# Changing for Life: Using the Stages of Change to Support the Recovery Process

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- Recovery from Mental and Substance Abuse Disorders: a voluntary and individually driven process of change through which individuals work to improve their own health and well-being, live a productive life, and welcome opportunities for growth.

SAMSHA, Substance Abuse and Mental Health Services Administration, (2011) ROSC committee, Recovery Definition and Guiding Principles. http://www.samhsa.gov/recovery/

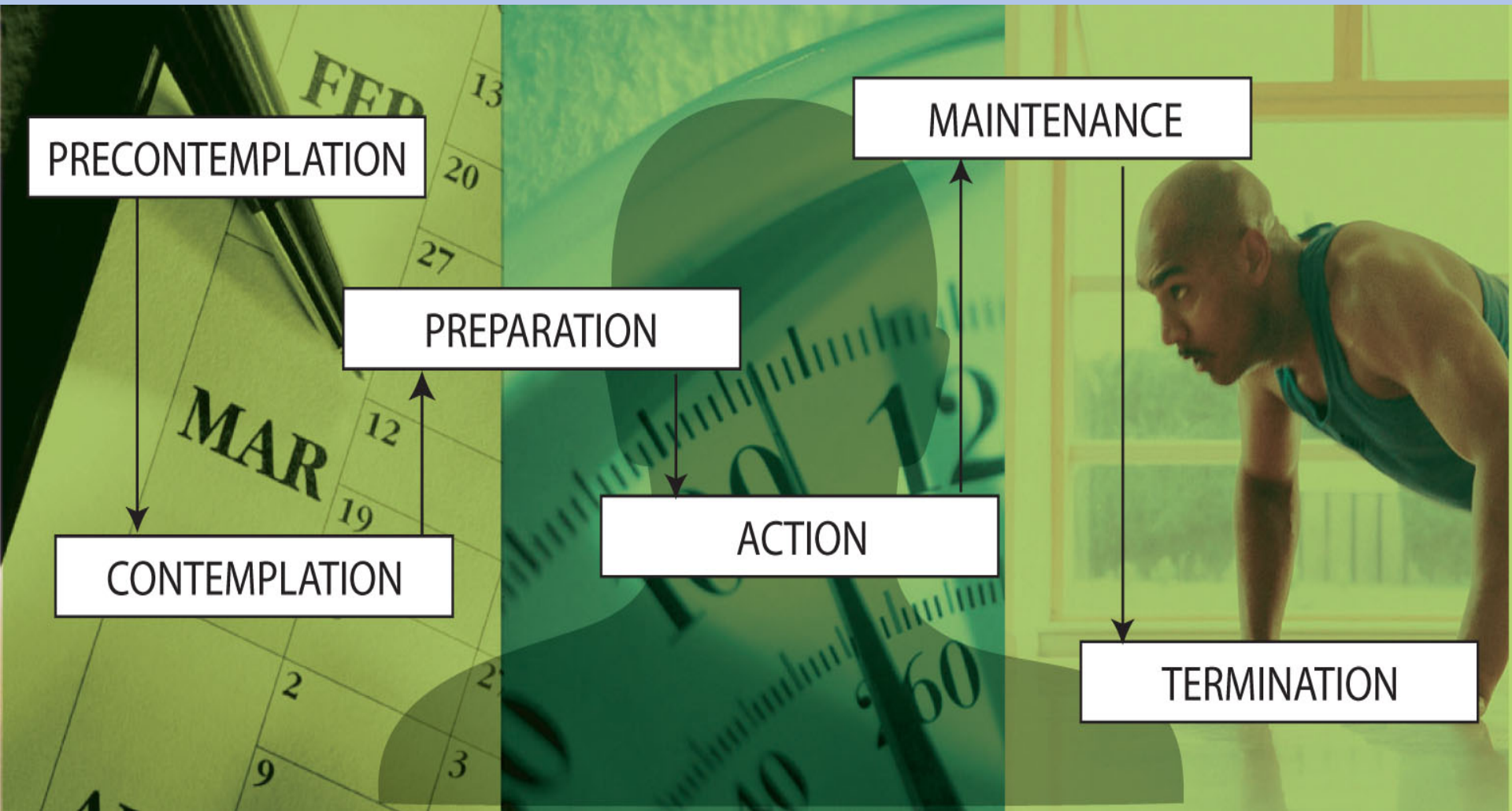
- Recovery is holistic and exists on a continuum of improved health and wellness.

SAMSHA, 2011

*Our working definition of recovery is the choice of life over death. Anything that manifests the will to live can be defined as recovery*

White, W. The rhetoric of recovery advocacy: An essay on the power of language. Posted as www.facesandvoicesofrecovery.org. In White, W. (2006). *Let's Go Make Some History: Chronicles of the New Addiction Recovery Advocacy Movement*. Washington, D.C.: Johnson Institute and Faces and Voices of Recovery, pp. 37-76.

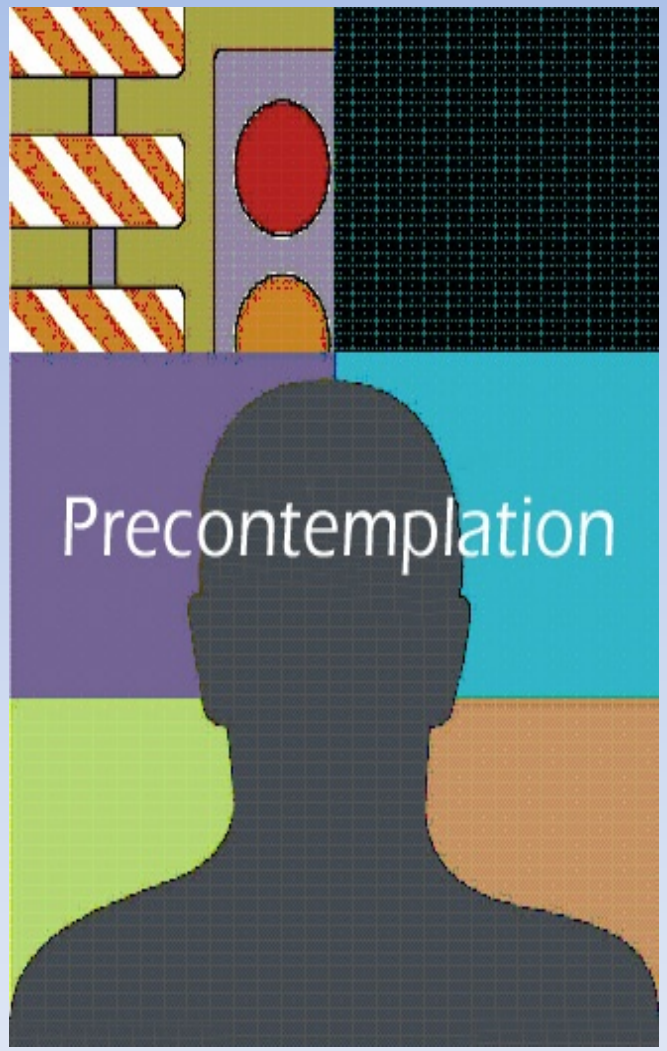
# Stages of Change



By raising the possibility that recovery begins with experiences during active addiction, new types of interventions may be developed through which people may enter conscious, active recovery at earlier and earlier stages of change."

White, W. The rhetoric of recovery advocacy: An essay on the power of language. Posted as www.facesandvoicesofrecovery.org. In White, W. (2006). *Let's Go Make Some History: Chronicles of the New Addiction Recovery Advocacy Movement*. Washington, D.C.: Johnson Institute and Faces and Voices of Recovery, pp. 37-76.

# Precontemplation:




<u>Not Ready</u>

*Have no intention to start taking action in next 6 months*

# Characteristics of Precontemplation

1. Ignorance
2. Demoralization
3. Denial

- Recovery is based on respect

SAMSHA, 2011

- Recovery is based on hope

SAMSHA, 2011

# Contemplation


Getting Ready

*Intend to start in next 6 months*

# Characteristics of Contemplation

1. Doubt
2. Delay

# Preparation


<u>Ready</u>

*Practicing the behavior*
*Intend to start in next 30 days*

# Characteristics of Preparation

1. Fear of failure
2. Be prepared

# Action


<u>Recently Started to Change Overt Behavior</u>

*Consistently for less than 6 months*

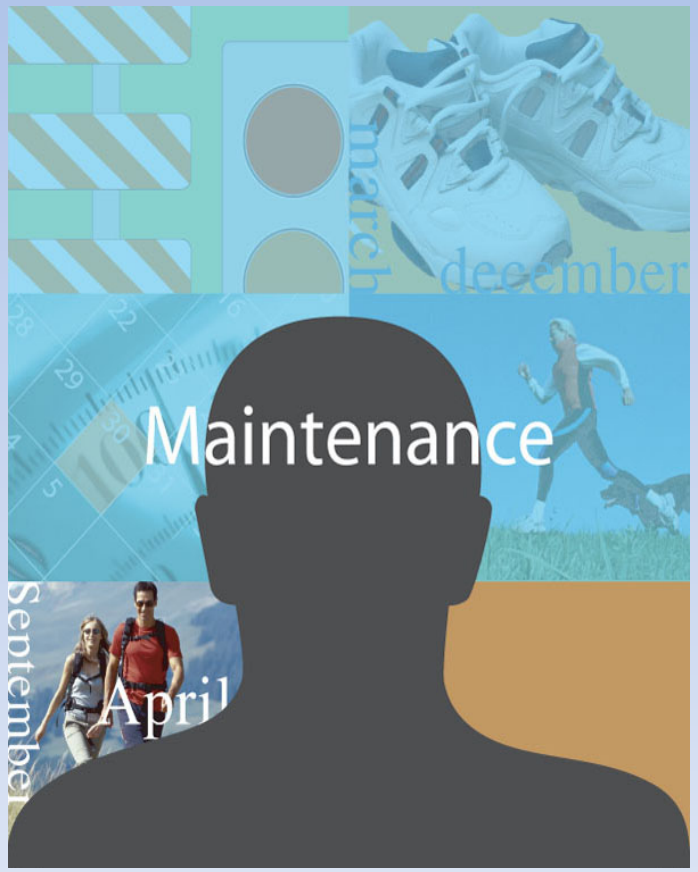
# Action

- “Here I go!”
- Life is often exhilarating, sometimes terrifying. So is change.
- Learn the skills that work for you and get the support you need.

# Action Characteristics

1. Most demanding
2. Most regressive

# Maintenance



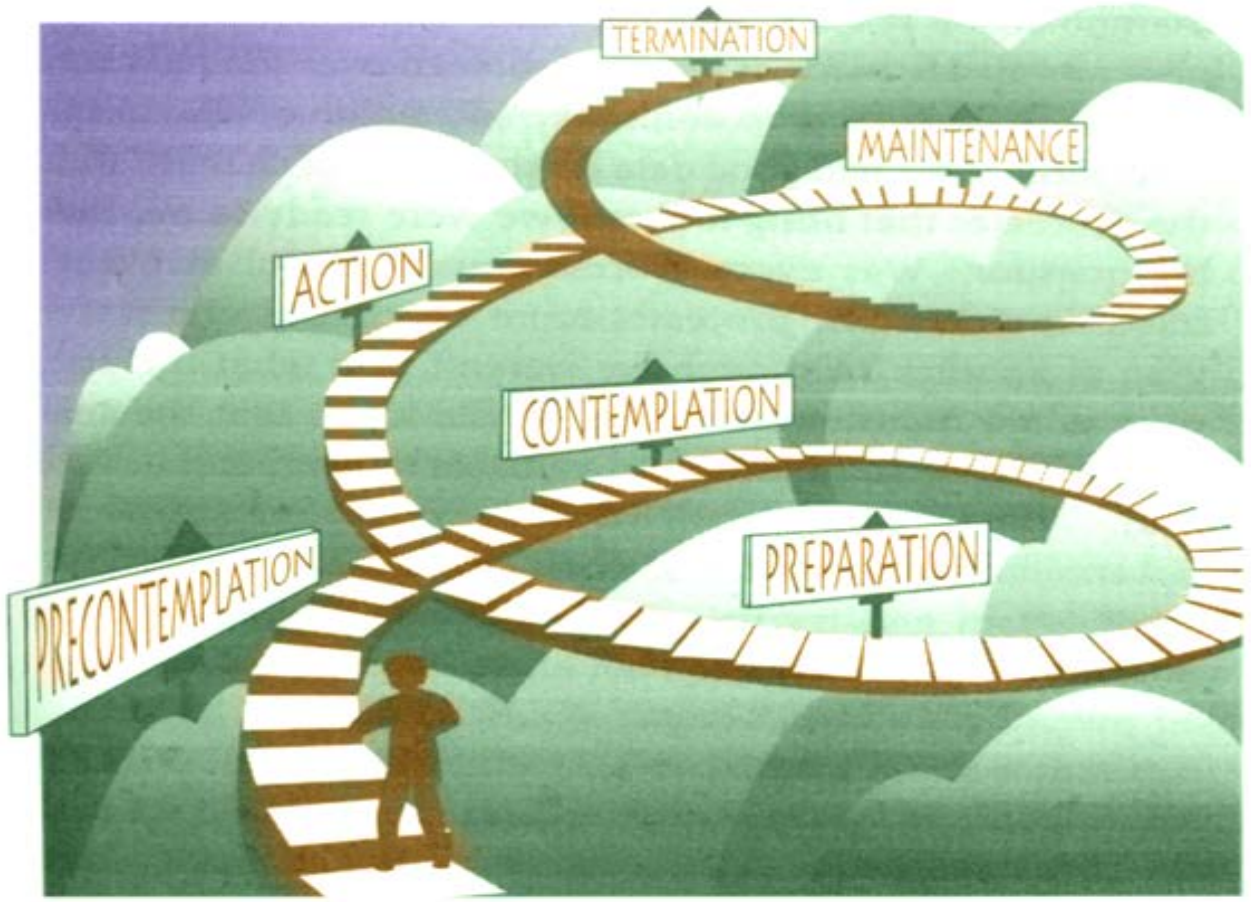

<u>Has Overtly Changed Behavior</u>

*Consistently for 6 months or more*

# Maintenance Characteristics

1. Preventing relapse
2. Managing distress

# Stages of Change



# Termination: Sustaining goals for more than five years

# Characteristics of Termination: Home Free

1. Full Confidence
2. No Temptation

# Behavior Controls and Stages of Change

| Precontemplation | Contemplation | Preparation | Action | Maintenance | Termination |
| --- | --- | --- | --- | --- | --- |
| Stimulus Control | Decisional | Control | | Rule Control | Stimulus Control |

# Engagement and Intervention Issues

- Reach
- Retain
- Progress
- Process
- Success

Programs have to communicate that they are tailored to needs of each patient:

1. Wherever you are at, we can work with that!
2. Traffic light: Red light not ready; Yellow light getting ready; Green light ready.

