

Adolescents and Healthy Leisure Contexts: The HealthWise and TimeWise Interventions

PENNSTATE



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Recreation, Park and Tourism
Management

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*Can Physical Activity and Exercise Prevent Drug Abuse?
Promoting a Full Range of Science to Inform Prevention*



Importance of Leisure

- Through the whole of life, from childhood to old age, there should be opportunity for the practice of those forms of recreation, which renew life, and which make for the joy of living.
 - Theodore Roosevelt



Outline of Presentation

- Leisure and healthy adolescent development
- Leisure education as prevention
 - TimeWise: Taking Charge of Leisure Time
 - HealthWise South Africa: Life Skills for Young Adults
- Current projects and findings
- Future projects and issues



Where it All Started

- Plato and Aristotle on leisure
 - *Scholè* “employment of leisure time to study and learn”
 - Freedom to choose
 - Natural settings and gymnasia
 - Important to mental, physical, cognitive health



Modern Lifestyle Issues

- Football today is far too much a sport for the few who can play it well; the rest of us, and too many of our children, get our exercise from climbing up the seats in stadiums, or from walking across the room to turn on our television sets.
 - John F. Kennedy



Setting the Stage for Leisure as a Context for Prevention

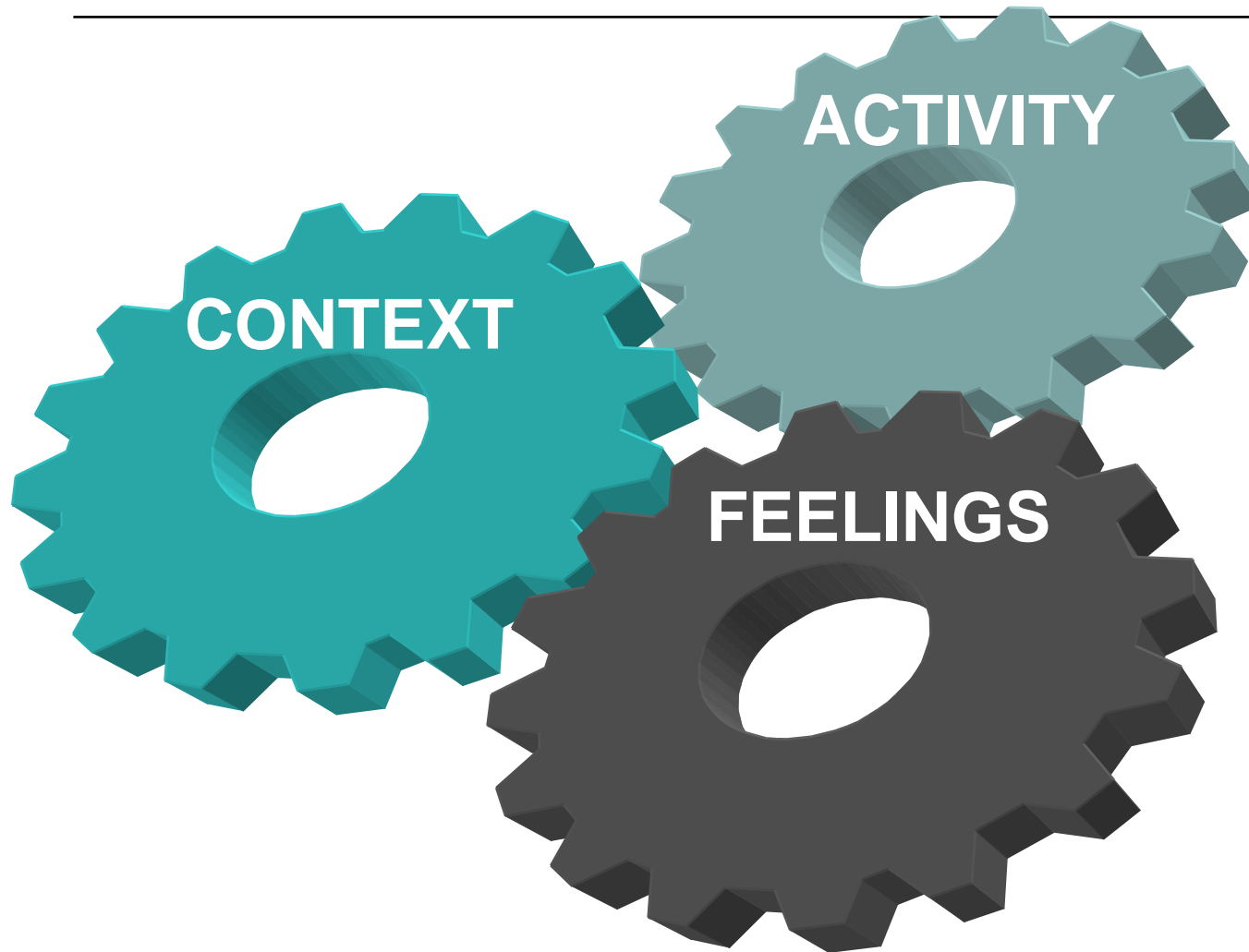
- “Diseases of lifestyle” as the predominant causes of morbidity and mortality in contemporary life (LaLonde, 1974)
- From cure and focus on disease to salutogenesis in the health and medical sciences
 - From learned helplessness to authentic happiness and positive psychology
- Prevention and promotion



My Early Passion

- *Leisure: An Overlooked Component of Health Promotion* (Caldwell & Smith, 1988)
- Leisure is not trivial, beyond fun and games
- Passion yes, but is it reality?

Leisure Unpacked -- A Unique Context





Defining Elements of Leisure

- Exercise choice, personal freedom
- Fun, enjoyable, exciting
- Stress reducing, escape from pressure, relaxing
- Achieve fulfillment, personal meaning, self-expression
- Personal competence
- Social, yet also personal time for self-reflection



Risk & Protection: Leisure Outcomes

Positive

- Initiative development
- Development of self-regulation
 - Physical activity
 - Positive challenge
 - Relationship building
 - Positive stress release
- Skill and competence building

Negative

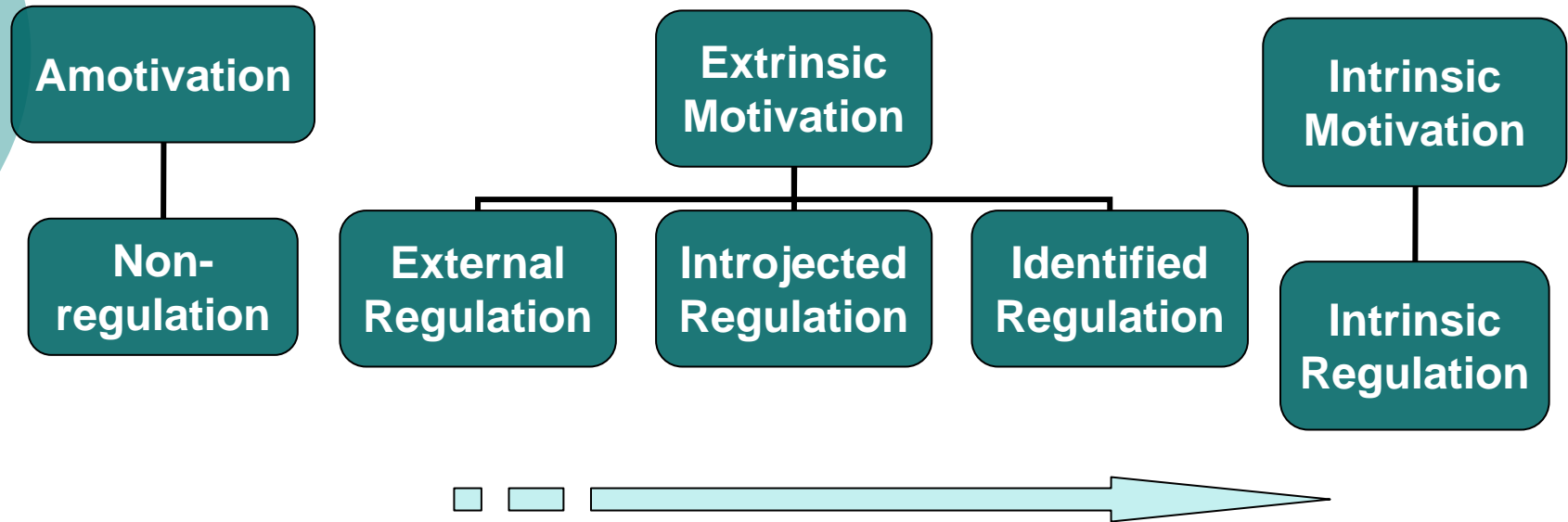
- Boredom
- Amotivation
- Loneliness
- Stress and anxiety
 - Overeating
 - Risky decisions
- Lack of physical activity
- Substance use



