The Five Factor Model and Impulsivity
(Whiteside & Lynam, 2001)

• Why such a complex issue?
  Multiple ways of defining impulsivity
  Variety of models:  - temperament
                     - personality
                     - physiology
Eysenck’s view

- Impulsivity is an important psychological construct
- In 1985 Eysenck & Eysenck included impulsivity as component of their three dimensional view of personality:

  impulsivity within **Psychoticism** (e.g., I usually think carefully before doing things)

  Venturesomeness (e.g., I would enjoy waterskiing) & sensation seeking (e.g., I sometimes like doing things that are a bit frightening) within **Extroversion**.
Other Personality Models

- Cloninger (1991) uses a broad factor of **novelty seeking**
- Items related to thrill seeking and acting on feelings of the moment without regard for rules and regulations.
Personality models cont.
- five factors

• Zuckerman (1991) identified a factor consisting of 4 subscales which they labeled Impulsive-sensation seeking

• Consists of items that “involve a lack of planning and the tendency to act impulsively”, as well as “experience seeking, or willingness to take risks for the sake of excitement or novel experiences”. 
Personality models cont.
three-factor

Tellegen (1982) three system higher-order factors

1. Positive Emotionality
2. Negative Emotionality
3. Constraint, which captures an individual's level of caution, restraint, propensity toward risky behavior, and acceptance of conventional society

Tellegen proposes a **constraint factor** that incorporates control (vs impulsivity)
Impulsivity & Psychopathology

- After subjective distress, impulsivity is the most common diagnostic criteria in the DSM-IV.
Disorders

- impulse control disorders - intermittent explosive disorder, kleptomania, and pyromania.
- psychiatric disorders
- antisocial personality disorder (i.e., impulsivity or failure to plan ahead).
- ADHD (i.e., blurts out answers, difficulty waiting turn, and interrupts or intrudes)
Disorders cont.

mania (e.g., excessive involvement in pleasurable activities that have a high potential for painful consequences)
dementia (i.e., disturbance in executive functioning)
bulimia nervosa (e.g., feeling as though one cannot control how much one is eating)
Inconsistencies in construct

• So impulsivity includes a heterogeneous cluster of lower-order traits:

  ✓ sensation seeking
  ✓ risk-taking
  ✓ Novelty seeking
  ✓ Boldness
  ✓ Venturesomeness
  ✓ boredom susceptibility
  ✓ unreliability
  ✓ unorderliness
Temperament model

- Bus & Plomin (1975) proposed a four-factor model of temperament which included: **impulsivity, emotionality, activity, sociability**

- They hypothesize that impulsivity is a multi-dimensional temperament with the ability to delay the performance of behaviour as its core aspect (i.e., inhibition).

- The other components of impulsivity include:
  - considering alternatives & consequences before making a decision
  - the ability to remain on task, despite competition
  - tendency toward boredom and the need to seek novel stimuli
A Physiological Emphasis-
four-factor

• Collinger (1991) four temperament scale based on physiological underpinnings of behavior
• Novelty Seeking factor which includes:
  1. impulsivity
  2. the initiation of approach behavior in response to novelty
  3. extravagance in approach to reward cues
  4. the tendency to quickly lose one’s temper
Physiological model

- Behavior is thought to arise from three separate components:
  1) behavioral activation- responds to environmental cues for reward (initiation)
  2) behavioral inhibition- responds to cues for punishment (passive avoidance)
  3) non-specific arousal system receives excitatory input from both BA & BI (serves to intensify one or the other system)
Most Comprehensive Model

- Barratt et al. (1993) uses information from four diverse perspectives: the medical model, psychological model, behavioral model, and social model.
- Three-factor model
  1. Attentional impulsiveness - maintaining attention to tasks or cognitive instability
  2. Motor impulsiveness - spur of the moment actions
  3. Non-planning - lack of self control & cognitive complexity
Bringing Clarity to the Construct of Impulsivity

• None of the models described has gained widespread acceptance
• In response to this fact, the current paper attempts to identify facets of impulsivity that are common to all of the proposed measures
• They start with the 5-factor model
• The NEO contains facets that capture some aspect of impulsivity
  • N: impulsiveness
  • Con: self-discipline & deliberation
  • Extra: excitement seeking
Methods

• The study examines whether the four aspects of the FFM map onto commonly used measures of impulsivity
• Subjects: 437 students (316 females)
• Measures:
  ① EASI-III Impulsivity Scales (temperament theory of personality)
  ② Dickman’s Functional & Dysfunctional Impulsivity Scales (positive aspects of impulsivity)
  ③ Barratt Impulsiveness Scale-11 (independent of anxiety & related to traits of extraversion & sensation seeking)
  ④ I-7 Impulsiveness Questionnaire (developed by Eysenck-54 items, excluded empathy subscale)
  ⑤ Personality Research Form Impulsivity Scale (designed to measure personality traits related to normal functioning)
Multidimensional Personality Questionnaire Control Scale (Tellegen’s 300 items-only used 24 items from the control vs impulsiveness scale)

Temperament & Character Inventory (physiology model)

Sensation Seeking Scales (includes a scale related to boredom susceptibility)

Revised NEO Personality Inventory (only included domains of N, E, & C.)

Pilot studies indicated that additional items needed to be included (total of 14) for a more comprehensive account of impulsivity, e.g., strong cravings.
Data Analysis

• Scale Reliabilities
• Initial Factor Analysis
• Item Selection
• Relation between Impulsivity scales and NEO facets
Results

Exploratory factor Analysis

Factor Analysis of NEO-PI-R

Relation between impulsivity scales and NEO facets

- Premeditation
- Urgency
- Sensation Seeking
- (lack of) Perseverance.

- Neuroticism and the other urgency scales,
- 5 Facets of Conscientiousness (minus deliberation) and the scales previously associated previously with lack of perseverance,
- Sensation Seeking factor and SSS boredom susceptibility,
- NEO-PI-R extraversion facets.

- (lack of) premeditation, (lack of) perseverance, 6 Facets of Conscientiousness
- Sensation Seeking, 6 Facets of Extraversion
- Urgency, 6 Factors of Neuroticism
Conclusions

• The 4 factors of impulsivity NOT considered variations of impulsivity,

• RATHER discrete psychological processes that lead to *impulsive-like* behaviours.

• Impulsivity is important in the DSM IV diagnostic criteria. the 4 facets of impulsivity are shown to be linked to different disorders. This gives validity to the idea that impulsivity can be broken down to these 4 discrete facets.
<table>
<thead>
<tr>
<th>FACET OF IMPULSIVITY</th>
<th>FACET OF NEO-PI-R</th>
<th>FACTOR</th>
<th>DISORDER</th>
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<tbody>
<tr>
<td>urgency</td>
<td>impulsiveness</td>
<td>neuroticism</td>
<td>BPD</td>
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<tr>
<td>premeditation</td>
<td>(low) deliberation</td>
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<td>antisocial personality disorder</td>
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<td>Lack of perseverance</td>
<td>Self-discipline</td>
<td>conscientiousness</td>
<td>ADHD</td>
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<td>Sensation seeking</td>
<td>Excitement seeking</td>
<td>openness</td>
<td>substance abuse</td>
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