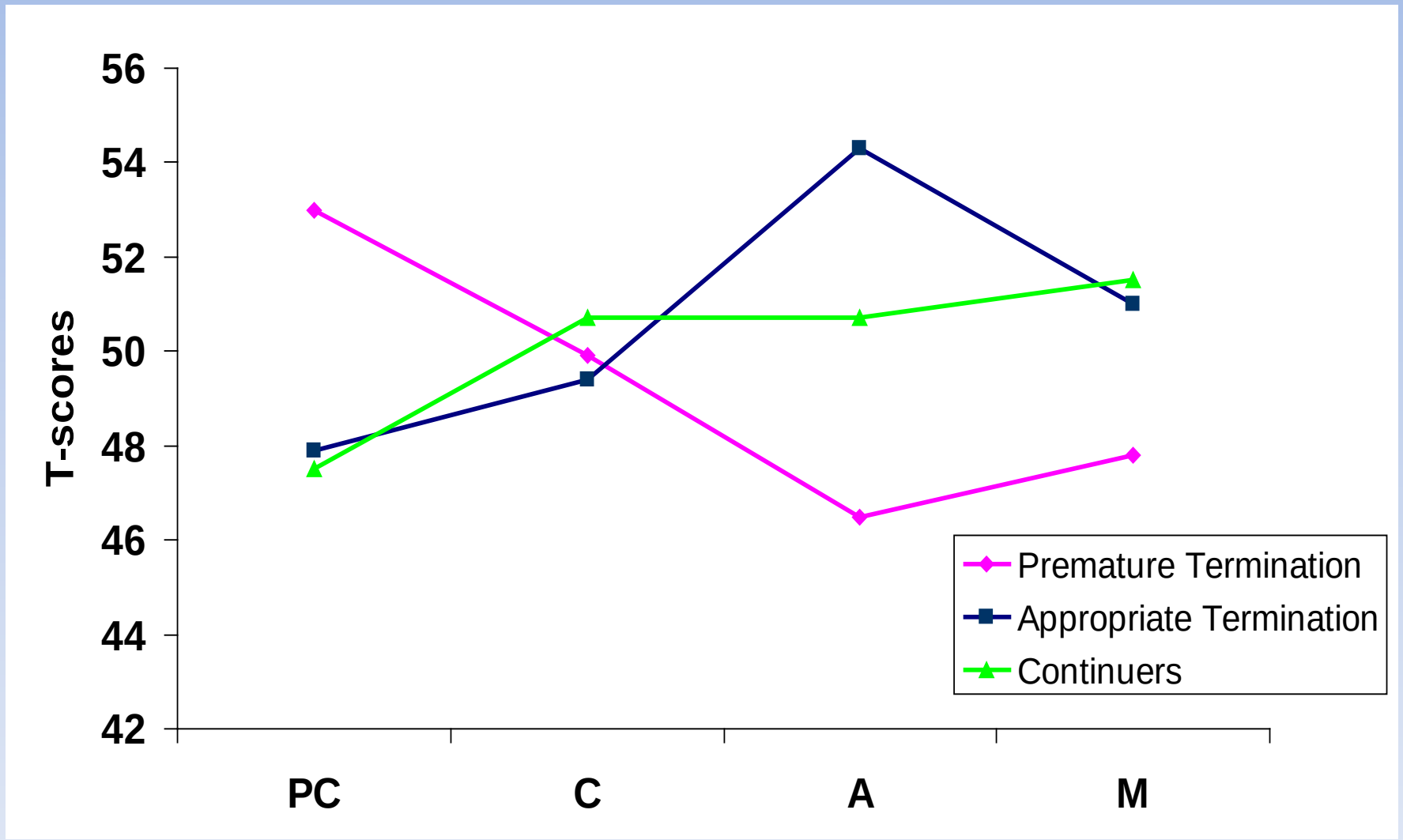
# Proactive Engagement

- Proactive Engagement
- Communication Campaign
- Incentives

**Proactive alone will not work**

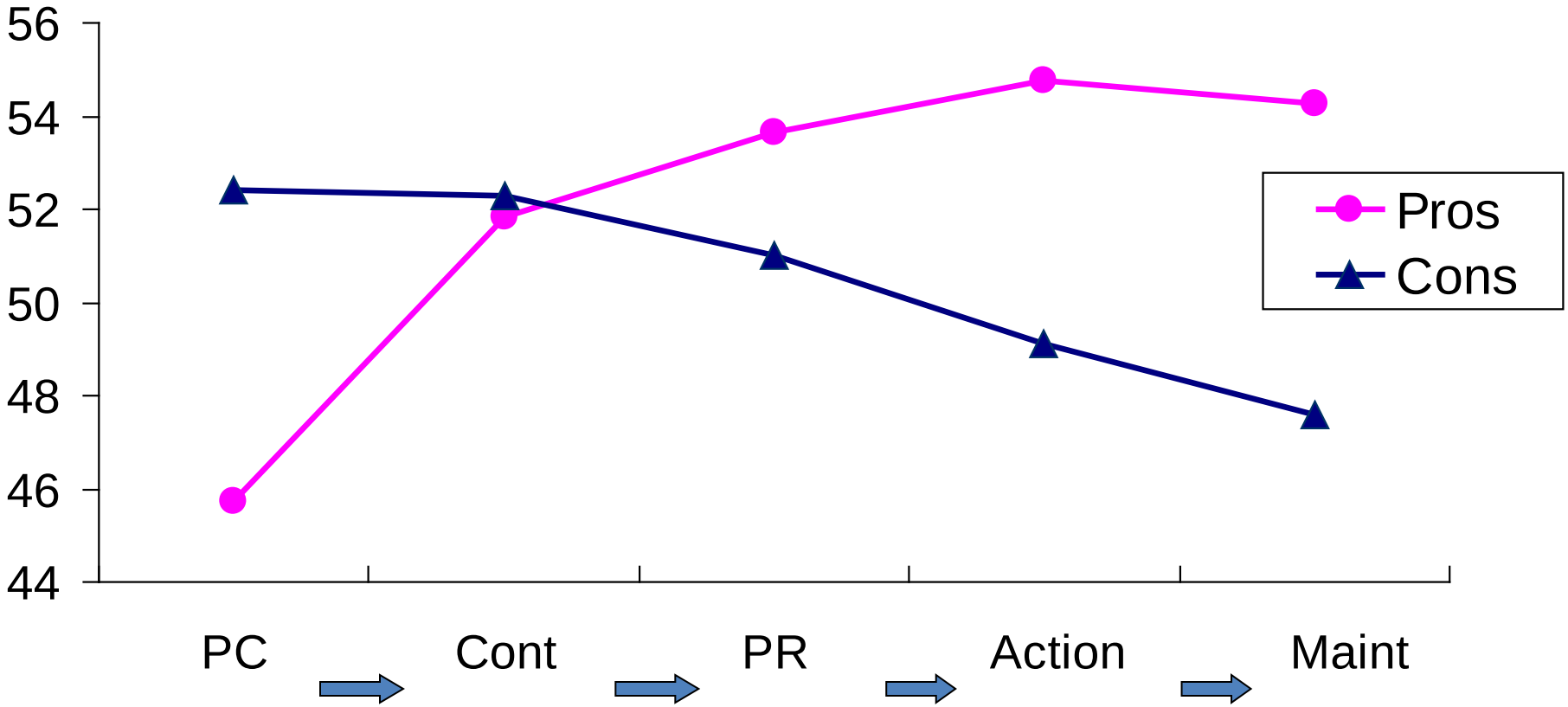
**A. Kaiser example with smoking**

# Stage Profiles of Completers and Dropouts of Psychotherapy




Brogan, MM, Prochaska, JO & Prochaska, JM. (1999). Predicting termination and continuation status in psychotherapy using the transtheoretical model. *Psychotherapy*, 36, 105-113.

# Stage Transitions




The pros and cons of changing across stages of change for 48 behaviors

Hall, K. L. & Rossi, J. S. (2008). Meta-analytic examination of the strong and weak principles across 48 health behaviors. *Preventive Medicine, 46,* 266-274.

# Strong Principle of Progress:

Progression from Precontemplation to Action is a function of approximately one standard deviation increase in the Pros of a healthy behavior change.

$$PC \Rightarrow A \cong 1\ S.D.\uparrow PROS_H$$

Prochaska, JO. (1994). Strong and weak principles for progressing from Precontemplation to Action based on twelve problem behaviors. *Health Psychology,* 13, 47-51.

# First Principle: Increase the Pros of Change

1. How much: One standard deviation
2. Increasing your Change IQ by 15 points

# Weak Principle of Progress:

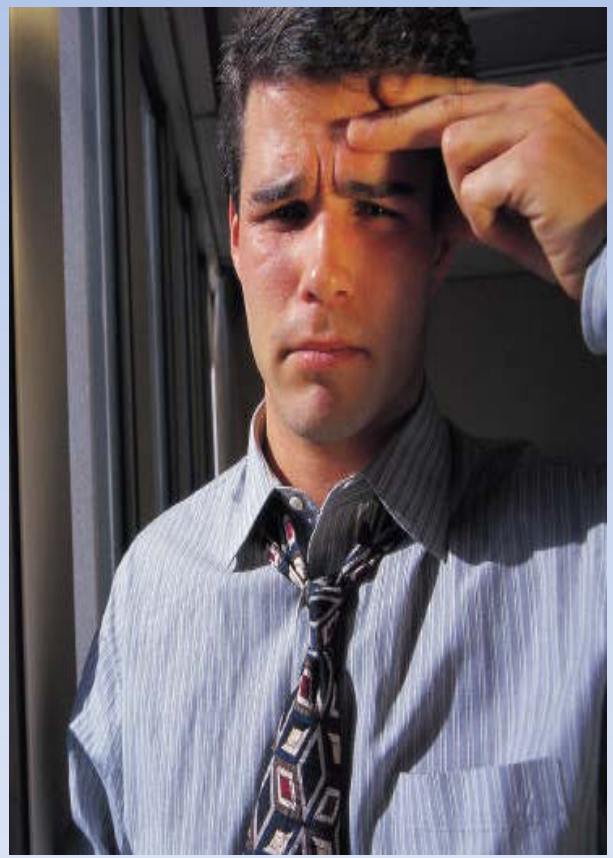
Progression from Precontemplation to Action is a function of approximately one-half of a standard deviation decrease in the Cons of a healthy behavior change.

$$PC \Rightarrow A \cong 0.5\ S.D.\Downarrow CONS_H$$

Prochaska, JO. (1994). Strong and weak principles for progressing from Precontemplation to Action based on twelve problem behaviors. *Health Psychology,* 13, 47-51.

# Second Principle: Decrease the Cons

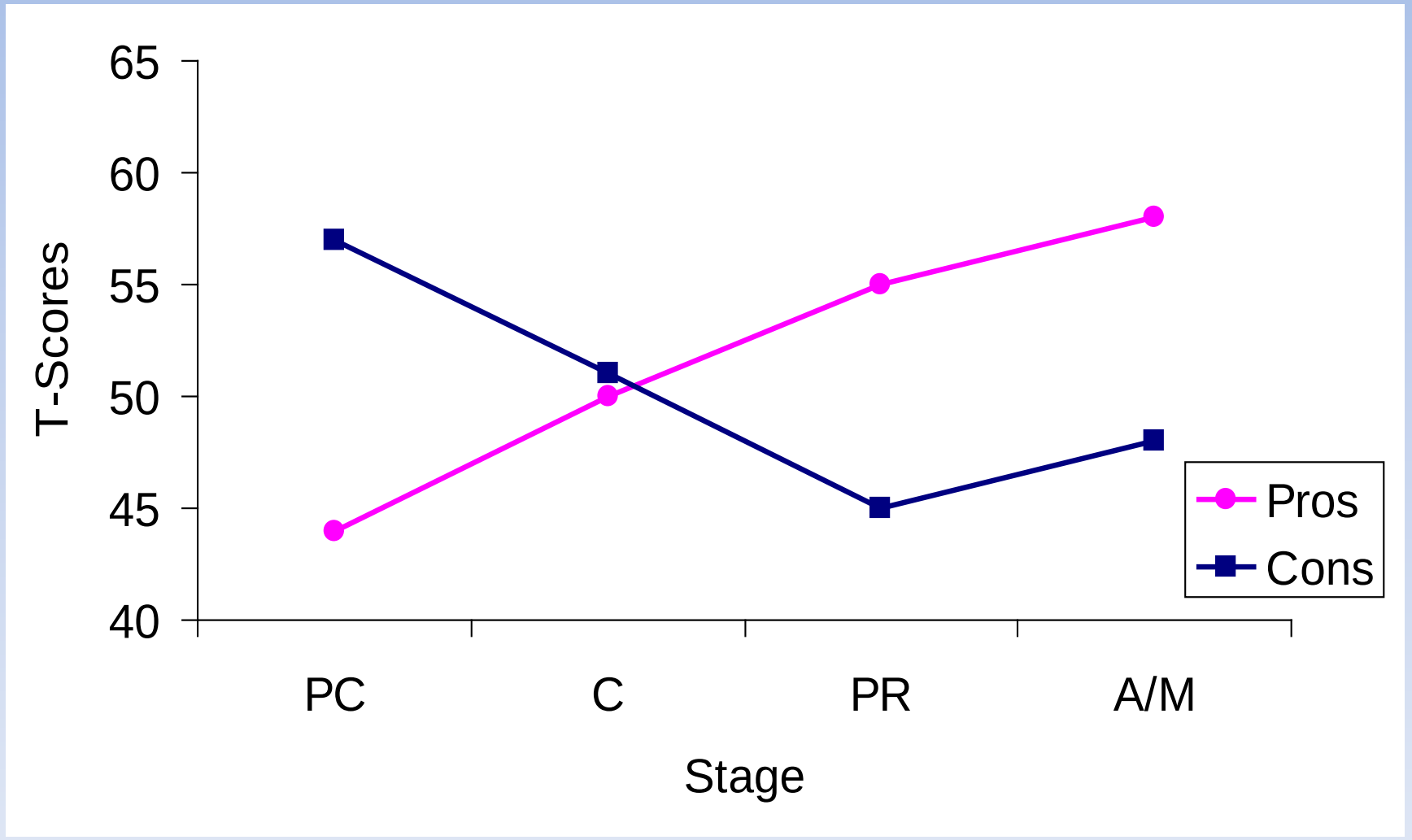
1. How much: one-half standard deviation
2. Emphasize the pros twice as much as the cons.