Selected Useful Theories

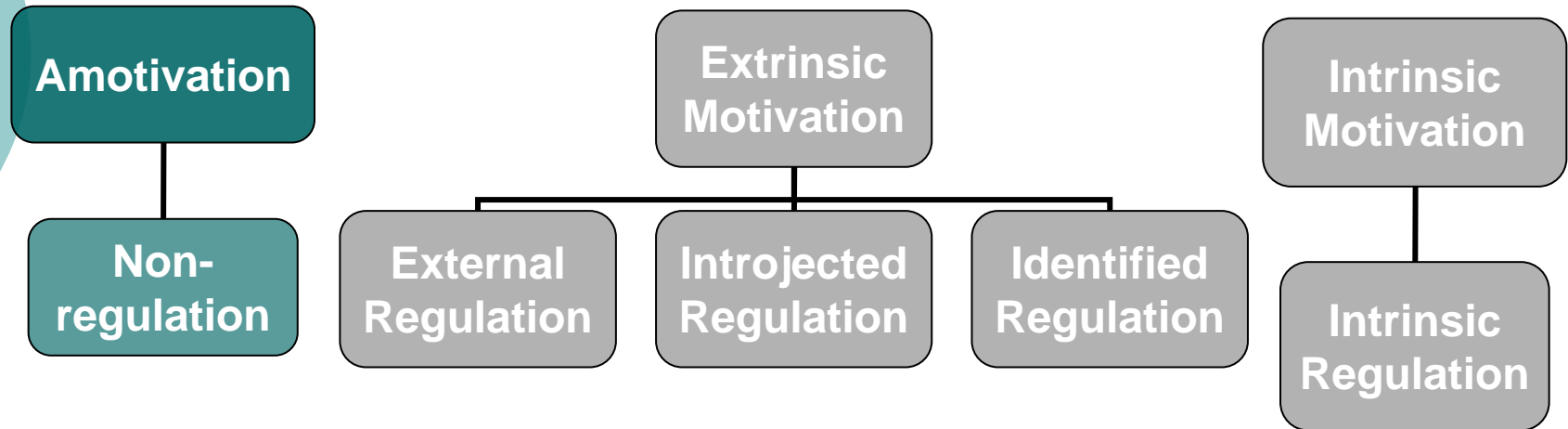
- Self-determination theory (SDT)
- Constraints
- Optimal arousal
- Stress-coping theories
- Self-efficacy
- Sense of coherence
- Selective optimization with compensation

Self-Determination Theory



Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

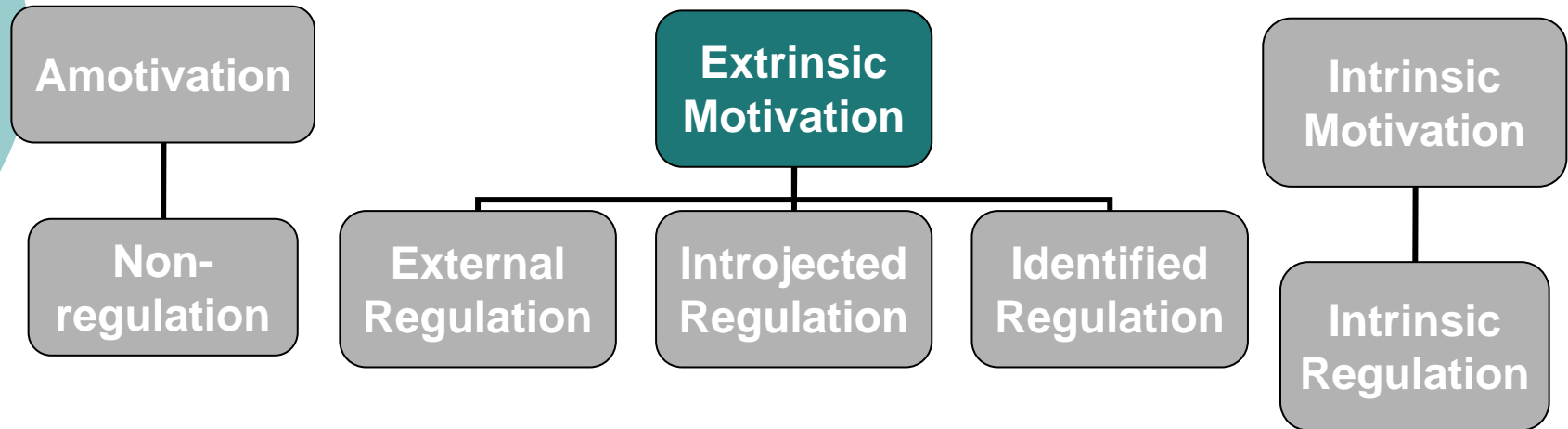
Self-Determination Theory



Uniformly associated with poor academic or developmental outcomes such as unhappiness, boredom, dropping out of a program, and other risky behavior.

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

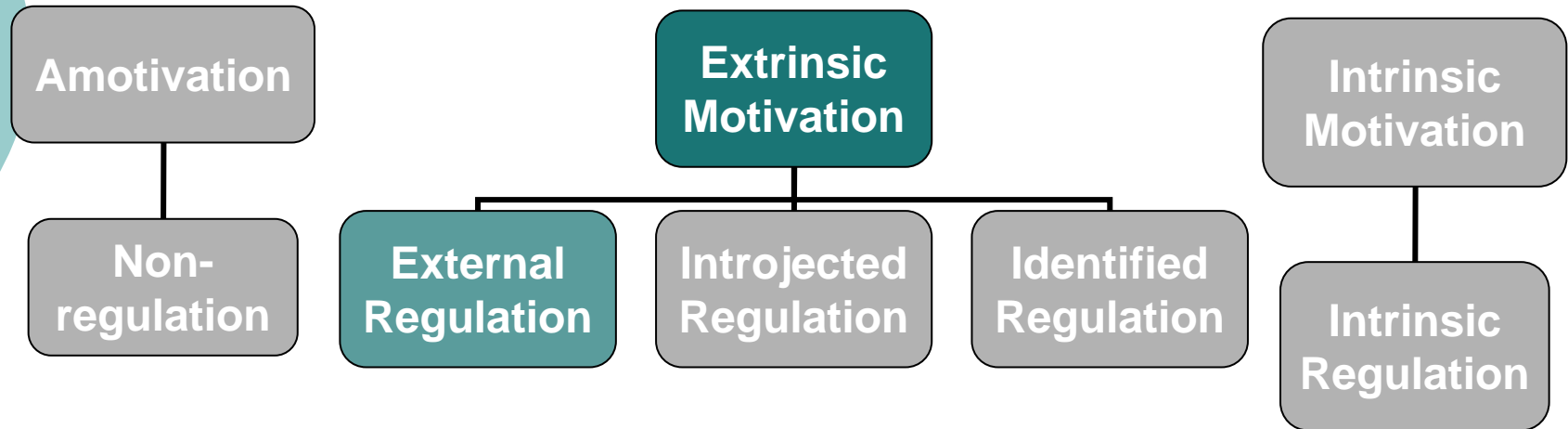
Self-Determination Theory



Associated with various outcomes.

