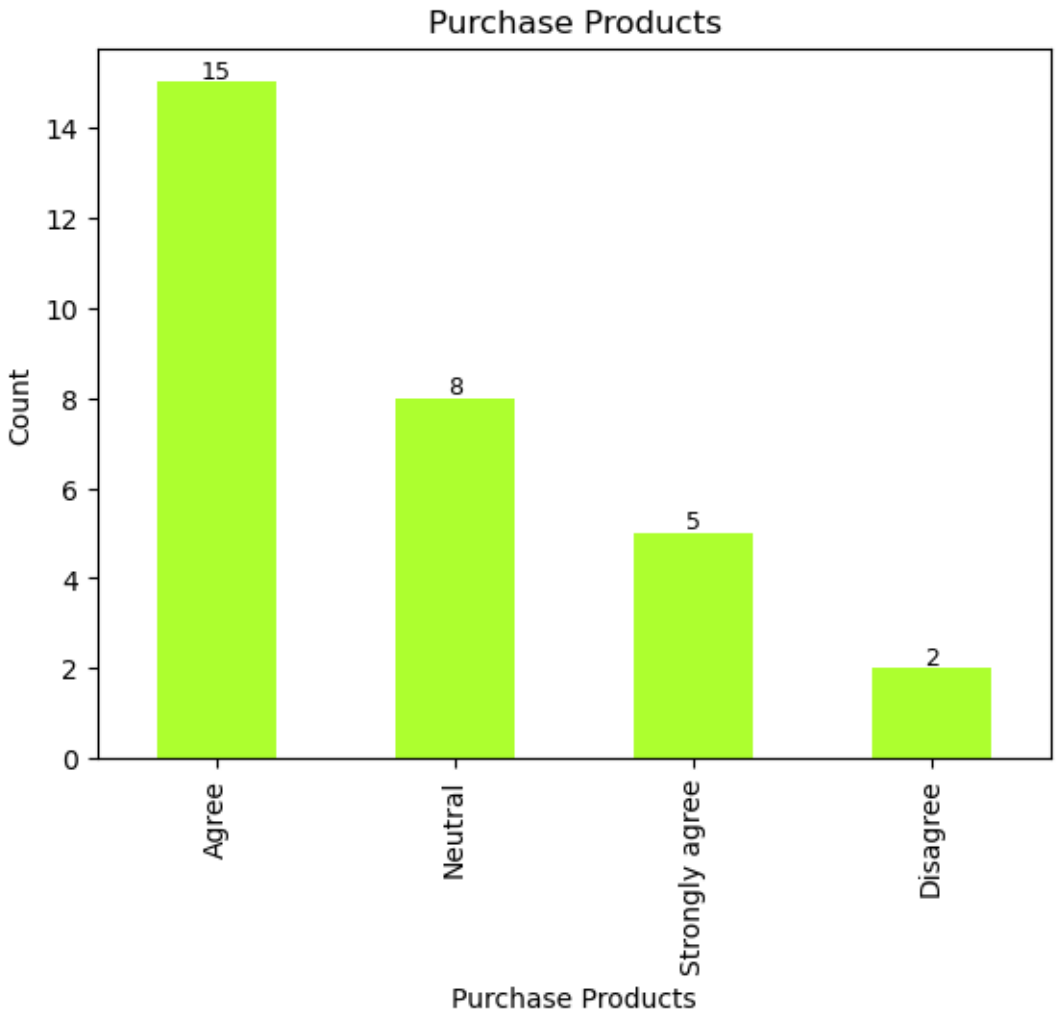
```
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



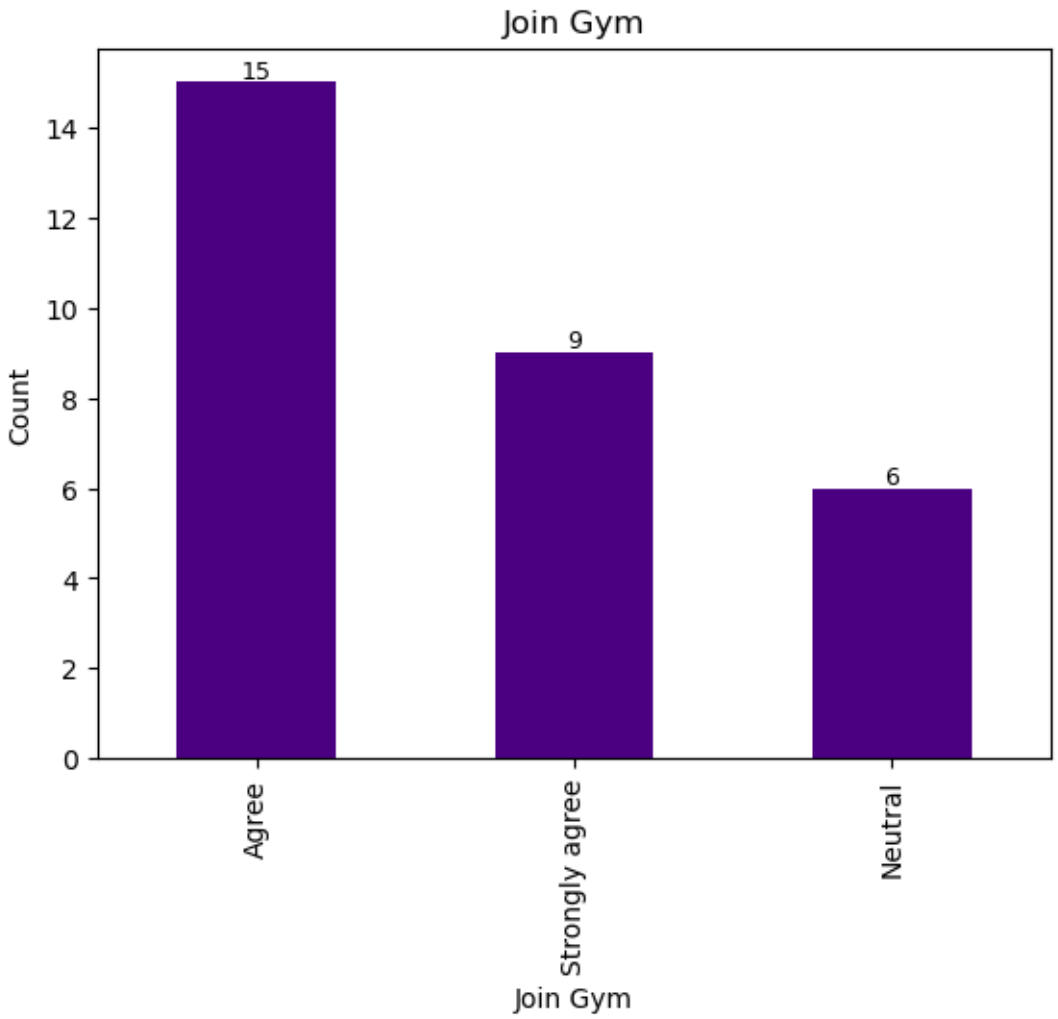
[62]:
```
exercise_more = df['Exercise More'].value_counts()
exercise_more.plot(kind='bar', color='chocolate')
plt.xlabel('Exercise More')
plt.ylabel('Count')
plt.title('Exercise More')

