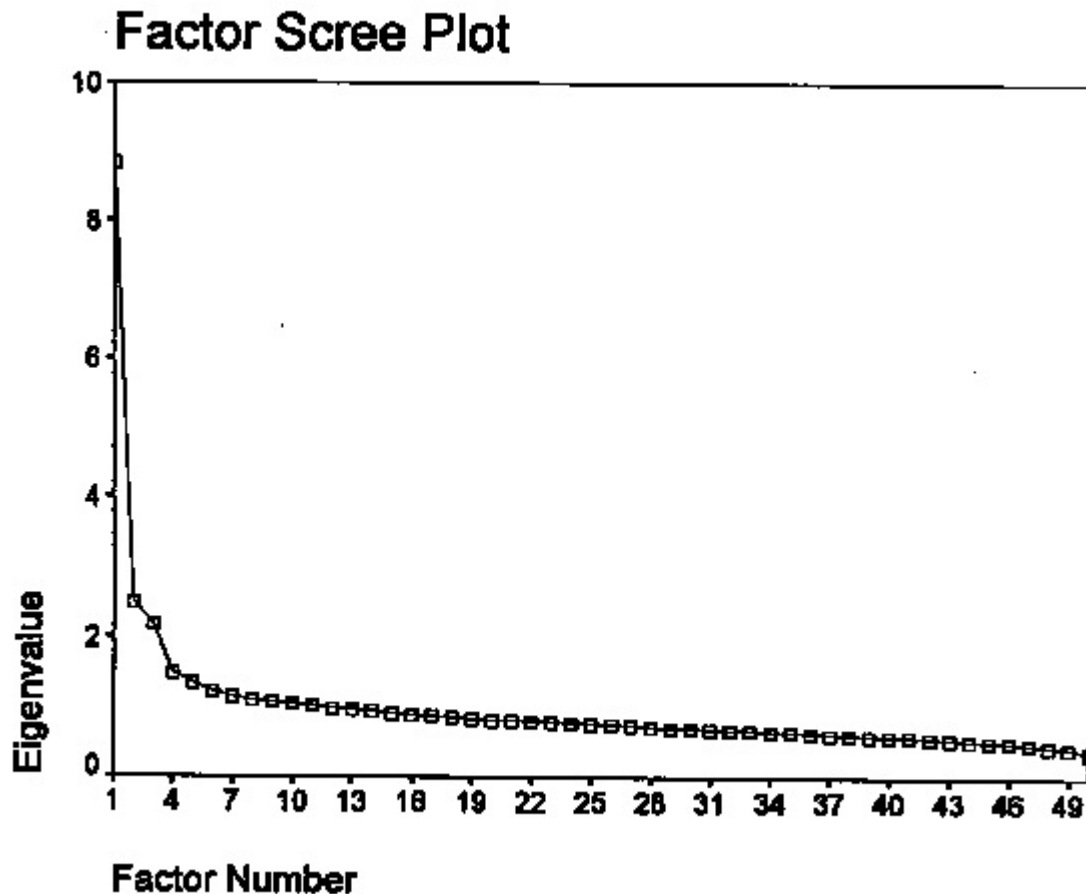


## APPENDIX A

In contrast to most correctional research, this study was not carried out as a separate entity but, rather, as part of ongoing attempts to understand and treat criminality.<sup>1</sup> These investigations are continuing: New sets of data are being assembled and analysed, and new observations about the structure of criminality are continuing to emerge.

Subsequent to completion of the treatment phase of this study, the STFB scores of a new sample of 1951 inmate-subjects became available for analysis. The scree plot for this sample is shown below. From this scree plot, it can be seen that there are at least three robust factors within this data, and possibly as many as five or six, as was true of the sample on which the original six factors were derived.



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<sup>1</sup> The rarity of such an approach can be inferred from the observation that a search of the World Wide Web in June, 1996 produced only four references to “criminal personality,” three of which referenced one (each) of Yochelson and Samenow’s books while the other references all three together.

However, the fifty 2-item scales absolutely refused to load on the same factors as they had in the original sample!

