COGNITIVE MOTIVATIONAL SYSTEMS AND LIFE SATISFACTION IN SEVERE AND PERSISTENT MENTAL ILLNESS

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Abstract

Levels of life satisfaction are commonly used to measure attainment of recovery in Serious and Persistent Mental Illness (SPMI). However, there is some controversy about what constitutes life satisfaction and its measurement. This study explored the influence of cognitive motivational systems upon estimations of life satisfaction using Structural Equation Modeling (SEM). The sample comprised 190 participants diagnosed with SPMI from Hawai‘i’s Adult Mental Health Division. Results indicated that higher behavioral inhibition or psychological distress predict lower levels of life satisfaction. However, higher levels of behavioral activation predict higher levels of life satisfaction. The model did not support psychological distress as a mediator between cognitive motivational systems and life satisfaction. Overall, cognitive motivational systems accounted for 15% of the variance in life satisfaction while psychological distress accounted for 29%. This suggests the importance of considering intrinsic personality characteristics and motivation beyond symptomatology when examining life satisfaction.
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Studies indicate that severe and persistent mental illness (SPMI) afflicts approximately 2.8% of the population in the United States (Jans, Stoddard & Kraus, 2004). These individuals primarily have diagnoses of Schizophrenia Spectrum Disorders, Bipolar Disorder, Major Depressive Disorder, Obsessive Compulsive Disorder, and Post Traumatic Stress Disorder. Generally, these disorders are marked by severe symptoms and are disabling for longer than one year (Jans, Stoddard, & Kraus, 2004). They are characterized by impairment in social functioning and activities of daily living. Individuals diagnosed with SPMI may have difficulty establishing interpersonal relationships, working or fulfilling important roles in the community, and caring for themselves (Diagnostic and Statistical Manual of Mental Disorders, fourth edition, Text Revision [DSM-IV-TR], American Psychological Association, 2000.) As a result, these individuals may depend on others to aid them in meeting their daily living needs. Their symptomatology and cognitive impairment has a significant impact on their life satisfaction (Atkinson, Zibin, & Chuang, 1997).

Traditionally, individuals with diagnoses of SPMI were seen as unable to recover and lead fulfilling lives primarily because of the chronicity of these illnesses. This belief was fueled by the notion that recovery was equated with returning to a “normal” state including full remission of symptoms (Jacobson & Greenley, 2001). In the past decade there has been a shift in thinking within mental health service delivery systems. It is now advocated that individuals with SPMI can go on to develop satisfying lives if they are encouraged to learn to manage their illnesses while focusing and building on other aspects of their lives that will bring about happiness.
As such, there has been a change towards providing services based on the recovery model (Anthony, 2000).

According to this model, the key element of recovery lies not in the complete elimination of symptomatology, but rather in learning to manage the illness so that it does not dominate an individual’s life. The model advocates that consumers be empowered to take a prominent role in carrying out their recovery. Rather than the pursuit of returning to a state of “normalcy”, the focus of treatment becomes one of encouraging consumers to define themselves apart from the illness and take an active role in participating in self-help activities and the pursuit of personal goals (Jacobson & Greenley, 2001). Based on the recovery model, the goal for people who have SPMI is to be able to manage the chronicity of their illnesses through medication management, specific behavioral strategies and the acquisition of important skills that will allow them to be successful in life while taking their illnesses into account (Anthony, 2000). Furthermore, it is important that these skills work to prevent relapse and rehospitalization. Recovery-oriented services for these individuals are directed towards symptom relief, crisis intervention, rehabilitation, basic support, and self-help, among others (Jacobson & Greenley, 2001). Under this model it becomes primarily important to increase an individual’s overall level of life satisfaction. This is accomplished by changing attitudes, values, feelings, goals, skills and roles in order to live a satisfying, hopeful and contributing life (Anthony, 2000).

Measuring Recovery Using Quality of Life Instruments

Some controversy exists regarding what factors are relevant when individuals assess their life satisfaction. Quality of Life (QOL) instruments are frequently used as
indicators or life satisfaction along with presence of psychiatric symptomatology. QOL refers to the richness of the individuals’ personal experiences including biological, physiological, occupational, social, and interpersonal functioning (Bow-Thomas, Velligan, Miller, & Olsen, 1999). Generally, it assesses individuals’ material resources and their feelings about these. These resources can be assessed objectively (for instance through an interviewer or quantified measure of wealth) or subjectively by allowing individuals to assign weights to each life domain. One of the roles of QOL assessment is to examine varying domains and their impact on disability associated with illness. Distress, housing, education, employment, financial circumstances, physical and mental functioning are only some of the domains that are commonly examined (Auquier et al., 2003).

However, there seem to be inconsistencies in the measurement of the construct of QOL throughout the literature, yielding ambiguous results. There are varying definitions used when measuring QOL depending on what particular areas researchers are attempting to examine and from whose point of view it is being studied. It appears that there is no consensus regarding what is being measured under this construct. This seems to be especially relevant in the area of SPMI because these individuals often lack insight into their condition. As such, some argue that this prevents them from making accurate assessments of their QOL (Atkinson et al., 1997). Another controversy in the field revolves around the fact that most measures of QOL employ a categorical strategy which fails to take into account the complex relation formed as a function of the specific domains measured, personal experience, values, and circumstances at the time of inquiry. It may be more accurate and
appropriate to examine QOL as a holistic construct from the consumer’s perspective, rather than separating it into categorical domains. Evidence of this may be associated with research that poses that individuals’ ratings on subjective questions do not correlate with objective measures assessed by professionals (Fitzgerald et al., 2001). This may be because the values that objective observers place on certain domains may not be equivalent to the value that the consumer places and therefore, controversy arises around the decision of which of these assessments is more accurate (Fitzgerald et al., 2001).

Most of the QOL research regarding SPMI is primarily conducted on individuals suffering from schizophrenia (Holloway & Carson, 2002). Some researchers theorize that subjective and objective QOL ratings appear to have different contributing factors in these individuals (Fitzgerald et al., 2001). Other studies have failed to find differences in QOL among people suffering from schizophrenia living in four kinds of settings (mental hospital, group home, treatment collective, and independent living) (Nilsson & Levander, 1998). These researchers suggest that certain QOL instruments lack the sensitivity to allow these individuals to judge their quality of life (Nilsson & Levander, 1998). Furthermore, some go on to claim that the construct of QOL is particularly geared to measure the negative symptoms experienced by individuals diagnosed with schizophrenia instead of an objective measure of an individual’s overall satisfaction with life circumstances (Bow-Thomas et al., 1999). Specifically, this is because negative symptoms may greatly affect the individual’s ability to have an enjoyable, productive and fulfilling
life, and thus, the measure may actually only be tapping into these deficit symptoms rather than to feelings of general well being (Norman et al., 2000).

Although there appears to be no clear consensus on the definition of QOL, there do appear to be certain benefits in measuring this construct using the most appropriate measure available. Studies of QOL with individuals diagnosed with schizophrenia have yielded results indicating that there is a significantly greater dissatisfaction in the financial, mental health functioning, and sexuality domains (Schmidt, Staupendahl, & Vollmoeller, 2004). In addition, other research has supported the idea that personality factors are related to individuals' assessment of their QOL. A particular study found evidence that among these consumers living in the community, lower levels of harm avoidance and higher levels of self-directedness were associated with increased levels of subjective QOL (Hansson, Eklund, & Bengtsson-Tops, 2001). Other researchers studying the influence of personality traits on QOL in consumers diagnosed with schizophrenia and schizoaffective disorders found evidence that those who reported higher levels of neuroticism (hostility and depression) reported lower levels of QOL, while those who reported higher levels of extraversion (warmth, gregariousness, and positive emotions) reported higher levels of QOL (Kentros, Terkelsen, Hull, Smith, & Goodman, 1997). Therefore, it might be concluded that personality factors can play a prominent role in evaluations of QOL.

Subjective Well-Being

Because of the controversy surrounding measure of QOL, it becomes important to consider other ways of assessing life satisfaction besides the categorical assessment of resources. Another group of studies have focused on examining the
relation among affect, personality, and Subjective Well-Being (SWB). The relation between SWB and QOL has not been empirically established. Although both appear to refer to similar concepts, it is not clear whether they are the same construct. The study of SWB takes into account that people have unique reactions to the same circumstances and that they evaluate situations differently depending on their unique values, expectations, and previous experiences (Diener, Suh, Lucas, & Smith, 1999).

SWB refers to the individual’s global sense of well-being (Andrews & Withey, 1976). This construct has two components: one is an affective component regarding levels of pleasant affect and unpleasant affect (moods and emotions), while the other is a cognitive component referred to as a global measure of life satisfaction (Andrews & Withey, 1976). Consequently, life satisfaction is operationalized as a judgmental process where an individual assesses the quality of his life by comparing his perceived life circumstances with a self-imposed set of standards. To the degree that these match, individuals report high life satisfaction (Shin & Johnson, 1978).

Conceptually, SWB can have both state-like and trait-like characteristics because personality and current events can both impact levels. SWB is a function of the varying weights that individuals assign to salient components of their lives (Pavot & Diener, 1993). These components differ from one person to another and the weights assigned to each are completely subjective. In this sense, individuals are able to assess their global sense of well-being from their point of view and using their personal values. This process significantly differs from a measure of subjective QOL in that QOL measures typically present specific predetermined categories (health, finances, etc.) and it therefore becomes difficult to establish a global score.
Research has found that increased SWB is related to increased positive thoughts and feelings about one’s life which then lead to positive appraisals of life events and consequently to increased life satisfaction. This appears to be most true when individuals’ aggregated resources (material, social, or personal characteristics that facilitate the process of movement towards a goal) are congruent with their personal strivings. Resources then appear to be moderately strong predictors of SWB. On the opposite end, decreased SWB (which could be a result of poor compatibility between aggregated resources and goals) leads to the appraisal of life events as undesirable and thus yields unpleasant emotions such as anxiety (Myers & Diener, 1995). Therefore, the assessment of SWB aims to look beyond the standards imposed by society to dictate adequate levels for living and instead considers the congruence between the individual resources and the value people places on these based on the things they wishes to accomplish in life. This idiographic approach allows for satisfaction to be rated on an entirely subjective level (Myers & Diener, 1995). It is currently unknown whether measures of QOL and SWB are assessing the same construct. However, what does seem apparent is that these are two distinct ways of examining life satisfaction, one from a holistic and another from a more fragmented, domain specific perspective. It would be important to examine results from both of these to understand any interrelatedness.

