Investigating a Structural Model of Addiction Stigma related to Student Perceptions towards Persons Addicted to Heroin

School of Applied Social Science

John Marecki

Sunday, October 18, 2015

Thesis submitted in partial fulfillment of the requirements of the University of Stirling for the award of Doctor of Philosophy.

Acknowledgements

This dissertation may never have been accomplished without the help of a number of people, to whom I wish to acknowledge my sincere gratitude.

First and foremost, I would like to thank my supervisors for their insight, helpful suggestions and constructive direction throughout the completion of my dissertation. I will always be grateful for the know-how, guidance and patience provided by Rowdy Yates MBE, Dr. Alasdair Rutherford and Dr. Vernon Gayle, School of Applied Social Science, University of Stirling. I am also very fortunate for the time invested by Dr. Ralph Catts, School of Education, University of Stirling, for his initial critical feedback and direction on my proposal that has helped me to become more organized and concise as a writer and researcher.

In particular, this dissertation would not have been possible without the contributions from Nathan Innocente, Tyler Frederick, Dr. Candace Kruttschnitt and Dr. Alexander Shvarts. Thank you for your co-operation and timely access to your students to administer my survey within your academic courses at the University of Toronto and York University, Toronto, Ontario, Canada. I would like especially to acknowledge Nathan Innnocente and Oksana Silkana for their assistance and technical expertise in facilitating on-line administration of the questionnaire: your generous time and willing support made the task of data collection that much more possible.

Finally, special thanks to my spouse, Michele, for her accommodating, attentive and cheerful efforts during the in-class survey of the Sociology-Social Control students. Your understanding, optimism and constant encouragement were an inspiration throughout the entire dissertation process.

Abstract

Heroin addiction is inclined to arouse fear, rejection and discriminatory behavior among the general public. Evidence shows that the public perceives heroin as harmful and addictive. Heroin is ranked as the most stigmatized condition.

While there is robust literature on mental illness stigma, there is limited research concerning addiction-related stigma. There are very few standardized stigma measures related to perceptions toward persons addicted to heroin.

The overall aim of the dissertation was to validate an attribution measurement model toward persons addicted to heroin and to determine its psychometric properties. The dissertation's study employed an adapted 7-factor measurement model (Corrigan et al., 2002) to examine stigmatizing perceptions towards towards persons addicted to heroin. This is the first study to systematically evaluate model fit by implementing Exploratory Structural Equation Modeling (ESEM).

A total of 657 Sociology students were analyzed over four stages: questionnaire review by expert panel, pilot-test, validation and replication. The study tested multiple incremental models and successfully determined that the results met multiple goodness-of-fit indices.

Through ESEM, Sociology-Social Control students supported the hypothesis that the adapted 7-factor attribution measurement model would fit data. The model included: Personal Responsibility, Pity, Anger, Helping Behavior, Dangerousness, Fear and Social Distance factors. Adequate power and sample size was demonstrated to support acceptance of the null hypothesis.

In addition to conducting Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA), ESEM tested the psychometric properties of the attribution measurement model. Implementing maximum likelihood extraction with oblique geomin rotation using Mplus software, the Sociology-Social Control students' validation and replication datasets showed an excellent model fit to the data.

Results confirmed support for the superiority of the ESEM solution. The ESEM attribution measurement model fit better than the CFA model. Compared to the ESEM model, elevated factor correlations found in the CFA model were caused by the exclusion of meaningful cross-loadings.

Strong psychometric properties for the ESEM attribution model were evidenced, with good internal consistency and excellent test-retest reliability. The factor structure was replicable across the two groups of Sociology-Social Control students. Adequate ESEM incremental and convergent validity was supported by the simultaneous examination of the Social Distance scale and the Personal Consequences of Criminal Stigma measures with the measurement model. In the replication sample, familiarity demonstrated less stigmatizing perceptions than the SOC313 Course.

Our findings highlight marked differences between the Sociology-Social Control students and the general population's perceptions of heroin addicts. The Sociology-Social Control students are not afraid of persons addicted to heroin, nor do they hold them responsible for their condition.

To conclude, the study provides newly validated measures with adequate reliability to allow investigators to assess other students' level of addiction stigma. It is anticipated that the dissertation's study will lead to further comparative psychometric testing with healthcare students that are directly involved with the care and treatment of persons addicted to heroin to provide a better understanding of the factorial structure of the attribution measurement model. Longitudinal data is also needed to examine our model and how levels of perceptions change over time.

Glossary of Key Terms

Substance Use Disorder: *On its website (http://www.samhsa.gov/disorders/substance-use), Substance Abuse and Mental Health Services Administration (SAMHSA) imparts the following on the definition of substance use disorders. DSM-5 has combined the DSM-IV disorders of substance dependence and substance abuse:*

> *The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), no longer uses the terms substance abuse and substance dependence, rather it refers to substance use disorders, which are defined as mild, moderate, or severe to indicate the level of severity, which is determined by the number of diagnostic criteria met by an individual. Substance use disorders occur when the recurrent use of alcohol and/or drugs causes clinically and functionally significant impairment, such as health problems, disability, and failure to meet major responsibilities at work, school, or home. According to the DSM-5, a diagnosis of substance use disorder is based on evidence of impaired control, social impairment, risky use, and pharmacological criteria.*

Addiction: *is defined as habitual and compulsive drug-seeking behaviour. It is often thought of as impaired control over behaviour that can lead to significant harm. Hence, In all parts of the dissertation, the more extreme or severe substance use disorder is referred to as an addiction.*

Illicit Drug Use: *Illicit use means devoid of a valid medical reason, or lacking medical supervision, and is associated with negative penalties or social disapproval.*

Drug Abuse or Misuse: *Substance abuse is generally employed by media to refer to illegal drug use. As such, substance abuse becomes a criminal justice issue.*

In the dissertation, drug abuse or misuse is denoted by chronic, compulsive drug-taking behavior. Drug abuse refers to "any use of drugs that causes physical, psychological, legal or social harm to the user or to others who are affected by the drug user's behavior" (Parmar et al., 2015: 1).