Consequently, in an effort to understand the meaning of the factor structure in this new data set, three-, four-, five- and six-factor solutions were generated, and the scales loading on each of the factors were recorded. Loadings for the fifty STFB item sets on each of the factors are shown in the following tables with a ✓.

In addition, given that there are fifty 2-items scales (or sets of items), it was decided to attempt to construct five quasi-factor scales comprised of ten sets of items each. This was done through what might be called successive approximations, by combining into mini-factor scales those sets of items with the highest and most unambiguous loadings on each of five factors; these mini-factor scales were then re-factoring along with the remaining scales (or item-sets); those scales most highly associated with each mini-factor were then added to them and these revised mini-factors were re-factored along with the as-yet-unassigned scales; and the process was repeated until all of the 50 scales were included in one or other of the five quasi-factor scales. Scale loadings on each of these quasi-factor scales are indicated in the following table with a star (★).

Factor loadings of the fifty 2-item sets of STFB Items

Item Set	Factor Solution	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1 - reversed - reversed - reversed - reversed	6-factor 5-factor 4-factor 3-factor		✓ ✓			✓ ✓★	
2	6-factor 5-factor 4-factor 3-factor	✓ ✓★ ✓ ✓					
3	6-factor 5-factor 4-factor 3-factor				✓ ✓★ ✓		
4	6-factor 5-factor 4-factor 3-factor			✓ ✓★ ✓ ✓			
5	6-factor 5-factor 4-factor 3-factor	✓ ✓★ ✓ ✓					

6	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
7	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓ ✓		⊕			
8	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
9	6-factor 5-factor 4-factor 3-factor		✓	✓ ✓ ✓		⊕	
10	6-factor 5-factor 4-factor 3-factor			✓	✓	✓⊕	✓
11	6-factor 5-factor 4-factor 3-factor		✓ ✓ ✓			✓	
12	6-factor 5-factor 4-factor 3-factor		✓ ✓ ✓ ✓				
13	6-factor 5-factor 4-factor 3-factor		✓ ✓ ✓ ✓				
14	6-factor 5-factor 4-factor 3-factor			✓ ✓ ✓ ✓			
15	6-factor 5-factor 4-factor 3-factor			✓ ✓ ✓	⊕		✓
16	6-factor 5-factor 4-factor 3-factor		✓ ✓ ✓ ✓		⊕		

17	6-factor 5-factor 4-factor 3-factor		✓		✓ ✓ ✓	⊕		
18	6-factor 5-factor 4-factor 3-factor	✓				✓ ✓⊕ ✓		
19	6-factor 5-factor 4-factor 3-factor	✓				✓ ✓⊕ ✓		
20	6-factor 5-factor 4-factor 3-factor	✓ ✓				⊕ ✓	✓	
21	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓ ✓			⊕			
22	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓						
23	6-factor 5-factor 4-factor 3-factor		✓ ✓⊕ ✓ ✓					
24 - reversed - reversed	6-factor 5-factor 4-factor 3-factor		✓ ✓⊕ ✓			✓ ✓		
25	6-factor 5-factor 4-factor 3-factor		✓ ✓⊕ ✓ ✓					
26	6-factor 5-factor 4-factor 3-factor				✓ ✓ ✓ ✓	⊕		
27	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓	✓			⊕		

28	6-factor 5-factor 4-factor 3-factor			✓ ✓ ✓ ✓	⊕		
29	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
30	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
31	6-factor 5-factor 4-factor 3-factor			✓ ✓ ✓		⊕	✓
32	6-factor 5-factor 4-factor 3-factor			✓ ✓⊕ ✓ ✓			
33	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓				⊕	✓
34 - reversed - reversed - reversed - reversed	6-factor 5-factor 4-factor 3-factor		✓⊕ ✓ ✓			✓	
35	6-factor 5-factor 4-factor 3-factor		✓ ✓	✓ ✓		⊕	
36	6-factor 5-factor 4-factor 3-factor		✓ ✓⊕ ✓	✓			
37	6-factor 5-factor 4-factor 3-factor		✓ ✓⊕ ✓ ✓				
38	6-factor 5-factor 4-factor 3-factor		✓ ✓⊕ ✓ ✓				

