

Motivation and Change in Individuals with SMI and Substance Abuse Disorders

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Motivation and Readiness for Change

- Is a critical factor in most studies related to change of specific behaviors
- Is an important predictor of modification of substance use and abuse (smoking, drinking, drug use)
- Has been identified as a predictor of treatment and medication compliance
- Is part of an intentional process of change that involves goal setting, decision making, self-regulation, and accomplishing the tasks identified in the Stages of Change

Challenges for Behavior Change in a Mentally Ill Population

- Multiple Chronic conditions complicate change process and exhaust self control
- Shifting Motivation with shifts in mood and decisional considerations
- Cognitive Impairment
- Self Regulation Problems
- Situational/Environmental Issues
- System of Care Problems

Can SMI Patients Use the Personal Intentional Change Process?

- Do individuals with SMI and those with less severe MI access and use a similar process of change as non mentally ill populations?
- Are individuals with schizophrenia like other drug abusing individuals in terms of how they change these behaviors?
- Are SMI subpopulations (schizophrenia versus bipolar) different on change process variables?
- How important and useful are motivational considerations and interventions in managing treatment behaviors?

Mental Illness and Emotional Problems

- Encompass Symptoms that impact Emotions, Cognitions and Behaviors
- Although illness is not chosen, it develops over time and requires initiation, modification, and cessation of behaviors (including medication adherence, acquisition and utilization of skills, and managing complicating problems like addictions, etc.)
- Can interfere with accurate information processing and other tasks of the stages of change

Addiction and Change

- Both acquisition of and recovery from an addiction require a personal journey through an intentional change process**
- Both initiation and recovery are influenced by personal decisional considerations and choices**
- Personal choices are influenced by and in turn influence genetic, developmental, characterological, and social forces**
- There is an interaction between the individual and the surrounding risk and protective factors that involves a Process of Change**

How Do People Change?

- People change voluntarily only when
 - They become *interested and concerned* about the need for change
 - They become *convinced* the change is in their best interest or will benefit them more than cost them
 - They organize a *plan of action* that they are *committed* to implementing
 - They *take the actions* necessary to make the change and sustain the change

The Transtheoretical Model of Intentional Behavior Change

STAGES OF CHANGE

**PRECONTEMPLATION → CONTEMPLATION → PREPARATION →
ACTION → MAINTENANCE**

PROCESSES OF CHANGE

COGNITIVE/EXPERIENTIAL

**Consciousness Raising
Self-Reevaluation
Environmental Reevaluation
Emotional Arousal/Dramatic Relief
Social Liberation**

BEHAVIORAL

**Self-Liberation
Counter-conditioning
Stimulus Control
Reinforcement Management
Helping Relationships**

CONTEXT OF CHANGE

- 1. Current Life Situation**
- 2. Beliefs and Attitudes**
- 3. Interpersonal Relationships**
- 4. Social Systems**
- 5. Enduring Personal Characteristics**