Studies have shown that SWB is strongly associated with extraversion and thus personality, unlike resources, appears to be one of the strongest predictors of SWB. Some have proposed that general personality dispositions associated with positive and negative emotionality explain differences in well-being (Oishi & Diener,
Personality characteristics such as extraversion directly increase positive affect which is related to goal attainment. It has been suggested that these personality traits enable a person to acquire resources and reach goals despite a lack of material resources because they are more likely to place themselves in more pleasant situations, create more pleasant social environments, and are more sensitive to positive information in the environment (Oishi & Diener, 2001). Individuals displaying more negative or pessimistic personality traits are less likely to experience increased levels of SWB. Neuroticism, for instance, is inversely related to elevated levels of SWB possibly because it is associated with increased negative affect (Diener et al., 1999). It is theorized that the relation among positive affect, extraversion, and increased SWB is related to extraverts having greater reward sensitivity and therefore, reacting more positively than introverts to the same daily stimuli and events (Diener et al., 1999).

These studies suggest the importance of looking at other factors beyond resources to account for differences in QOL and SWB. Some of these outside factors could include cognitive motivational systems which have been hypothesized to influence individuals' attitudes and motivations towards interacting with environmental situations. The concept of SWB is intrinsically related to an individual's goals. Specifically, the types of goals, the structure of these goals, the success rate at which these can be reached, and the rate of progress towards them all function to modify emotions and influence SWB (Diener et al., 1999). Therefore, SWB is a measure of individuals' life processes and progress towards satisfaction and happiness and may not be valid if reduced to the level of resources or measures of
success in discrete domains of their lives. It would then follow that cognitive motivational systems may make key contributions to the appraisal of SWB. It may be that these cognitive motivational systems affect personal dispositions that contribute to the reported satisfaction level beyond resources or symptoms. Therefore, a consumer’s assessments of his life satisfaction might not only include the resources he currently has, but also his outlook on life and disposition to go out and engage in the acquisition of other resources.

*Cognitive Model*

Cognitive motivational systems have been found to be related to an individual’s general outlook on life and the degree to which he is willing to engage in stimuli presented in his environment. Generally, cognitive schemas are mental processes that help individuals store perceptual and conceptual information about their environment. They can be understood as flexible templates that guide interpretations of events. Schemas tend to be based on generalizations that are derived from past experiences and present circumstances, thus they provide automatic completion of missing components in present situations that are derived from stored environmental information. Since schemas are present in the preconscious level and guide the decisions made on the conscious level, they can motivate or influence a person’s behavior and reaction in various circumstances based on how the individual interprets the event. As such, they allow individuals to interpret the same stimuli or experiences differently (Young, Klosko, & Weishaar, 2003)

One of the most frequently studied schema models is Beck’s cognitive model for Depression. According to this model, depressed individuals possess negative
cognitive schemas which bias the way in which they process information. When underlying cognitive schemas are activated, negative emotional stimuli within the person’s attentional sphere become more salient. This schema acts as a filter that focuses attention on negative information, such that a person may selectively ignore accompanying positive or neutral stimuli. This negative information processing is believed to contribute to the depressive affect. Once the individual becomes depressed, a cycle begins where the person becomes more focused on negative environmental stimuli, thus reinforcing the negative cognitive schema to continue biasing attention to incoming information (Gotlib & Neubauer, 2000).

In a similar manner, cognitive motivational schemas may help to determine selective attention paid to environmental stimuli and thus influencing an individual’s appraisal of his life satisfaction beyond the resources he possesses or presence of psychiatric symptoms measures in QOL instruments and clinician rating scales. The Behavioral Activation System (BAS) and the Behavioral Inhibition System (BIS) have been offered as cognitive motivational schemas that regulate responses to environmental cues (Carver & White, 1994). BAS and BIS are more similar to stable personality traits and vulnerabilities rather state dependent reactions to daily life events or daily affect. Therefore, they should be perceived as general dispositions or templates that individuals employ when encountering environmental stimuli.

BAS is an appetitive motivational system that is sensitive to signals of reward and nonpunishment in the environment. Furthermore, it increases the experience of positive feelings when encountering reward related environmental cues and causes movement towards goals (approach behavior). It makes the individual more likely to
engage in goal-directed efforts. Those who report increased BAS levels should respond behaviorally to cues of reward and should experience positive affect in the presence of such cues. Furthermore, these individuals are expected to display emotions of happiness and hope (Heubeck et al., 1998). Research has shown that BAS should be measured using three subscales because three distinct components appear to influence behavioral activation: Drive, Fun Seeking, and Reward Responsiveness. The Drive subscale focuses on the persistent pursuit of desired goals, the Fun Seeking subscale focuses on desires for new rewards and willingness to approach potentially rewarding events on the spur of the moment, and the Reward Responsiveness subscale focuses on positive responses to the occurrence or anticipation of reward (Carver & White, 1994).

BIS is an aversive motivational system sensitive to signals of punishment, non-reward, and novelty. It inhibits behavior leading to negative and painful outcomes. Thus, it prevents movement towards goals. In summary, those individuals who report increased BIS levels should respond behaviorally to environmental cues of punishment and should experience increased anxiety in situations providing such cues. Specifically, typical behaviors might include passive avoidance and giving up behaviors not readily enforced (Heubeck, Wilkinson, & Cologon, 1998). In addition, these individuals experience increased negative affect (Carver & White, 1994).

Studies have also shown that BAS scales correlate most highly with measures of extraversion, positive affectivity, and positive temperament while BIS is more strongly correlated with neuroticism and negative affect (Campbell-Sills, Liverant, & Brown, 2004). One study specifically found that elevated BIS levels predicted
average daily negative affect and elevated BAS levels predicted average daily levels of positive affect. They concluded that BIS and BAS might affect a person’s appraisal of an event. While a high BIS person may focus on the aversive elements of the event, a high BAS person may focus on the event’s potential rewards (Gable, Reis, & Elliot, 2000).

Incorporating BIS and BAS levels in the assessment of life satisfaction might provide a more complete depiction of the factors influencing the subjective assessment of life satisfaction. Although presence of psychiatric symptoms may play a prominent role in individual assessment life satisfaction in those diagnosed with SPMI, it seems logical that levels and type of motivation may also be key determining factors of satisfaction. The presence of BAS and BIS suggests that individuals will respond differentially to measures of life satisfaction based on their assessment of their environment and their general tendencies and attitudes towards new situations. The complexity of life satisfaction and all of the components that can possibly be taken into account for its appraisal are such, that examining only the presence and severity of symptoms along with current resources, without considering other cognitive motivational factors, seems inaccurate. Some individuals may shy away from new opportunities while others may embrace them and this is probably going to influence how they rate levels of life satisfaction.

*Role of Anxiety and Depression in Life Satisfaction*

In addition to cognitive motivational symptoms it is important to determine how levels of psychological distress affect ratings of life satisfaction. Individuals diagnosed with SPMI frequently experience symptoms of depression and anxiety and
these can add differences in the ways in which individuals rate levels of life satisfaction. Researchers have examined the influence of depression and anxiety on QOL in SPMI. It appears that if these symptoms are present, consumers may report a completely different subjective evaluation of their QOL beyond the disorder related symptoms they experience. Rocca and colleagues (2005) reported that in those suffering from schizophrenia, while depression severity and functional outcome measures are positively correlated, depression symptoms appeared to be a function of the level of social adjustment and QOL. Since level of social adjustment and QOL are not predictors of negative symptoms in schizophrenia, the authors proposed that depression may represent a distinct psychopathological dimension of schizophrenia (Rocca et al., 2005). Still other studies have concluded that anxiety is inversely associated with general life satisfaction in schizophrenia. In addition, they found this relation to be stronger than that of QOL and any other core symptom of schizophrenia including depression (Huppert, Weiss, Lim, Pratt, & Smith, 2001).

As evidenced by this body of research, the evaluation of life satisfaction in schizophrenia may encompass a complicated assignment of weights to different domains. This may be a function not only of the experience of disorder related symptoms and personality traits, but might actually be more related to specific negative symptoms associated with depression and anxiety. While this has been found in schizophrenia, it may be true of other disorders since most individuals diagnosed with SPMI experience comorbid symptoms of depression and anxiety. A review of empirical studies focusing on factors associated with subjective QOL found that
within the SPMI population more severe symptoms of depression and anxiety play a significant role in lowering subjective QOL (Hansson, 2006).

In general, there is documented variability in QOL even in stable consumers resulting from the way in which the construct is operationalized. Issues related to whether subjective versus objective QOL is being assessed, the measures used, and the heterogeneity within the SPMI population, complicate any conclusions that can be drawn. Therefore, in order to understand the variability in reported life satisfaction, researchers have to take into account all of these components including personal values, symptomatology, personality traits, and comorbid conditions such as anxiety and depression.