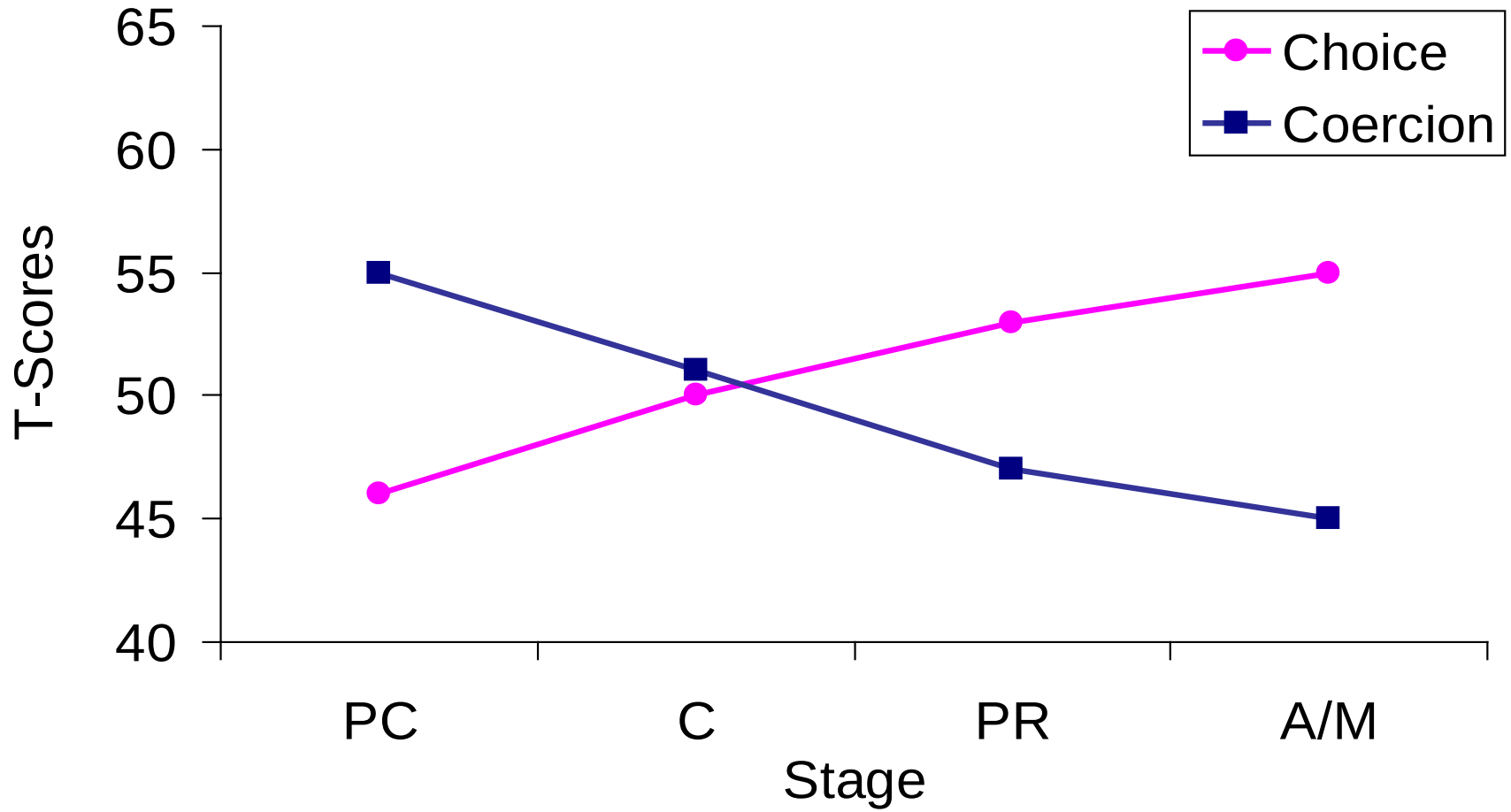
# Third Principle: A Positive Balance

1. When the balance goes negative: regress
2. When the balance goes positive: progress

# Decisional Balance of Drug Addiction Treatment Across Stage



# Perceived Coercion and Choice Over Participating In Drug Addiction Treatment Across Stage



# Programs have to increase the Pros

1. Medicare example
2. Health Plan example

When social controls (including incentives) are used, programs have to help transform social controls into self controls.

- Air Force example with smoking

# Stages by Processes

Precontemplation ⇨Contemplation ⇨ Preparation

Consciousness Raising
Dramatic Relief
Environmental Reevaluation

Self Reevaluation

Prochaska, JO & DiClemente, CC. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology,* 51, 390-395.

# Stages by Processes

Preparation ⇨ Action ⇨ Maintenance

Self Liberation

Reinforcement Management
Helping Relationships

Counterconditioning
Stimulus Control

Prochaska, JO & DiClemente, CC. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. *Journal of Consulting and Clinical Psychology,* 51, 390-395.

# Intervention Targeting and Tailoring

**One Size Fits All**

Stage of Change

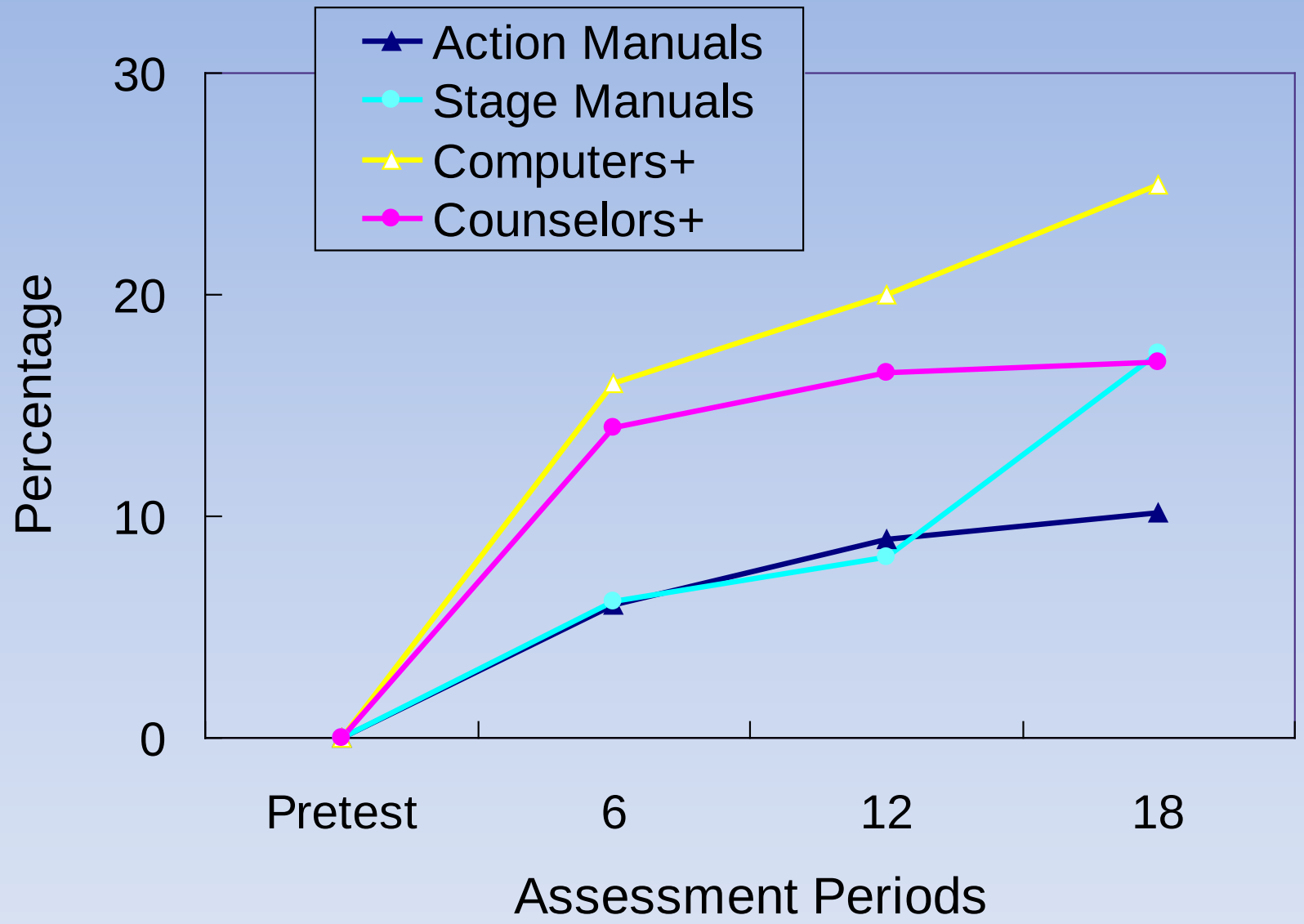
**Targeted (Stage-Matched)**

Pros & Cons | Self-Efficacy | Processes

**Tailored (Individualized)**

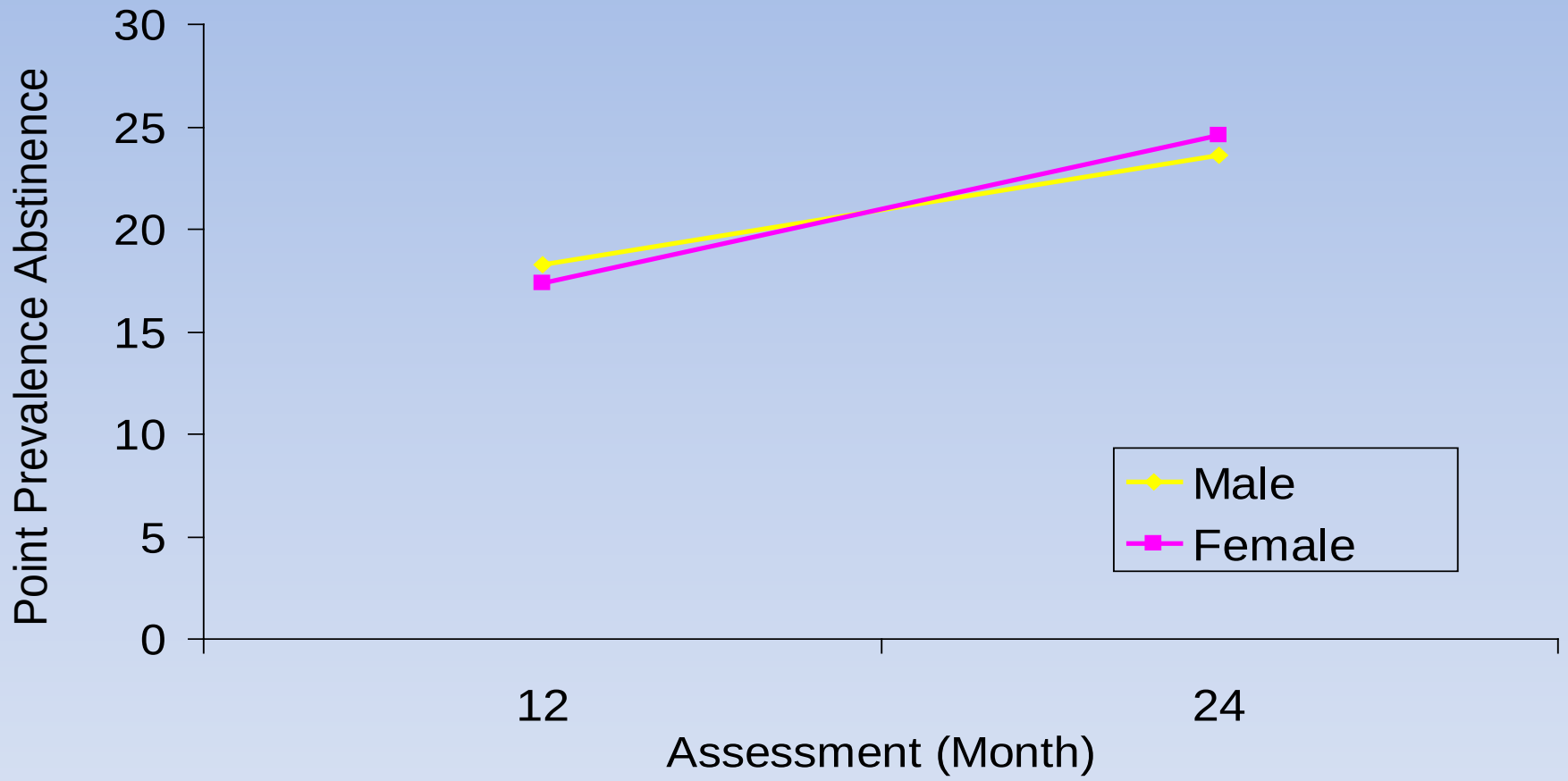
# Treatment Groups

1. Action-oriented Manuals
2. Stage-Matched Manuals
3. Stage-Matched Computers & Manuals
4. Counselors & Stage-Matched Computers



