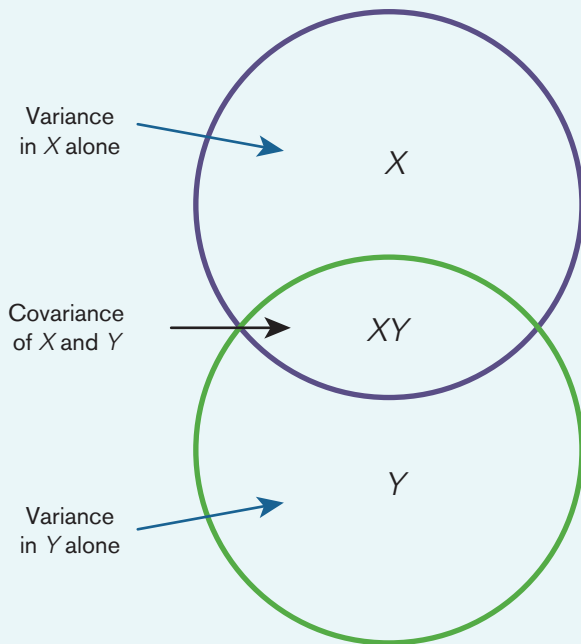


FIGURE 15.7 Each Circle Represents the Variance of a Factor

If we conceptualize covariance as circles, as illustrated in Figure 15.7, then the variance of each factor (X and Y) would be contained within each circle. The two circles, then, contain the total measured variance. The covariance of X and Y reflects the extent to which the total variance or the two circles overlap. In terms of computing r , the overlap or covariance is placed in the numerator; the total variance contained within each circle is placed in the denominator. The more the two circles overlap, the more the covariance (in the numerator) will equal the independent variances contained within each circle (in the denominator)—and the closer r will be to ± 1.0 .



Two factors covary inasmuch as the two circles overlap. The more overlap or shared variance of two factors, the more the two factors are related.