39 - reversed - reversed	6-factor 5-factor 4-factor 3-factor		✓ ✓		✓ ✓	⊕	
40	6-factor 5-factor 4-factor 3-factor			✓ ✓⊕ ✓ ✓			
41	6-factor 5-factor 4-factor 3-factor			✓ ✓ ✓	⊕		✓
42	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
43	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
44	6-factor 5-factor 4-factor 3-factor			✓	✓ ✓ ✓	⊕	
45	6-factor 5-factor 4-factor 3-factor	✓ ✓⊕ ✓ ✓					
46	6-factor 5-factor 4-factor 3-factor	✓	✓			✓ ✓⊕	
47	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓	✓		⊕		
48	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓ ✓			⊕		
49	6-factor 5-factor 4-factor 3-factor	✓ ✓ ✓ ✓			⊕		

50	6-factor 5-factor 4-factor 3-factor			✓ ✓ ✓ ✓			
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While neither of these two ways of constructing “factor” scales within this new data set resulted in factor loadings identical to those from which the treatments in this study were derived, there were some consistencies observed across these different data sets and different factoring methods. In each case, scales 2, 5, 6, 8, 22, 29, 30, 42, 43 and 45 -- ten of the fifty scales -- loaded on the first factor; scales 11, 12, 13, 23, 25, 34 (reversed), 36, 37 and 38 -- nine of the fifty scales -- loaded on the second factor; and scales 4, 14, 32, 40, and 50 - five of the fifty scales -- loaded on the third factor. When there were four or more factors, scales 3, 18 and 19 loaded on the fourth factor; and when there were five factors, scales 1 (reversed), 10 and 46 loaded on the fifth factor.

Correlations between the three and four factors from the three- and four-factor solutions, respectively, and with the five equal-length “factors” and the original six STFB factors (those on which the treatments were based) in a sample of 695 inmates are shown in the following table. Correlations which approach identity are shown in bold.

		Three-Factor Solution			Four-Factor Solution			
		Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3	Factor 4
Three Factor	F 1	1.00	0.54	0.53	<b>0.96</b>	0.55	0.52	0.48
	F 2	0.54	1.00	0.44	0.62	<b>0.97</b>	0.43	0.06
	F 3	0.53	0.44	1.00	0.53	0.47	<b>0.96</b>	0.40
Four Factor	F 1	<b>0.96</b>	0.62	0.53	1.00	0.60	0.52	0.29
	F 2	0.55	<b>0.97</b>	0.47	0.60	1.00	0.43	0.10
	F 3	0.52	0.43	<b>0.96</b>	0.52	0.43	1.00	0.28
	F 4	0.48	0.06	0.40	0.29	0.10	0.28	1.00
Five Equal Factors	F 1	<b>0.95</b>	0.54	0.50	<b>0.96</b>	0.53	0.51	0.30
	F 2	0.54	<b>0.93</b>	0.45	0.60	<b>0.96</b>	0.41	0.11
	F 3	0.80	0.59	0.73	0.83	0.57	0.74	0.31
	F 4	0.67	0.46	0.72	0.59	0.45	0.71	0.65
	F 5	0.39	0.38	0.59	0.39	0.41	0.54	0.28

Original Six Factors	F 1	0.83	0.41	0.58	0.82	0.40	0.57	0.42
	F 2	0.73	0.68	0.63	0.67	0.70	0.62	0.51
	F 3	0.73	0.78	0.60	0.79	0.75	0.61	0.17
	F 4	0.21	-.01	0.50	0.20	0.01	0.52	0.13
	F 5	0.71	0.67	0.66	0.74	0.71	0.61	0.24
	F 6	0.77	0.60	0.55	0.79	0.60	0.50	0.36

As can be seen from this table, the first two factors from the three-, four-, and five-factor solutions are virtually identical, as are the third factor in the three- and four-factor solutions.