MARKERS OF CHANGE

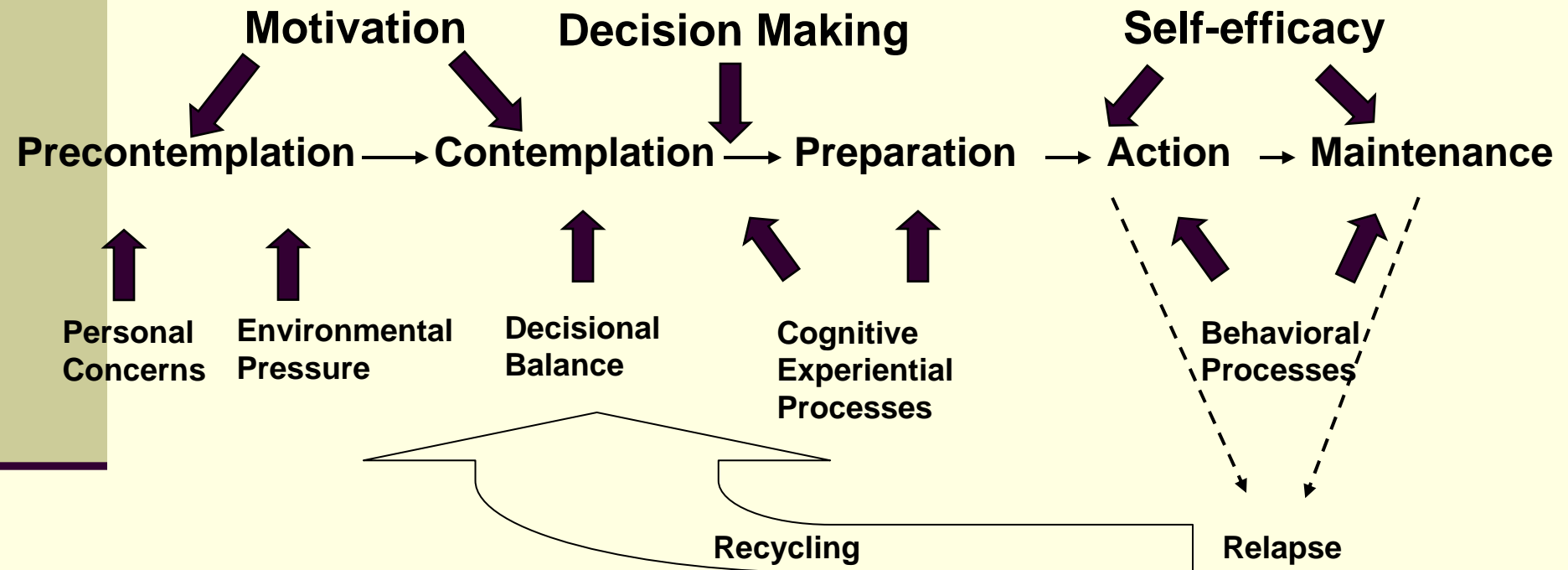
Decisional Balance

Self-Efficacy/Temptation

Stage of Change Labels and Patient Tasks

| | | |
|--|---|--|
| ■ Precontemplation ■ Not interested | ➔ | Become interested and concerned |
| ■ Contemplation ■ Considering | ➔ | Risk-reward analysis and decision-making |
| ■ Preparation ■ Preparing | ➔ | Commitment and creating an effective/acceptable plan |
| ■ Action ■ Initial change | ➔ | Implementation of plan and revising as needed |
| ■ Maintenance ■ Sustained change | ➔ | Consolidating change into lifestyle |

Theoretical and Practical Considerations Related to Movement Through the Stages of Change



What would help or hinder completion of the tasks of each of the stages and deplete the self-control strength needed to engage in the processes of change needed to complete the tasks?

Mental Illness and Addictions

- Rates of addictions among those with psychiatric disorders is higher than in the population (2 to 4 times greater)
- Substance use is often associated with the onset of many different disorders (schizophrenia, conduct disorder, personality disorders)
- Substance abuse by individuals with severe mental illness is ubiquitous.
- These are reciprocally complicating disorders

What do we know about motivation and substance abuse among the Dually Diagnosed?

- Carey and colleagues (1999) greater motivation
 - More cons and fewer benefits
 - Reported more SA problems
 - Took more steps to change
 - Used substances less
- Ries & Ellingson (1990) higher motivation = greater drug abstinence
- Miller & Tonigan (1996) motivation predicted future alcohol use (390 SMI co-occurring)
- Zhang and Colleagues (2004) greater ambivalence about alcohol use greater consumption 9 months later

Not all studies support importance of motivation among SMI dually diagnosed

- Pantalon & Swanson (2003) higher motivated dually diagnosed attended fewer clinic appointments
- Bellack and colleagues (2006) motivational readiness at baseline not related to attendance or survival in treatment
- Zeidonins & Trudeau higher treatment seeking related to lower motivation (stage algorithm)

Stages and Processes of Change among the dually diagnosed

- Velasquez and colleagues (1999) found expected relationships among process variables and motivation among a dually diagnosed population
- Finnell (2003) some expected and unexpected findings about process use among a dually diagnosed sample
- DiClemente, Dixon and colleagues have found expected relationships among smokers with SMI
- Nidecker, and colleagues (in press) found some supportive and unexpected findings of relationships among cocaine using SMI (Schiz vs. Affective)

Purpose of the Following Studies

- Can seriously mentally ill individuals with current or past cocaine abuse or who are cigarette smokers respond to measures of the process of addictive behavior change identified by the TTM in a meaningful way?
- DO cocaine dependent and remitted individuals differ on key process measures?
- Will SMI patients with and without a history of psychosis differ on these measures?
- Will SMI smokers look like other smokers in terms of where they are in the stages of change?