In view of its adverse personal consequences for their health and relationships, heroin addiction is considered a chief drug of abuse. Its illicit use has led to problem heroin users labeled as criminals, justifying retribution for drug risks deemed inappropriate, dangerous and immoral.

Drug Dependence: *is defined as consisting of three or more of the following criteria: "a strong craving or compulsion to take the drug, subjective consciousness of impairment in one's capacity to manage the use of the drug, substance use to reduce withdrawal symptoms, withdrawal state, evidence of tolerance, a narrowing of the personal range of pattern of drug use and progressive neglect of different ways of happiness and persisting with drug used" (Parmar et al., 2015: 1). What was previously referred to as drug dependence (ie., an addiction) is now thought of as a severe substance disorder (Samuel, 2015)*

Stereotypes: are defined as collectively recognized views about stigmatized groups. Education or familiarity may dispel misinformation, causing lower stigmatization.

Level of Familiarity: is used to evaluate contact with persons addicted to heroin. Familiarity has been defined as knowledge of and experience with persons addicted to heroin. Level of Familiarity is related to cognitions (attributions), emotions and behavioural intentions.

Social Distance*: is used to assess respondents' willingness to socially interact with a person addicted to heroin. It is referred to as the amount of distance that individuals would set between themselves and addicts in personal contact circumstances.

Structural Equation Modeling:

Mplus*: is a statistical modeling program that has a flexible framework to allow researchers to study their data in terms of observed and latent variables (Muthén and Muthén, 2012).

Exploratory Factor Analysis (EFA): is an exploratory method to allow researchers to study latent and observed variables when there are no a priori assumptions regarding factor structure. EFA is usually implemented to develop new instruments. It is noteworthy that cross-loadings are freely calculated in EFA (ie., observed item indicators are loaded on all of the factors).

Confirmatory Factor Analysis (CFA): is a measurement model to allow researchers to study latent and observed variables when there are a priori assumptions regarding a clear well-defined factor structure. This is based on theory or empirical findings. Item indicators are required to load on a single factor that they are hypothesized to measure. Non-target loadings are restricted to be zero.

Exploratory Structural Equation Modeling (ESEM): is a new and flexible data analytic tool that integrates both exploratory and confirmatory factor analyses, and structural equation modeling (SEM). ESEM is less restrictive than CFA, as the ESEM approach does not constrain non-target loadings to be zero, yet provides standard goodness-of-fit statistics to evaluate the psychometric properties of measurement instruments.

Table of Contents

Appendices

List of Figures

List of Tables

References

Chapter 1:   An Attribution Model for Persons Addicted To Heroin

1.   Introduction

There is a paucity of research on attributions toward the stigma associated with illicit drug use (Frischknecht et al., 2011; Pinto-Foltz and Logsdon, 2009; Van Boekel et al., 2013). Moreover, there are few standardized measures of stigma associated with heroin users (Brown, 2011). Another research gap in the stigma literature is perceptions of severe substance disorders by students (Corrigan et al., 2009; Livingston et al., 2011; Luoma et al., 2013; Silins et al., 2007).

Stigmatizing attitudes toward heroin addicts by the general public are pervasive and significant (Crisp et al., 2000; Schomerus et al., 2011a). Prohibited drug use is disapproved of by the majority of the public (Johnston et al., 2010). Injectors of drugs like heroin invoke stereotypes of unpredictability, dangerousness, disregard, lack of willpower and self-destructiveness (Crisp et al., 2005; Glass et al., 2013; Jorm and Griffiths, 2008; Schomerus et al., 2011). The injection of heroin is highly stigmatized because its use is perceived as having greater likelihood of physical dependence (Palamar et al., 2012).

There are scant few addiction-specific stigma measures (Palamar et al., 2011, 2012), with most requiring adaptation of measures from the mental health literature (Brown, 2011; Link et al., 2004). Only two SEM studies were found (Corrigan et al., 2009; Van Boekel et al., 2013) that tested model fit when examining an attribution model on people who are addicted to drugs. Little is known about validity evidence that takes a model-based approach to assessing heroin addicts' perceived responsibility for their condition and evaluates perceptions of their dangerousness (Livingston et al., 2012; Schomerus et al., 2011). With heroin addiction often considered as a moral and criminal problem, rather than a health issue (Mattoo et al., 2015; Rao et al., 2009; Ronzani et al., 2009), no studies have evaluated discriminatory behavior toward addicts through an attribution measurement model related to this problematic substance use disorder, ranked as the most stigmatized condition (Kulesza et al., 2014).