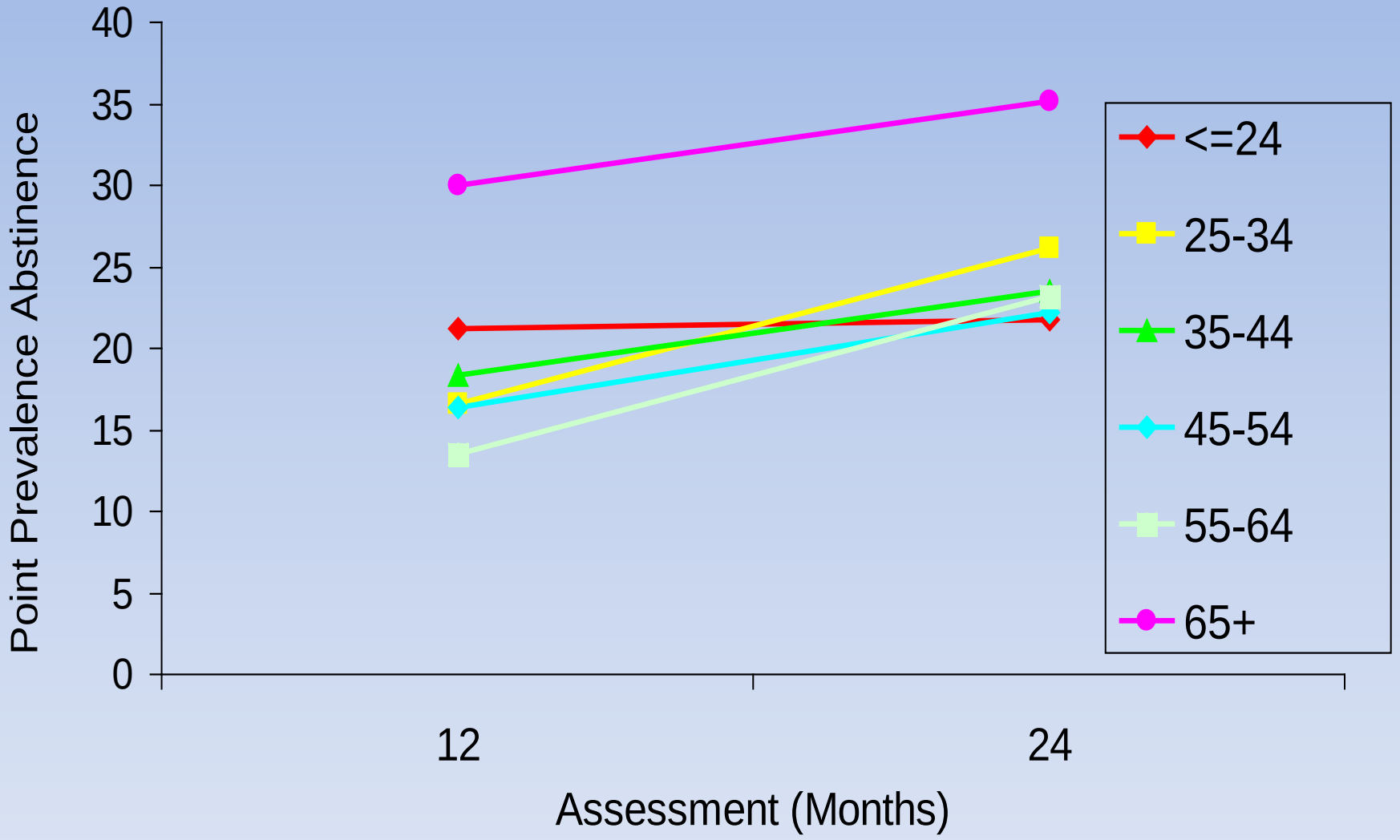

Prochaska, JO, DiClemente, CC, Velicer, WF & Rossi, JS. (1993). Standardized, individualized, interactive and personalized self-help programs for smoking cessation. *Health Psychology*, 12, 399-405.

# Gender




Velicer, WF, Redding, CA, Sun, X, & Prochaska, JO. (2007). Demographic variables, smoking variables, and outcome across five studies. *Health Psychology,* 26, 278-287.

# Age



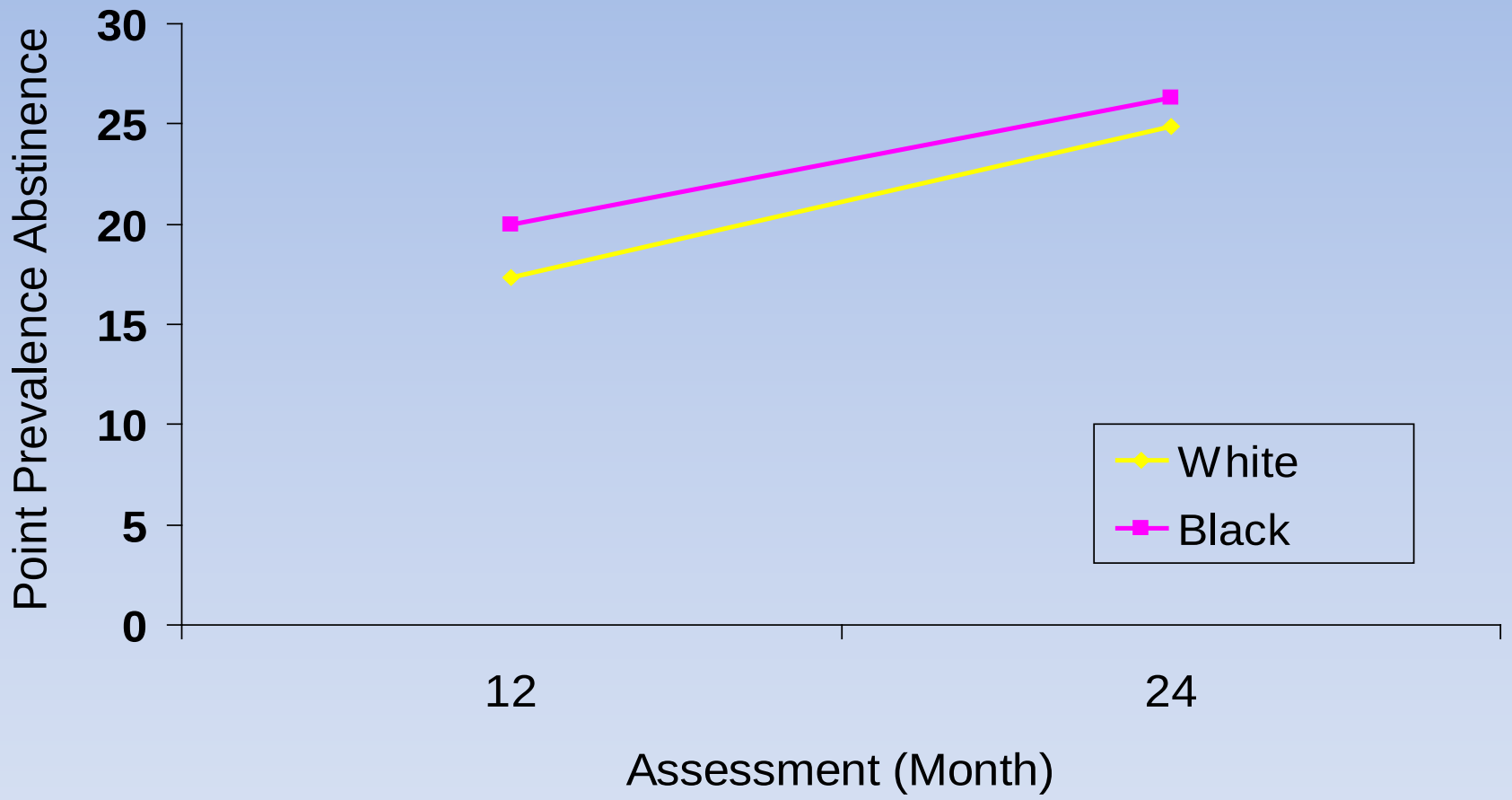

Velicer, WF, Redding, CA, Sun, X, & Prochaska, JO. (2007). Demographic variables, smoking variables, and outcome across five studies. *Health Psychology,* 26, 278-287.

# Proactive Cessation With Adolescents in Primary Care

| Tailored Intervention | Assessment Only |
| --- | --- |
| 23.9% | 11.4% |

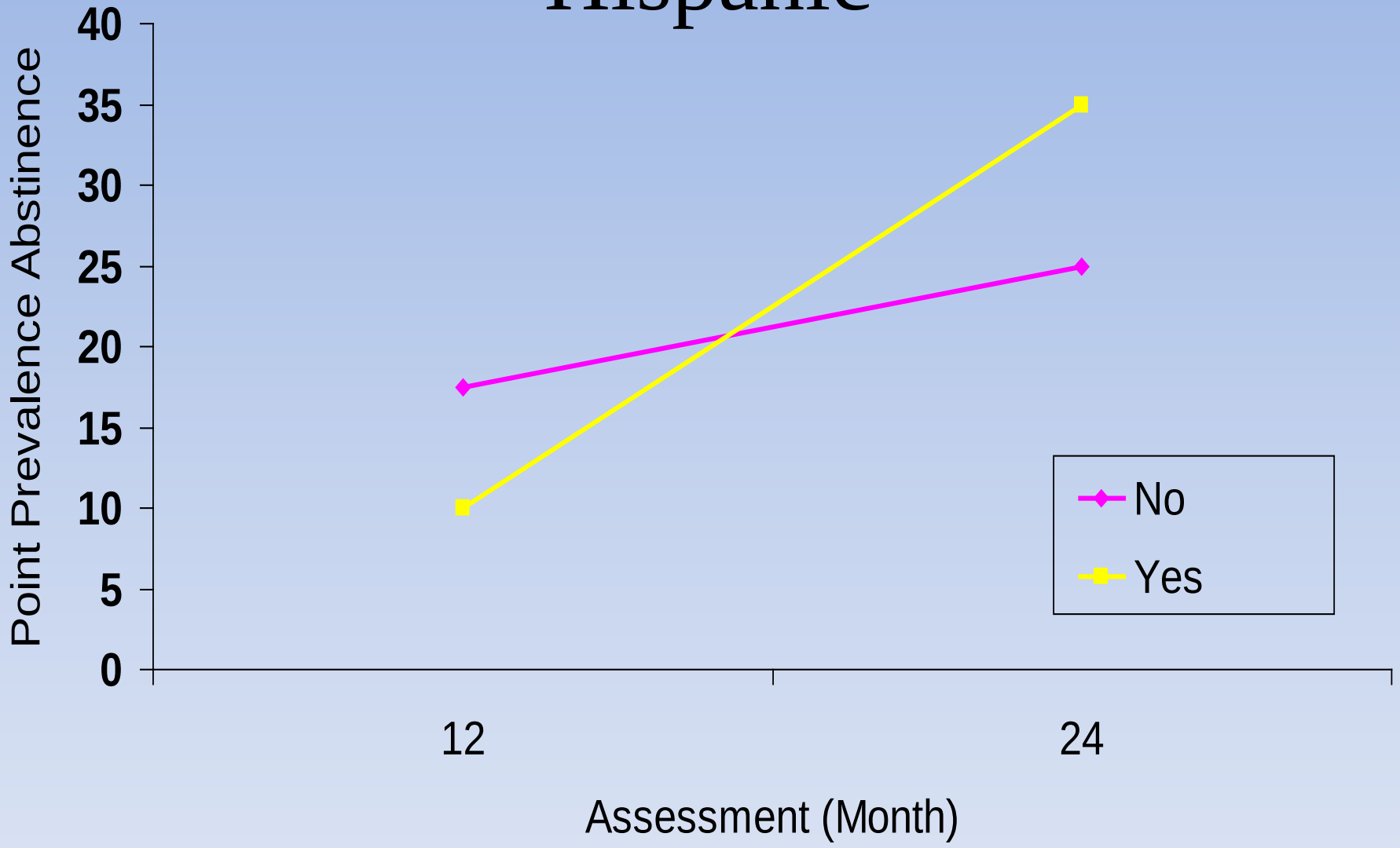
Hollis, JF, Polen, MR, Whitlock, EP; Lichtenstein, E., Mullooly, JP, Velicer, W.F., & Redding, C.A. (2005). TEEN REACH: Outcomes from a randomized controlled trial of a tobacco reduction program among teens seen in primary medical care. *Pediatrics, 115*, 981-999.

# Race




Velicer, WF, Redding, CA, Sun, X, & Prochaska, JO. (2007). Demographic variables, smoking variables, and outcome across five studies. *Health Psychology,* 26, 278-287.

# Hispanic




Velicer, WF, Redding, CA, Sun, X, & Prochaska, JO. (2007). Demographic variables, smoking variables, and outcome across five studies. *Health Psychology,* 26, 278-287.

# Proactive Cessation with Depressed Patients: Abstinence at 18 Months

| Tailored Intervention + | Assessment Only |
| --- | --- |
| 24.6% | 19.1% |

Hall, S. M., Tsoh, J. V., Prochaska, J. J., Eisendrath, S., Humfleet, G. L., Gorecki, J. A. et al. (2006). Treatment for Cigarette Smoking Among Depressed Mental Health Outpatients: A Randomized Clinical Trial. *American Journal of Public Health, 96,* 1808-1814.

# Proactive Cessation with Patients Hospitalized for Mental Illness

| Tailored | Assessment |
| --- | --- |
| 20% | 8% |

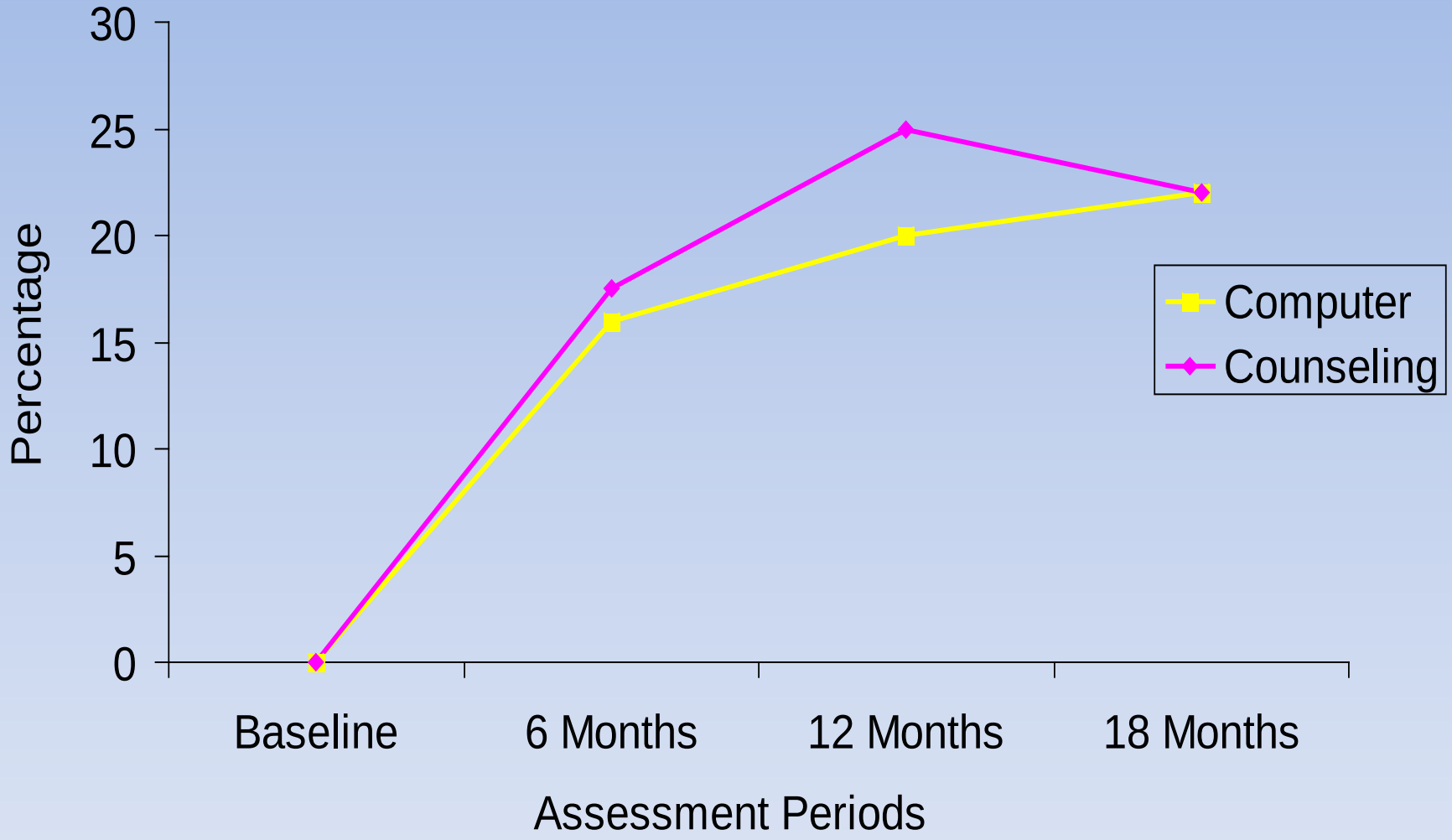
- Recovery involves addressing and transcending discrimination, shame and stigma.