Methods

- 241 outpatients recruited from a Medical School based clinic and an affiliated VA Hospital
 - 68 participants met current DSM-IV criteria for Schizophrenia or Schizoaffective Disorder *and* Cocaine Dependence (S/D)
 - 51 participants met current DSM-IV criteria for Schizophrenia or Schizoaffective Disorder *and* Cocaine Dependence in Early Full Remission (S/R)
 - 60 participants met current DSM-IV criteria for Cocaine Dependence *and* Affective Disorder with no history of psychosis (AD/D)
 - 62 participants met current DSM-IV criteria for Cocaine Dependence in Early Full Remission *and* Affective Disorder with no history of psychosis (AD/R)

| Sample Characteristics | | N | % |
|--------------------------------|--|----------|-----------|
| Sex | | | |
| Male | | 152 | 63.1 |
| Female | | 89 | 36.9 |
| Ethnicity | | | |
| Black | | 184 | 79.6 |
| White | | 47 | 20.4 |
| Marital Status | | | |
| Never | | 115 | 48.7 |
| Ever | | 121 | 51.3 |
| Diagnosis | | | |
| Schizophrenia | | 122 | 50.6 |
| Affective Disorder | | 119 | 49.4 |
| Use Status | | | |
| Remitted | | 128 | 53.1 |
| Dependent | | 113 | 46.9 |
| Group | | | |
| Affective Disorder & Dependent | | 60 | 24.9 |
| Affective Disorder & Remitted | | 62 | 25.7 |
| Schizophrenia & Dependent | | 68 | 28.2 |
| Schizophrenia & Remitted | | 51 | 21.2 |
| | | | |
| | | M | SD |
| Age | | 43.19 | 7.22 |
| Education | | 11.91 | 2.2 |

Representative Items from TTM Scales

University of Rhode Island Change Assessment (URICA)

Precontemplation: I'm not the problem one. It doesn't make much sense for me to consider changing

Contemplation: I've been thinking that I might want to change something about myself

Action: I am finally doing some work on my problem

Maintenance: I may need a boost right now to help me maintain the changes I've already made

Decisional Balance

Pro: Using drugs helps me feel more comfortable around other people

Con: I could get in trouble with the police because of my using drugs

Drug Abstinence Self-efficacy and Temptation to Use Drugs Subscales

Negative Affect: When I am feeling depressed

Social / Positive: When I see others using drugs at a bar or a party.

Physical Concerns: When I am physically tired

Cravings and Urges: When I have the urge to use drugs to see what happens

Representative Items from TTM Scales

Processes of Change

Experiential:

Consciousness Raising: I read newspaper stories that may help me quit using drugs.

Dramatic Relief: I get upset when I think about illnesses caused by drug use.

Environmental Re-evaluation: I stop to think about how my drug use is hurting people around me.

Self Re-evaluation: I become disappointed with myself when I depend on drugs.

Social Liberation: I find society changing in ways that make it easier for me to overcome my drug problem.

Behavioral:

Contingency Management: I reward myself when I don't give in to my urge to use drugs.

Counter Conditioning: I try to think about other things when I begin to think about using drugs.

Helping Relationships: I have someone to talk with who understands my problems with drug use.

Self Liberation: I make commitments to myself not to use drugs.

Stimulus Control: I stay away from places generally associated with my drug use.