Research Questions

This study aims to explore whether reported BIS and BAS levels will be associated with an individual’s appraisal of life satisfaction. The proposed model suggests that individuals’ sensitivity to environmental cues of reward or punishment may influence their behaviors and outlook on life and thus influence how they perceive and estimate their life satisfaction. We anticipate that those with higher BAS will report higher life satisfaction while those with higher BIS will report lower life satisfaction. Furthermore, because the sample will consist of individuals diagnosed with SPMI, it is highly likely that symptoms of depression, anxiety, and loss of behavioral/emotional control interact with individual cognitive motivational tendencies towards environmental cues and therefore influence life satisfaction in diverse ways. For instance, high approach tendencies and sensitivity to cues of reward identified in individuals with higher BAS scores may be attenuated by symptoms of
increased anxiety or depression typically found in diagnoses of schizophrenia spectrum disorders. In turn, this effect may have an important influence on life satisfaction. To explore these relations, depression, anxiety and loss of behavioral/emotional control were initially treated as mediators between BIS, BAS Drive, BAS Fun Seeking, BAS Reward Responsiveness and life satisfaction.
CHAPTER 2. METHODS

Participants

Data were collected from a convenience sample of 201 consumers diagnosed with Severe and Persistent Mental Illness (SPMI) who were recruited from two Community Mental Health Centers (CMHC) and three Clubhouses on Oahu. CMHCs and Clubhouses are publicly funded mental health service agencies. Throughout the state, diagnosed with SPMI receive treatment from these agencies and attend them on a regular basis. The inclusion criteria required that participants' symptoms be stable enough so that they were able to understand and respond to questionnaires appropriately. For this reason, it was decided to include only individuals in the community instead of inpatients who are experiencing more unstable, severe symptoms. At the expense of decreased internal homogeneity in symptomatology, it was decided to target the SPMI population rather than focusing on a particular disorder. These individuals generally have similar functional disabilities and similar types of services are generally delivered making them a somewhat more uniform group than their different diagnoses would suggest. The final sample included 190 consumers who provided usable data. Three individuals completed the instruments twice and only the first administration was included. In addition, one participant withdrew consent and seven more were not included due to missing data. Table 1 summarizes the demographic characteristics of this sample. As it shows, ages ranged from 22 years to 80 years (Mean = 49, SD = 9.85). This sample consisted of 58% males and 41% females (1 transgender). Most participants (92%) indicated English as their primary language and 86% reported completing the 12th grade or higher (M =
12.6, SD = 2.09). Even though 34% of participants reported having more than one ethnicity, 25% of the sample reported being Asian, 20% Caucasian, 14% Pacific Islanders, 5% Hispanic, 2% African American, and 1% American Indian. The majority of the sample was single (64%) or divorced (31%). Furthermore, 41% of participants reported living independently while 27% reported living in a care home.

In terms of employment, 55% were on either independent, supported or transitional employment while 40% were not in the labor force. In addition, the majority of participants received some type of state or federal income: 63% received Social Security Income, 41% received Social Security Disability Income and 62% received General Assistance. Table 2 presents the diagnostic breakdown of this sample. Primary diagnoses were obtained from the Adult Mental Health Division’s record’s database. It is evident that the majority of participants were diagnosed with Schizophrenia Spectrum Disorders. The reported number of years in treatment ranged from 1 to 50 with a mean of 18.52 (SD = 10.79) years and the reported mean age of illness onset was 23.35 (SD = 11.96) years. A total of 90% of participants reported not being hospitalized in the past 6 months and 89% reported taking psychotropic medications.
Table 1. *Demographics.*

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<td><strong>Living Arrangements</strong></td>
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<tr>
<td>Homeless (unsheltered)</td>
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<td>Not in Labor Force</td>
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Table 1. (Continued) *Demographics.*

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<td>62</td>
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<tr>
<td>$5001-10000</td>
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<td>34</td>
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<td>$10001-15000</td>
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<td>Greater than 15000</td>
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<td>10</td>
<td>5</td>
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<td>15</td>
<td>8</td>
<td>15</td>
<td>8</td>
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<tr>
<td>Years in Treatment</td>
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<td>10.79</td>
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<td>Illness Onset</td>
<td>23.35</td>
<td>11.96</td>
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</tr>
<tr>
<td>No Hospitalizations (6 months)</td>
<td>171</td>
<td>90</td>
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<tr>
<td>Taking Psychotropic Meds</td>
<td>169</td>
<td>89</td>
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</table>

N = 190.
Table 2. Breakdown of Primary Diagnoses.

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<thead>
<tr>
<th>Diagnosis</th>
<th>Number of People</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>89</td>
<td>46.8</td>
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<tr>
<td>Schizoaffective Disorder</td>
<td>54</td>
<td>28.4</td>
</tr>
<tr>
<td>Psychotic Disorder</td>
<td>3</td>
<td>1.6</td>
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<tr>
<td><strong>Total Schizophrenia Spectrum Disorder</strong></td>
<td>146</td>
<td>76.8</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>17</td>
<td>8.9</td>
</tr>
<tr>
<td>Major Depressive Disorder</td>
<td>23</td>
<td>12.1</td>
</tr>
<tr>
<td>Dysthymic Disorder</td>
<td>2</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Total Mood Disorders</strong></td>
<td>42</td>
<td>22.1</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorder</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Posttraumatic Stress Disorder</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td><strong>Total Anxiety Disorders</strong></td>
<td>2</td>
<td>1.0</td>
</tr>
</tbody>
</table>

N = 190.
Measures

Demographics.

To assess the heterogeneity within the sample, a demographics form asked for consumers’ age, ethnicity, diagnosis, current medications, socioeconomic status, living situation and number of years in treatment (see Appendix A).

Symptomatology.

The Mental Health Inventory (see Appendix B) was used to assess general psychological distress (Veit & Ware, 1983). This instrument consists of a 38 item 5-point likert scale which asks individuals to respond to questions about how they feel and how things have been for the past month. The instrument provides two general scores: one of General Psychological Distress and another of Psychological Well-Being. However, only the General Psychological Distress was used which contains three subscales that measure Anxiety (9 items), Depression (4 items), and Loss of Behavioral/Emotional Control (9 items). The Anxiety subscale asks about nervousness, worry, and restlessness while the Depression subscale asks about feelings of strain, stress and pressure as well as feeling downhearted and blue. The Loss of Behavior/Emotional Control subscale focuses on the individual’s concern about losing control of his mind, feeling down in the dumps, and suicidality. Higher scores indicate more of the construct named by the subscale’s label. The instrument was tested on a general adult sample and has good psychometric properties. Evidence was presented for items loading on a five-factor model with stability coefficients in the .56 to.64 range. Internal consistency reliability estimates using Cronbach’s alpha for all subscales ranged from 0.83 to 0.91 (Veit & Ware, 1983).
Participants also completed the Behavioral Inhibition and Behavioral Activation Scale (BIS/BAS) (see Appendix C) to measure levels of behavioral activation and behavioral inhibition systems (Carver & White, 1994). The Behavioral Inhibition Subscale (BIS) assesses the tendency to experience strong negative affect when cues of threat are present. The Behavioral Activation Scale (BAS) assesses the tendency to experience strong positive affect when cues of incentive are present. BAS is divided into three subscales: Drive, Fun Seeking, and Reward Responsiveness (Carver & White, 1994). The Drive subscale measures motivation to pursue goals regardless of whether these are pleasurable. The Fun Seeking subscale measures the impulsive pursuit of pleasure. The Reward Responsiveness subscale measures the tendency to respond with heightened energy and positive affect in the context of desired events or cues of potential future reward. This is a 24-item self-report measure with four subscales where individuals are asked to rate each item on a 4 point Likert scale (ranging from 1 = very true for me to 4 = very false for me, with no neutral response) based on how much the individual agrees or disagrees with each statement. Higher scores are indicative of higher BIS and BAS respectively. The BIS subscale contains seven items, BAS Drive subscale four items, BAS Fun Seeking subscale four items, BAS Reward Responsiveness subscale five items, and the remaining four items are fillers. Using a college student sample, the BIS and BAS scales proved to be independent from each other. BIS correlated -.12 with BAS Drive, .28 with Reward Responsiveness, and -.08 with Fun Seeking. Drive was correlated .34 with Reward Responsiveness and .41 with Fun Seeking, while Reward
Responsiveness was correlated .36 with Fun Seeking. The scales also showed adequate test-retest reliabilities with correlations ranging from .59 to .69. In addition, the scales also have adequate convergent and discriminant validities since the BAS subscales correlated with a measure for extraversion adequately (r's ranged from .39 to .59), while the BIS correlated poorly (r = -.14). Similarly, BIS correlated adequately with a measure of anxiety (Manifest Anxiety Scale) $r = .58$ while BAS correlated poorly, correlations ranged from -.10 to .13 (Carver & White, 1994). Adequate reliability and validity of this scale has also been established within a sample diagnosed with anxiety and mood disorders. This study found scale reliabilities ranging from .65 to .83. It also found that the BIS/BAS has good convergent and discriminant validity; BAS most strongly correlated with positive affect ($r = .36$) and BIS with neuroticism ($r = .75$) and negative affect ($r = .61$) (Jorm, et al., 1999).

**Subjective Well-Being.**

The Temporal Satisfaction with Life Scale (see Appendix D) was administered to measure SWB (Diener, Emmons, Larsen, & Griffin, 1985). This is a 5 item self-report instrument where participants rate how much they agree with each statement related to global life satisfaction using a 7-point likert scale (1 = strongly disagree and 7 = strongly agree). Higher scores are associated with greater satisfaction. Items are temporally sensitive and only asked about the present. Using a sample of college students, the test-retest reliability was adequate ($r = .82$). In addition, the scale appears to have good internal consistency as only one factor emerged during the factor analysis. It also appears to have adequate convergent
validity as it correlated negatively with neuroticism, -.48, symptom checklist, -.41, and positively with self-esteem, .54. (Diener et al., 1985). This scale has also been normed with other cultural groups including French-Canadian, Chinese and Korean students as well as other populations such as prisoners, Veteran’s Affairs inpatients, disabled students, and Dutch medical outpatients among others. However, this instrument has not been used with individuals diagnosed with SPMI.

**Quality of Life.**

Participants also completed the Client Experiences Questionnaire: Life Satisfaction (see Appendix E) to assess subjective QOL (Greenley, Greenberg & Brown, 1997). This measure seems appropriate because its psychometric properties were established using a sample diagnosed with SPMI. This is a 24-item self-report instrument that measures subjective quality of life in seven domains. These include living situations (5 items), finances (3 items), leisure (4 items), family (3 items), social life (5 items), health (2 items), and access to medical care (2 items).