With the established area of perceptions toward people with mental illness being more advanced (Evans-Lacko et al., 2011; Pescosolido et al., 2010; Schomerus et al., 2013), the dissertation's study draws on this stigma literature, including the use of reliable, valid, and multi-factorial measures that were adapted for our study.

Most of the stigma research, investigating the correlational relationship of education or contact to stigmatizing perceptions, are focused on persons with mental illness (Corrigan and Fong, 2014; Corrigan et al., 2014). Following their recent systematic review, Yamaguchi et al. (2013) asserted that the relationship between familiarity and education, and stigmatizing attributions for health related stigma for university or college students is largely unknown. It was noted that previous systematic reviews (Holzinger et al., 2008; Kolodziej and Johnson, 1996; Schachter et al., 2008) did not emphasize the target group of university and college students. This omission is significant because these students are the future leaders of society with the potential to impact and decrease addiction-related stigma and associated personal health consequences.

From a systematic evaluation point of view, the evidence is strong that further methodological work is necessary, particularly in evaluating knowledgeable students' attributions of dangerousness, blame and social distance of heroin addicts. Based on the research to follow, there were no studies in evidence that examined the psychometric properties of an adapted Exploratory Structural Equation Modeling (ESEM) 7-factor attribution model (Corrigan et al., 2002) for persons addicted to heroin with respect to an evaluation of reliability, convergent validity and goodness-of-fit indicators.

Consistent with this unexplored factor structure, the personal consequences of criminal stigma on persons addicted to heroin have also not been examined. Labeling theory states that those who carry a discredited condition (ie., addiction) will undergo spoiled identity resulting from perceived discrimination (Goffman, 1963). The labeling literature has validated these adverse personal consequences of stigma (Glass et al., 2013; Link et al., 1997; Luoma et al., 2007, 2010).

Because stigma is considered a multidimensional construct (Cook et al., 2014; Pescosolido and Martin, 2015), Chapter 1 uses a multi-factorial approach for the stigma literature review. The review examined the current evidence of stigma and how this applies to addicts. Perceived responsibility may influence the public's negativity toward persons addicted to heroin. Moreover, dangerousness stereotypes may be linked to the public's enduring and widespread stigma toward addicts. Interventions to reduce stigma are also inspected. Familiarity or exposure to addicts is anticipated to increase tolerance by demonstrating helping intentions and reducing avoidant behavior (Blendon and Young, 1998; Palamar et al., 2011). Labeling theory, personal consequences of criminal stigma, and addictions and crime are also described.

1.1   Stigma

Stigma is a multidimensional construct that involves distinguishing and labeling differences, negative attributions and stereotyping, separation, and status loss and discrimination (Corrigan et al., 2010a; Palamar et al., 2012; Pescosolido and Martin, 2015; Wright et al., 2011).

The concept of stigma is defined in various ways by different people (Link and Phelan, 2001) with Goffman's explicit definition being used widely by authors. Goffman (1963: 3-4) characterized stigma, as "an attribute that is deeply discrediting", when describing three different types of stigma: "abominations of the body", "blemishes of individual character perceived as weak will" and "tribal stigma of race, nation and religion". When confronted with this differentness, the individual is then associated with a host of negative stereotypical traits (Markowitz, 2014). Stigma arises when individuals are excluded from social acceptance due to a particular negative attribute or flaw. Agreement with this type of stigmatization can lead to prejudice and discrimination (Link and Phelan, 2001).

Referencing a number of previous works, Byrne elaborates on various undesirable characteristics that renders its bearer as tainted or flawed in the eyes of the beholder:

Although there is disagreement on what 'stigma' is (a mark of disgrace or discredit that sets a person aside from others, definitions differ in the breadth of experiences they describe. Stigmatization is the process wherein one condition or aspect of an individual is attributionally linked to some pervasive dimension of the target person's identity (Mansouri & Dowell, 1989). It is the negative effect of a label (Hayward & Bright, 1997), or the process of establishing deviant identities (Schlosberg, 1993). For Corrigan & Penn (1999), stigma is another term for prejudice based on negative stereotyping. The clear inference is that the 'negative' aspect reflects not only unfavorable stereotypes, but also the negative attitudes and adverse behavior of the stigmatiser.

(Byrne, 2001: 281).

Link and Phelan (2001: 367-377) defined stigma as: "the co-occurrence of labeling, stereotyping, separation, status loss and discrimination", in conjunction with the exercise of power. Stigma power is used by stigmatizers to achieve their goals to the detriment of stigmatized groups (Link and Phelan, 2014). Three components are associated with stigma: "problems of knowledge (ignorance and misinformation), problems of attitudes (prejudice) and problems of behaviour (discrimination)" (Brohan et al., 2010: 2).

In evoking status loss and social rejection (Goffman, 1963), stigma has significant impact to accomplish some degree of separation of "us" from "them" because of a specific attribute or flaw. Stigmatized individuals are collectively devalued and are identified as different from other members of society, resulting in unequal outcomes (Livingston and Boyd, 2010). By signifying stigma as ostracism, ridicule, prejudice and discrimination (Semple et al., 2005), the focus of attention is directed toward individuals who construct rejection and exclusion (Sayce, 1998; Simmonds and Coomber, 2009). For processes that disadvantage stigmatized groups, there is a growing body of literature that involves the effect of social policy, institutional practices and laws at the structural discrimination level (Cook et al., 2014; Hatzenbuehler et al., 2013).