Means and Standard Deviations of TTM Variables by Group

| | S/D (n = 68) | | | S/R (n = 51) | | | AD/D (n = 60) | | | AD/R (n = 62) | | |
|----------------------------|--------------|------|-------|--------------|------|-------|---------------|------|-------|---------------|------|-------|
| | Mean | SD | Alpha | Mean | SD | Alpha | Mean | SD | Alpha | Mean | SD | Alpha |
| URICA | | | | | | | | | | | | |
| Precontemplation | 2.59 | .86 | .7205 | 2.34 | .72 | .6448 | 1.82 | .73 | .7717 | 1.93 | .54 | .4532 |
| Contemplation | 4.10 | .61 | .6772 | 4.29 | .58 | .6610 | 4.54 | .37 | .5956 | 4.34 | .41 | .4895 |
| Action | 3.97 | .64 | .7967 | 4.32 | .47 | .7687 | 4.33 | .52 | .8500 | 4.36 | .44 | .7425 |
| Maintenance | 3.65 | .79 | .7306 | 3.80 | .73 | .6456 | 3.96 | .68 | .6756 | 3.73 | .59 | .5326 |
| Readiness to Change | 9.14 | 1.88 | | 10.07 | 1.86 | | 11.01 | 1.42 | | 10.50 | 1.32 | |
| TOTAL URICA | | | .7315 | | | .6843 | | | .6271 | | | .4899 |
| DECISIONAL BALANCE | | | | | | | | | | | | |
| Pros | 2.23 | .81 | .7950 | 2.39 | .89 | .8258 | 2.38 | .96 | .8674 | 2.26 | 1.03 | .8828 |
| Cons | 3.50 | .96 | .8700 | 3.84 | .78 | .8078 | 3.91 | .89 | .8419 | 3.86 | 1.00 | .8929 |
| DECISIONAL BALANCE TOTAL | | | .8494 | | | .8019 | | | .8288 | | | .9029 |
| CONFIDENCE | | | | | | | | | | | | |
| Positive Affect | 2.65 | 1.21 | .7722 | 3.03 | 1.31 | .9183 | 2.86 | 1.23 | .8216 | 3.41 | 1.07 | .7853 |
| Negative Affect | 2.68 | 1.08 | .6212 | 3.35 | 1.01 | .7729 | 2.95 | 1.12 | .7932 | 3.54 | 1.15 | .8554 |
| Habitual/Craving | 2.76 | 1.19 | .6794 | 3.21 | 1.20 | .8306 | 3.11 | 1.20 | .8199 | 3.71 | 1.15 | .8477 |
| Physical and other | 2.92 | 1.10 | .6260 | 3.52 | 1.00 | .7304 | 3.43 | 1.10 | .8047 | 3.66 | 1.08 | .8592 |
| TOTAL CONFIDENCE | 2.75 | .92 | .8592 | 3.28 | .91 | .9011 | 3.09 | .96 | .9054 | 3.58 | .97 | .9339 |
| TEMPTATION | | | | | | | | | | | | |
| Positive Affect | 3.28 | 1.19 | .7867 | 2.61 | 1.31 | .8693 | 3.44 | 1.23 | .7853 | 2.68 | 1.27 | .8167 |
| Negative Affect | 3.14 | 1.19 | .7331 | 2.44 | 1.28 | .8492 | 3.53 | 1.08 | .7947 | 2.50 | 1.20 | .8796 |
| Habitual/Craving | 2.89 | 1.07 | .5822 | 2.49 | 1.19 | .7790 | 3.02 | 1.17 | .7541 | 2.14 | 1.22 | .8347 |
| Physical and other | 2.51 | .98 | .5540 | 2.19 | 1.08 | .7525 | 2.58 | 1.01 | .6575 | 2.19 | 1.10 | .8154 |
| TOTAL TEMPTATION | 2.95 | .91 | .8695 | 2.44 | .99 | .9068 | 3.14 | .93 | .8910 | 2.38 | 1.06 | .9379 |
| PROCESSES OF CHANGE | | | | | | | | | | | | |
| Experiential | 2.95 | .81 | .7898 | 3.20 | .86 | .8271 | 3.45 | .64 | .6796 | 3.36 | .63 | .6387 |
| Behavioral | 3.13 | .75 | .7475 | 3.68 | .84 | .8489 | 3.51 | .82 | .8293 | 3.96 | .61 | .7847 |
| TOTAL PROCESSES | 3.04 | .70 | .8524 | 3.44 | .78 | .9004 | 3.48 | .66 | .8546 | 3.66 | .54 | .8008 |