# add labels to the bars
for i, count in enumerate(exercise_more):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



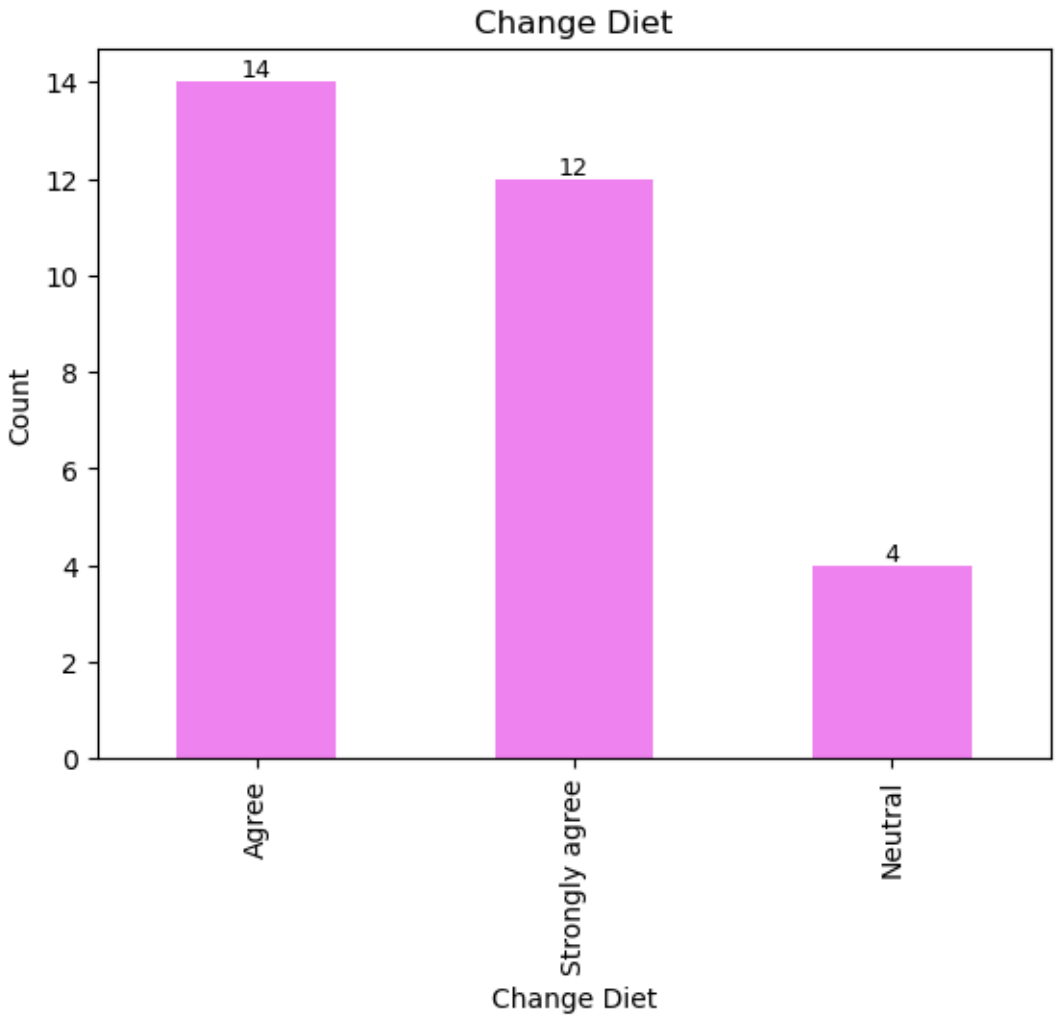
[67]:
```
purchase_products = df['Purchase Products'].value_counts()
purchase_products.plot(kind='bar', color='greenyellow')
plt.xlabel('Purchase Products')
plt.ylabel('Count')
plt.title('Purchase Products')

# add labels to the bars
for i, count in enumerate(purchase_products):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



[61]:
```
join_gym = df['Join Gym'].value_counts()
join_gym.plot(kind='bar', color='indigo')
plt.xlabel('Join Gym')
plt.ylabel('Count')
plt.title('Join Gym')

# add labels to the bars
for i, count in enumerate(join_gym):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```



[60]:
```
change_diet = df['Change Diet'].value_counts()
change_diet.plot(kind='bar', color='violet')
plt.xlabel('Change Diet')
plt.ylabel('Count')
plt.title('Change Diet')

# add labels to the bars
for i, count in enumerate(change_diet):
    plt.text(i, count+0.1, str(count), ha='center', fontsize=9)

plt.show()
```


Change Diet
14
12
4
Count
0
2
4
6
8
10
12
14
Agree
Strongly agree
Neutral
Change Diet

[ ]: