```
import pandas as pd
file_path = 'IHME_DAH_DATABASE_1990_2020_Y2021M09D22.CSV'
chunksize = 100000
df_csv = pd.concat(pd.read_csv(file_path, chunksize=chunksize,
encoding="utf-8", low_memory=False))

df_csv.head(10)

   year      source   channel recipient_isocode  \
0  1990  Australia   BIL_AUS                 AGO
1  1990  Australia   BIL_AUS                 BDI
2  1990  Australia   BIL_AUS                 BEN
3  1990  Australia   BIL_AUS                 BFA
4  1990  Australia   BIL_AUS                 BWA
5  1990  Australia   BIL_AUS                 CAF
6  1990  Australia   BIL_AUS                 CHN
7  1990  Australia   BIL_AUS                 CIV
8  1990  Australia   BIL_AUS                 CMR
9  1990  Australia   BIL_AUS                 COD

                   recipient_country  gbd_location_id wb_regioncode  \
0                             Angola              168           SSA
1                            Burundi              175           SSA
2                              Benin              200           SSA
3                       Burkina Faso              201           SSA
4                           Botswana              193           SSA
5           Central African Republic              169           SSA
6                              China                6           EAP
7                      Cote d'Ivoire              205           SSA
8                           Cameroon              202           SSA
9  Democratic Republic of the Congo              171           SSA

   wb_location_id                       gbd_region  gbd_region_id  ...  \
0             242   Sub-Saharan Africa, Central            167.0  ...
1             242   Sub-Saharan Africa, Eastern            174.0  ...
2             242   Sub-Saharan Africa, Western            199.0  ...
3             242   Sub-Saharan Africa, Western            199.0  ...
4             242  Sub-Saharan Africa, Southern            192.0  ...
5             242   Sub-Saharan Africa, Central            167.0  ...
6             239                    Asia, East              5.0  ...
7             242   Sub-Saharan Africa, Western            199.0  ...
8             242   Sub-Saharan Africa, Western            199.0  ...
9             242   Sub-Saharan Africa, Central            167.0  ...

   other_dah_20   rmh_dah_20   nch_dah_20   ncd_dah_20 hiv_dah_20
mal_dah_20  \
0              0            5            0            0          7
3
1              0            6            0            0          5
1
```

```
2          0          6          0          0          5
2
3          0          5          0          0          7
2
4          0          1          0          0         23
-
5          0          1          0          0          2
-
6         38          7          0          0        367
5
7          0          5          0          0         18
1
8          0          2          0          0          8
1
9          0         14          0          0         18
6
```

	tb_dah_20	swap_hss_total_dah_20	oid_dah_20	unalloc_dah_20
0	0	0	0	-
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	-
5	0	0	0	-
6	0	130	0	0
7	0	0	0	0
8	0	0	0	-
9	0	0	0	0

```
[10 rows x 76 columns]
```

```python
cols_to_convert = df_csv.columns[14:]
df_csv[cols_to_convert] = df_csv[cols_to_convert].apply(pd.to_numeric,
errors='coerce')
```

```python
import numpy as np
```

```python
mean_val = np.mean(df_csv["dah_20"])
```

```python
print(mean_val)
```

```
2519.3625352650447
```

```python
df_csv.dropna(subset=["dah_20"], inplace=True)
median_val = np.median(df_csv["dah_20"])
print(median_val)
```

```
44.0
```

```python
std_dev = np.std(df_csv["dah_20"])
print(std_dev)
```

```
36693.2562089067
```

```python
variance = np.var(df_csv["dah_20"])
print(variance)
```

```
1346395051.2124703
```

```python
df_csv.dropna(subset=["other_dah_20"], inplace=True)
data_1 = df_csv["other_dah_20"]
data_2 = df_csv["dah_20"]
correlation = np.corrcoef(data_1, data_2)[0, 1]
print(correlation)
```

```
0.753662974820274
```

```python
covariance = np.cov(data_1, data_2)[0, 1]
print(covariance)
```

```
213078437.0006457
```