For processes that involve interactions between people, questions arise about the veracity of collective stereotypic views against a stigmatized group, media misinformation and the perceived risk to society. For most of the public, "interactions" with the stigmatized group (ie., heroin addicts) are not witnessed

directly, but are derived through misguided information promulgated through media channels. Stereotypes from these channels may contribute toward the public's stigmatizing attitudes (Loch et al., 2013; Palamar, 2013; Palamar et al., 2013a; Phelan et al., 2014).

Stigma is a social process, wherein it "(1) consists of an attribute that marks people as different and leads to devaluation; and (2) is dependent on relationship and context- that stigma is socially constructed." (Yang et al., 2007: 1525). As undesirable attributes are used to exclude the individual from social acceptance (Jones et al., 1984), prevailing societal negative stereotypes generate fear and discriminatory behavior (Corrigan et al., 2003).

Pinfold et al. (2005a: 129) emphasize: "stigma is a prejudice, based on stereotypes, which results in discrimination". This rejection leads to structural stigma with debilitating personal consequences on participation in the workforce, welfare payment entitlement, housing denial and access to social services (Cechnicki et al., 2011; Huxley and Thornicroft, 2003; Schulze and Angermeyer, 2005; Thornicroft et al., 2009).

1.1.1 <u>Self-Stigma</u>

According to Luoma et al. (2008: 150), self-stigma is defined as "shame, evaluative thoughts, and fear of enacted stigma that results from individuals' identification with a stigmatized group". Self-stigma is an important barrier to overall complex needs, involving treatment non-adherence and managing mental health problems (Brohan et al., 2010a; Lucksted and Drapalski, 2015; Corrigan and Rao, 2012; Mittal et al., 2012), especially because of diminished self-esteem, empowerment and self-efficacy (Corrigan et al., 2009, 2009a; Ritsher and Phelan, 2004).

Self-stigma hinders the pursuit of valued life goals, including social functioning and support relationships (Luoma et al., 2008; Lysaker et al., 2007; Yanos et al., 2008). The internalization of negative stereotypes

(eg., of dangerousness, incompetence and inability to recover) are acknowledged and assimilated into spoiled identities (Corrigan and Wassel, 2008; Karidi et al., 2010; Sharac et al., 2010; Yanos et al., 2015), exacerbating substance use problems and increased prospect for relapse (Williamson et al., 2014). Non-disclosure, secrecy or withdrawal are coping strategies to reduce self-stigma (Murphy and Irwin, 1992; Palamar et al., 2012; Wheat et al., 2010). Anticipated rejection is demoralizing and leads to stress, shame and increased psychiatric symptoms (Clement et al., 2014; Livingston and Boyd, 2010), intensifying inequalities (Bayer, 2008) and lowering economic outcomes (Markowitz, 2014).

People with drug injection and history of incarceration are inclined to greater experience of self-stigma (Etesam and Assarian, 2014; Luoma et al., 2007; Van Olphen et al., 2009). Stigma has pervasive effects on injecting drug users, with stigma-related rejection, disruptions to personal and social functioning and poor health outcomes (Etesam and Assarian, 2014; Latkin et al., 2010; Semple et al., 2005; Simmonds and Coomber, 2009).

Self-stigma produces negative impacts relative to delays in pursuit of treatment and optimal health care (Bresnahan and Zhuang, 2011; Cunningham et al., 1993; Kelly and Westerhoff, 2010; Thornicroft, 2008), in lowered self-esteem, crucial to well-being and rehabilitation (Corrigan and Watson, 2002; Radcliffe and Stevens, 2008; Schomerus and Angermeyer, 2008) and in obstacles for quality of life for those already on the margins of society (Rosenfield, 1997; Van Olphen et al., 2009; Williamson et al., 2015)

1.1.2   Mental Illness and Stigma

Stigma is often regarded as an accumulation of negative attitudes and beliefs that influence the public to fear, avoid and discriminate against persons with mental illness (Quinn et al., 2015; Wong et al., 2009). According to U.S. Surgeon General Satcher's report, stigma is severely incapacitating toward people with mental disorders:

Stigmatization of people with mental disorders has persisted throughout history. It is manifested by bias, distrust, stereotyping, fear, embarrassment, anger, and/or avoidance.

(U.S. Department of Health and Human Services, 1999: 6).

"Courtesy stigma" (Goffman, 1963) or "associative stigma" (Koschade and Lynd-Stevenson, 2011; Mehta and Farina, 1988) were found to extend into the family, with social exclusion and withdrawal being experienced by family members by their social proximity of having a relative with schizophrenia, and being contaminated by the possession of a genetic tie with the stigmatized individual (Angermeyer et al., 2003b; Corrigan and Miller, 2004; Gonzalez-Torres et al., 2007). Psychiatrists have also been stigmatized by other healthcare professionals (Sharstein, 2012).

Perceptions of dangerousness (Link et al., 1987; Phelan et al., 2000; Torrey, 2011) and the unwillingness to work closely with people with mental illness and substance abuse has not changed between 1996 and 2006 (Pescosolido et al., 2010). Increased perceptions of substance abuse as biologically-based has not decreased stigma, and is significantly associated with increased social distance (Goldman, 2010; Pescosolido et al., 2010). Genetic attributions are linked to higher levels of stigma, a sense of disease permanence and greater pessimism for recovery (Phelan, 2005; Schnittker, 2008). Community violence has been reported to be inversely related to non-compliance with medication or non-adherence to treatment for individuals with severe mental illness (Alia-Klein et al., 2007; Elbogen et al., 2006; Large and Nielssen, 2010; Nielssen and Large, 2010).