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

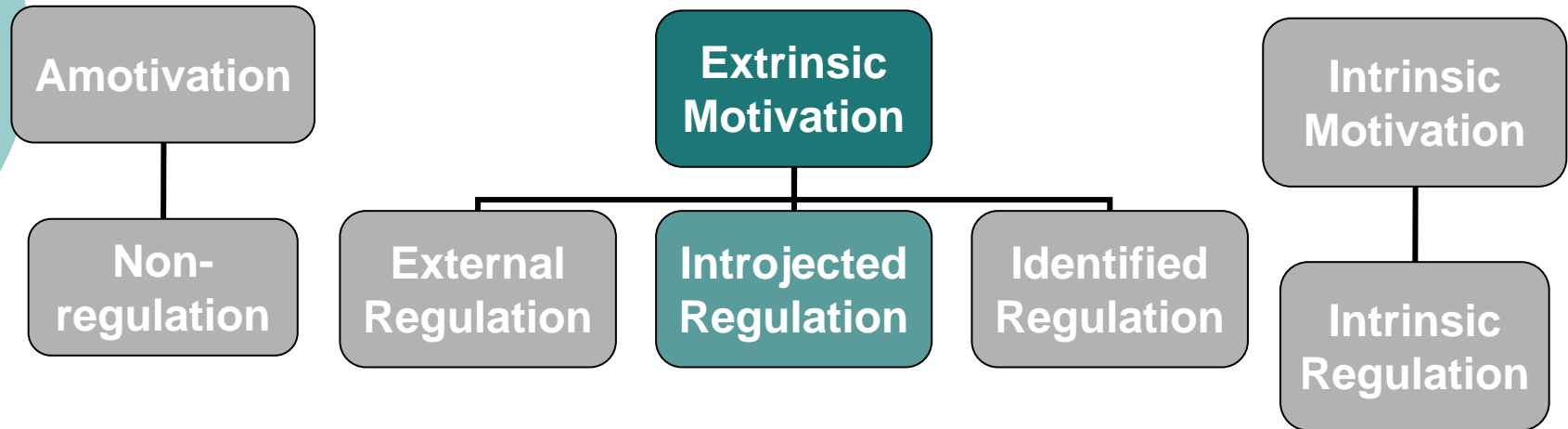
Self-Determination Theory



Associated with boredom and unhappiness, school drop out, *unless support for internalization occurs.*

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

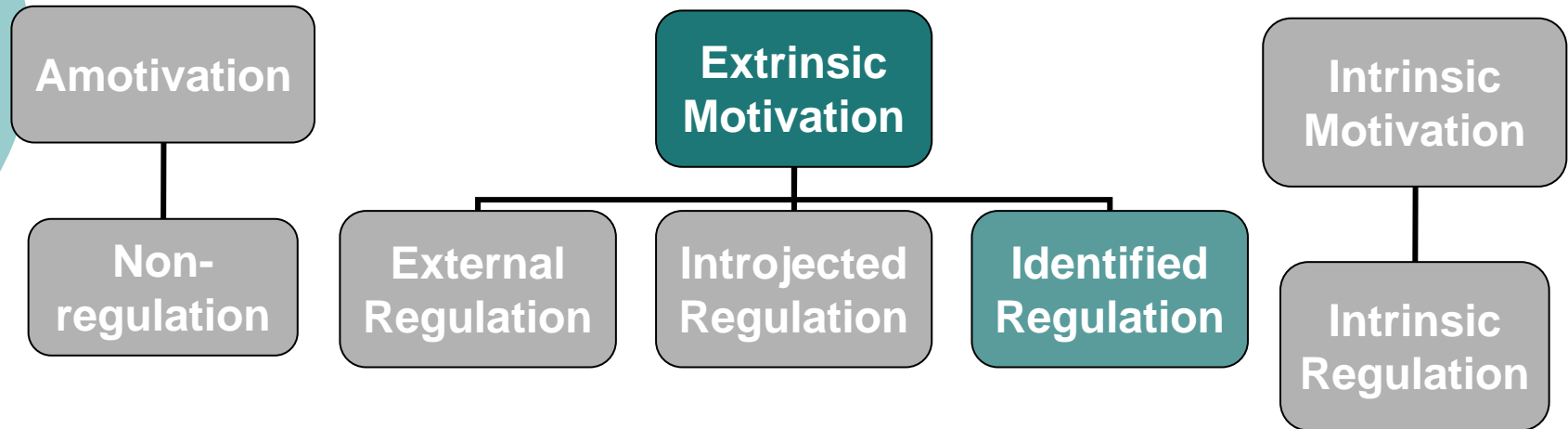
Self-Determination Theory



Can either be detrimental in terms of peer pressure to engage in risky behavior, or positive in terms of peer and adult support to engage in (or be exposed to new) positive activities.

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

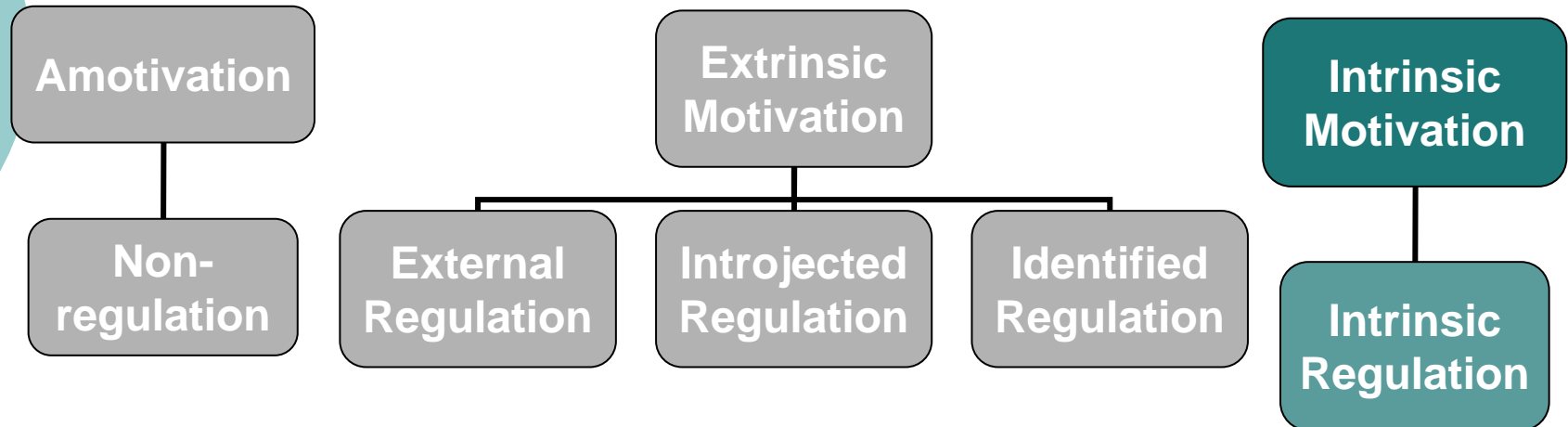
Self-Determination Theory



The most positive of extrinsic forms of motivation.
Goal oriented, purposeful motivation, associated with competence, identity, skill development.