Participants were asked to rate their level of satisfaction regarding each item using a 7-point likert scale ranging from terrible to delighted. Higher scores are indicative of greater satisfaction. Cronbach’s Alpha reliability for all subscales ranged from .72 to .91. A Confirmatory Factor Analysis revealed an excellent fit for the data using a seven factor model. However, an overall score proved to be equally valid. Adequate construct validity was also found as patients who were less symptomatic reported significantly higher levels of QOL and those who were in the program against their will reported significantly lower levels of QOL (Greenley, Greenberg, & Brown, 1997).
Procedures

A total of 15 undergraduate psychology students were recruited as research assistants. The principal investigator was responsible for training, managing and monitoring research assistants. These research assistants were trained on standardized procedures for administering informed consents, conducting structured interviews, maintaining participant confidentiality, and detecting and dealing with potential consumer distress during the interview (see Attachments F, G and K). Two or more research assistants were embedded at each center on designated times and days to recruit and meet with potential participants. The principal investigator met with agency staff to explain the study and ask for referrals. Flyers (Appendix L) were also posted at the agencies to inform consumers of the study and provide them with a contact phone number which they could call to obtain more information about the study or schedule an appointment. Project staff coordinated with each agency to designate a safe and secure room where interviews took place. In the collection of identifiable data, there is a risk that a breach in confidentiality and anonymity might occur. Attachment K (Risks and Protections: Instructions for Research Assistants) addresses the management of anonymous and confidential data in this study. Research assistants were required to sign a Confidentiality Agreement (see Attachment G).

Consumers who demonstrated interest in participating in the study based on flyers posted throughout the CMHCs and Clubhouses formed the pool of prospective participants. Research assistants embedded at these agencies met with interested consumers to explain the nature of the project and recruit them into the study if the
consumers were inclined to do so. The informed consent (see Attachment H) was presented to the potential participants and explained to them. The potential participants were then presented with a five question True/False test (based on the consent form, see Attachment I) to ensure they understood their rights. Consumers who answered three or more questions correctly proceeded to sign the consent form if they agreed to participate. The consent form was explained a second time to those who obtained less than three correct answers and the True/False test was re-administered. Those who passed the test continued to sign the consent form if they still wished to participate. It was made clear to all participants that refusal to participate did not jeopardize their receipt of services offered by the agency.

If permission to participate was obtained, research assistants administered the questionnaires. Presentation of questionnaires was counterbalanced using a random number generator, to reduce bias. All instruments were field tested with a group of consumers prior to the onset of the study, and determined to be appropriate for use with people who have SPMI. It was determined that the protocol would take approximately one hour for completion. During field tests, consumers at United Self Help, a consumer run agency, spent an average of 10 minutes completing all questionnaires. An additional 30 minutes was allocated for the consenting process and any questions that may arise during the administration of questionnaires.

All questionnaires were administered orally by the research assistants, with an invitation to participants to read along on a provided binder that contained all questions and response alternatives. This was to ensure that participants understood the questions and to aid those with lower reading abilities. Participants' answers were
recorded by the research assistants on a paper/pencil version of the questionnaires. At the end of the session, consumers received a $10.00 gift certificate for Foodland. Research assistants kept all data secure in folders while at the centers and later submitted it to the principal investigator.

All research assistants were trained to be sensitive to the emotional state of participants and were instructed to terminate the protocol if a participant appeared to be emotionally distressed (see Attachment K). Furthermore, the principal investigator worked closely with providers and administrators of CMHCs and Clubhouses to develop center-specific protocols for addressing participant distress. Research assistants were linked with agency personnel that aided them in handling potential consumer distress that could arise while carrying out the interview.

All hard copies of the data were kept in a locked filing cabinet in a locked room at the research center. Data were entered to an Excel database that was encrypted and password protected. Once the data were entered, all identifying information was separated from the questionnaires and destroyed. The hard copies and computer data was only accessible to the principal investigator who conducted all data management and analyses. All project personnel who had access to any data were required to sign and abide by a confidentiality agreement (see Attachment G). Upon completion of the study, all questionnaires were destroyed.

Analysis

Factor analyses and correlations were conducted using SPSS for Windows 16.0. All subscales were subjected to a principal component analysis with a promax rotation. To determine the factor structure of the model a factor loading cutoff of .5
was used. Internal consistency of all subscales was examined as a measure of reliability and Cronbach's Alpha reliability estimates are reported.

Structural equation modeling (SEM) was used to examine the associations between BIS, BAS, psychological distress and life satisfaction. Analyses were conducted using the EQS 6.1 maximum likelihood method to test the goodness-of-fit of the model.

SEM analyses assess the goodness-of-fit of a model by using several fit indices. A chi-square test is used to examine the magnitude of discrepancy between the proposed model and the data. A good model should have low, non-significant chi-square values relative to the degrees of freedom. These low values suggest that there is little discrepancy between the model and the data. However, the literature suggests that the chi-square test tends to reject even a very good model especially if sample size is large and advises that when using SEM no single measure of overall model fit should be relied upon (Bollen & Long, 1993). Therefore, this study included fit indices such as the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) as well. CFI compares the proposed model with a more restricted model where all the observed variables are uncorrelated and reports the proportionate improvement in fit. The closer the index value approaches 1.0, the better the proposed model fits the data. Hu and Bentler (1999) suggest that a CFI cutoff value of 0.95 should be used. RMSEA, on the other hand, focuses on the degree to which the model does not fit the data. This allows the testing of models that are good approximations to the data not just those that are exact fits. To indicate very good fit, RMSEA values should be less than or equal to 0.06 (Hu & Bentler, 1999).
However, these cutoff values were meant as so called "rules of thumb," and these values should not be considered critical values. In the event that the proposed model exhibits poor goodness-of-fit, it is modified using the Lagrange Multiplier and Wald tests. These tests guide the processes of changing the model by indicating paths that should be included and paths that are not needed.
CHAPTER 3. RESULTS

Descriptives

Table 3 presents the descriptive statistics and Table 4 presents the Pearson correlations of the variables in this study. Because SEM does not allow the use of missing data, only those individuals who had skipped no more than one item in each subscale were included in the study. Six participants had failed to respond to items in one of the instruments. The missing item score was replaced with the mean scores for that subscale. This was done uniformly for all instruments used in this study. The BAS Reward Responsiveness scores were negatively skewed (-1.36, SE = .18) and leptokurtic (2.79, SE = .35), while the BIS scores were also leptokurtic (1.75, SE = .35). However, because these numbers were not substantially high, and it is believed that are analyses are robust enough to identify effects, scores were not transformed. However, some caution should be taken when interpreting these results since the statistical methods used are based on assumptions of normality within the sample.

Since these scales have not been validated in a population as diverse as Hawai‘i’s, internal consistency estimates were conducted for each scale. Cronbach’s Alpha reliability estimates ranged from .61 to .93 for all subscales.
Table 3. Scale Range, Mean, Standard Deviation, Skewness, Kurtosis and Cronbach’s Alpha for the Study Variables.

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<thead>
<tr>
<th></th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Cronbach’s Alpha</th>
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<tbody>
<tr>
<td>Bas Drive</td>
<td>4-16</td>
<td>12.14</td>
<td>2.66</td>
<td>-.41</td>
<td>-.37</td>
<td>.72</td>
</tr>
<tr>
<td>BAS Fun Seeking</td>
<td>4-16</td>
<td>11.87</td>
<td>2.59</td>
<td>-.34</td>
<td>-.32</td>
<td>.66</td>
</tr>
<tr>
<td>BAS Reward Responsiveness</td>
<td>5-20</td>
<td>17.33</td>
<td>2.61</td>
<td>-1.36</td>
<td>2.78</td>
<td>.73</td>
</tr>
<tr>
<td>BIS</td>
<td>7-28</td>
<td>20.58</td>
<td>3.54</td>
<td>-.71</td>
<td>1.75</td>
<td>.61</td>
</tr>
<tr>
<td>MHI: Depression</td>
<td>5-23</td>
<td>12.29</td>
<td>4.58</td>
<td>.46</td>
<td>-.43</td>
<td>.80</td>
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<tr>
<td>MHI: Loss of Emotional Control</td>
<td>14-37</td>
<td>23.75</td>
<td>4.35</td>
<td>.47</td>
<td>.12</td>
<td>.82</td>
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<td>MHI: Anxiety</td>
<td>9-51</td>
<td>26.41</td>
<td>9.94</td>
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<td>-.29</td>
<td>.88</td>
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<tr>
<td>QOL</td>
<td>2-7</td>
<td>4.68</td>
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<td>.39</td>
<td>.93</td>
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<tr>
<td>SWB</td>
<td>5-25</td>
<td>20.59</td>
<td>8.14</td>
<td>-.07</td>
<td>-.98</td>
<td>.82</td>
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</table>
Table 4. Pearson Correlation Coefficients for Study Variables.

<table>
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<tr>
<th></th>
<th>BAS-FS</th>
<th>BAS-RR</th>
<th>BIS</th>
<th>MHI-D</th>
<th>MHI-LC</th>
<th>MHI-A</th>
<th>QOL</th>
<th>SWB</th>
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</thead>
<tbody>
<tr>
<td>BAS Drive</td>
<td>.56**</td>
<td>.53**</td>
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<td>.00</td>
<td>.04</td>
<td>.04</td>
<td>.23**</td>
<td>.13</td>
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<tr>
<td>BAS Fun Seeking</td>
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<td></td>
<td>.39**</td>
<td>.03</td>
<td>.07</td>
<td>.03</td>
<td>.10</td>
<td>.14</td>
</tr>
<tr>
<td>BAS Reward Responsiveness</td>
<td>.09</td>
<td>-.02</td>
<td>.03</td>
<td>.03</td>
<td>.27**</td>
<td>.02</td>
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<td></td>
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<tr>
<td>BIS</td>
<td></td>
<td>.31**</td>
<td>.16**</td>
<td>.37**</td>
<td>-.24**</td>
<td>-.28**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHI: Depression</td>
<td></td>
<td>.66**</td>
<td>.76**</td>
<td>-.52**</td>
<td>-.29**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHI: Loss of Emotional Control</td>
<td>.59**</td>
<td>-.34**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHI: Anxiety</td>
<td></td>
<td></td>
<td></td>
<td>-.42**</td>
<td>-.19**</td>
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<td></td>
<td></td>
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<tr>
<td>QOL</td>
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<td></td>
<td></td>
<td>.49**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).
As expected, QOL and SWB were highly positively correlated, \( r = .49, p < .01 \). In addition, Anxiety, Depression and Loss of Behavioral Emotional control were all positively correlated with each other (correlations ranged from .59 to .76, \( p < .01 \)) and negatively correlated with QOL (correlations ranged from -.34 to -.52, \( p < .01 \)). Anxiety and Depression were both negatively correlated with SWB (\( r = -.29 \) and \( r = -.19 \) respectively, \( p < .01 \)). BAS subscales were all positively correlated with each other (correlations ranged from .39 to .56, \( p < .01 \)). BAS Drive and BAS Reward responsiveness were also positively correlated with QOL (\( r = .23 \) and \( r = .27 \) respectively, \( p < .01 \)). BIS and BAS were not correlated however, BIS was positively correlated with Anxiety, Depression and Loss of Behavioral/Emotional Control (correlations ranged from .16 to .37, \( p < .01 \)) and was negatively correlated with QOL (\( r = -.24, p < .01 \)) and SWB (\( r = -.28, p < .01 \)).

**Measurement Model**

A factor analysis was conducted to determine whether the observed variables truly represented the proposed latent variables. The factor loadings presented in Table 7 show that there were three factors. As expected, the first factor consisted of the BAS subscales (Drive, Fun Seeking and Reward Responsiveness) and the second factor consisted of the MHI subscales (Depression, Anxiety, and Loss of Emotional Control). However, and the third consisted of BIS, QOL and SWB. Regardless, of this finding, BIS was treated as a separate variable when the model was tested.
Table 5. *Inter-Factor Correlations.*

<table>
<thead>
<tr>
<th>BAS</th>
<th>Psychological Distress</th>
<th>Life Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS</td>
<td>1.00</td>
<td>-.03</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>1.00</td>
<td>-.42</td>
</tr>
<tr>
<td>Life Satisfaction</td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 6. *Rotated Factor Pattern (Standardized Regression Coefficients).*

<table>
<thead>
<tr>
<th>BAS Drive</th>
<th>BAS</th>
<th>Psychological Distress</th>
<th>Life Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.85</td>
<td>.05</td>
<td>.03</td>
</tr>
<tr>
<td>BAS Fun Seeking</td>
<td>.76</td>
<td>.14</td>
<td>.06</td>
</tr>
<tr>
<td>BAS Reward Responsiveness</td>
<td>.81</td>
<td>-.12</td>
<td>-.18</td>
</tr>
<tr>
<td>MHI: Depression</td>
<td>.03</td>
<td>.87</td>
<td>-.10</td>
</tr>
<tr>
<td>MHI: Loss of Emotional Control</td>
<td>-.03</td>
<td>.93</td>
<td>.20</td>
</tr>
<tr>
<td>MHI: Anxiety</td>
<td>.10</td>
<td>.85</td>
<td>-.06</td>
</tr>
<tr>
<td>QOL</td>
<td>.29</td>
<td>-.35</td>
<td>.51</td>
</tr>
<tr>
<td>SWB</td>
<td>.04</td>
<td>.16</td>
<td>.90</td>
</tr>
<tr>
<td>BIS</td>
<td>.23</td>
<td>.04</td>
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Table 7. *Factor Structure (Correlations)*.

<table>
<thead>
<tr>
<th></th>
<th>BAS</th>
<th>Psychological Distress</th>
<th>Life Satisfaction</th>
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<tbody>
<tr>
<td>BAS Drive</td>
<td>.85</td>
<td>.01</td>
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<tr>
<td>BAS Fun Seeking</td>
<td>.77</td>
<td>.09</td>
<td>.12</td>
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<td>BAS Reward Responsiveness</td>
<td>.79</td>
<td>-.07</td>
<td>.00</td>
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<tr>
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<td>.91</td>
<td>-.46</td>
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<tr>
<td>MHI: Loss of Emotional Control</td>
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<td>.84</td>
<td>-.19</td>
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<tr>
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<td>BIS</td>
<td>.12</td>
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Full Model

The first model that was tested included 14 observed variables. In this model, Life Satisfaction (composed of the 6 QOL subscales and SWB) was regressed on BAS (composed of Drive, Fun Seeking, and Reward Responsiveness) and BIS. Psychological Distress (composed of Depression, Loss of Behavioral/Emotional Control, and Anxiety) was tested as a mediator between BIS and Life Satisfaction and BAS and Life Satisfaction. This model had poor goodness-of-fit: \(\chi^2 (75, n = 190) = 159.55, p < .00, CFI = .91, RMSEA = .08\). To improve the model, the Lagrange Multiplier Test suggested that paths be added directly from BAS and BIS to Life Satisfaction as well as from BIS to Loss of Behavioral/Emotional Control and Anxiety. The Wald Test suggested deleting paths from BIS and BAS to Psychological Distress. Furthermore, the QOL total score was used rather than the subscale scores to make the model more parsimonious. This reduced the model to 9 variables. In the graphical representation of model 2, the Psychological Distress variable was moved to the left to highlight the fact that no evidence was found to support it serving as a mediator between BIS, BAS and Life Satisfaction (Figure 2). This model had the following goodness-of-fit characteristics: \(\chi^2 (23, n = 190) = 44.72, p < .00, CFI = .96, RMSEA = .07\). This proved to be the best model. All paths were significant except from BIS to Loss of Behavioral/Emotional Control.

According to this model, BAS, BIS and Psychological Distress were predictors of Life Satisfaction (\(\beta\)'s = .34, -.18 and -.54 respectively— all significant at \(p < .05\)). BIS and Psychological Distress scores predict lower levels of Life Satisfaction, while BAS scores predict higher levels of Life Satisfaction. In addition,
higher BIS scores also predicted higher levels of Anxiety, $\beta = .18$, $p < .05$. This suggests that BAS accounts for 12% of the variance in Life Satisfaction. Furthermore, BIS accounts for 3% of the variance and Psychological Distress accounts for 29% of the variance in Life Satisfaction, respectively. Therefore, BIS accounts for a very small proportion of the variance while Psychological Distress accounts for more than twice the variance of BAS in Life Satisfaction. The second model was also tested with the subset of the sample that had Schizophrenia Spectrum diagnoses ($N = 146$). This model also had adequate goodness-of-fit, $\chi^2 (23, n = 146) = 44.32$, $p < .00$, CFI = .95, RMSEA = .08 however, using the entire sample yielded better results overall.
Figure 1. Initial path diagram: Associations of BIS and BAS with life satisfaction mediated by general psychological distress.
Figure 2. Final Path Diagram: Association between BIS, BAS, Psychological Distress and Life Satisfaction.

(Standardized Solution, N = 190).
CHAPTER 4. DISCUSSION

This study explored associations among BAS, BIS and Psychological Distress and their impact upon estimations of life satisfaction using SEM. The first objective was to determine whether the latent variables included in the model were statistically sound. As expected, the factor analysis showed three distinct factors: BAS, Psychological Distress and Life Satisfaction. However, BIS also associated with Life Satisfaction. Regardless of this finding, BIS was included as a separate variable to test the proposed model. The data also yielded a high correlation between SWB and QOL, indicating that both measures may constitute a single cohesive construct.

The first model tested examined how well BIS and BAS predicted Life Satisfaction with Psychological Distress serving as a mediator. This model included all of the QOL subscales instead of the QOL total score. Results revealed that several modifications were needed before the model achieved an acceptable fit. Based on the changes suggested by the Lagrange Multiplier and Wald tests, an adjusted model was examined. Specifically, there was no support for incorporating Psychological Distress as a mediator and therefore it was treated as an independent variable in the second model. As such, direct paths were added from BIS and BAS to Life Satisfaction. The QOL total score was used in this model rather than subscale scores because they loaded on the same factor. It appeared that the QOL total score provided a more parsimonious model.

This new model showed that all three variables, BAS, BIS and Psychological Distress were significant predictors of Life Satisfaction. Specifically, BAS accounted for 12%, BIS for 3% and Psychological Distress for 29% of the variance within Life
Satisfaction. It can also be concluded that Psychological Distress negatively affects Life Satisfaction. Since Psychological Distress is composed of Depression, Anxiety, and Loss of Behavioral/Emotional Control it can be expected that elevations in any of these symptoms would make life more difficult and less satisfying.

This model also provided support for the proposed positive association between BAS and Life Satisfaction. It was expected that BAS would predict higher life satisfaction because BAS is thought to facilitate goal-motivated behaviors in the presence of environmental cues of incentive. In addition, BAS has been associated with extraversion and positive affect (Gable et al., 2000). These factors have been found to predict increased SWB (Vitters & Nilsen, 2002). Therefore, it was believed that individuals reporting higher behavioral activation would be more likely to engage in treatment approaches that enhance recovery and seek out opportunities that could help stabilize and improve living circumstances.

Also in accordance with the initial conceptualization, BIS was found to be a negative predictor of Life Satisfaction. BIS has been shown to be an indicator of avoidance, inhibition and anxiety when presented with environmental cues of punishment. BIS has been previously associated with vulnerability to depression and anxiety diagnoses (Johnson et al., 2003). Therefore, it was expected that higher behavioral inhibition would predict lower life satisfaction because those who are more inhibited would be more attune to negative environmental circumstances and would experience increased negative affect, hindering their motivation to engage in opportunities to improve life circumstances. This is further supported by the positive relation between BIS and Anxiety presented in this model.
Previous studies have found evidence that BIS is associated with increased
anxiety diagnoses however, not with state-dependent symptoms in Bipolar Disorder
(Meyer, Johnson, & Winters, 2001). This provides evidence that symptoms of anxiety
may have a significant impact on life satisfaction beyond other disorder related
symptoms (e.g., delusions, hallucinations, mania, depression, etc.) and possibly serve
to prevent individuals from becoming engaged in managing their recovery in a more
efficient fashion. It should be noted that since BIS explained only 3% of the variance,
it may not be as important as BAS in predicting Life Satisfaction.

Limitations and Future Directions

The use of a convenience rather than a random sample may have limited the
results of this study in several ways. First, one of the assumptions of statistical
analyses such as SEM is the use of a random sample, thus, the current findings might
be biased in some undetermined way. Second, it is interesting to note that individuals
in this study reported to be generally satisfied with their lives. It is possible that those
who decided to participate in the study may have been higher functioning and in a
better mood. Therefore, a different recruitment strategy might yield a more diverse
and representative sample.