SAMSHA, 2011

- Recovery should be supported by a welcoming and respectful community.

SAMSHA, 2011

# Computer vs. Counseling




Prochaska, JO, Velicer, WF, Fava, J, Ruggiero, L, Laforge, R, Rossi, JS, Johnson, SS, & Lee, PA. (2001). Counselor and stimulus control enhancements of a stage matched expert system for smokers in a managed care setting. *Preventive Medicine,* 32, 23-32.

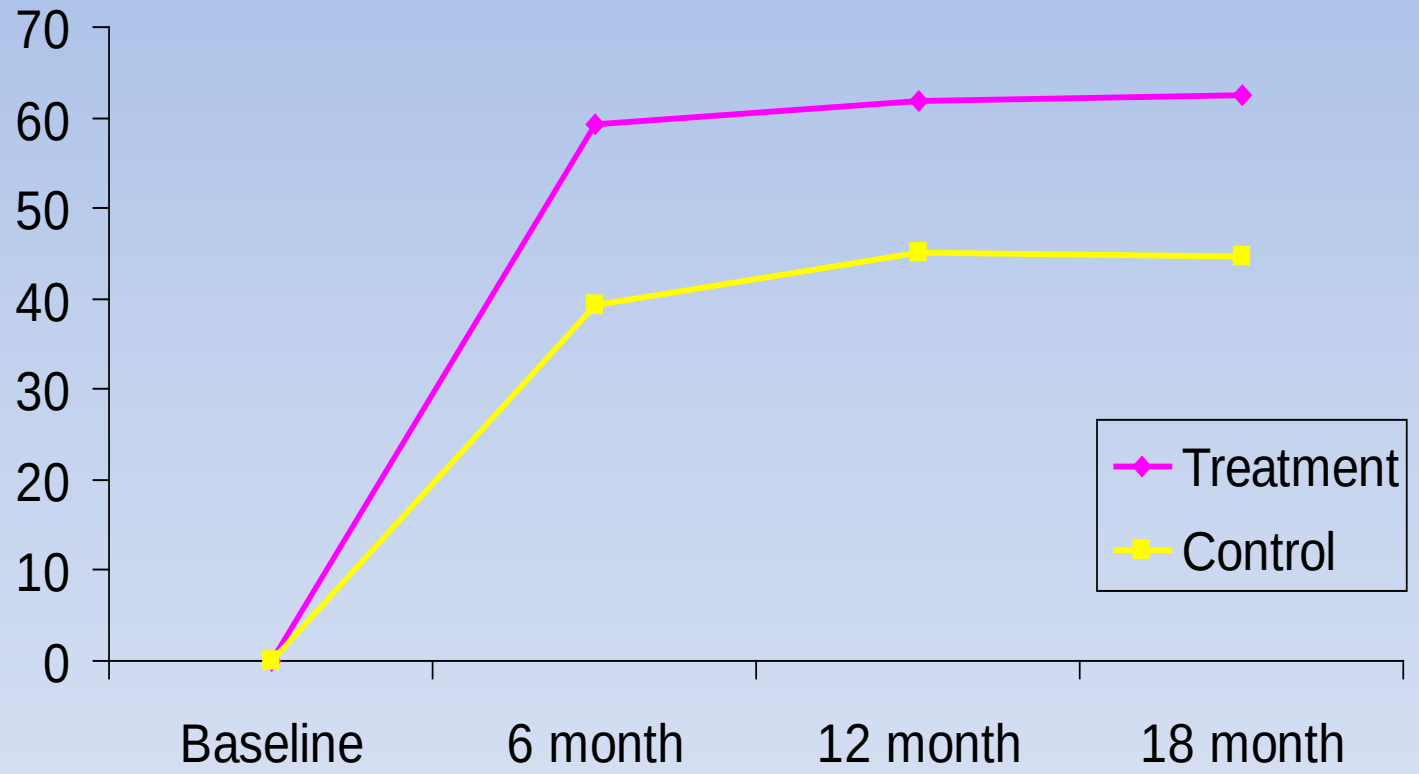
# Adding TTM-tailored Interventions to Midwife Counseling with Pregnant Smokers

Adding TTM-tailored interventions produced 8.2 times the impacts of midwife counseling alone

1. Increased Recruitment
2. Increased Retention
3. Increased Efficacy
4. Decreased Mis-reporting
5. Produced 8.2 times greater impacts

Lawrence,T, Aveyard, P, Cheng, K, Griffin, C, Johnson, C, & Croghan, E. (2005). Does stage-based smoking cessation advice in pregnancy result in long-term quitters? 18-month postpartum follow-up of a randomized controlled trial. *Addiction*, 100 (1), 107-116.

# Percentage in Action/Maintenance for Stress Management




$\chi^2$ significant ($p < .001$) at 6, 12, & 18 months (Pre-Action at Baseline Only)

Evers, K.E., Prochaska, J.O., Johnson, J.L., Mauriello, L.M., Padula, J.A., & Prochaska, J.M. (2006). A randomized clinical trial of a population- and Transtheoretical model-based stress-management intervention. *Health Psychology, 25,* 521-529.

# OUTCOMES ARE FUNCTION OF

1. Stage effects
2. Severity effects
3. Treatment effects
4. Effort effects

Blissmer, B., Prochaska, J.O., Velicer, W., Redding, C., Rossi, J., Greene, G., Paiva, A. & Robbins, M. (2010). Common factors predicting long-term changes in multiple health behaviors. Journal of health psychology, 15 (2), 205-214. (NIHMSID: HIHMS233580)

# Original Impact Equation

Impact = Reach X Efficacy

Impact = (5% Reach) X (30% Abstinence) = 1.5%

Impact = (75% reach) X (20% Abstinence) = 15%

# New Impact Equation

Impact = Reach X Efficacy X

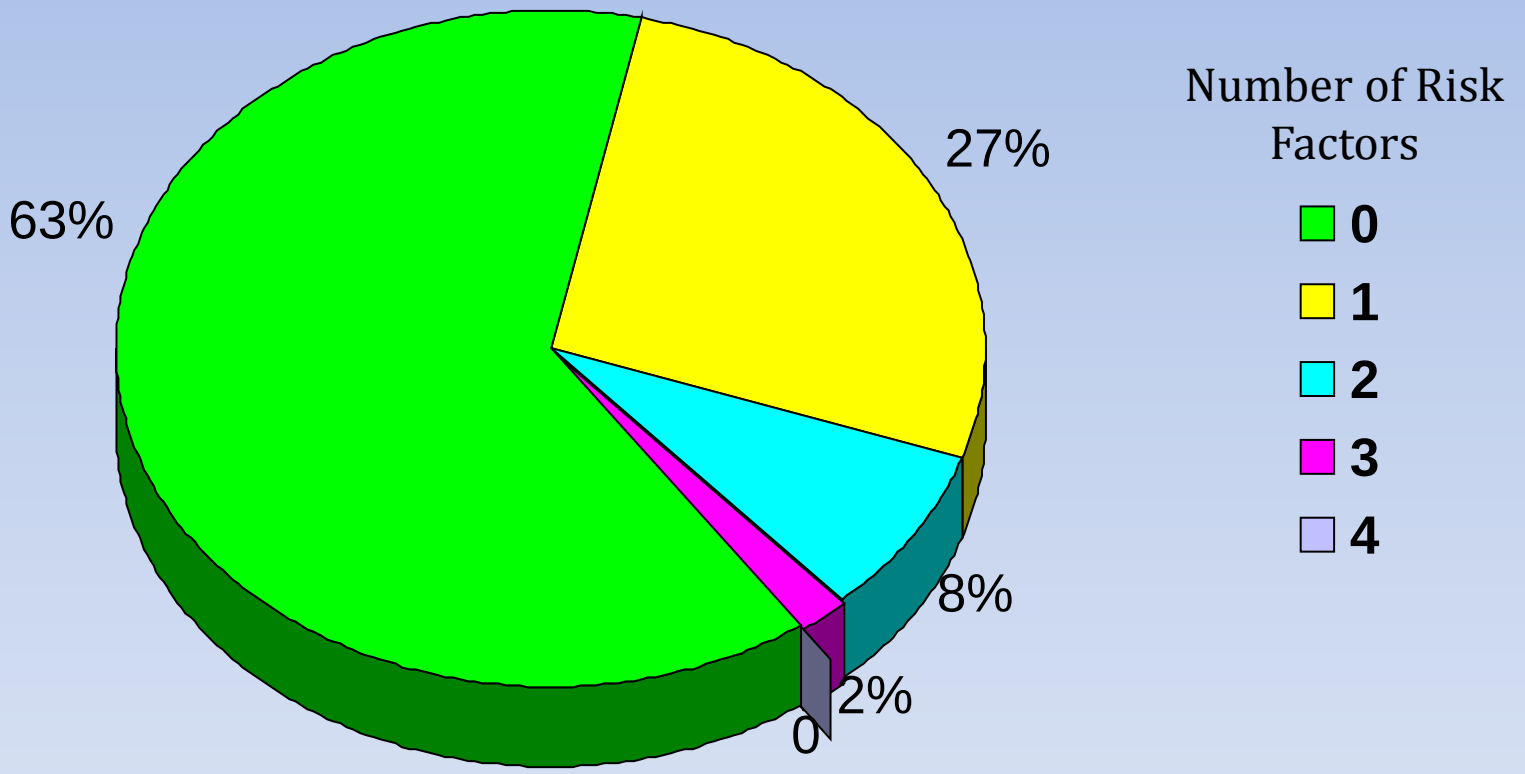
(Σ Behaviors Changed)

**Costs per health condition and behavior and percentage of successful employees at long-term follow-up who participate in our programs**

| Health Related Condition | Cost per Employee | Costs per 1,000 employees | % of long-term successes per 1,000 employees |
|---|---|---|---|
| Heart Disease | $6,000 | $232,000 | N/A |
| Stress | $4,100 | $2,700,000 | 65% |
| Smoking | $4,000 | $880,000 | 25% |
| Diet Risk | $7,000 | $2,000,000 | 45% |
| Exercise Risk | $3,800 | $1,700,000 | 45% |
| Weight Risk | $3,900 | $1,700,000 | 30% |
| Non-adherence: Statins | | | 60% |
| Non-adherence: Anti-hypertensive | | | 60% |
| Depression | $6,400 | $1,900,000 | 70% |