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Self-Determination Theory

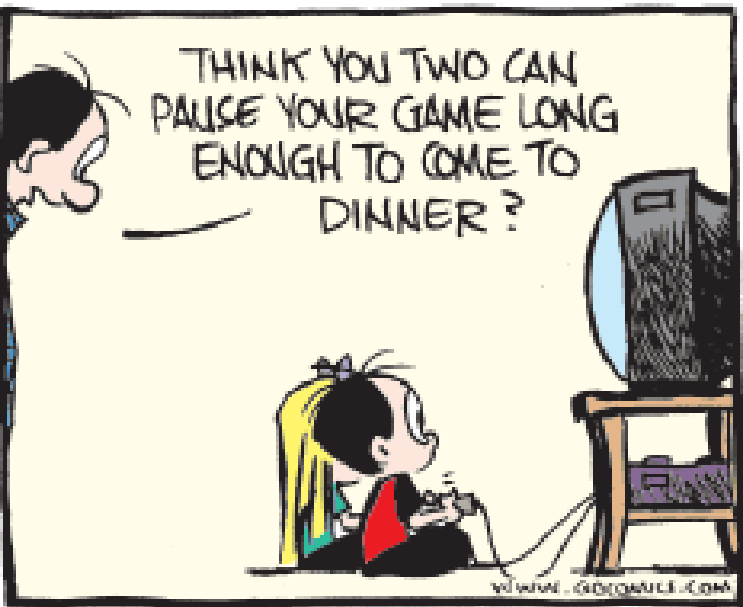


The healthiest and most developmentally productive form of motivation, associated with autonomy, self-worth, happiness, being engaged, initiative, etc.

Autonomy, relatedness, and competence.

Ryan, R.M. & Deci, E.L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.

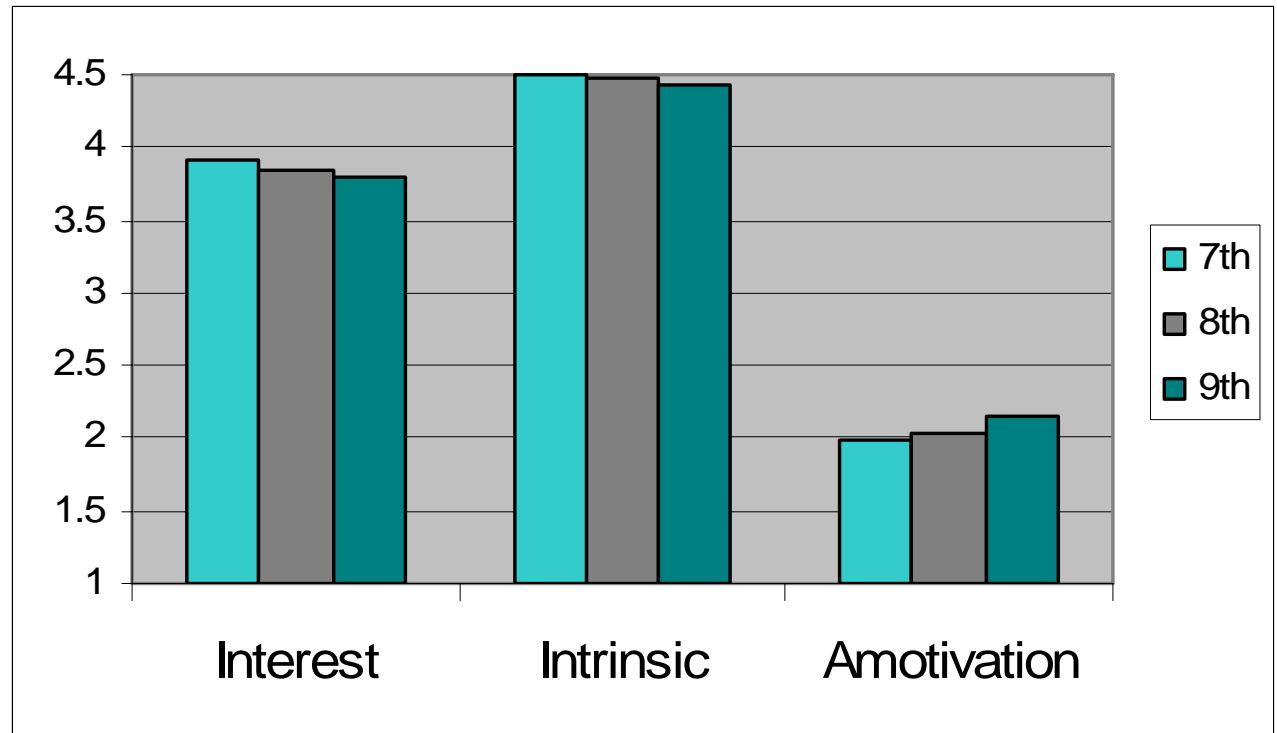
Leisure as Context for Prevention for Adolescents



- 40% free time
- Increased autonomy
- Less structure

- Most don't know how to use free time wisely
- Normative decline in leisure experience.

Youth in Transition



Igniting Passions



- Changes in drives, emotions and motivations in *early* adolescents
 - ***Ignite passions!*** (Dahl, 2005)
- Goal directed behavior intensifies and is often manifested by developing passions in music, art, recreational hobbies (Dahl, 2004).
- These passions and interests can help youth sculpt their brains and hardwire **positive activities** (Dahl, 2004; Geidd, Blumenthal, Jeffries, Castellanos, Zijdenbos, Paus, Evans, & Rapoport, 1999).



Leisure: Good Context for Prevention

- Brain is “plastic” in adolescence – open to influence
- Support gradually emerging skills in self-control and planning in *later* adolescents
- Negotiating constraints & challenges – learning to be self-regulatory in context
- Leisure education

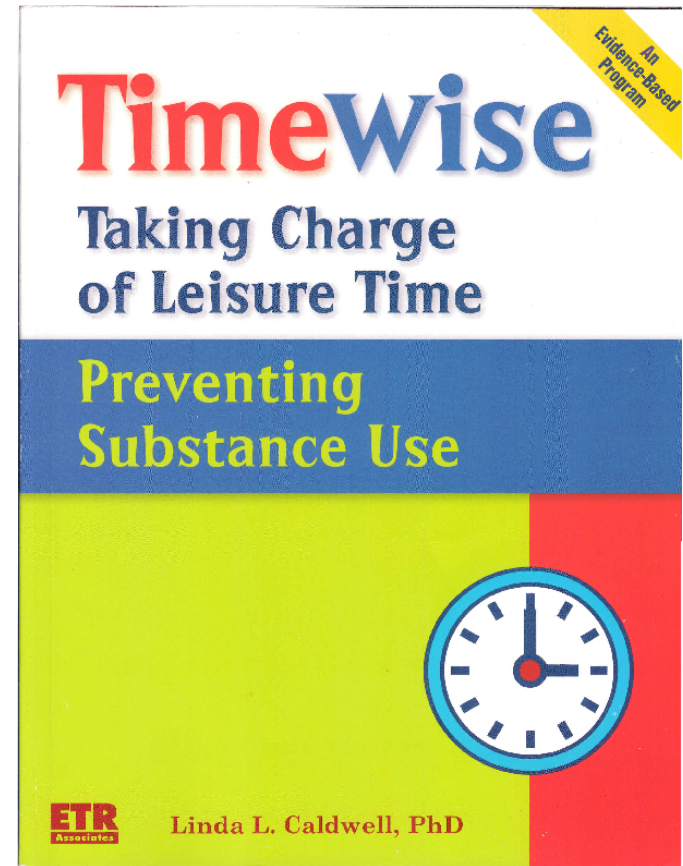


TimeWise and HealthWise

- TimeWise: Taking Charge of Leisure Time
 - Rural PA (NIDA R21 DA13193-010)
 - Harrisburg (specific to PA; NHLBI R21 HL087763)
- HealthWise South Africa: Life Skills for Adolescents
 - Mitchell's Plain (NIDA R01 DA017491)
- NIDA P50 DA10075
- NIDA T32 DA017629-01A1