A further limitation of this study is that all measures administered were self­
report. Accuracy of the information provided through self-report instruments may be
reduced because of perceptual biases, cognitive deficits (e.g., distortions or memory
limitations), state-dependent memory, purposeful omission, or social desirability.
This is especially relevant since the questionnaires were presented by research
assistants and not completed anonymously. In the future, it may be important to
incorporate other, more objective, assessment strategies such as clinician ratings that can corroborate the information captured through self-report.

Culture is another factor that could have potentially biased responses on these self-report measures. While all the instruments used have adequate psychometric properties, none were normed on a diverse culture such as the one found in Hawai‘i. Some of the wording used in these instruments to represent the constructs of behavioral activation, behavioral inhibition, psychological distress, and life satisfaction are based on western conceptualizations and thus might not translate easily to the local culture. While the research assistants were instructed to define words in the questions presented, participants may have experienced difficulty understanding and responding accurately to some questionnaire items.

Although the sample size was adequate for the proposed model, a larger sample might have provided the opportunity to compare the model across different diagnostic groups. The diagnostic breakdown of this sample shows that the majority of participants had a diagnosis from the Schizophrenia Spectrum Disorders. While this is also the case for the large population of those who receive services from the Adult Mental Health Division, for this model it would have been more informative to have greater representation of consumers with other SPMI diagnoses. While the model showed a good fit for the sample with Schizophrenia Spectrum diagnoses, the sample size was not large enough to test it with other diagnoses. It is possible that the model might differ for Bipolar or Depressive Disorders since these individuals’ symptomatologies usually differ significantly from those who have Schizophrenia Spectrum Disorders. For instance, those diagnosed with schizophrenia disorders tend
to have less insight than those diagnosed with other SPMI diagnoses. This could affect the way they consider life satisfaction. Cognitive motivational systems may interact differentially with symptoms of different disorders and this could yield diverse models of life satisfaction.

This study provided evidence that cognitive motivational systems contribute to understanding life satisfaction. This suggests that, when assessing life satisfaction, consumers not only consider tangible resources, but that their general dispositions toward environmental stimuli also impact their ratings. However, this study also highlights the complexity of the construct labeled as life satisfaction. Although the model that was explored in this study had good fit, cognitive motivational systems and psychological distress only appear to account for part of the variance in life satisfaction. This suggests the importance of exploring the influence of other salient factors such as disorder related symptoms, level of insight, substance abuse, and level of intensity of services received. These are all factors that take a prominent role in the lives of individuals with SPMI. Future studies could test whether these factors interact with cognitive motivational systems to predict levels of life satisfaction better.
References


Hansson, L., Eklund, M., & Bengtsson-Tops, A. (2001). The relationship of personality dimensions as measured by the temperament and character inventory and quality of life in individuals with schizophrenia or schizoaffective disorder living in the community. *Quality of Life Research*, 10, 133-139.


Appendix A

Cognitive Motivational Systems and Life Satisfaction Project Demographics Form

Date: ________________________  Center: ________________________

Consumer's Name: ________________________  SS#: ________________________

Primary Language: ________________________  Place of Birth: ________________________

Race: ________________________  Ethnicity: ________________________

Highest Level of Education: ________________________

Please circle one answer for each question.

1. Marital Status:
   a. single  e. divorced  
   b. married  f. widowed  
   c. living with partner  g. other  
   d. separated

2. Most recent type of employment:
   a. Employed- no support  e. Transitional Employment (Clubhouse)  
   b. Supported Employment  f. Sheltered Workshop  
   c. Supported Employment/Micro-Enterprises  g. Not in the labor force  
   d. Consumer Operated Business (self-employed)  h. Prefer not to answer

3. If not employed, circle all that apply:
   a. I don't want to risk losing my benefits  e. Other  
   b. I worry that my symptoms will interfere with my work  f. Unknown  
   c. I am not sure how to go about finding a job  g. Prefer not to answer  
   d. I lack the skills necessary to do the kind of work I want

4. Occupations in the last 6 months, circle all that apply:
   a. Active Military Duty  j. Service Worker  
   b. Artist  k. Student  
   c. Clerical  l. Technical  
   d. Disabled-Unable to work  m. Volunteer  
   e. Homemaker  n. Other  
   f. Laborer  o. None  
   g. Professional  p. Unknown  
   h. Retired  q. Prefer not to answer  
   i. Sales Worker
5. Annual gross income from all sources except food stamps:
   a. $0 - $5,000
   b. $5,001 - $10,000
   c. $10,001 - $15,000
   d. Greater than $15,000
   e. Prefer not to answer

6. Currently receiving SSI?
   a. Yes
   b. No
   e. Prefer not to answer

7. Currently receiving SSDI?
   a. Yes
   b. No
   e. Prefer not to answer

8. Currently receiving General Assistance?
   a. Yes
   b. No
   e. Prefer not to answer

9. Currently receiving Housing Section 8?
   a. Yes
   b. No
   e. Prefer not to answer

10. Homeless at the present time?
    a. Homeless- Sheltered
    b. Homeless- Not Sheltered
    c. Not homeless
    d. Prefer not to answer

11. Homeless in the last 6 months?
    a. Yes
    b. No
    e. Prefer not to answer

12. Psychiatric hospitalization anywhere in the last 6 months?
    a. Yes
    b. No
    e. Prefer not to answer

13. Currently taking atypical psychotropic medications?
    a. Yes
    b. No
    e. Prefer not to answer

14. Please list the psychiatric medications you are currently taking.

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________

15. Current Diagnosis

1. ____________________________________________
2. ____________________________________________
3. ____________________________________________
4. ____________________________________________
Appendix B

Mental Health Inventory (Veit & Ware, 1983)

THES QUESTIONS ARE ABOUT HOW YOU FEEL AND HOW THINGS HAVE BEEN WITH YOU MOSTLY WITHIN THE PAST MONTH. FOR EACH QUESTION, CIRCLE THE APPROPRIATE NUMBER ON THIS ANSWER FORM FOR THE ONE ANSWER THAT COMES CLOSEST TO THE WAY YOU HAVE BEEN FEELING. PLEASE ANSWER EVERY QUESTION:

1. HOW MUCH OF THE TIME HAVE YOU FELT LONELY DURING THE PAST MONTH?
   A All of the time
   B Most of the time
   C A good bit of the time
   D Some of the time
   E A little of the time
   F None of the time

2. HOW OFTEN DID YOU BECOME NERVOUS OR JUMPY WHEN FACED WITH EXCITEMENT OF UNEXPECTED SITUATIONS DURING THE PAST MONTH?
   A Always
   B Very often
   C Fairly often
   D Sometimes
   E Almost Never
   F Never

3. DURING THE PAST MONTH, HAVE YOU HAD ANY REASON TO WONDER IF YOU WERE LOSING YOUR MIND, OR LOSING CONTROL OVER THE WAY YOU ACT, TALK, THINK, FEEL OR OF YOUR MEMORY?
   A No, not at all
   B Maybe a little
   C Yes, but not enough to be concerned or worried about it
   D Yes, and I have been a little concerned
   E Yes, and I am quite concerned
   F Yes, and I am very much concerned about it

4. DID YOU FEEL DEPRESSED DURING THE PAST MONTH?
   A Yes, to the point that I did not care about anything for days at a time
   B Yes, very depressed almost every day
   C Yes, quite depressed several times
   D Yes, a little depressed now and then
   E No, never felt depressed at all
5. HOW MUCH OF THE TIME, DURING THE PAST MONTH, HAVE YOU BEEN A VERY NERVOUS PERSON?
A All of the time
B Most of the time
C A good bit of the time
D Some of the time
E A little of the time
F None of the time

6. DURING THE PAST MONTH, HOW MUCH OF THE TIME HAVE YOU FELT TENSE OR “HIGH-STRUNG”?
A All of the time
B Most of the time
C A good bit of the time
D Some of the time
E A little of the time
F None of the time

7. DURING THE PAST MONTH, HAVE YOU BEEN IN FIRM CONTROL OF YOUR BEHAVIOR, THOUGHTS, EMOTIONS, FEELINGS?
A Yes, very definitely
B Yes, for the most part
C Yes, I guess so
D No, not too well
E No, and I am somewhat disturbed
F No, and I am very disturbed

8. DURING THE PAST MONTH, HOW OFTEN DID YOUR HANDS SHAKE WHEN YOU TRIED TO DO SOMETHING?
A Always
B Very often
C Fairly often
D Sometimes
E Almost never
F Never

9. DURING THE PAST MONTH, HOW OFTEN DID YOU FEEL THAT YOU HAD NOTHING TO LOOK FORWARD TO?
A Always
B Very often
C Fairly often
D Sometimes
E Almost never
F Never
10. HOW MUCH OF THE TIME, DURING THE PAST MONTH, HAVE YOU FELT EMOTIONALLY STABLE?
A  All of the time
B  Most of the time
C  A good bit of the time
D  Some of the time
E  A little of the time
F  None of the time

11. HOW MUCH OF THE TIME, DURING THE PAST MONTH, HAVE YOU FELT DOWNHEARTED AND BLUE?
A  All of the time
B  Most of the time
C  A good bit of the time
D  Some of the time
E  A little of the time
F  None of the time

12. HOW OFTEN HAVE YOU FELT LIKE CRYING DURING THE PAST MONTH?
A  Always
B  Very often
C  Fairly often
D  Sometimes
E  Almost never
F  Never

13. DURING THE PAST MONTH, HOW OFTEN DID YOU FEEL THAT OTHERS WOULD BE BETTER OFF IF YOU WERE DEAD?
A  Always
B  Very often
C  Fairly often
D  Sometimes
E  Almost never
F  Never

14. HOW OFTEN DURING THE PAST MONTH, DID YOU FEEL THAT NOTHING TURNED OUT THE WAY YOU WANTED IT TO?
A  Always
B  Very often
C  Fairly often
D  Sometimes
E  Almost never
F  Never
15. HOW MUCH HAVE YOU BEEN BOTHERED BY NERVOUSNESS, OR YOUR "NERVES" DURING THE PAST MONTH?
   A  Extremely so, to the point where I could not take care of things
   B  Very much bothered
   C  Bothered quite a bit by nerves
   D  Bothered some, enough to notice
   E  Bothered just a little by nerves
   F  Not bothered at all by this