The scales in each factor in the three- and four-factor solutions were then ordered by factor loadings (decimal points omitted), as follows:

Three Factor Solution

Factor 1			Factor 2			Factor 3		
Scale	Description	Loading	Scale	Description	Loading	Scale	Description	Loading
5	Risk Taking	75	24	Zero State	70	50	Normalization of Criminality	55
42	Excitement of Breaking the Law	69	11	Hard Done By	54	32	Oblivious to Harm to Others	50
43	Extensiveness of Criminal Thinking	66	34r	Uniqueness	51	26	Denial/Hiding of Fear	48
29	Lack of Restraint	63	23	Lack of Trust	50	40	Failure to Consider Harm to others	47
8	Imperviousness to Punishment	62	25	Hiding of Thoughts and Feelings	50	15	Fear of Failure	40
30	Celebration After the Crime	57	13	Loner	48	31	Concrete Thinking	39
45	Suggestibility	56	38	Opacity/ Transparency	45	17	Failure to Make an Effort or Endure Adversity	39



6	Excitement of Challenging Social Rules	53	47	Poor Decision Making for Responsible Living	44	14	Pigheadedness	36
48	Anger and Fighting	52	16	Lack of Interest in School Performance	41	4	Failure to Use Fear as a Deterrent	34
22	Lying	49	39	Ownership/ Entitlement	38	28	Focus on the Present	33
2	Suppression of Conscience	46	35	Fragmentation/ Splitting	37	44	Rejection of Fear (General)	33
21	Failure to Assume Obligation	46	12	Victim Stance	35	36	Refusal to be Dependent	32
7	Failure to Put Oneself in Another's position	40	27	Lack of Time Perspective	32	41	Building Up Opinion of Oneself as Good	32
19	Sexuality	39	37	Sentimentality	25	9	The Criminal Apprehended/ Fairness	26
3	Suppression of Fear (Specific)	38	1r	Voice of Conscience	21	10	Religion	24
20	Energy	35						
49	Ineffectiveness of Deterrents	33						
46	Deferment	32						
33	The Psychology of Accountability	25						
18	Pretentiousness	23						

Four Factor Solution

Factor 1			Factor 2			Factor 3			Factor 4		
Scale	Description	Loading	Scale	Description	Loading	Scale	Description	Loading	Scale	Description	Loading
5	Risk Taking	76	24	Zero State	61	50	Normalization of Criminality	56	19	Sexuality	52
42	Excitement of Breaking the Law	70	11	Hard Done By	60	26	Denial/Hiding of Fear	49	18	Pretentiousness	52
43	Extensiveness of Criminal Thinking	68	23	Lack of Trust	53	32	Oblivious to Harm to Others	49	44	Rejection of Fear (General)	46



Conceivably, meaning could be assigned to these various factors on the basis of the scales comprising them. However, we also happened to have available another data set containing not only the STFB but the Hare Psychopathy Checklist, the Sensation Seeking Scale, and the MMPI. Examination of the correlations between factors in the three- and four-factor solutions and a variety of other (possibly) criminality-related measures in this sample of 85 incarcerates again found the three factors in the three-factor solution and the first three factors in the four-factor solution to be essentially the same, while the fourth factor in the four-factor solution was highly correlated with the MMPI Spy (i.e., psychopathy) scale ( $r = .95$ ) and Hypomania ( $r = .92$ ) and, to a lesser degree, the MMPI Alcoholism scale ( $r = .80$ ) and extroversion ( $r = -.72$  with the Tryon, Stein and Chu Social Introversiion scale), and with the DIS ( $r = .74$ ) and ES ( $r = .75$ ) scales of the Sensation Seeking Scale. Selected correlations for the three factors in the three-factor solution are shown in the following table.