TimeWise

- 9 rural schools provided data, 4 = treatment schools
- 6 core lessons in Grade 7
- 3 booster lessons, Grades 8 & 9
- N=634 at baseline, final N=457
- Collected pre and post data, 4 time points



Overview of TimeWise

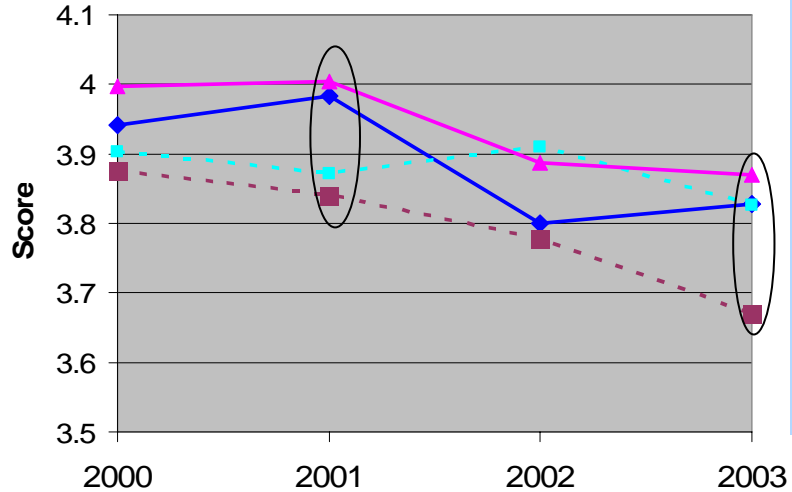
Core Lessons	Advanced-Skill Builders
Exploring Leisure Activities	Educating Others about Leisure
Checking Out My Motivation	Making Decisions & Taking Risks
Beating Boredom & Developing Interests	Achieving Flow
Making an Action Plan	Managing Stress & Becoming Mindful
Managing Daily Leisure	Friendships & Leisure
Putting it All Together	Leisure and Change

Free Time Motivation Scale for Adolescents

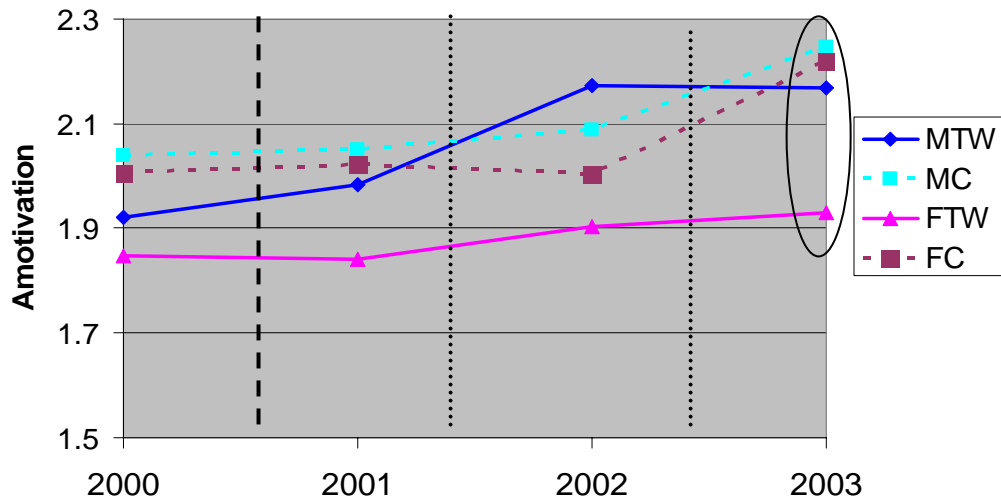
- ▀ **Amotivation:** I don't know why I do what I do, nothing much interests me.
- ▀ **Extrinsic:** Because it is what I am supposed to do.
- ▀ **Introjected:** Because it impresses my friends.
- ▀ **Identified:** Because it is a good way to develop skills that I can use later in life.
- ▀ **Intrinsic:** Because it is fun.

Baldwin, C. K., & Caldwell, L. L. (2003). Development of the Free Time Motivation Scale for Adolescents. *Journal of Leisure Research*, 35, 129-151.