As neuroscience advances (Kalivas and Volkow, 2005; O'Connor and Joffe, 2013), the endorsement of biomedical or neurobiological explanations of mental disorders by the public has resulted in greater acceptance of professional treatment for this stigmatized condition (Phelan, 2005; Read et al., 2013a), yet genetic or biological causes have not manifested in reducing stigmatization reactions, with no change indicated in the willingness to interact with the mentally-ill (Koschade and Lynd-Stevenson, 2011; Lee et al., 2014; Link and Phelan, 2014a; Phelan and Link, 2012). Discounting brain, genetic disease views of mental disorders, stereotypical views of incompetence, irresponsibility, perceived dangerousness,

unpredictability, being at fault for their illness, affected by an incurable illness and unlikely to recover are inferred, defining core aspects of stigma and the public's restrictive practices toward people with mental disorders (Read et al., 2013a,b; Watson et al., 2004).

1.1.3   Substance Misuse and Stigma

Illicit drug use is a global phenomenon (Degenhardt et al., 2011, 2011a). Without acceptability from the general population, illegal drug use is linked to social penalties and severe punishment of drug offenders (Darley, 2009; Durrant et al., 2011; Palamar et al., 2011). Nunn and Rich (2012: 1639) note: "prisoners are at particularly high risk for heroin addiction; approximately 24-36% of all heroin addicts, or more than 200,000 individuals, pass through the US criminal justice system". Stigma entrenches structural discrimination (Corrigan et al., 2004), creating barriers to positive rehabilitation efforts (Grausgruber et al., 2007; Luoma et al., 2010; Nordt et al., 2006).

People who use illicit drugs in a harmful way are evaluated more negatively than homeless people, the physically ill and criminal offenders (Corrigan et al., 2001; Holma et al., 2011; Link et al., 1997; Rasinski et al., 2005;). The evidence further suggests that perceptions of heroin users are worse than mental disorders like schizophrenia and depression (Schomerus et al., 2012, 2014). Disapproval and avoidance of heroin users is associated with highest levels of stigma (Corrigan et al, 2001a; Palamar et al., 2012; Link et al., 1997; Nutt et al., 2007).

In producing what Lemert (1972) calls secondary deviance, addiction stigma is correlated with diminished quality of life for individuals who mis-use drugs (Link et al., 1997). Addiction stigma effects employability, equal payment of wages, interpersonal rejection and ability to obtain living accommodations (Luoma et al., 2007). Stigma is an important consideration in addicts' unwillingness to seek treatment (Link and Phelan, 2006; Saxena et al., 2007; Semple, 2005; Weiss and Ramakrishna, 2006).

Stigma has pervasive effects on illicit drug users, with the internalization of stigma linked to disruptions to personal and social functioning, psychological distress and poor health outcomes (Palamar, 2011; Rao et al., 2012; Rusch et al., 2010; Visser et al., 2008). Internalized experiences of stigma inherently affect self-perceptions, leading to stereotype endorsement (Lysaker et al., 2012).

Reducing stigma is an important objective in the contradiction between drug prohibition and harm reduction (Moskalewicz et al., 2007) as stigma has significant implications for attracting, engaging and retaining persons addicted to heroin in recovery-oriented treatment for drug problems (Miller and Miller, 2009; McKeganey, 2011; Neale et al, 2011a). Fear of being negatively stigmatized remains a critical motivation for addicts' avoidance of treatment (Luoma, 2011; Sirey et al., 2001). Structural discrimination is accompanied with restrictions on the quality of life among opiate dependent individuals (Corrigan et al., 2004; De Maeyer et al., 2010; Link and Phelan, 2001; Pascoe and Richman, 2009).

It has been suggested that biomedical or neuroscience explanations alone may not be an effective primary strategy to realize de-stigmatization efforts to counter stigma for addicts (Angermeyer et al., 2011; Lebowitz and Ahn, 2012; Meurk et al., 2013). Despite medical model understanding of addiction as a chronic and relapsing brain disease (Leshner, 1997), heroin addiction is not unananimously viewed as a disease by the public (Melberg et al., 2013; Morphett and Meurk, 2013).

1.1.4 **Co-Morbidity**

Comorbidity of psychiatry problems and substance use disorders is common (Chorlton et al., 2014; Drake et al., 2008; Meier and Barrowclough, 2009; Mueser et al., 2009). Staiger et al. (2011: 47) emphasize: "49-80% of substance use clients in treatment have concurrent or depression disorders". In a systematic review and meta-analysis to evaluate comorbidity between substance use, mood and anxiety disorders, Lai et al. (2015: 7) found that the strongest relationships were between illicit drug use and major

depression, then between illicit drug use and any anxiety disorder, alcohol use and major depression and alcohol use and any anxiety disorder.

The high incidence of co-morbidity leads to greater illness chronicity, burden of care and relational conflict (Ferguson et al., 2011; Luoma, 2011; Magalhaes et al., 2012). As treatment needs for dual-diagnosis is largely overlooked (Staiger et al., 2011), care is adversely affected by users' illicit drugs and mental health problems in the opiate-dependent population (Hartwell, 2004; Herrero et al., 2011; Schulte et al., 2010; Torrens et al., 2011), leading to frustration, hostility and powerlessness for healthcare professionals (Adams, 2008; Deans and Soar, 2005; Howard and Holmshaw, 2010).

