

Table 1  
Four Aggression Factors

Factor	Factor loadings
<b>Physical Aggression</b>	
1. Once in a while I can't control the urge to strike another person.	.66, .55, .62
2. Given enough provocation, I may hit another person.	.79, .84, .80
3. If somebody hits me, I hit back.	.60, .65, .60
4. I get into fights a little more than the average person.	.44, .52, .58
5. If I have to resort to violence to protect my rights, I will.	.63, .68, .58
6. There are people who pushed me so far that we came to blows.	.60, .62, .65
7. I can think of no good reason for ever hitting a person.*	.47, .53, .51
8. I have threatened people I know.	.45, .48, .65
9. I have become so mad that I have broken things.	.47, .57, .47
<b>Verbal Aggression</b>	
1. I tell my friends openly when I disagree with them.	.41, .41, .48
2. I often find myself disagreeing with people.	.38, .49, .35
3. When people annoy me, I may tell them what I think of them.	.45, .45, .40
4. I can't help getting into arguments when people disagree with me.	.38, .41, .36
5. My friends say that I'm somewhat argumentative.	.37, .56, .46
<b>Anger</b>	
1. I flare up quickly but get over it quickly.	.53, .49, .49
2. When frustrated, I let my irritation show.	.47, .45, .37
3. I sometimes feel like a powder keg ready to explode.	.60, .35, .35
4. I am an even-tempered person.*	.64, .62, .69
5. Some of my friends think I'm a hothead.	.63, .51, .64
6. Sometimes I fly off the handle for no good reason.	.75, .64, .70
7. I have trouble controlling my temper.	.74, .66, .69
<b>Hostility</b>	
1. I am sometimes eaten up with jealousy.	.41, .43, .49
2. At times I feel I have gotten a raw deal out of life.	.61, .58, .52
3. Other people always seem to get the breaks.	.65, .65, .63
4. I wonder why sometimes I feel so bitter about things.	.48, .45, .59
5. I know that "friends" talk about me behind my back.	.55, .37, .47
6. I am suspicious of overly friendly strangers.	.42, .35, .43
7. I sometimes feel that people are laughing at me behind my back.	.66, .64, .70
8. When people are especially nice, I wonder what they want.	.55, .50, .47

\* The scoring of these items is reversed.

*Confirmatory factor analysis.* Recall that the first sample yielded four factors. Three models might account for this pattern of factors. The first model assumes that all items would load on a general aggression factor. The second model, suggested by the results of the first sample, assumes only the four correlated factors already identified. The third model assumes four factors that are sufficiently related to form a general, higher order factor of aggression.

These models were suggested by the results with the first sample of subjects, so we tested the models with different subjects—the second sample. A confirmatory factor analysis was done on these data, using the LISREL VI program (Jöreskog & Sörbom, 1984). Chi-squares were computed to test goodness of fit. When a sample is large, as in the 448-subject sample, the chi-square statistic can be misleading (Loehlin, 1987). Therefore, we followed the procedure suggested by Jöreskog and Sörbom (1979) of dividing the chi-square by the degrees of freedom as a test of goodness of fit. Ratios above 2.0 suggest a poor fit, but ratios below 2.0 suggest a reasonable fit.

The ratio for the first model, all items loading on a single factor, was 2.27 (which is a poor fit). The ratios for the second and third models were 1.94 and 1.95, respectively (which are reasonably good fits). Although there is no statistical basis for choosing between the second and third models, the latter has

the advantage of being more inclusive: four factors of aggression, linked by a higher order factor of general aggression.

*Correlations among factors.* The factors were expected to intercorrelate and they did, all of them beyond chance (see Table 2). Verbal and Physical Aggression, as might be expected, were closely related but only moderately correlated with Hostility. Anger correlated strongly with the other three factors. There was a post hoc interpretation of this pattern of relationships: The moderate correlations between Hostility and both Physical and Verbal Aggression were due mainly to their connection with Anger. If this is so, when Anger is partialled out, the correlations between Hostility and both Physical and Verbal Aggression should be severely attenuated. The partial correlations with Anger controlled were .08 between Hostility and Physical Aggression and .05 between Hostility and Verbal Aggression.

Table 2  
Correlations Among the Aggression Scales ( $N = 1,253$ )

Scale	Verbal	Anger	Hostility
Physical	.45	.48	.28
Verbal	—	.48	.25
Anger		—	.45