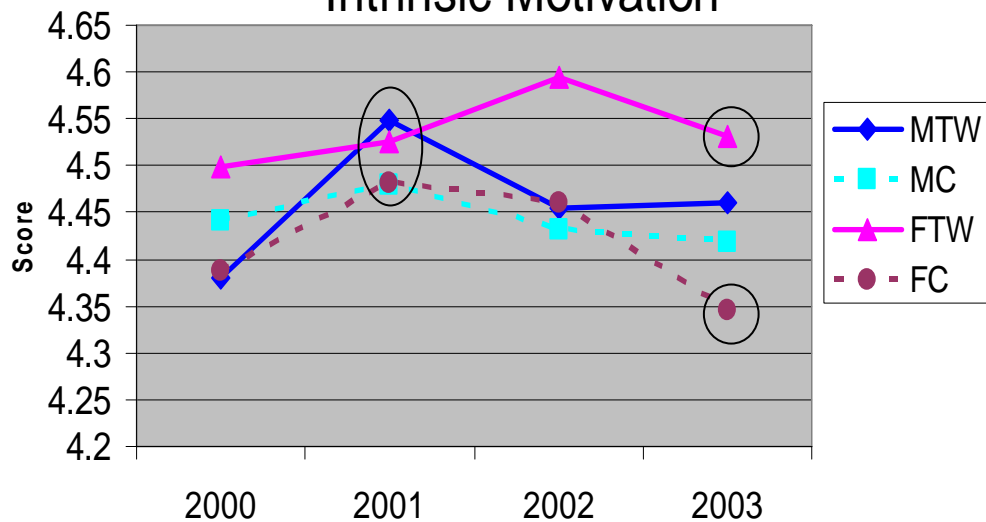
Condition by Gender Interest



Condition by Gender Amotivation

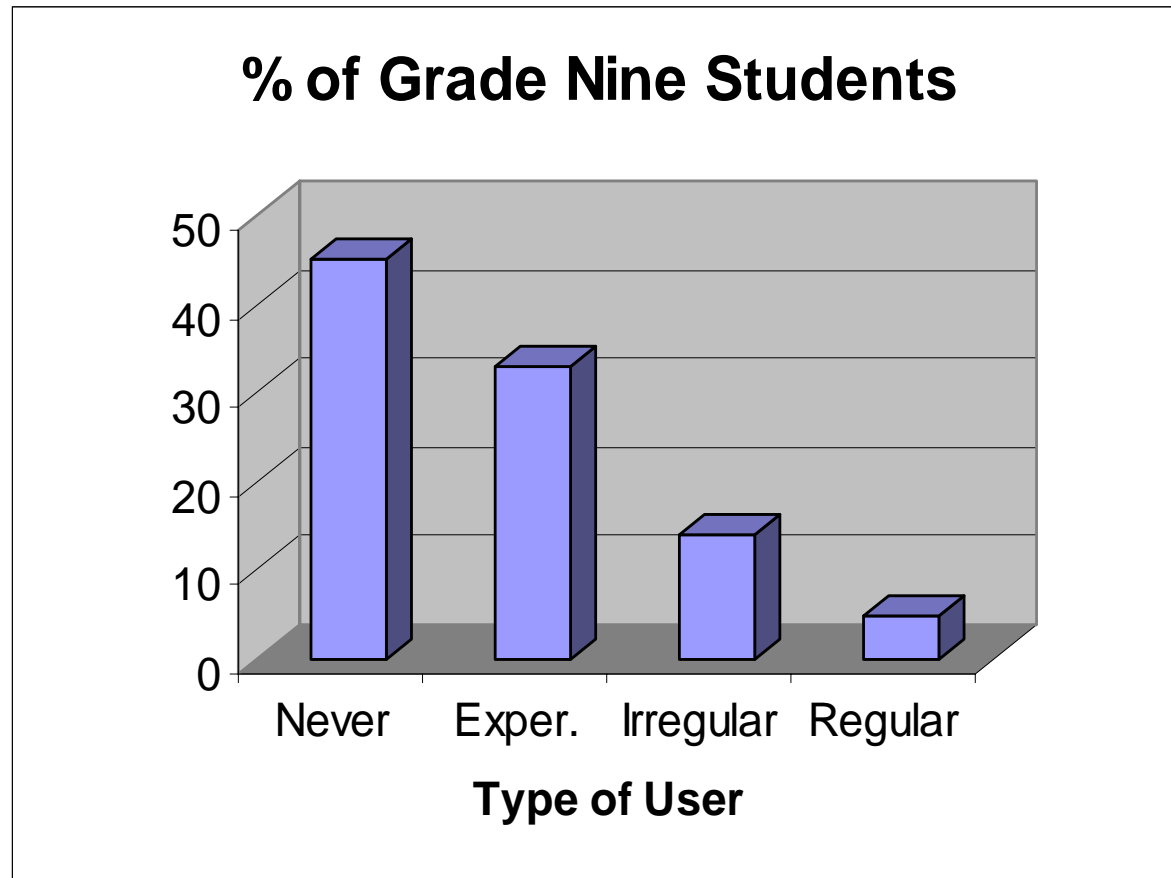


Condition by Gender Intrinsic Motivation

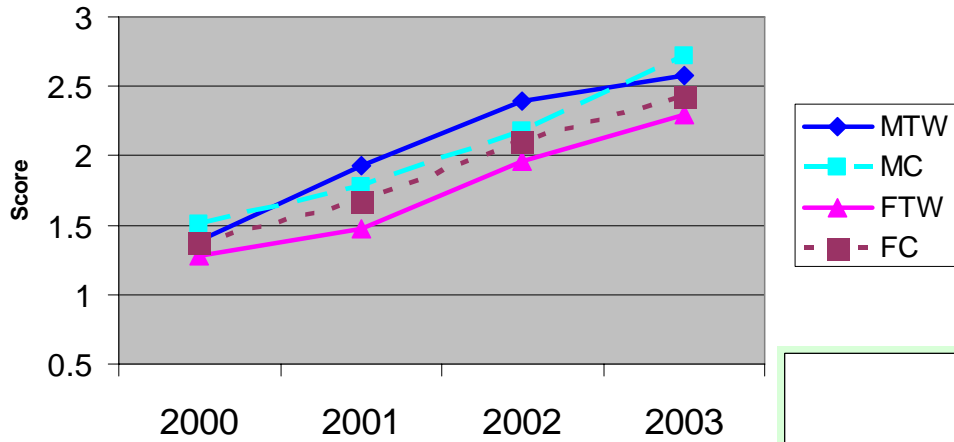


How often do you drink beer, wine, wine coolers, or hard liquor?

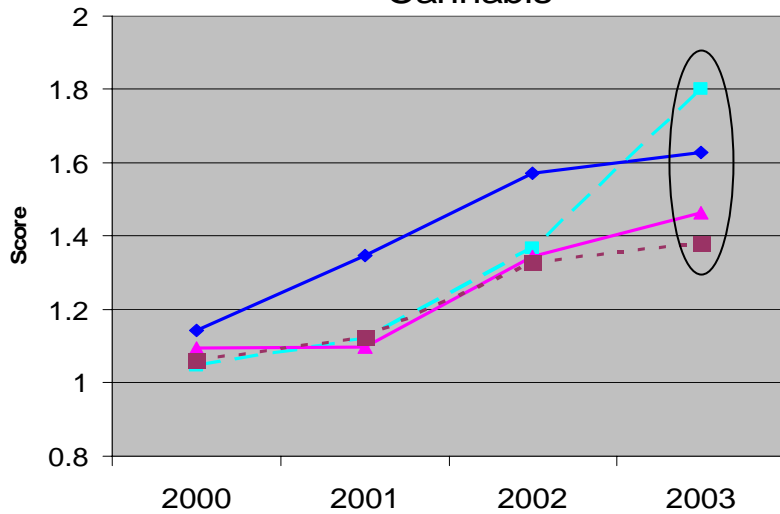
- Non-User = never
- Experimental = a few times/year
- Irregular = once a month
- Regular = few times/month or more



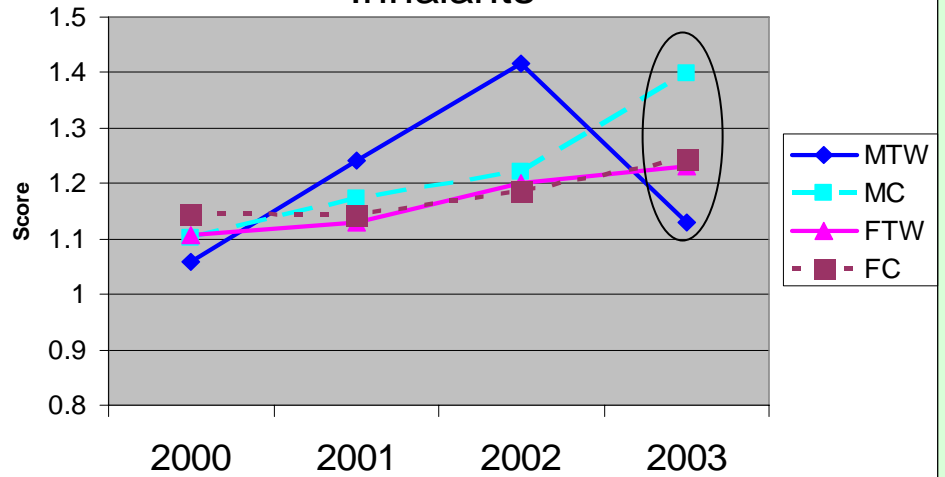
Condition by Gender Alcohol



Condition by Gender Cannabis



Condition by Gender Inhalants





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Funded by U.S. National
Institute on Drug Abuse
(NIDA)



HealthWise South Africa

- Comprehensive health curriculum that aims to **reduce risk behaviors** by **increasing the influence of protective factors**
- Targeted risk behaviors -- substance use, sexual risk behavior and co-morbidity of the two