Co-morbidity is associated with increased rates of treatment non-compliance and vulnerability to relapse (Horsfall et al., 2009, 2010; Mattoo et al., 2015). Moreover, co-morbidity is overrepresented in the prisoner population (Butler et al., 2011; Fazel and Danesh, 2002), suggesting an enhanced risk to violence and offending (RachBiesel et al., 1999; Swanson et al., 1990). Medical practitioners and policy makers need to be aware of providing support for these problem behaviors as opposed to social control to effect better assessment and treatment strategies (Brady et al., 2007; Swann, 2010; Wallace et al., 2004).

Helping persons with dual-diagnosis, however, is considered a major challenge and difficult to effect optimal care of complex health needs (Cameron et al., 2010; Munro et al., 2007; Siegfried et al., 1999). There is no "one size fits all' treatment package, with service delivery accomplished by a number of different clinicians and treatment teams dedicated to medication and substance use (Lai et al., 2015: 10). Client care is negatively influenced by a lack of deservingness of social investment compared to other substance disorders (Fischer and Neale, 2008; Knightbridge et al., 2006; Skinner et al., 2007). These obstacles are considered barriers to patient care, and can affect treatment encouragement and retention (Al-Tayyib and Koester, 2011; Miller and Dunlop, 2011; Paterson et al., 2007).

For dual-diagnosis clinical practices, education and a positive attitude is recommended for healthcare professionals owing to an inadequate and judgemental approach, and because of an increasing medicalization of problem drug use and mental health difficulties (Kavanagh et al., 2000; Kolind, 2007; Todd et al., 2002; Wylie, 2010).

1.1.5 <u>Stigma and Discrimination</u>

Discrimination toward persons with substance abuse are considerable and prevalent, with more than 50% of Americans believing individuals with drug addiction are likely to commit violence toward others (McGinty et al., 2015). Injecting illegal drugs like heroin is highly stigmatized (Palamar et al., 2012). This longstanding social stigma is connected to discrimination (Pescosolido et al., 2010), including concealment of the condition from family members, friends and acquaintances (McGinty et al., 2015).

Anti-stigma and discrimination campaigns are predominantly focused on mental illness (Corrigan et al., 2012; Evans-Lacko et al., 2013, 2013a; Yamaguchi et al., 2013). Most of the anti-stigma campaigns employ social media and marketing methods, such as "newspapers, billboards, pamphlets, DVDs, television, radio, cinema, and the Internet" (Clement et al., 2013: 2). For example, the "Like Minds, Like Mine" campaign in New Zealand has demonstrated a positive contribution toward decreasing mental health-related stigma and discrimination (Thornicroft et al., 2014). However, the "In One Voice" online social media campaign in Canada has shown a small but significant change in attitudes over a one-year post-intervention assessment period towards mental ilnness (Livingston et al., 2014).

Mass media interventions have the potential to improve knowledge and may be effective to decrease the level of prejudice. Yet, Clement et al.'s (2013: 35) stressed that "the key research question of whether mass media interventions reduce discrimination remains unresolved…due to the absence of evidence of effect, and limitations in quality of the evidence".

To develop a more sustainable theory of stigma, there is a requirement to improve interventions to change the social reality that sustains stigmatization, rejection and exclusion of others. This is complicated by the multi-faceted response that is required on stigma (Pescosolido et al., 2013).

Discrimination, both on the individual and structural level, is a constitutive feature of stigma that perpetrates unfair treatment and marginalizes those who dissuade abstinence (Angermeyer et al., 2013, 2013a; Hatzenbuehler et al., 2013; Palamar et al., 2012; Wood et al., 2014). Discrimination brings to the forefront attention on the producers of rejection and exclusion, rather than focusing on the marginalized people who are the recipients of the discrimination (Sayce, 1998). But stigma should not be defined through discrimination alone because this constricts our understanding of the negative consequences stigma can produce. Sayce (2003: 628) emphasizes that "social exclusion . . . is a useful term to draw common cause with other groups facing inter-locking processes leading to joblessness, lack of hope and so forth. However, 'social exclusion' does not capture the key process of identifying particular types of human 'difference', like psychiatric impairment, and attributes to them all kinds of undesirable attributes (being dangerous, unpredictable, anti-social, etc)."

Structural discrimination constrains stigmatized groups through "social policy, laws, institutional practices, or negative attitudinal social contexts" (Link and Phelan, 2014: 25). For example, with the deinstitutionalization of people with psychosis to local communities, not-in-my-backyard (NIMBY) reactions has led people with mental illness being located in less desirable places in cities and away from persons who desired their exclusion (Link and Phelan, 2014). Because structural discrimination is achieved on a macro-level, there is an intervention requirement to deal with stigma on a much wider individual and policy level to facilitate stigma change, impacting large numbers of people and multitude of outcomes (Cook et al., 2014). Structural discrimination is coincident with a lack of policy support directed at helping addicts (Barry et al., 2014), and consistent with "systematic cut-backs to both health and welfare spending" (Jackson et al., 2014: 245).