| Results from 2-way ANOVA | | | | | | | | | |
|---|-------|-------|-------|-------|---------------|---------------|---------------|-----------------|---------------|
| | Means | | | | p-values | | | | |
| | | | | | Main Effect | | | Group Contrasts | |
| | S/D | S/R | A/D | A/R | SCZ vs. Aff | Dep vs. Remit | Interaction | SD vs SR | AD vs. AR |
| URICA | | | | | | | | | |
| Precontemplation | 2.59 | 2.34 | 1.82 | 1.93 | <.0001 | 0.4760 | 0.0527 | 0.0629 | 0.3804 |
| Contemplation | 4.10 | 4.29 | 4.54 | 4.34 | 0.0002 | 0.9552 | 0.0039 | 0.0456 | 0.0352 |
| Action | 3.97 | 4.32 | 4.33 | 4.36 | 0.0040 | 0.0072 | 0.0217 | 0.0005 | 0.7771 |
| Maintenance | 3.65 | 3.80 | 3.96 | 3.73 | 0.1873 | 0.6382 | 0.0452 | 0.2798 | 0.0781 |
| Readiness to Change | 9.14 | 10.07 | 11.01 | 10.50 | <.0001 | 0.3324 | 0.0009 | 0.0026 | 0.0892 |
| Decisional Balance (Drug) | | | | | | | | | |
| Pros | 2.23 | 2.39 | 2.38 | 2.26 | 0.9203 | 0.8638 | 0.2433 | 0.3492 | 0.4760 |
| Cons | 3.50 | 3.84 | 3.91 | 3.86 | 0.0756 | 0.2304 | 0.1009 | 0.0475 | 0.7508 |
| Confidence (Drug) | | | | | | | | | |
| Positive affect/social situations | 2.65 | 3.03 | 2.86 | 3.41 | 0.0626 | 0.0030 | 0.5906 | 0.0857 | 0.0121 |
| Negative affect/social situations | 2.68 | 3.35 | 2.95 | 3.54 | 0.1130 | <.0001 | 0.7619 | 0.0011 | 0.0035 |
| Habitual/craving | 2.76 | 3.21 | 3.11 | 3.71 | 0.0060 | 0.0008 | 0.6266 | 0.0419 | 0.0059 |
| Physical and other concerns | 2.92 | 3.52 | 3.43 | 3.66 | 0.0208 | 0.0034 | 0.1849 | 0.0029 | 0.2455 |
| Total Score | 2.75 | 3.28 | 3.09 | 3.58 | 0.0093 | <.0001 | 0.9027 | 0.0028 | 0.0040 |
| Temptation (Drug) | | | | | | | | | |
| Positive affect/social situations | 3.28 | 2.61 | 3.44 | 2.68 | 0.4907 | <.0001 | 0.7651 | 0.0043 | 0.0009 |
| Negative affect/social situations | 3.14 | 2.44 | 3.53 | 2.50 | 0.1475 | <.0001 | 0.2761 | 0.0017 | <.0001 |
| Habitual/craving | 2.89 | 2.49 | 3.02 | 2.14 | 0.4742 | <.0001 | 0.1076 | 0.0659 | <.0001 |
| Physical and other concerns | 2.51 | 2.19 | 2.58 | 2.19 | 0.7902 | 0.0097 | 0.8131 | 0.0989 | 0.0431 |
| Total Score | 2.95 | 2.44 | 3.14 | 2.38 | 0.6101 | <.0001 | 0.3272 | 0.0045 | <.0001 |
| Processes of Change (Drug) | | | | | | | | | |
| Experiential | 2.95 | 3.20 | 3.45 | 3.36 | 0.0006 | 0.4086 | 0.0642 | 0.0615 | 0.4614 |
| Behavioral | 3.13 | 3.68 | 3.51 | 3.96 | 0.0008 | <.0001 | 0.6484 | 0.0001 | 0.0010 |
| Total Score | 3.04 | 3.44 | 3.48 | 3.66 | 0.0002 | 0.0010 | 0.2031 | 0.0014 | 0.1412 |
| MANOVA for main effects and interaction on 6 TTM (URICA Readiness, Pros, Cons, Confidence, Temptation and Processes of Change) was done prior to the 2-way ANOVA tests. P-values for main effects were highly significant (p<.0001), interaction p=.0598. | | | | | | | | | |

Pearson r: Processes of Change by URICA scales by Drug Use Status

Remitted

| | PC | C | A | M | Ready |
|--------------|---------|----------|----------|----------|----------|
| Total POC | -.238 * | .403 *** | .366 *** | .272 ** | .439 *** |
| Experiential | -.193 * | .453 *** | .383 *** | .392 *** | .489 *** |
| Behavioral | -.238 * | .274 ** | .279 ** | .098 | .302 ** |