HealthWise South Africa

- The protective factors
 - Positive and meaningful leisure (modified TimeWise lessons)
 - Anger, anxiety and stress reduction
 - Negotiating relationships
 - Identifying and avoiding situations that might be or turn risky
 - Sexual health and substance misuse facts
 - Community integration



HealthWise Structure

- 12 lessons in grade 8
 - 3 50-min. classes per lesson
- 6 booster lessons in grade 9
 - 2-3 classes per lesson
- Implemented by trained teachers
- Project coordinator and support staff from UWC



Research Design

- Multiple cohort pretest-posttest time series matched comparison group quasi-experimental design
- Three cohorts beginning in grade 8
 - 2004, 8 waves of data
 - 2005, 6 waves of data
 - 2006, 4 waves of data
- Four experimental, five control schools
- N = approx. 7000



Three Studies

- Evidence to support contention that
 - Leisure education intervention promising on hypothesized mediators (leisure related mediators)
 - Leisure education intervention promising for substance abuse outcomes
- Two examine sports and physical activity and one examines motivation

Tibbits, Caldwell, & Smith

- Profiles of PA participation from 8th to 10th grade with control youth ($N = 1239$) using LCA
- Relation between profiles and lifetime ATOD using multinomial logistic regression
- By gender

Summary of Results - Females

- Consistent (8th-10th grade; 36%), Inconsistent (10% who participated dropped out), and Sedentary (55%)
- Consistent Sports/PA class had lower odds of marijuana use ($OR = .35, p < .05$).
- Inconsistent Sports/PA class had higher odds of marijuana use ($OR = 2.14, p < .05$).

Summary of Results - Males

- Consistent (76%), Inconsistent (11%), and Sedentary (17%)
- Inconsistent Sports/PA ($OR = 3.94$) and Consistent Sports/PA ($OR = 1.07$) classes had higher odds of marijuana use ($p < .01$)

Hiley-Sharp, Coffman, Caldwell, & Smith

- Association between leisure experiences at baseline and substance use behavior
- Association between **changes** in leisure experiences and substance use behaviors over time (seven waves of data)
 - Used control group, wave 1 (5 schools)
 - $N = 1118$ adolescents (M age = 13.98, 49% male)
 - Generalized linear mixed-effects models for binary outcomes in SAS PROC NL MIXED



Measures

- Alcohol, cigarette, and marijuana use in past 4 weeks (yes/no)
- Leisure boredom/interest
- Healthy leisure
- New interests in leisure
- Parental control of leisure
- Parental autonomy support in leisure

Summary of Results

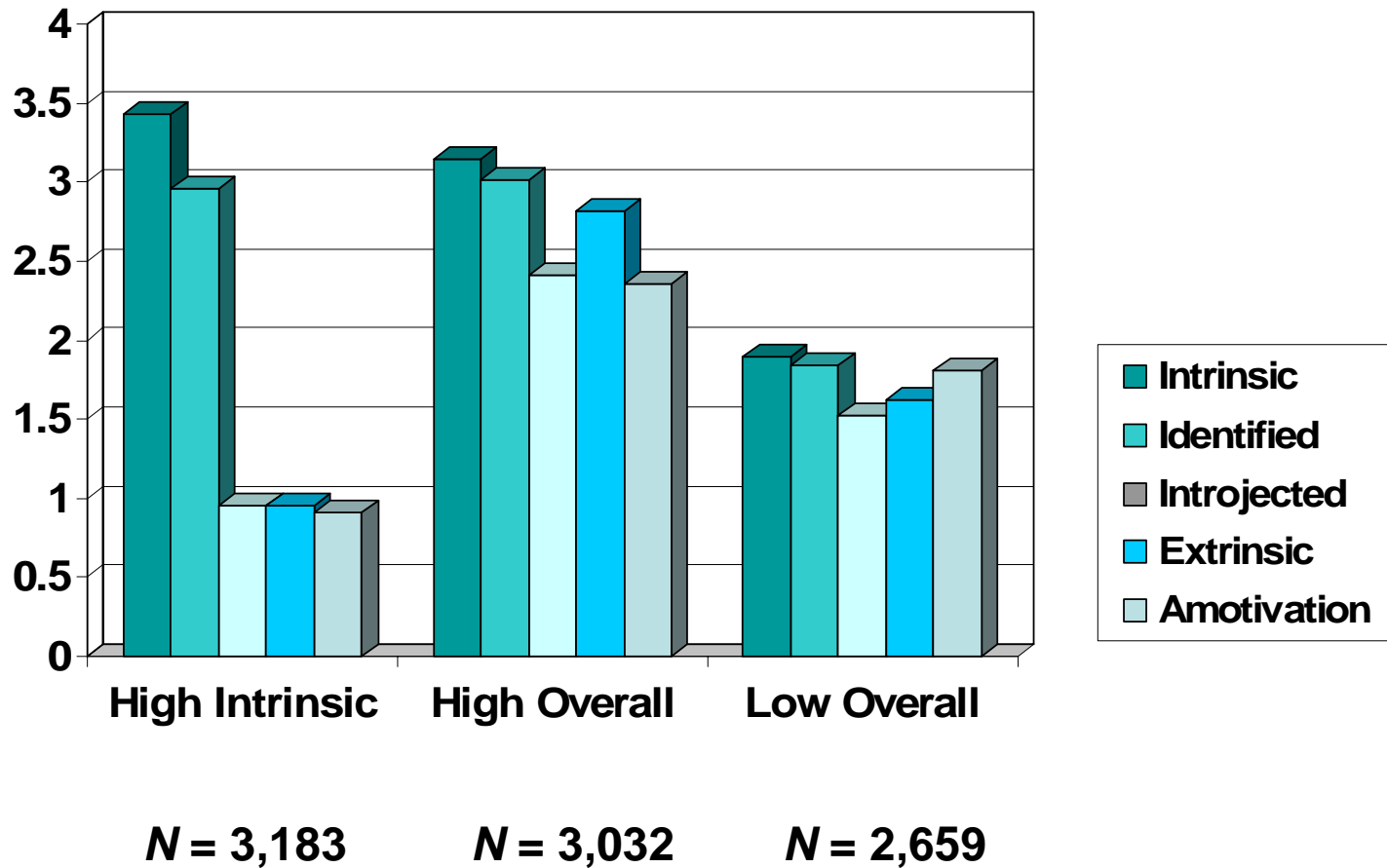
- Strongest predictors of substance use behaviors at baseline *and* overtime:
 - Leisure boredom (14% increase in odds of using alcohol; 23%↑ cigarettes, and 36%↑ MJ in past 4 weeks with increased boredom)
 - Healthy leisure (-)
 - Parental control (+)