16. HOW OFTEN, DURING THE PAST MONTH, HAVE YOU FELT SO DOWN IN THE DUMPS THAT NOTHING COULD CHEER YOU UP?
   A  Always
   B  Very often
   C  Fairly often
   D  Sometimes
   E  Almost never
   F  Never

17. DURING THE PAST MONTH, DID YOU EVER THINK ABOUT TAKING YOUR OWN LIFE?
   A  Yes, very often
   B  Yes, fairly often
   C  Yes, a couple times
   D  Yes, at one time
   E  No, never

18. DURING THE PAST MONTH, HOW MUCH OF THE TIME HAVE YOU FELT RESTLESS, FIDGETY OR IMPATIENT?
   A  All of the time
   B  Most of the time
   C  A good bit of the time
   D  Some of the time
   E  A little of the time
   F  None of the time

19. DURING THE PAST MONTH, HOW MUCH OF THE TIME HAVE YOU BEEN MOODY OR BROODED ABOUT THINGS?
   A  All of the time
   B  Most of the time
   C  A good bit of the time
   D  Some of the time
   E  A little of the time
   F  None of the time
20. DURING THE PAST MONTH, HOW OFTEN DID YOU GET RATTLED, UPSET, OR FLUSTERED?
A Always
B Very often
C Fairly often
D Sometimes
E Almost never
F Never

21. DURING THE PAST MONTH, HAVE YOU BEEN ANXIOUS OR WORRIED?
A Yes, extremely so, to the point of being sick or almost sick
B Yes, very much so
C Yes, quite a bit
D Yes, some, enough to bother me
E Yes, a little bit
F No, not at all

22. HOW OFTEN, DURING THE PAST MONTH, DID YOU FIND YOURSELF HAVING DIFFICULTY TRYING TO CALM DOWN?
A Always
B Very often
C Fairly often
D Sometimes
E Almost never
F Never

23. DURING THE PAST MONTH, HOW MUCH OF THE TIME HAVE YOU BEEN IN LOW OR VERY LOW SPIRITS?
A All of the time
B Most of the time
C A good bit of the time
D Some of the time
E A little of the time
F None of the time

24. DURING THE PAST MONTH HAVE YOU BEEN UNDER OR FELT YOU WERE UNDER ANY STRAIN, STRESS, OR PRESSURE?
A Yes, almost more than I could stand or bear
B Yes, quite a bit of pressure
C Yes, some, more than usual
D Yes, some, but about normal
E Yes, a little bit
F No, not at all
Appendix C

Behavioral Inhibition and Behavioral Activation Scales (Carver & White, 1994)

Each item of this questionnaire is a statement that a person may either agree with or disagree with. For each item, indicate how much you agree with what the item says. Please respond to all the items; do not leave any blank. Choose only one response to each statement. Please be as accurate and honest as you can be. Respond to each item as if it were the only item. That is, don’t worry about being “consistent” in your responses. Choose from the following four response options:

1 = very true for me
2 = somewhat true for me
3 = somewhat false for me
4 = very false for me

1. A person’s family is the most important thing in life.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

2. Even if something bad is about to happen to me, I rarely experience fear or nervousness.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

3. I go out of my way to get things done.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

4. When I’m doing well at something I love to keep at it.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

5. I’m always willing to try something new if I think it will be fun.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

6. How I dress is important to me.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

7. When I get something I want, I feel excited and energized.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

8. Criticism or scolding hurts me quite a bit.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

9. When I want something I usually go all-out to get it.
   1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

10. I will often do things for no other reason than that they might be fun.
    1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

11. It’s hard for me to find time to do things such as get a haircut.
    1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

12. If I see a chance to get something I want I move on it right away.
    1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me
13. I feel pretty weird or upset when I think or know somebody is angry at me.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

14. When I see an opportunity for something I like I get excited right away.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

15. I often act on the spur of the moment.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

16. If I think something unpleasant is going to happen I usually get pretty “worked up”.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

17. I often wonder why people act the way they do.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

18. When good things happen to me it affects me strongly.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

19. I feel worried when I think I have done poorly at something important.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

20. I crave excitement and new sensations.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

21. When I go after something I use a “no holds barred” approach.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

22. I have very few fears compared to my friends.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

23. It would excite me to win a contest.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me

24. I worry about making mistakes.
1 = very true for me  2 = somewhat true for me  3 = somewhat false for me  4 = very false for me
Appendix D

Temporal Satisfaction with Life Scale (Diener et al., 1985)

Below are 5 statements with which you may agree or disagree. These statements refer to your present situation. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding.

The 7-point scale is: 1 = strongly disagree
2 = disagree
3 = slightly disagree
4 = neither agree or disagree
5 = slightly agree
6 = agree
7 = strongly agree

1. I would change nothing about my current life.
2. I am satisfied with my current life.
3. My current life is ideal for me.
4. The current conditions of my life are excellent.
5. I have the important things I want right now.
Appendix E

Client Experiences Questionnaire: Life Satisfaction
(Greenley, Greenberg, & Brown, 1997)

Below are some questions about how satisfied you are with various aspects of your life. For each question, CIRCLE the answer that best corresponds to how you feel.

Concerning your living arrangement, how do you feel about:

1. The living arrangements where you live?
   - Terrible
   - Unhappy
   - Mostly Dissatisfied
   - Equally Satisfied/Dissatisfied
   - Mostly Satisfied
   - Pleased
   - Delighted

2. The rules there?
   - Terrible
   - Unhappy
   - Mostly Dissatisfied
   - Equally Satisfied/Dissatisfied
   - Mostly Satisfied
   - Pleased
   - Delighted

3. The privacy you have there?
   - Terrible
   - Unhappy
   - Mostly Dissatisfied
   - Equally Satisfied/Dissatisfied
   - Mostly Satisfied
   - Pleased
   - Delighted

4. The amount of freedom you have there?
   - Terrible
   - Unhappy
   - Mostly Dissatisfied
   - Equally Satisfied/Dissatisfied
   - Mostly Satisfied
   - Pleased
   - Delighted

5. The prospect of staying on where you currently live for a long period of time?
   - Terrible
   - Unhappy
   - Mostly Dissatisfied
   - Equally Satisfied/Dissatisfied
   - Mostly Satisfied
   - Pleased
   - Delighted
Here are some questions about money. How do you feel about:

6. The amount of money you get?

<table>
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<tr>
<th>Terrible</th>
<th>Unhappy</th>
<th>Mostly</th>
<th>Equally Satisfied/ Dissatisfied</th>
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7. How comfortable and well-off you are financially?

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8. How much money you have to spend for fun?

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Here are some questions about how you spend your spare time. How do you feel about:

9. The way you spend your spare time?

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10. The chance you have to enjoy pleasant or beautiful things?

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11. The amount of relaxation in your life?

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12. The pleasure you get from the TV or radio?

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Here are some questions about your family. How do you feel about:

13. Your family in general?

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<th>Terrible</th>
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<th>Mostly Dissatisfied</th>
<th>Equally Satisfied/Dissatisfied</th>
<th>Mostly Satisfied</th>
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14. The way you and your family act towards each other?

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<th>Terrible</th>
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<th>Equally Satisfied/Dissatisfied</th>
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15. The way things are in general between you and your family?

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<th>Terrible</th>
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Here are some questions about your social life. How do you feel about:

16. The things you do with other people?

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<th>Terrible</th>
<th>Unhappy</th>
<th>Mostly Dissatisfied</th>
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17. The amount of time you spend with other people?

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<th>Equally Satisfied/Dissatisfied</th>
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18. The people you see socially?

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<th>Equally Satisfied/Dissatisfied</th>
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19. The chance you have to know people with whom you feel really comfortable?

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20. The amount of friendship in your life?

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Here are some questions about your health. How do you feel about:

21. Your health in general?

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<th>Terrible</th>
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<th>Equally Satisfied/Dissatisfied</th>
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22. Your physical condition?

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<th>Equally Satisfied/Dissatisfied</th>
<th>Mostly Satisfied</th>
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23. The medical care available to you if you need it?

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<th>Terrible</th>
<th>Unhappy</th>
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<th>Equally Satisfied/Dissatisfied</th>
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24. How often you see a doctor?

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<th>Terrible</th>
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Appendix F

Guidance for Conducting Face-to-Face Structured Interviews

Research associates (RA) will not perform an interview without attending the Orientation for Conducting Structured Interviews and signing the Confidentiality Agreement Form. All RA will refrain from conducting interviews in instances when selected service recipients are not literate or have difficulty understanding English. In addition, RAs who anticipate or recognize a conflict of interest will notify the Principal Investigator and/or designated supervisor before conducting the interview. Under no circumstance shall RA perform interviews if an interviewer personally knows the selected service recipient.

All RA will perform face-to-face structured interviews according to the following guidelines:

1. Present and read the Informed Consent Form to the prospective participant. Ask the participant if he/she has questions.

2. Read to the prospective participant instructions for completing the True or False Questionnaire.

3. Review and score the completed questionnaire.

4. Participants will have to answer three (3) of the five (5) questions correctly before the evaluation protocol will be administered. The Informed Consent Form will be re-read to those who do not get at least three answers right and the test will be re-administered. If the participant lacks the capacity to provide informed consent, thank the selected service recipient for his/her time and excuse him/her from the interview.

5. Ask the prospective participant to sign two (2) copies of the Informed Consent Form. Provide one (1) copy to the participant.

6. Present the Authorization for Use or Disclosure of Protected Health Information Form. Ask whether the participant has questions before completing each form. Provide a copy of each form to the participant if requested.

7. Acknowledge the amount of paperwork and thank the participant for completing each form.

8. Read the following statement:

    Throughout the interview, I am going to hand over to you a set of laminated cards with a series of questions on each page. The first page will have directions for answering these questions. I am going to read the directions out loud then ask if you have any questions about the directions. A lot of people get confused when going over directions, so let me know if you don’t understand or if you are confused.

---

1 Selected service recipients excused from interviews are entitled to a gift card.
Let me know if I am going too fast, too slow or if you need to take a short break. As promised, I am going to give you a $10 gift card to Foodland at the conclusion of the interview to show our appreciation for participating today.

Do you have any questions before we begin?

