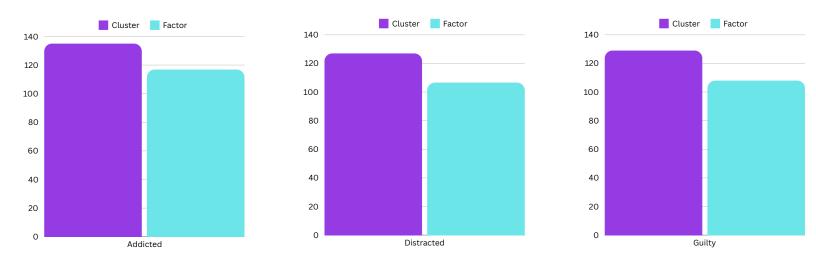As a marketing analyst, understanding consumer behavior is crucial to building successful strategies. To better understand the consumer data and identify the target market, I have used clustering and factor analysis to segment students based on their survey responses.

Factor analysis is a statistical method for reducing variables in a dataset into their smaller, underlying factors. These factors represent patterns within the data, and they hold factors of each variable, which we will then use to identify our target market. In our data, I selected three variables which had the highest correlations to Cluster 1. This signifies that Cluster 1 feels *the most* addicted, distracted, and guilty because of social media.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Sometimes I feel addicted to social media.	.658	.162	.038	.014
I'm easily distracted by having my phone around while studying	.623	-.047	.093	.013
Sometimes I feel guilty about how much time I spend on Social media	.607	.050	.043	.292

On the other hand, clustering is a statistical method used to group similar data points together. Unlike in factor analysis, this means that each person only fits into one category, which reduces the amount of differences within the dataset.

To understand which statistical method provides deeper insights, I used index graphs to compare the two results. Index graphs are useful to visualize how each group behaves with each variable, relative to its average. In my analysis, we can see that the cluster consistently had a higher index, than the factor, with each of the three variables. This means the higher index values for the clusters depicted stronger associations with student's behavior regarding social media use, more specifically addiction, distraction, and guilt. By grouping respondents based on their similarities, the clusters revealed more distinct patterns in behavior compared to the factors.