Particularly for health-related sigma, stigma is better understood in terms of the relation between discrimination and disadvantage, and social power relationships (Deacon, 2006). Link and Phelan (2001: 375) re-conceptualized stigma as dependent on social, economic and political power—"it takes power to stigmatize". Hatzenbuehler et al. explain:

> *Stigma thwarts, undermines, or exacerbates several processes (i.e., availability of resources, social relationships, psychological and behavioral responses, stress) that ultimately lead to adverse health outcomes. Each of these stigma-induced processes mediates the relationship between stigma and population health outcomes.*
>
> (Hatzenbuehler et al., 2013: 815).

Reducing stigma can occur by changing the balance of power between stigmatizers and the stigmatized group by not sanctioning the stigmatizers to achieve their goals. Incarceration and fear-based appeals may not always work, when when thinking about a public health strategy for illegal drug users (Bayer and Fairchild, 2015). Livingston et al. (2012: 40) add: "criminalization of substance using behaviors exacerbates stigma and produces exclusionary processes that deepen the marginalization of people who use illegal substances".

By way of connecting labeling, stereotyping and discrimination, Link and Phelan constructed a revised conception of stigma in terms of power relationships:

> *Stigmatization is entirely contingent on access to social, economic and political power that allows the identification of differentness, the construction of stereotypes, the separation of labeled persons into distinct categories and the full execution of disapproval, rejection, exclusion and discrimination. Thus, we apply the term stigma when elements of labeling, stereotyping, separation, status loss and discrimination co-occur in a power situation that allows them to unfold.*
>
> (Link and Phelan, 2001: 367).

Considering current under-recognition of stigma focusing on individual circumstances, Link and Phelan see discrimination as an important component of stigma that matters when considering its influence on a multitude of untoward outcomes which impact real life chances ranging from personal well-being to employment, housing, etc. Link and Phelan (2006) argue that it would be pertinent to consider these life

chances to obtain information on the conditions under which stigma is connected to unequal outcomes in real-life circumstances. It is suggested that this information would culminate to demonstrate significant effect on people's lives.

To facilitate change to discrimination, Link and Phelan suggest that it is important to consider the following two approaches:

> *The first is that any approach must be multifaceted and multilevel. It needs to be multifaceted to address the many mechanisms that can lead to disadvantaged outcomes, and it needs to be multilevel to address issues of both individual and structural discrimination. But second, and most important, an approach to change must ultimately address the fundamental cause of stigma—it must either change the deeply held attitudes and beliefs of powerful groups that lead to labeling, stereotyping, setting apart, devaluing, and discriminating, or it must change circumstances so as to limit the power of such groups to make their cognitions the dominant ones.*
>
> (Link and Phelan, 2001: 381).

As stigma includes human differences, negative value on different people and treating people unjustly, an effective change policy must involve power as it relates to a multifaceted multi-response to stigma. It is emphasized that with any intervention to produce change to attitudes or beliefs, modifications may be required to power relations to block the dominate group to achieve their desired ends (Link and Phelan, 2001).

Sayce (2003) also agrees that discrimination cannot be countered unless steps are taken to limit the use of power, by passing laws, or changing the beliefs of people in power positions. As expressed by Sayce, it is imperative for social change that everyone is involved- government, employers, clinicians, service providers, social agencies, educationalists, etc. because "social exclusion" involves all of these people:

> *If we limit anti-`stigma' campaigns to encouraging people in distress to overcome their own negative attitudes, we may achieve the objective of making people more likely to accept treatment- which may be seen as high priority by service providers and by companies with vested interests in marketing their products. The treatment may (or sometimes may not) be*

of benefit but the discrimination consequent on being diagnosed mentally ill rests unchallenged.

(Sayce, 1998: 342).

Criminal drug policies have displaced the emphasis on public health to law enforcement, with unintended consequences (Roberts and Chen, 2013). Threat and enforcement of law is not enough, inasmuch as there is a requirement to communicate the positive promotion of an inclusive society which is involved in structural discrimination toward marginalized people like addicts. It is important to educate and litigate, making use of a range of different approaches, suited to different circumstances (Sayce, 2003). Link and Phelan (2001) reiterate that short-term isolated change initiatives are not long-lasting, but require campaigns and legal reforms that intervene in different ways over a long process of change. For example, mental health discrimination laws in the UK have laid the groundwork to reinforce that discrimination on mental health terms is not only unethical, but illegal.

Education is not by itself enough to change behavior. Sayce suggests approaches to change the relationship between stigma, discrimination and disadvantage:

The most promising strategic approaches to reducing discrimination appear to be to introduce anti-discrimination law, which sets a benchmark for what our societies consider acceptable in treatment of disabled people; and to back it with practical programmes to increase work opportunities, grassroots initiatives to improve access to social opportunities in general, and public education and media influencing work to shift people's constructions of the issue. Involvement of users in planning and delivering the messages and methods appears to advance the work most rapidly, because of the effect on members of the public of meeting with, witnessing, being with, people whom they have traditionally feared or despised.

(Sayce, 1998: 339).

In addition to the passing and enforcing of laws, Sayce (2003: 632) emphasizes that there is a requirement for interventions at "the level of social discourse (media work, awareness-raising, film and culture)". These interventions have the capability to broaden the understanding of the public, to facilitate change and to promote acceptance of the change that maintains stigmatization.