9. The following measures will be administered in a randomized, counterbalanced order:
   a. Demographics Form
   b. Mental Health Inventory
   c. Behavioral Inhibition and Activation Scales
   d. Temporal Satisfaction with Life Scale
   e. Client Experiences Questionnaire: Life Satisfaction

10. Thank the participant for completing each measure and disburse a gift card(s).
Appendix G

Confidentiality Agreement for Research Assistants

Title of Project: Cognitive Motivational Systems and Life Satisfaction

Principal Investigator or Project Coordinator: Iruma Bello, B.A. and John Steffen, Ph.D. (faculty supervisor)

As a member of the Cognitive Motivational Systems and Life Satisfaction Project, I understand that I may have access to confidential information about research participants. By signing this statement, I am saying that I understand my responsibilities to maintain confidentiality and agree to the following:

• I understand that names and any other identifying information are completely confidential.

• I agree NOT to divulge, publish or tell unauthorized people any information that I find out doing this project that could identify the persons who participated in the survey.

• I understand that all information that I collect in the course of my work is confidential. I agree not to divulge any of this information, unless specifically authorized to do so (for example, if I think the person may be a danger to self or others I will inform the clinician on duty at the interview location and my supervisor).

• I understand that I should not read information about people taking the survey, or any other confidential documents, or ask questions of the people taking the survey for my own personal information. I will only collect information as part of performing my assigned duties on this project.

• I understand that a breach of confidentiality may be grounds for disciplinary action, and may include termination of employment.

• I agree to tell my supervisor immediately if I become aware of an actual breach of confidentiality or a situation that could potentially result in a breach, by me or someone else.

Signature _______________________________ Date ______________

Printed Name _______________________________

Signature of Project Supervisor or Project Coordinator _______________________________ Date ______________

Printed Name _______________________________
Appendix H

Informed Consent Form

AGREEMENT TO PARTICIPANT IN THE COGNITIVE MOTIVATIONAL SYSTEMS AND LIFE SATISFACTION PROJECT

The purpose of this project is to see if there is a connection between people's attitudes and how satisfied they are with their lives. We will ask you several questions about how much you agree with different situations that are important in most people's lives. We will also ask you questions about how happy you are with different areas of your life. This study hopes to see whether these attitudes play a role in how satisfied you are with your life.

The investigators believe that there is little or no risk associated with participating in this research project. There is a small chance that talking about how you feel may upset you. If this happens, we will make sure that you get help for your concerns.

We believe that by figuring out if attitudes affect how happy people are with their lives, the mental health staff can do a better job helping people with mental illness and their recovery. However, your involvement in this project may not be directly helpful to you.

You will be asked to sign one form and answer five questionnaires. The form will ask for your permission to allow us to see your psychiatric records. The first questionnaire will gather background information. Another questionnaire will ask questions about how you have generally been feeling in the past month. A third questionnaire will ask how much you agree with situations that most people find important. Finally, the last two questionnaires will ask how happy and satisfied you are with many aspects of your life. We estimate that answering all questionnaires will take one hour. Again, there is a risk that you may feel uneasy with some of these questions.

We will keep information about you as private as possible except if harm to you, harm to others, or harm to property becomes a concern, as mandated by the law. Agencies that are responsible for the protection of people in research may look at the information collected. This information will be stored in a locked file in the principal researcher's office during the project.

Participation in this research project is completely your choice. You are free to quit at any time during the project. You will not be punished if you refuse to continue. Also, this will not hurt your chances of receiving mental health services in the future.

If you have any questions regarding this research project, please contact Iruma Bello, B.A. at iruma@hawaii.edu (808)539-3632 or John Steffen, Ph.D. at sjohn@hawaii.edu (808) 539-3961.

If you have any questions regarding your rights as a research participant, please contact the UH Committee on Human Studies at (808) 956-5007 or the Department of Health Institutional Review Board at (808) 586-4530.

I have read and understand the above information, and agree to participate in this research project.

______________________________
Name (Please Print)

______________________________
Signature

______________________________
Date

______ Participant Copy

______ Project Copy
Appendix I

Consent Form: True or False Questionnaire

Instructions. Please review the Cognitive Motivational Systems and Life Satisfaction Project Consent form before completing this questionnaire. Answer the following questions as true or false.

1. Part of this project is to see how attitudes affect how satisfied I am with my life.
   _____ True
   _____ False

2. Questions asked in this interview may make me feel uncomfortable.
   _____ True
   _____ False

3. I can stop taking part in this survey at any time.
   _____ True
   _____ False

4. I am not allowed to ask any questions about the study.
   _____ True
   _____ False

5. The purpose of this project is to introduce a new psychological treatment for people with severe mental illness.
   _____ True
   _____ False

Research Assistant Use Only

Completion Date: __ ___/ __ ___/ 20 ___

Agency Name: _____________________________________________

Number of items correct ___ of FIVE. Proceed with interview: ___ Yes ___ No

RA Signature: ___________________________ Date: __ ___/ __ ___/ 20 ___
Appendix J

Authorization for Use or Disclosure of Protected Health Information (PHI)

State of Hawaii Department of Health

Authorization for Use or Disclosure of Protected Health Information (PHI)

| Name of Individual/Organization Disclosing Protected Health Information: |  |
| Name: | Address: |

| Name of Individual/Organization That Will Receive the Individual's Protected Health Information: |  |
| Name: | Address: |

| Client/Patient Whose Protected Health Information is Being Requested |  |
| First Name: | Last Name: |
| Address: | Birth Date (if known): |

I authorize that the Following Protected Health Information be Used/Disclosed: (Be Specific. Identify limits, as appropriate. Initial in the space provided if your authorization includes the use/disclosure of specifically protected health information)

| Mental Health | Substance Abuse Treatment | HIV/AIDS |

The Protected Health Information is Being Used or Disclosed for the Following Purposes (At the request of the individual is an acceptable purpose if the request is made by the individual and the individual does not want to state a specific purpose):

| Authorization Duration (This authorization will be in force and effect until the date or event specified below. At that time, this authorization to use or disclose this protected health information expires): |  |
| Authorization Expiration Date: | Expiration Event that Relates to the Individual or the Purpose of the Use or Disclosure |

I understand that I have the right to revoke this authorization, in writing, at any time by sending such written notification to the Department of Health. I understand that a revocation is not effective to the extent that the Department has relied on the use or disclosure of the protected health information or if my authorization was obtained as a condition of obtaining insurance coverage and the insurer has a legal right to contest a claim.

I understand that information used or disclosed pursuant to this authorization may be disclosed by the recipient and may no longer be protected by federal or state law. However, I understand that information related to education (FERPA 34, CFR Part 99), alcohol or drug treatment services (42 CFR Part 2) may not be disclosed or redisclosed without my authorization.

The Entity or Person(s) receiving this information will not condition my treatment, payment, enrollment in a health plan or eligibility for benefits (if applicable) on whether I provide authorization for the requested use or disclosure except (1) if my treatment is related to research, or (2) health care services are provided to me solely for the purpose of creating protected health information for disclosure to a third party.

[] The use or disclosure requested under this authorization will result in direct or indirect remuneration to the Department from a Third Party.

| Individual or Personal Representative Signature: |  |
| Individual or Personal Representative: | Date: |

| Print Name of Individual or Personal Representative: | Description of Personal Representative's Authority: |

April 29, 2004
Appendix K

Risks and Protections: Instructions for Research Assistants

Psychological Distress:
The participants may find it helpful and comforting to have the chance to answer questions about their attitudes, symptoms and life satisfaction with a neutral third party. However, all project staff who will conduct the interviews will be trained to recognize stress in the interviewees. When interviewers detect stress they will be instructed to follow a four-step protocol.

- First, ascertain if the distress is mild and transitory and, if so, offer comfort to the interviewee and the chance to pause the evaluation.
- Second, offer to terminate and reschedule the interview if the interviewee appears unable to continue responding.
- Third, suggest to the interviewee that a discussion with their current mental health care provider might help them resolve feelings that do not seem to be easily resolved.
- Fourth, offer to facilitate contact with the interviewee’s mental health care provider or clinician of the day at the agency, if they desire such help.

The interviewer will speak with the clinician of the day or other available provider immediately after meeting participants who exhibit distress during the interview. This is to ensure that proper steps are taken within the agency to reduce the distress while the participant is still at the agency.

Confidentiality and Anonymity:
Every effort will be made to ensure the confidentiality of the identity and responses of each participant in the study. As is true with all research, however, there is a slight chance a breach of security may occur in the collection and storage of identifiable data. Because of the highly sensitive nature of the data being accessed and collected in this study, extra precautions will be exercised in maintaining and securing the confidentiality of the data. First all paper documents that contain identifying information used in this study will be kept in a locked filing cabinet in a locked office. In addition, identifiable information and questionnaires will be coded so that they can be stored separately. Once the information of these paper documents is entered into the study database, the documents will be crosscut and shredded. Furthermore, all signed informed consent forms (which cannot be destroyed) will be kept in a locked file. All databases will be stored on computers that require passwords for access. In addition, all data files that contain identifying information will also be password protected. Only the principal investigator and project supervisor will have universal access to all project information. Project research assistants will have access to the data that they collect and data that needs to be entered but they will be thoroughly instructed in the principles of the ethical conduct of research and asked to sign a confidentiality form (see Attachment B). They will also be given explicit directions on the management of data and the disposition of completed data forms for the proposed study.
Recruitment Flyer

Department of Psychology
University of Hawai`i at Manoa

PARTICIPANTS NEEDED FOR
RESEARCH ON
LIFE SATISFACTION

We are looking for volunteers to take part in a study of "Cognitive Motivational systems and Life Satisfaction in Severe and Persistent Mental Illness."

As a participant in this study, you will be asked to complete 5 questionnaires about how you might generally respond to different events in your environment and how satisfied you are with your life.

Your participation will involve 1 session, lasting approximately 30 minutes.

In appreciation for your time, you will receive a gift certificate to a grocery store.

For more information, or to volunteer for this study, please contact:
Iruma Bello, B.A.
University of Hawai`i at Manoa- Psychology Department at 808-539-3632 or
e-mail: iruma@hawaii.edu

This study has been reviewed by, and received ethics clearance through the University of Hawai`i, Committee on Human Subjects.