Dr. Alberto Colombi, Medical Director for PPG Industries

# Number of Risk Factors in Preparation Among 3,616 Current Smokers

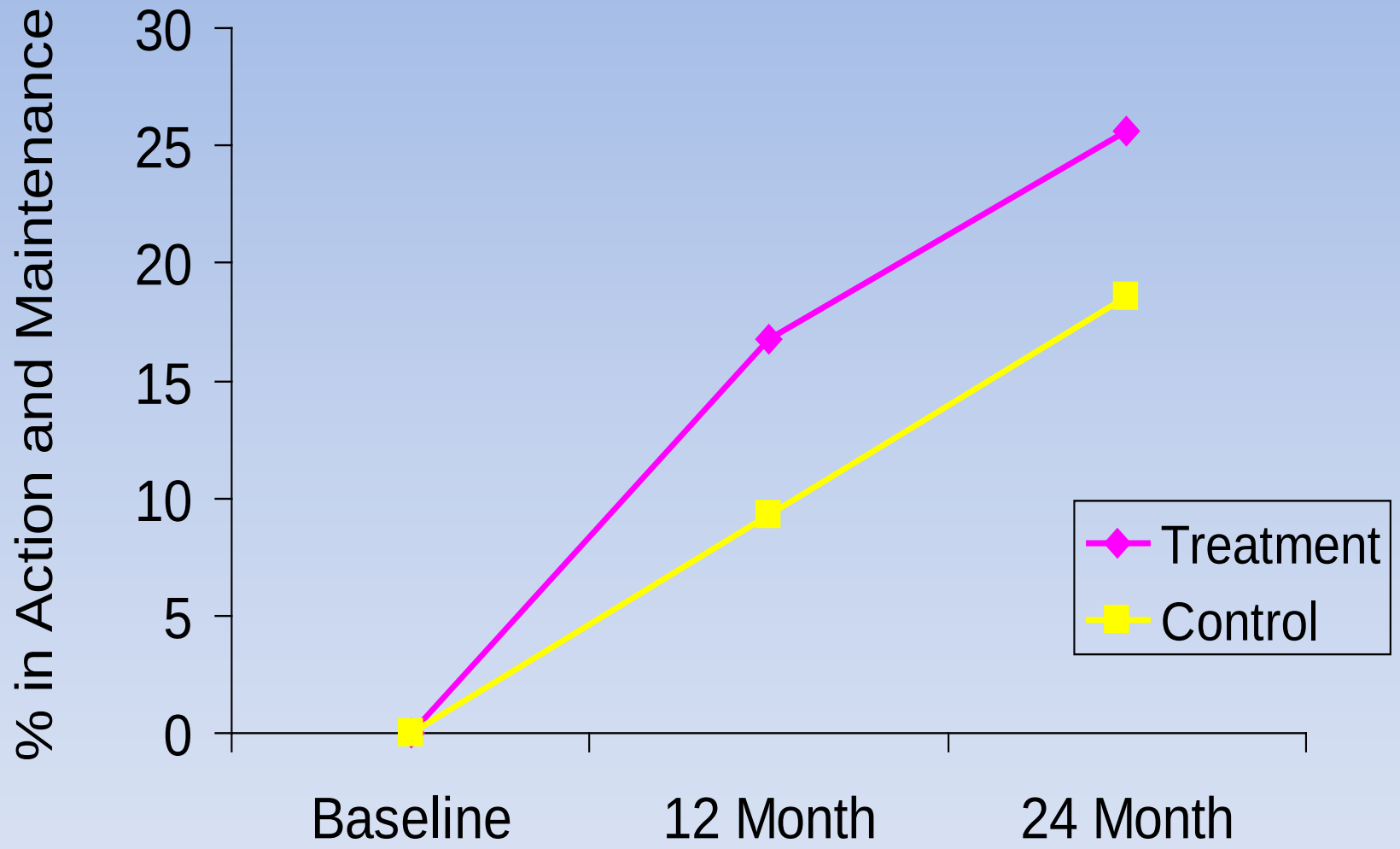



Risk Factors: Smoking, High Fat Diet, Sedentary, Not Using Sunscreen

# Multiple Behavior Change Strategies

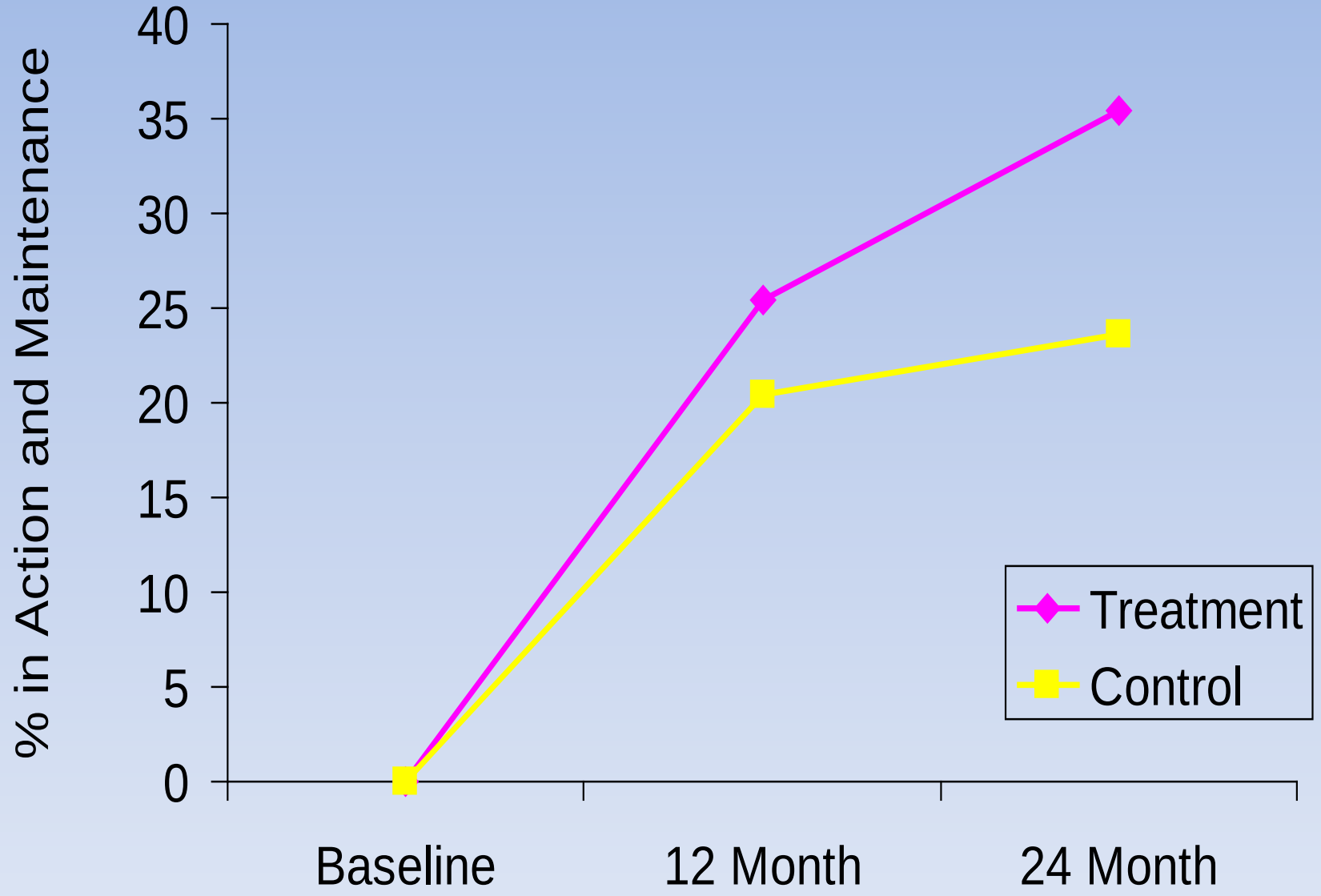
1) Sequential
2) Simultaneous: Modular
3) Simultaneous: Co-action
4) Simultaneous: Integrative
    a. Bullying Prevention
    b. Proactive Health Consumer

# Smoking Point Prevalence




Prochaska, JO, Velicer, WF, Redding, CA, Rossi, JS, Goldstein, M, DePue, J, Greene, GW, Rossi, SR & Sun, X. (2005). Stage-based expert systems to guide a population of primary care patients to quit smoking, eat healthier, prevent skin cancer and receive regular mammograms. *Preventive Medicine*, 41, 406-416.

# Diet Point Prevalence

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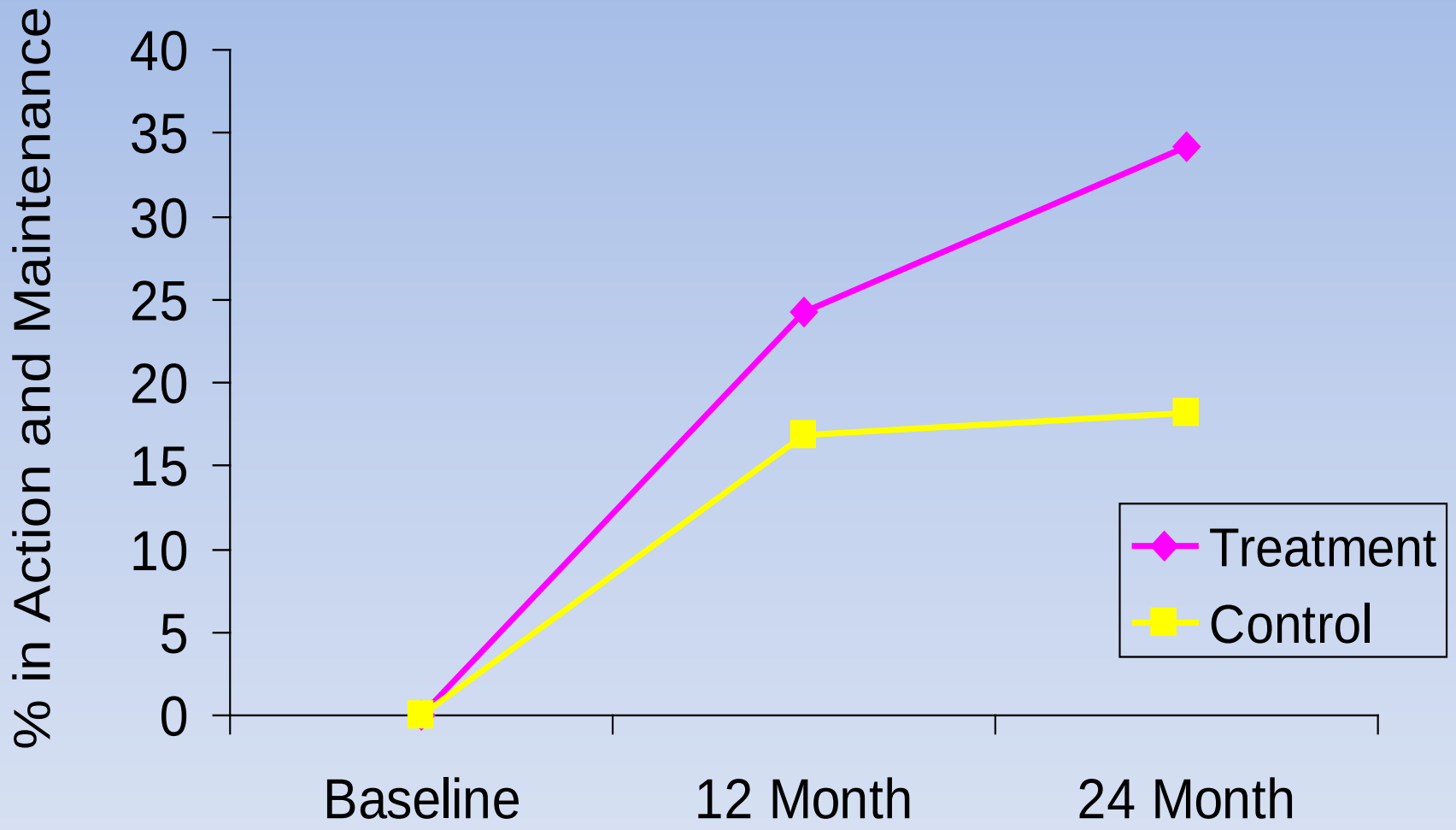
# Sun Point Prevalence




Prochaska, JO, Velicer, WF, Redding, CA, Rossi, JS, Goldstein, M, DePue, J, Greene, GW, Rossi, SR & Sun, X. (2005). Stage-based expert systems to guide a population of primary care patients to quit smoking, eat healthier, prevent skin cancer and receive regular mammograms. *Preventive Medicine*, 41, 406-416.

# Two Years of Primary Care Counseling

I. No effects on any of the four target behaviors

II. No increased effect on four behaviors treated effectively with TTM-tailored interventions

# Two Years of Worksite Campaign

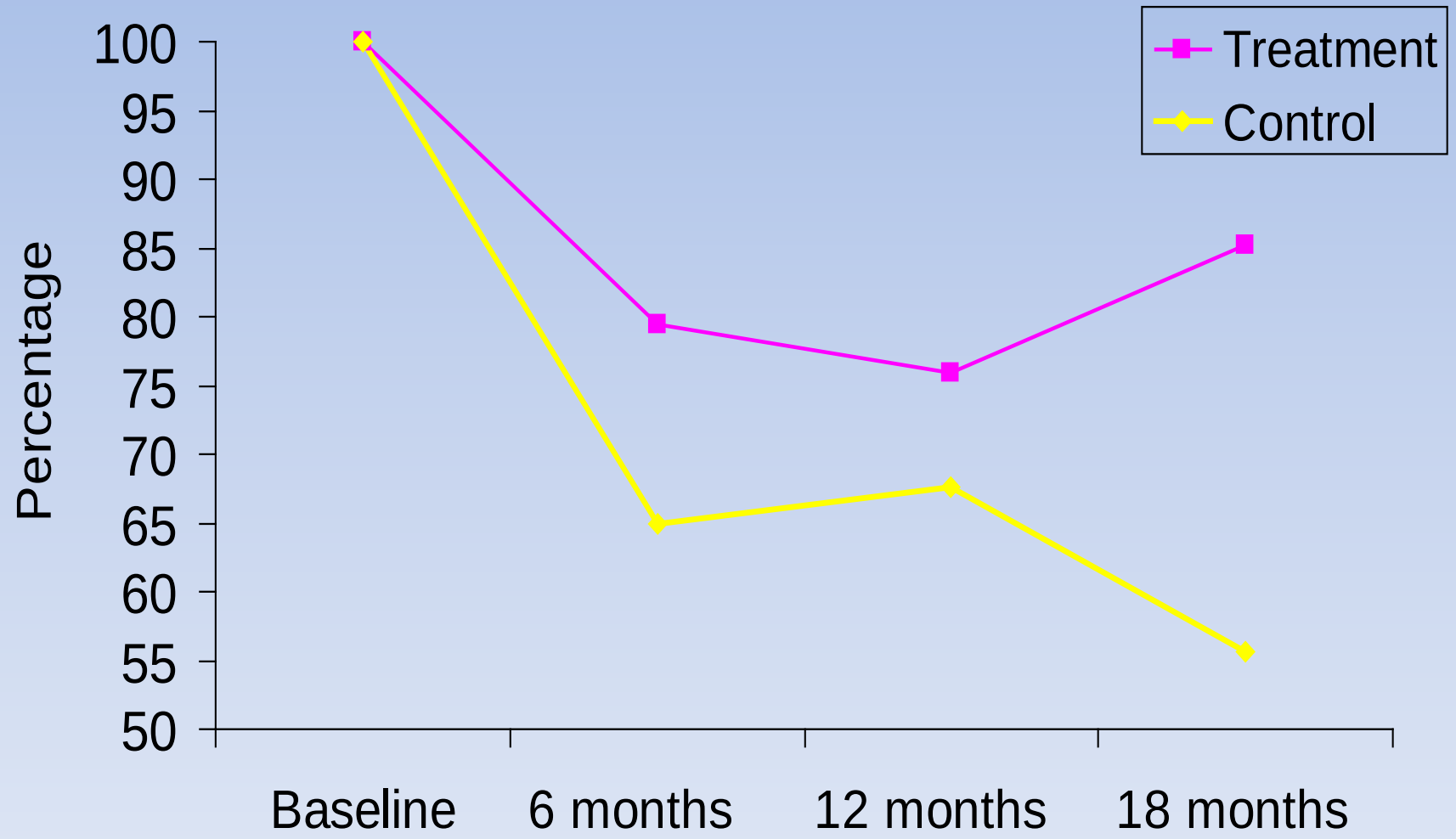
I. No effects on any of the multiple targeted behaviors

II. No increased effect on multiple behaviors treated effectively with TTM-tailored interventions

Coaction: The increased probability of progressing to Action on a second behavior (e.g. diet) when individuals have progressed to Action on an initial behavior (e.g. smoking).