Dependent

| | PC | C | A | M | Ready |
|--------------|-----------|----------|----------|---------|----------|
| Total POC | -.524 *** | .529 *** | .373 ** | .148 | .612 *** |
| Experiential | -.389 ** | .450 *** | .199 | .355 ** | .557 *** |
| Behavioral | -.542 *** | .502 *** | .446 *** | -.039 | .552 *** |

* p < .05; ** p < .01; *** p < .001

Pearson r: Processes of Change by URICA scales by Diagnostic Group

Schizophrenia

| | PC | C | A | M | Ready |
|--------------|-------|----------|----------|----------|----------|
| Total POC | -.123 | .372 *** | .380 *** | .318 *** | .413 *** |
| Experiential | -.094 | .369 *** | .329 *** | .391 *** | .413 *** |
| Behavioral | -.129 | .310 *** | .365 *** | .189 * | .340 *** |

Affective Disorder

| | PC | C | A | M | Ready |
|--------------|-----------|----------|----------|----------|----------|
| Total POC | -.395 *** | .376 *** | .342 *** | .137 | .473 *** |
| Experiential | -.311 *** | .411 *** | .219 * | .352 *** | .501 *** |
| Behavioral | -.374 *** | .258 ** | .365 *** | -.076 | .339 *** |

* p < .05; ** p < .01; *** p < .001

Regressions: DV = Total Processes of Change

| | Model 1 | | Model 2 | | Model 3 | |
|------------------------|----------------|------------------|----------------------|------------------|---------------------|------------------|
| | Overall Sample | | Including Dependence | | Including Diagnosis | |
| | Beta * | p-value | Beta * | p-value | Beta * | p-value |
| U_Ready | 0.314 | <.0001 | 0.306 | <.0001 | 0.284 | <.0001 |
| TUDSTOT | -0.052 | 0.412 | -0.020 | 0.761 | -0.024 | 0.712 |
| DASSTOT | 0.251 | <.0001 | 0.235 | 0.0002 | 0.222 | 0.0005 |
| Pros | 0.035 | 0.534 | 0.019 | 0.736 | 0.016 | 0.772 |
| Cons | 0.345 | <.0001 | 0.340 | <.0001 | 0.343 | <.0001 |
| Dependent vs. Remitted | -- | -- | 0.107 | 0.049 | 0.106 | 0.052 |
| SCZ vs. AD | -- | -- | -- | -- | -0.065 | 0.228 |

Model 1: F-value = 32.81, df = 232, $p < .0001$; Adjusted R-square = .402

Model 2: F-value = 28.33, df = 231, $p < .0001$; Adjusted R-square = .409

Model 3: F-value = 24.54, df = 230, $p < .0001$; Adjusted R-square = .410

Dependence is Referent Group

Schizophrenia (SCZ) is Referent Group

* Standardized Betas

SUMMARY

- Measures of readiness and other process variables demonstrated reliability and construct validity among SMI patients with cocaine abuse.
- Schizophrenia patients appear to be using the same or similar process of change in managing their cocaine abuse and recovery as other drug abusing patients
- Affective Disordered patients who were in early remission were the most discrepant group
- However, in a predictive analysis readiness did not predict future drug use

| Table 1. Demographic Characteristics (N=304) | | | |
|--|------------------------------|-------|-------|
| | | N | % |
| Gender | | | |
| | Female | 145 | 47.85 |
| | Male | 158 | 52.15 |
| Ethnicity / Race | | | |
| | White | 152 | 50.17 |
| | African American | 137 | 45.21 |
| | Other | 14 | 4.62 |
| Marital Status | | | |
| | Never Married | 176 | 57.89 |
| | Ever Married | 128 | 42.11 |
| Diagnosis | | | |
| | Schizophrenia | 230 | 75.66 |
| | Psychosis | 74 | 24.34 |
| Treatment | | | |
| | Immediate | 156 | 51.32 |
| | Delayed | 148 | 48.68 |
| High School Graduate | | | |
| | no | 97 | 32.01 |
| | yes | 206 | 67.99 |
| | | Mean | SD |
| | Age | 44.28 | 9.01 |
| | Number of Years of Education | 12.27 | 2.60 |
| | | | |
| | | | |