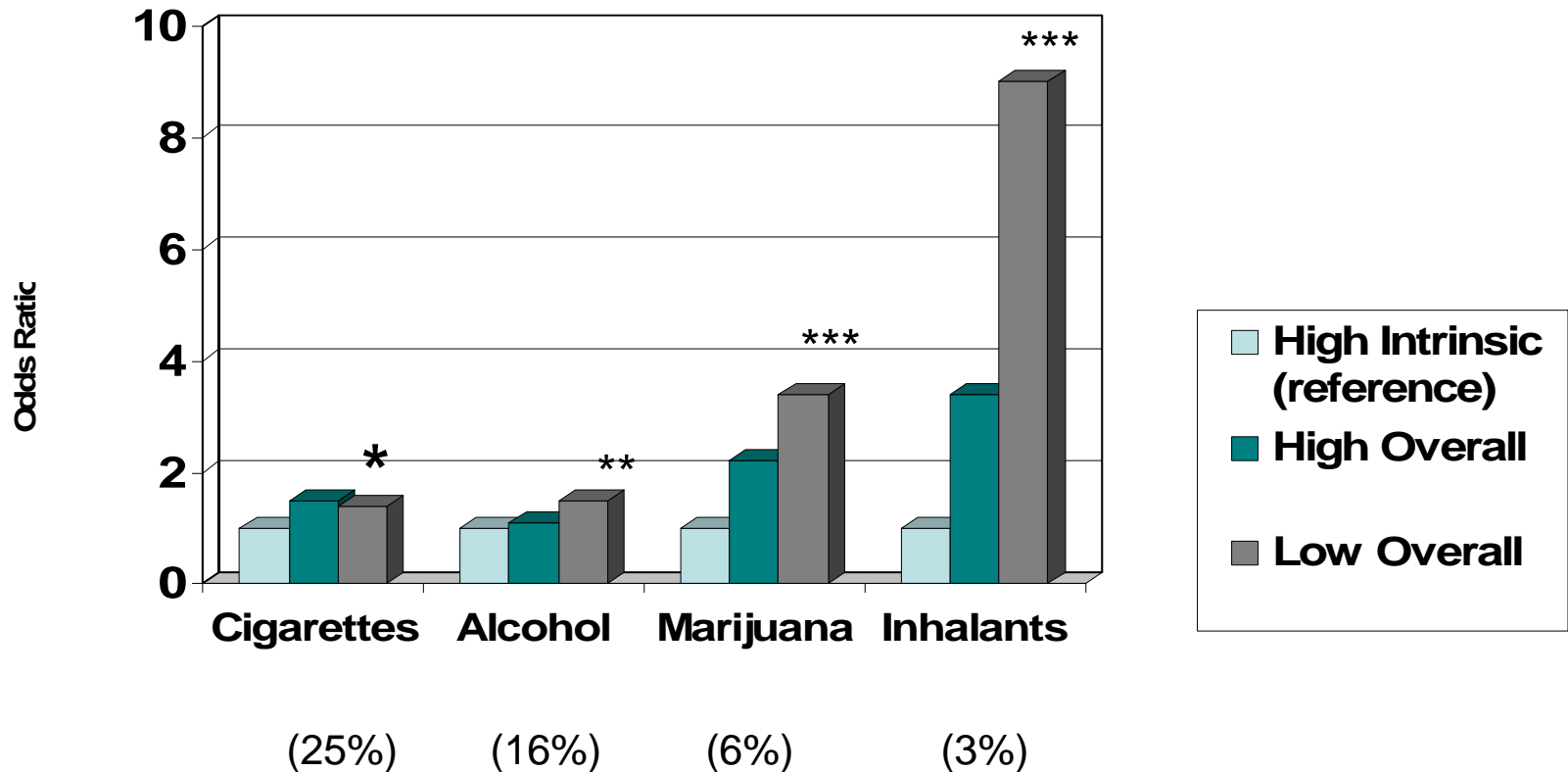
Palen, Caldwell, & Smith

- Profiles of leisure motivation within individuals
- Relation between profiles & past month substance use
- Does HealthWise impact movement between profiles over time?
 - Latent Class Analysis and Latent Transition Analysis
 - First cohort, seven waves, all schools

Motivation Cluster Means



Odds of Past Month Substance Use by Cluster Membership (Wave 1)



High intrinsic cluster is significantly different at: * $p < .05$, ** $p < .01$, *** $p < .001$.



Impact of HealthWise

- Girls in the high fidelity school experience significant shifts in motivation directly following the relevant portion of the HealthWise curriculum.



Issues

- Measurement
 - PA, technology
- Training of qualified students
- Asking the right questions, e.g., structured and unstructured
- Training staff to work with youth

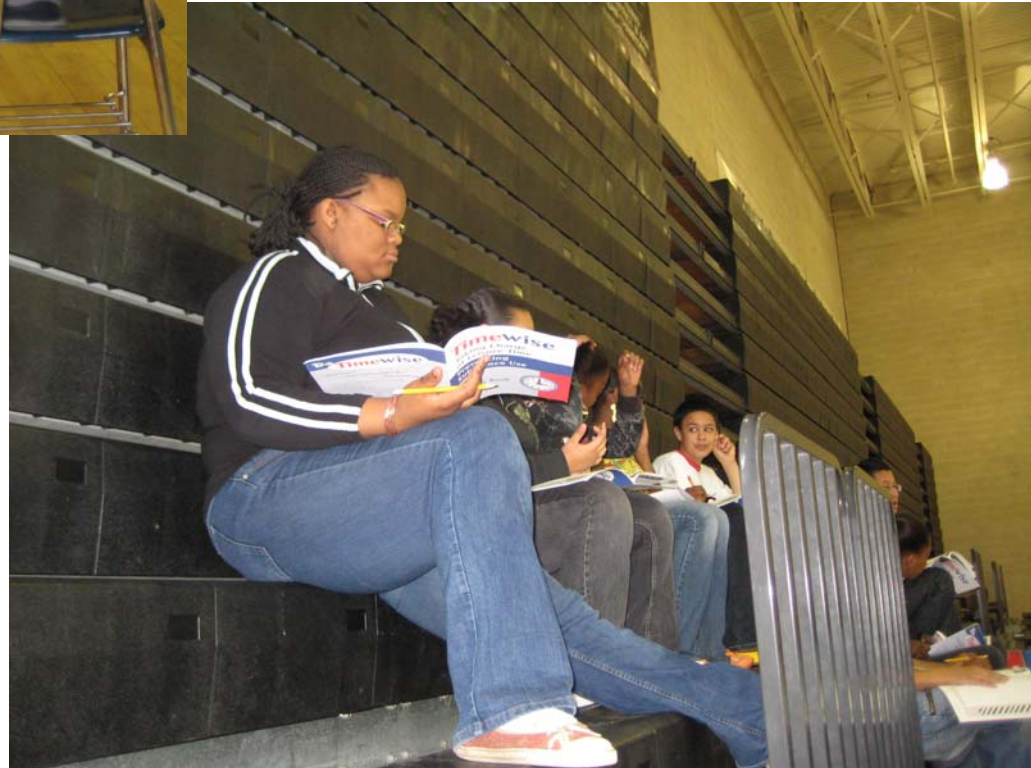


TimeWise in Harrisburg

Promoting Physically
Active Leisure

Youth Development
Center, DJJ South
Carolina

ACA Day Camps



Good Challenges Lie Ahead!



Odds of Substance Use Predicted by Individual Changes in Leisure Experiences (within-subject component)

Outcome	Leisure Boredom	Healthy Leisure	New Interests	Parental Control	Autonomy Support
Alcohol	14% ↑	17% ↓	NS	16% ↑	NS
Cigarette	23% ↑	24% ↓	NS	28% ↑	11% ↓
Marijuana	36% ↑	35% ↓	NS	26% ↑	10% ↓

Odds of Substance Use Predicted by Differences in Leisure Experiences at Baseline (between-subjects component)

Outcome	Leisure Boredom	Healthy Leisure	New Interests	Parental Control	Autonomy Support
Alcohol	21% ↑	22% ↓	NS	17% ↑	NS
Cigarette	62% ↑	NS	NS	73% ↑	27% ↓
Marijuana	55% ↑	40% ↓	20% ↓	35% ↑	32% ↓