Correlations Between Factor 1 - 3 and Selected Criminality-Related Scales  
(From the Four-Factor Solution) -- 85 cases from Natpcl )

	Factor 1	Factor 2	Factor 3
Psychopathy Checklist - a	.05	- .54	.12
Psychopathy Checklist - b	.86	.30	.64
Sensation Seeking Scale: Boredom Susceptibility	.64	.19	.79
Sensation Seeking Scale: Disinhibition	.71	- .02	.72
Sensation Seeking Scale: Experience Seeking	.35	- .12	.35
Sensation Seeking Scale: Thrill & Adventure Seeking	- .19	- .54	.43
MMPI Anger (TSC V)	.52	.94	.07
MMPI Anhedonia	.19	.85	- .32
MMPI Anxiety (TSC VII)	.52	.84	.01
MMPI Authority Conflict	.41	- .09	.85

MMPI Depression (TSC IV)	.32	.94	- .14
MMPI Distrust (TSC III)	.67	.75	.55
MMPI Family Problems	.46	.56	.22
MMPI Habitual Criminality	.46	.70	.15
MMPI Manifest Hostility	.79	.69	.38
MMPI Overactive Thinking (TSC VI)	.63	.72	- .14
MMPI Paedophilia	.49	.90	- .13
MMPI Poor Morale	.45	.63	.25
MMPI Responsibility	- .88	- .35	- .56
MMPI Social Delinquency	.59	.93	- .01
MMPI Social Introversion (TSC I)	.16	.42	.05
MMPI Tolerance	- .76	- .83	- .36
MMPI Violence	.72	.70	.23
The following correlations are with scales from Quirk's Addicause questionnaire, in a sample of 82-89 inmates (S scales)			
Need for Social Enjoyment	.12	.09	.16
Reactive Depression	.25	.36	.23
Stimulus Hunger	.60	.25	.50
Guilt Intolerance	.52	.50	.49
Social Contact	.14	.20	.18
Rebellion Against Authority	.63	.52	.46
Flat Depression	.44	.56	.42

Self Enhancement	.29	.11	.33
Hedonism	.22	-.8	.18
Subcultural Values	.49	.35	.53
Immediate Gratification	-.12	-.13	-.13
Affect Denial	.12	.11	.23
Need to be Different	.51	.39	.48
Rigid Morality	-.24	.06	.02
Paroxysmality	.37	.44	.50
Pep Up Need	.17	.07	.21
Fast Lane Living	.64	.34	.45
Allergy Stress	.30	.41	.34
Physiological Anxiety	.34	.53	.36
Punitive Rewards	.54	.54	.56
Somatic Depression	.34	.49	.38
Substance Excitement	.50	.36	.40
Different Experience	.33	.36	.28

Examination of the scale contents of the three STFB factors and the relationships between these three STFB factors and the various other scales shown in the preceding table reveals the following notable components of the three factors:

Factor 1	Factor 2	Factor 3
Risk Taking (Loading .75)	Zero State (Loading .70)	Normalization of Criminality (Loading .55)
Excitement of Breaking the Law (Loading .69)	Anger (r = .94)	Oblivious to Harm to Others (Loading .50)
Extensiveness of Criminal Thinking (Loading .66)	Anhedonia (r = .85)	Sensation Seeking: Susceptibility to Boredom (r = .79)
Lack of Restraint (Loading .63)	Anxiety (r = .84)	Sensation Seeking: Disinhibition (r = .72)
Imperviousness to Punishment (Loading .62)	Depression (r = .94)	Authority Conflict (r = .85)
Psychopathy Checklist Factor 2 (b): A chronically unstable and antisocial lifestyle (r = .86)	Distrust (r = .75)	
Sensation Seeking: Disinhibition (r = .71)	Habitual Criminality (r = .70)	
Manifest Hostility (r = .79)	Overactive Thinking or "Autism" (r = .72)	
Irresponsibility (r = .88)	Social Delinquency (r = .93)	
Intolerance (r = .76)	Intolerance (r = .83)	
Violence (r = .72)	Violence (r = .70)	

On the basis of these results, it is suggested that Factor 1 be thought of as representing angry, excitement seeking, disinhibited, chronically antisocial, irresponsibility. Factor 2 appears to identify an emotionally disturbed (depressed, angry and anxious), irritable and distrustful habitual criminal; while Factor 3 seems to be measuring conflict resulting primarily from a combination of boredom and disinhibition.