| Table 2. Demographic Characteristics by Stage of Change (N=304) | | | | | | | | | | | | |
|---|------------------|------|------|---------------|------|------|--------------|------|------|------------|---------|------------|
| | Precontemplation | | | Contemplation | | | Preparation | | | | | |
| | row | col | | row | col | | row | col | | | | |
| | N | % | % | N | % | % | N | % | % | Chi-Square | p-value | Cramér's V |
| Gender | | | | | | | | | | | | |
| Female | 52 | 41.3 | 40.3 | 48 | 38.1 | 45.7 | 26 | 20.6 | 68.4 | 9.35 | 0.009 | 0.185 |
| Male | 77 | 52.7 | 59.7 | 57 | 39.0 | 54.3 | 12 | 8.2 | 31.6 | | | |
| Ethnicity / Race | | | | | | | | | | | | |
| White | 61 | 46.9 | 47.7 | 51 | 39.2 | 48.6 | 18 | 13.9 | 44.4 | 1.08 | 0.897 | 0.045 |
| African American | 62 | 48.4 | 48.4 | 49 | 38.3 | 46.7 | 17 | 13.3 | 44.7 | | | |
| Other | 5 | 38.5 | 3.9 | 5 | 38.5 | 4.8 | 3 | 23.0 | 7.9 | | | |
| Marital Status | | | | | | | | | | | | |
| Never Married | 83 | 51.2 | 64.3 | 59 | 36.4 | 56.2 | 20 | 12.4 | 52.6 | 2.48 | 0.290 | 0.095 |
| Ever Married | 46 | 41.8 | 35.7 | 46 | 41.8 | 43.8 | 18 | 16.4 | 47.4 | | | |
| Diagnosis | | | | | | | | | | | | |
| Schizophrenia | 110 | 52.4 | 85.3 | 74 | 35.2 | 70.5 | 26 | 12.4 | 68.4 | 9.14 | 0.010 | 0.183 |
| Psychosis | 19 | 30.7 | 14.7 | 31 | 50.0 | 29.5 | 12 | 19.3 | 31.6 | | | |
| Treatment | | | | | | | | | | | | |
| Immediate | 69 | 48.6 | 53.5 | 49 | 34.5 | 46.7 | 24 | 16.9 | 63.2 | 3.20 | 0.202 | 0.109 |
| Delayed | 60 | 46.2 | 46.5 | 56 | 43.0 | 53.3 | 14 | 10.8 | 36.8 | | | |
| | Mean | SD | | Mean | SD | | Mean | SD | | F-value | p-value | R-square |
| Age ^a | 45.01 | 8.58 | | 41.70 | 9.28 | | 46.37 | 8.29 | | 5.79 | 0.004 | 0.041 |
| # Years Education ^b | 12.67 | 2.59 | | 11.91 | 2.43 | | 11.81 | 2.89 | | 3.12 | 0.046 | 0.023 |
| ^a C < PC, P | | | | | | | | | | | | |

Table 6. Stage of Change by TTM Measures

| Stage of Change for Cessation (Pre-Action) | | | | | | | | | | |
|--|------------------|------|---------------|------|-------------|------|---------|---------|----------|------------|
| | Precontemplation | | Contemplation | | Preparation | | | | | |
| | n=129 | | n=105 | | n=38 | | | | | |
| | Mean | SD | Mean | SD | Mean | SD | F-value | p-value | R-square | Contrast |
| Total Processes | 2.350 | 0.69 | 2.606 | 0.63 | 3.011 | 0.60 | 15.28 | <.0001 | 0.103 | PC < C < P |
| Experiential Processes | 2.639 | 0.83 | 2.902 | 0.78 | 3.249 | 0.68 | 9.37 | <.001 | 0.066 | PC < C < P |
| Behavioral Processes | 2.061 | 0.71 | 2.310 | 0.67 | 2.753 | 0.69 | 15.13 | <.0001 | 0.101 | PC < C < P |
| Temptation Total Score | 3.630 | 0.69 | 3.723 | 0.73 | 3.477 | 0.77 | 1.64 | 0.196 | 0.012 | -- |
| Self-Efficacy Total Score | 2.067 | 0.76 | 2.060 | 0.75 | 2.463 | 0.94 | 4.08 | 0.018 | 0.030 | PC, C < P |
| Pros of Smoking | 3.346 | 0.93 | 3.063 | 0.99 | 3.184 | 0.96 | 2.54 | 0.081 | 0.019 | PC > C |
| Cons of Smoking | 2.661 | 1.02 | 3.124 | 1.10 | 3.447 | 0.84 | 10.91 | <.0001 | 0.075 | PC < C, P |