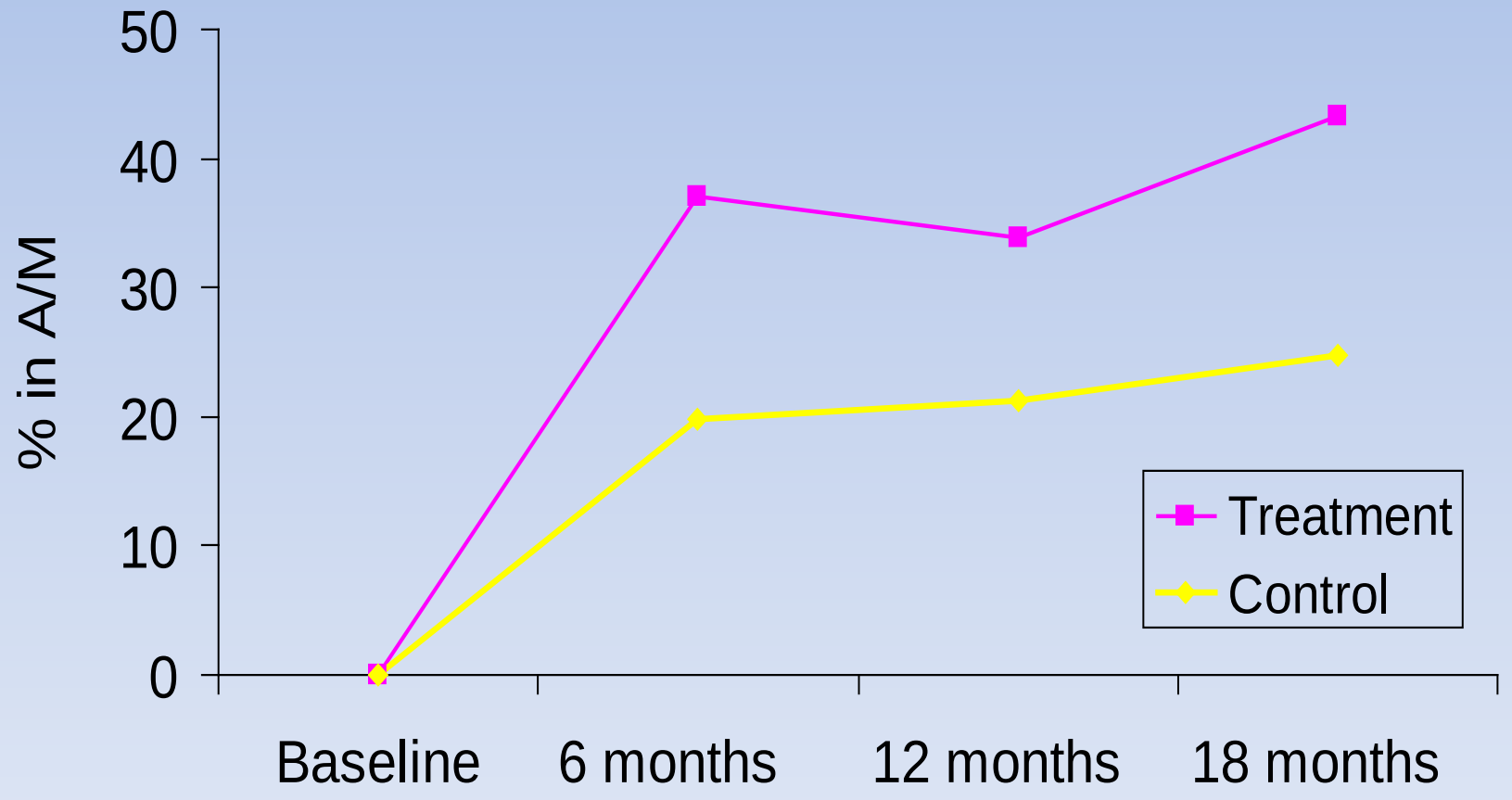
| Coaction in | Odds Ratios |
|---|---|
| Control Group | 1.00 |
| TTM Intervention Group | 1.50-3.50 |

# Adherence: Regression from A/M by Group Post-action at Baseline



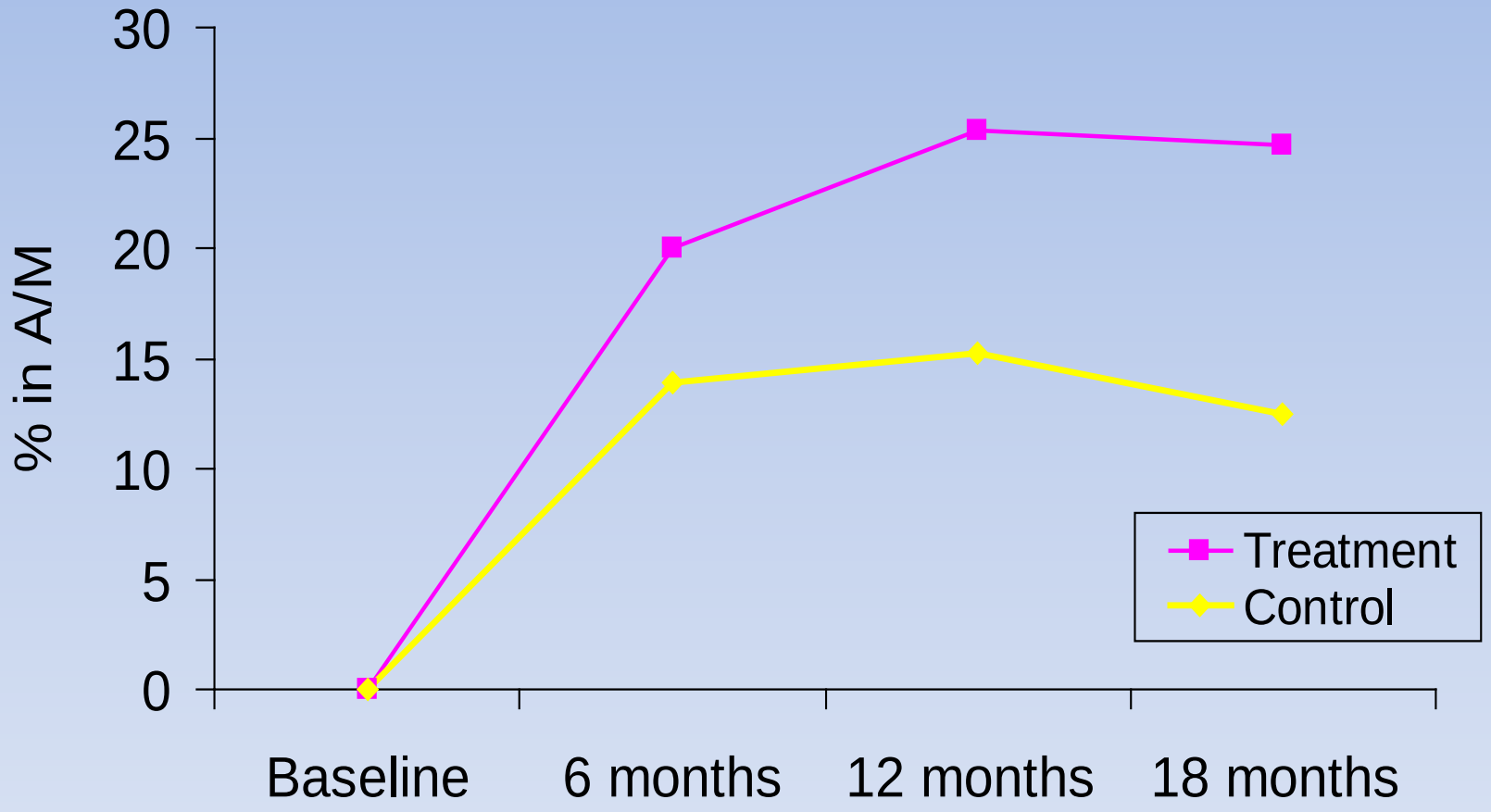

Johnson, SS, Driskell, MM, Johnson, JL, Dyment, SJ, Prochaska, JO, Prochaska, JM, & Bourne, L. (2006). Transtheoretical model intervention for adherence to lipid-lowering drugs. *Disease Management,* 9, 102-114.

# Exercise Staging: Adherence Group
# Progression to A/M by Group (pre-action at baseline)




Johnson, SS, Driskell, MM, Johnson, JL, Dyment, SJ, Prochaska, JO, Prochaska, JM, & Bourne, L. (2006). Transtheoretical model intervention for adherence to lipid-lowering drugs. *Disease Management,* 9, 102-114.

# Dietary Fat Staging: Adherence Group Progression to A/M by Group (pre-action at baseline)




Johnson, SS, Driskell, MM, Johnson, JL, Dyment, SJ, Prochaska, JO, Prochaska, JM, & Bourne, L. (2006). Transtheoretical model intervention for adherence to lipid-lowering drugs. *Disease Management,* 9, 102-114.

# Domains of Well-being (2011)

1. Physical Health
2. Emotional Health
3. Healthy Behaviors
4. Life Evaluation
5. Work environment
6. Basic Access

# Elements of Well-being (2013)

1. Physical Health
2. Social Well-being
3. Community Well-being
4. Financial Well-being
5. Purpose

# Dimensions of Support in Recovery

1. Health
2. Home
3. Purpose
4. Community

SAMSHA, 2011

# Well-being RCT

- Determine the effects on multiple risks and multiple domains of well-being of Pro-Change's effective LifeStyle Programs:
  - Online program for stress management
  - Telephonic coaching program for exercise management
- 3 group design

Prochaska, J.O., Evers, K.E., Castle, P.H., Johnson, J.L., Prochaska, J.M., Rula, E.Y., Coberley, C., & Pope, J.E. (2012). Enhancing Multiple Domains of Well-being by Decreasing Multiple Health Risk Behaviors: A Randomized Clinical Trial. *Population Health Management, 15 (5),* 276-286.

# Baseline Demographics

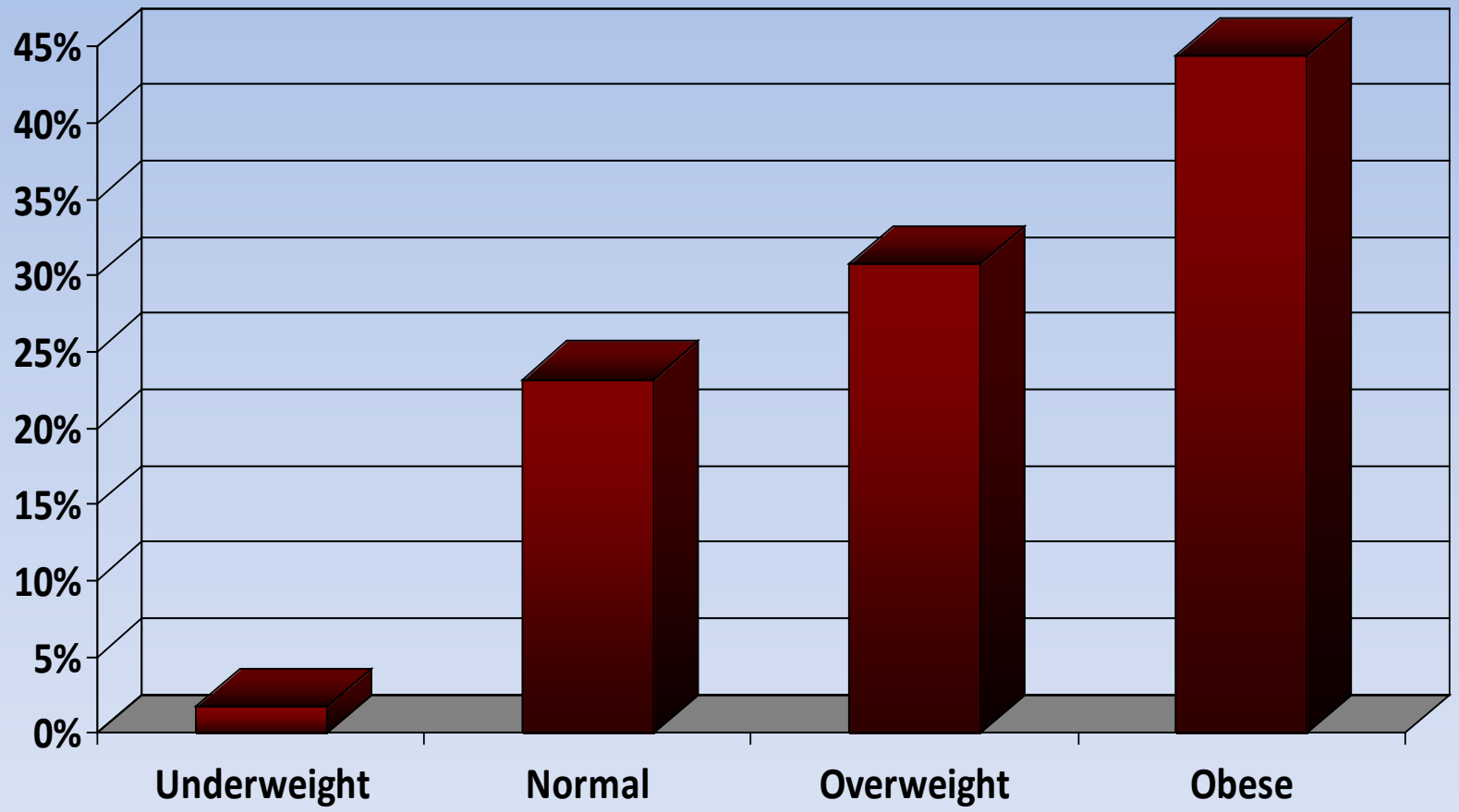
- 39 States represented
- 59% female
- 52% currently employed
- 5.2% full time student
- 42.7% never smoke
- 20% reported no depression

**Age:**
Mean = 48.35 (13.53)
Range = 18-86

**Chronic conditions:**
Mean = 3.74 (3.09)
Range = 0-34

**Behavior risks:**
Mean = 4.14 (1.44)
Range = 0-9

# Baseline Demographics: BMI



# Control Group

- Online Baseline Assessment
  - Survey Sampling Sweepstakes
- 6 Month Online Follow-up Assessment
  - Reminder e-mails & phone prompts
  - $30 Incentive

