

C = Activity

Y = Hyperlipidemia

A = Vegetables

The Joint Probability Tables below show that Separation holds but Sufficiency does not hold.

**Separation – P(Activity |Hyperlipidemia, Vegetables)**

Activity	Hyperlipidemia	Vegetables	Probability
Insufficient	YES	<400g/d	0.4347
Insufficient	YES	400-500g/d	0.4347
Insufficient	YES	500g/d	0.4347
Insufficient	NO	<400g/d	0.3624
Insufficient	NO	400-500g/d	0.3624
Insufficient	NO	500g/d	0.3624
Normal	YES	<400g/d	0.3248
Normal	YES	400-500g/d	0.3248
Normal	YES	500g/d	0.3248
Normal	NO	<400g/d	0.3398
Normal	NO	400-500g/d	0.3398
Normal	NO	500g/d	0.3398
Sufficient	YES	<400g/d	0.2403
Sufficient	YES	400-500g/d	0.2403
Sufficient	YES	500g/d	0.2403
Sufficient	NO	<400g/d	0.2976
Sufficient	NO	400-500g/d	0.2976
Sufficient	NO	500g/d	0.2976

As seen here and throughout the table, regardless of what value assignment vegetables has, the probability stays the same if the values of activity and hyperlipidemia stays the same.

**Sufficiency – P(Hyperlipidemia |Activity, Vegetables)**

Activity	Hyperlipidemia	Vegetables	Probability
Insufficient	YES	<400g/d	0.6256
Insufficient	YES	400-500g/d	0.4172
Insufficient	YES	500g/d	0.2216
Insufficient	NO	<400g/d	0.3743
Insufficient	NO	400-500g/d	0.5827
Insufficient	NO	500g/d	0.7783
Normal	YES	<400g/d	0.5711
Normal	YES	400-500g/d	0.3632
Normal	YES	500g/d	0.1849
Normal	NO	<400g/d	0.4288
Normal	NO	400-500g/d	0.6367
Normal	NO	500g/d	0.8150
Sufficient	YES	<400g/d	0.5293
Sufficient	YES	400-500g/d	0.3251
Sufficient	YES	500g/d	0.1608
Sufficient	NO	<400g/d	0.4706
Sufficient	NO	400-500g/d	0.6748
Sufficient	NO	500g/d	0.8391

As seen here and throughout the table, the probability actually changes when the value of vegetable changes, when the values of hyperlipidemia and activity stays the same.

C = Hyperlipidemia  
Y = Central Obesity  
A = Gender

The Joint Probability Tables below show that Sufficiency holds but Separation does not hold.

**Separation – P(Hyperlipidemia | Central Obesity, Gender)**

Hyperlipidemia	Central Obesity	Gender	Probability
YES	YES	Male	0.5152
YES	YES	Female	0.4381
YES	NO	Male	0.2861
YES	NO	Female	0.2272
NO	YES	Male	0.4847
NO	YES	Female	0.5618
NO	NO	Male	0.7138
NO	NO	Female	0.7727

As seen here and throughout the table, the probability actually changes when the value of gender changes, when the values of hyperlipidemia and central obesity stays the same.

**Separation – P(Central Obesity | Hyperlipidemia, Gender)**

Hyperlipidemia	Central Obesity	Gender	Probability
YES	YES	Male	0.7876
YES	YES	Female	0.7876
YES	NO	Male	0.2123
YES	NO	Female	0.2123
NO	YES	Male	0.5832
NO	YES	Female	0.5832
NO	NO	Male	0.4167
NO	NO	Female	0.4167

As seen here and throughout the table, regardless of what value assignment gender has, the probability stays the same if the values of hyperlipidemia and central obesity stays the same.