Note: 32 participants could not be staged (3 were current smokers; 29 were missing one or more of staging variables)

CONCLUSIONS

- Although neurocognitive deficits among patients with schizophrenia interfere with access to some higher order cognitive functions and may modulate the process, these patients appear to access and use the intentional process of change in relation to smoking cessation and look similar to other smokers in terms of their stage by process activity and the internal validity of the relationships among variables.

LIMITATIONS

- This data is cross sectional and as such demonstrates relationships not causality.
- Patients in this study were not seeking treatment for substance abuse or for smoking cessation at intake.
- Patients in all subgroups were rather heterogeneous in severity of problems and extent of recovery for cocaine and in the numbers of cigarettes smoked for the smokers.

Measuring Motivational and Process Variables

- In the two preceding studies measures were self-report and relatively complex. Although SMI patients were able to complete these, they needed assistance of RAs and support to answer these. Simpler items and ways of assessing these variables (rulers, pictures, etc) would be helpful
- Many studies use very different measures, different target behaviors, and varied outcomes so it is difficult to compare studies at present. It would be good to have a more consistent assessment battery to look at motivational and process variables

Integrating Motivational Interventions among in Adherence and Treatment

- Most of the integrative treatments support use fo motivational approaches to increase engagement and adherence (Barrowclough et al., 2001; Bellack et al., 2006; Carey, 1996; Martino et al, 2002)
- Support that combination of approaches including motivational ones needed for integrated treatments for dually diagnosed (Mueser et al, 2003; Carey et al, 2003; Drake et al., 2001; Martino et al., 2006)

What are we learning about Self Regulation

- Self-regulation seems critical for understanding addictions and recovery from addictions
- Deficits in self-regulation are at the core of definitions of addiction
- Self Management, Self Control, Self Monitoring have been critical concepts in treatment so this is not new to Addiction treatment
- Interesting new information that looks at more generic mechanisms involved in self-regulation

Self Regulation implies a Personal Process of Change and Critical Dimensions of that Process

- The ability to manage both internal and external demands in a way that is
 - responsive to feedback and available information,
 - flexible in seeking solutions, and that
 - does not overtax the system
- Most models of self regulation include self-observation, self-evaluation, decision making, willingness to consider change, and planning (Miller & Brown, 1991, Bandura, 1986)

Self Regulation

Important Self Regulation Skills or Abilities:

- Executive Cognitive Functioning and
- Affect Regulation
- Are involved in initiation of addictions
- Are critical for Recovery
- Are often problematic in individuals who have mental illness
 - SMI affects ECF
 - Many Axis I and II disorders disrupt affect regulation

What Depletes Self-Control Strength?

- Coping with stress (focus attention, monitor, stop thoughts, urges, etc)
- Affect Regulation and managing negative and emotions of depression, anxiety, anger
- Changing habits (until new behavior becomes habitual)
- Managing or stopping addictive and excessive behaviors
- Actually inhibiting thoughts and behaviors may require more self-control than performing behaviors

FINAL THOUGHTS

- Although there are clearly unique aspects to be addressed in SMI dual diagnosis patients, they should not be viewed as completely different in terms of the process of change that they engage in as the struggle with substance abuse and dependence.
- Substance Abuse Interventions should be structured to address not only their unique needs but also the intentional process of change involved in recovery.
- Since SMI and MI patients struggle with multiple problems that interfere with self-regulation and deplete self-control strength, motivation needs to be supported (scaffolding) and the process may take longer (Hall & colleagues)

Implications of Motivational Considerations for Programs and Policy

- **Proactive Approaches and Engagement Activities need to be valued and funded**
- **Find out what the consumer needs and wants before planning services and strategies**
- **Reward Progress not just Ideal or Ultimate Outcomes**
- **Address ambivalence and reluctance to change on part of consumer (and provider)**
- **Build a System of Services that can address target and contextual problems that interfere with motivation and successful prosecution of the process of change**