# Baseline Stage of Change

Regular Exercise

| | |
|---|---|
| PC | 30.2% (1250) |
| C | 32.7% (1354) |
| PR | 27.4% (1132) |
| A | 5.8% (239) |
| M | 3.9% (161) |

Stress Management

| | |
|---|---|
| PC | 31.0% (1282) |
| C | 26.3% (1089) |
| PR | 22.8% (941) |
| A | 8.1% (336) |
| M | 11.8% (488) |

# Number of Behavior Risks
## Mean Differences (T1-T2)

| Group | Multiple Imputation |
|---|---|
| Exercise Coach | -1.18 |
| Stress Online | -0.82 |
| Control | -0.49 |

# Exercise
# % in Action/Maintenance at T2

| | Complete Case | Multiple Imputation |
|---|---|---|
| **Exercise Coach** | 52.0% | 57.3% |
| **Stress Online** | 36.3% | 46.6% |
| **Control** | 29.9% | 37.3% |

# Stress Management
# % in Action/Maintenance at T2

| | |
|---|---|
| **Exercise Coach** | 74.9% |
| **Stress Online** | 64.7% |
| **Control** | 53.1% |

# Healthy Eating
# % in Action/Maintenance at T2

| | |
|---|---|
| Exercise Coach | 30.7% |
| Stress Online | 26.4% |
| Control | 21.1% |

# Overall Well-Being
# Mean Differences (T1-T2) by Group

| Group | |
|---|---|
| Exercise Coach | 12.65 |
| Stress Online | 10.11 |
| Control | 6.41 |

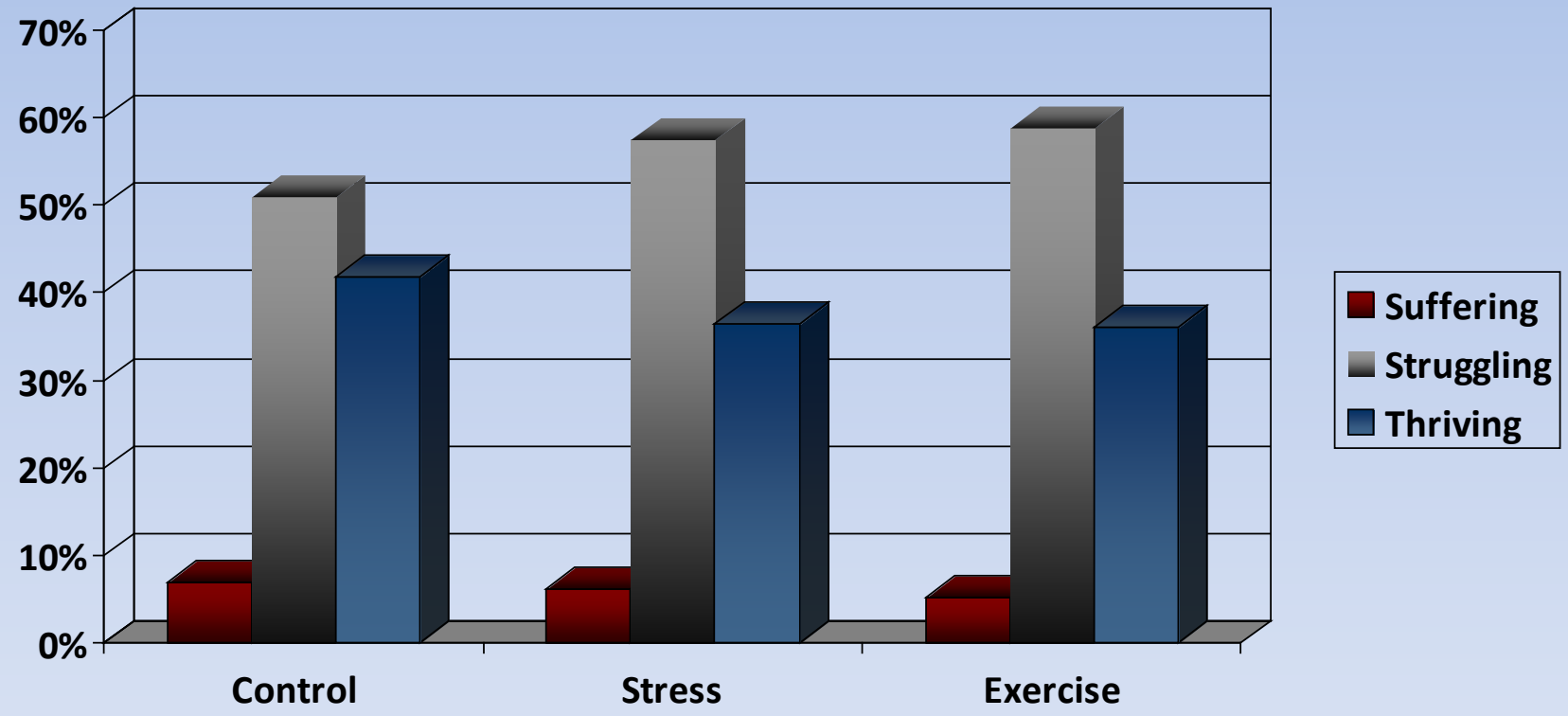
# IWBS: Physical Health
## Mean Differences (T1-T2)

| Group | |
|---|---|
| Exercise Coach | 15.05 |
| Stress Online | 11.13 |
| Control | 6.07 |

# IWBS: Emotional Health
# Mean Differences (T1-T2)

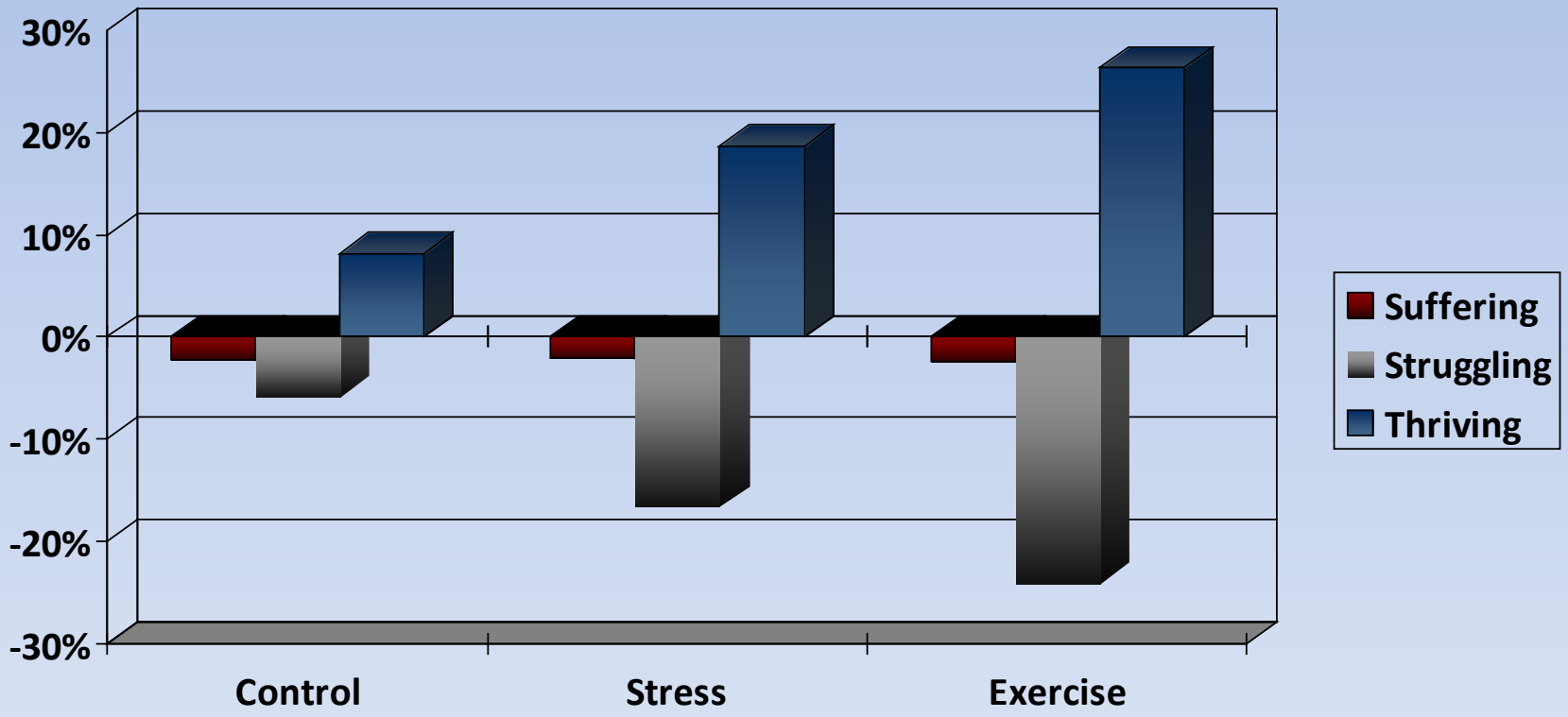
| Group | |
|---|---|
| Exercise Coach | 14.54 |
| Stress Online | 12.03 |
| Control | 7.75 |

# Life Evaluation Categories:T1

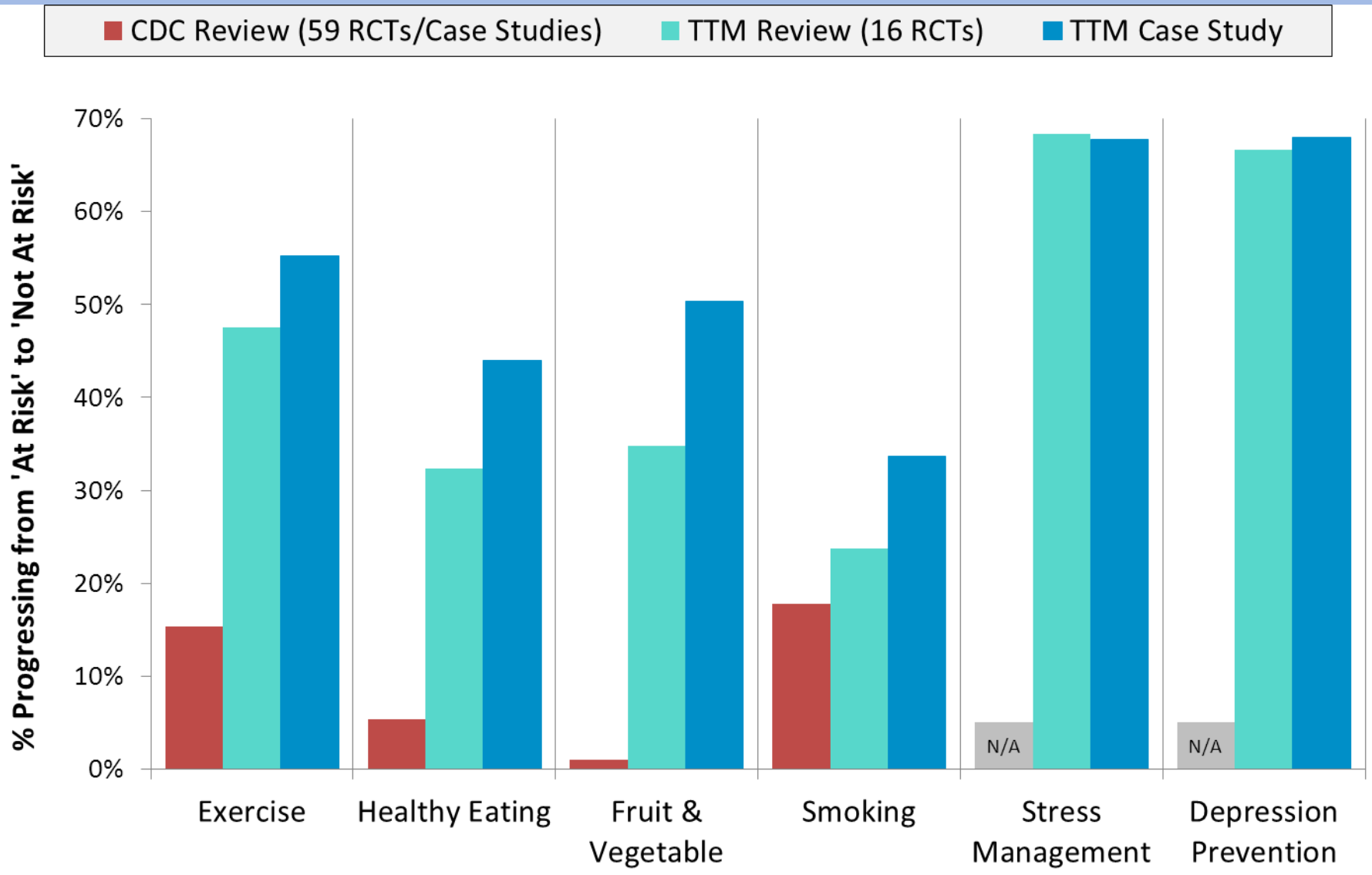


# Life Evaluation: T1-T2 Difference

## MI



# Comparative Outcomes of Interventions




Johnson, J.L., Prochaska, J.O., Paiva, A.L., Fernandez, A.C., DeWees, S.L., and Prochaska, J.M. (2013) Advancing Bodies of Evidence for Population-based Health Promotion Programs: Randomized Controlled Trials and Case Studies. *Population Health Management, 16(6), 373-380.*

# Inclusive Care from Two Clusters of Paradigms for Individual Patients and Entire Populations

| Patient Health | Complemented by | Population Health |
|---|---|---|
| 1. Individual Patients | | 1. Entire Populations |
| 2. Passive Reactance | | 2. Proactive |
| 3. Acute Conditions | | 3. Chronic Conditions |
| 4. Efficacy Trials | | 4. Effectiveness Trials |
| 5. Action Oriented | | 5. Stage-based |
| 6. Clinic based | | 6. Home based |
| 7. Clinician Delivered | | 7. Technology Delivered |
| 8. Standardized | | 8. Tailored |
| 9. Single Target Behavior | | 9. Multiple Target Behaviors |
| 10. Fragmented | | 10. Integrated |

The more population paradigms applied, the greater the engagement, impact, health and well-being

# Inclusive Care

Inclusive Research + Inclusive Practice

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Inclusive Care