Model Performance Report

Classification Reports:

```
Logistic Regression:
              precision    recall  f1-score   support

       False       0.46      0.44      0.45        75
        True       0.57      0.59      0.58        95

    accuracy                           0.52       170
   macro avg       0.51      0.51      0.51       170
weighted avg       0.52      0.52      0.52       170
```

```
Random Forest:
              precision    recall  f1-score   support

       False       0.45      0.47      0.46        75
        True       0.57      0.55      0.56        95

    accuracy                           0.51       170
   macro avg       0.51      0.51      0.51       170
weighted avg       0.51      0.51      0.51       170
```

```
SVC:
              precision    recall  f1-score   support

       False       0.46      0.52      0.49        75
        True       0.58      0.53      0.55        95

    accuracy                           0.52       170
   macro avg       0.52      0.52      0.52       170
weighted avg       0.53      0.52      0.53       170
```

Model Accuracy Scores:

Logistic Regression - Training Accuracy: 0.5927, Validation Accuracy: 0.5387

Random Forest - Training Accuracy: 0.8616, Validation Accuracy: 0.5098

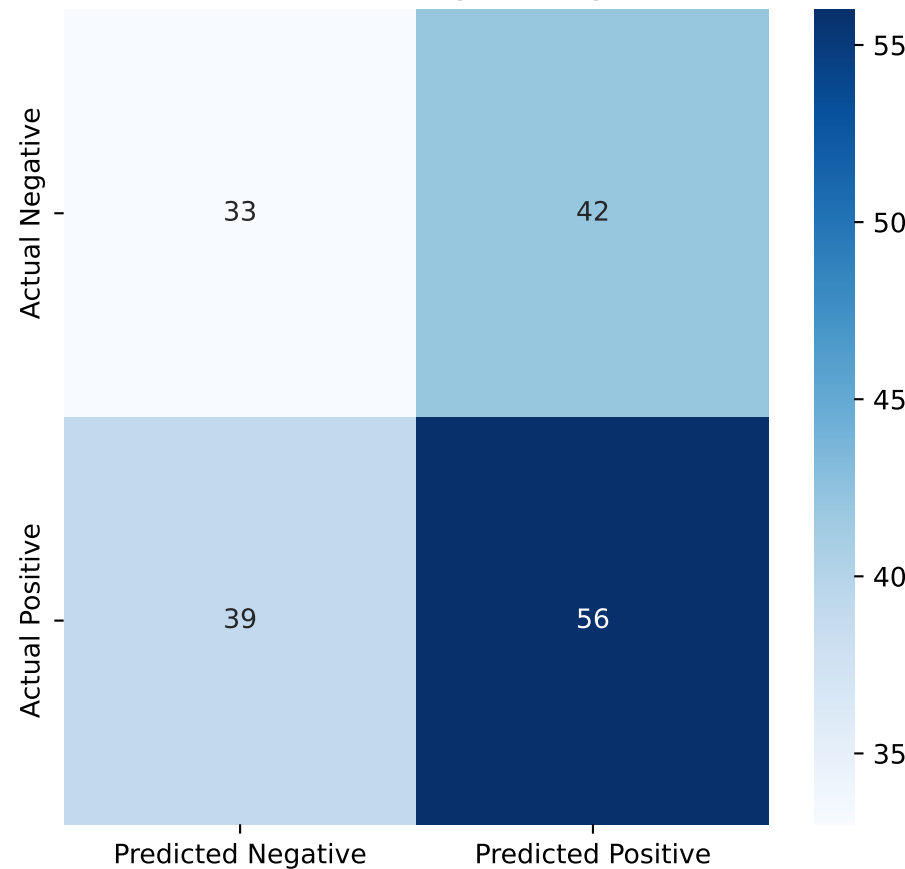SVC - Training Accuracy: 0.6791, Validation Accuracy: 0.4934

Best Parameters for Models

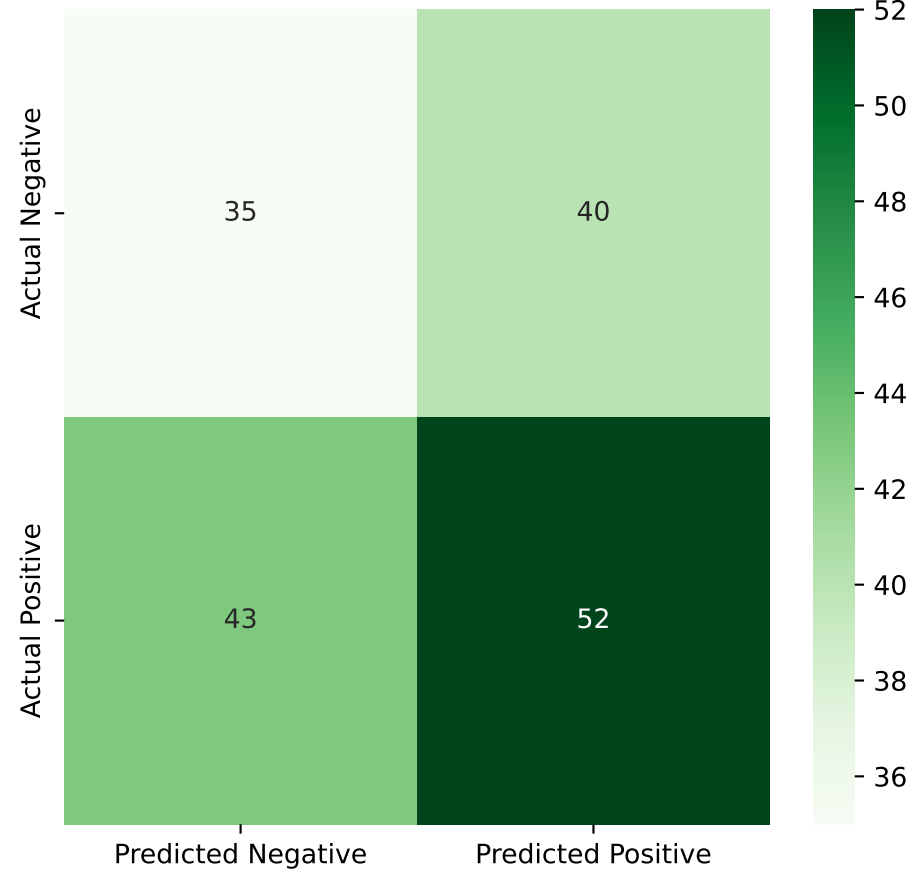Logistic Regression: {'logisticregression__C': 100}

Random Forest: {'randomforestclassifier__max_depth': 10, 'randomforestclassifier__n_estimators': 10}

SVC: {'svc__C': 0.1}

Confusion Matrix - Logistic Regression

	Predicted Negative	Predicted Positive
Actual Negative	33	42
Actual Positive	39	56

Confusion Matrix - Random Forest

	Predicted Negative	Predicted Positive
Actual Negative	35	40
Actual Positive	43	52

Confusion Matrix - SVC

	Predicted Negative	Predicted Positive
Actual Negative	39	36
Actual Positive	45	50