1.2   **Strategies for Reducing Stigma**

There is evidence for three strategies for reducing stigma: protest, education and contact (Brown, 2012; Chan et al., 2009; Corrigan and Gelb, 2006; Corrigan et al., 2012).

Considering that organized protest is a way to ask individuals to shun stereotyped presentations of stigmatized individuals found in the media, protest is not very worthwhile to suppression efforts as untoward "rebound" effects may occur, exacerbating stigma (Macrae et al., 1994; Penn and Corrigan, 2002). Protest may potentially backfire and aggravate the stereotype associated with the stigma (Corrigan et al., 2001; Corrigan and Penn, 1999; Monteith et al., 1998). Education, in challenging inaccurate stereotypes or misconceptions, provides more informed decisions and does produce reduction in stigma (Corrigan et al., 2007a; Corrigan et al., 2001a; Kolodziej and Johnson, 1996; Mann and Himelein, 2008).

1.2.1 <u>Mental Disorders</u>

Previous research suggests that mental disorders are not perceived equally, and require different interventions because of variations in levels of stigma and dangerousness attributions (Boysen and Vogel, 2008; Nielssen and Large, 2010; Pescosolido et al., 2010; Torrey, 2011). Interpersonal contact is reported as the most robust intervention in reducing negative attitudes toward persons with mental disorders (Corrigan and Penn, 1999; Couture et al., 2006; Link et al., 2002; Pescosolido and Martin, 2007). Linking education and contact was also found to improve students' attitudes toward mental illness (Chan et al., 2009; Pinfold et al., 2003; Rusch et al., 2005; Schulze et al., 2003; Stuart et al., 2011), resulting in reductions in prejudice and discrimination (Corrigan and Penn, 1999; Kolodziej and Johnson, 1996) and increasing short-term knowledge (Pinfold et al., 2005; Stuart, 2006). Indirect video contact was also found to be effective in positively impacting mental health stigma, and was associated with decreased social distance and negative emotions (Brown et al., 2010; Corrigan et al., 2007; Nguyen et al., 2012; Reinke et al, 2004).

It has been well documented that familiarity with the stigmatized person (Anagnostopoulos and Hantzi, 2011; Corrigan et al., 2003; Corrigan et al., 2001), presentation of factual information (Penn et al., 1999; Watson and Corrigan, 2001) and self-reported contact (Desforges et al., 1991; Penn and Martin, 1998; Holmes et al., 1999) have had a positive impact on reducing stigma toward individuals with mental illness and related feelings of dangerousness (Corrigan et al., 2003: Link and Cullen, 1986; Penn et al., 1994).

A meta-analysis of outcome studies (Corrigan et al., 2012) confirmed that contact produces greater improvement in public anti-stigma initiatives, with significant results in behavioral intentions like social avoidance, but not in the affect domain such as anger and fear. More personal contact does result in less stigmatizing attitudes, behavior intention changes and positive impact over time (Abbey et al., 2011; Penn et al., 1999; Pettigrew and Tropp, 2006; Pinfold et al., 2005). Contact has been found to be a more promising approach to anti-stigma programs by its direct interactive level of familiarity than by educationally contrasting myths versus facts about mental illness disabilities (Couture and Penn, 2003; Eisenberg et al., 2012; Holzinger et al., 2008; Jorm and Wright, 2008).

School-based curriculum-contact in college age students has also been found be an effective intervention approach (DeSocio et al., 2006; Patten et al., 2012; Pittman et al., 2010; Wood and Wahl, 2006). In a literature review assessing the effectiveness of various stigma reduction interventions, Dalky (2011: 343) reports: "educational and contact-based strategies toward developing stigma reduction programs were found to be promising and effective approaches for achieving the most sustained knowledge gain or positive attitudinal behavioral changes needed to decrease the stigma associated with mental illness". Other studies involving face-to-face contact combined with education also report stigma-reduction effectiveness (Holzinger et al., 2008; Mann and Himelein, 2008; Rusch et al., 2005). There is additional supportive evidence to suggest that education and contact intervention are important in developing more favorable attitudes toward prognosis and treatment (Ballon and Skinner, 2008; Galka et al., 2005; Gill and O'May, 2011). Although not as significant as in-person contact, videotaped contact has also been shown to have a diminishing effect on stigma towards an adult population (Corrigan et al., 2012).

The literature also suggests that exposure to factual information, brief educational interventions or short anti-stigma workshops can be effective to reduce stigma, including decreased preference for avoidance (Essler et al., 2006; Evans-Lacko et al., 2010; Quinn et al., 2011; Saporito et al., 2011). Relatively brief training programs on nurses and clinicians also have positive impacts in working with substance misusers (Cameron et al., 2010; Munro et al., 2007; Rassool, 2004).

There is ample evidence that content is relevant to foster and modify attitudes (Holmes et al., 1999; Olson and Zanna, 1993; Roche, 1997; Wallach, 2004). Brief seminars can improve student and resident attitudes toward substance abuse patients (Iannucci et al., 2009; Karam-Hage et al., 2001; Matthews et al., 2002). Education programs can reduce stigma associated with substance abuse (Penn et al., 1999). Notably, Stuart and Arboleda-Florez (2001a: 249) reported for a public sample: "those with the highest knowledge of schizophrenia were 10 times more likely to express highly tolerant attitudes, compared with those with the least amount of knowledge".

Although educational intervention in the form of courses or factual information does dispel negative and/or inaccurate stereotypes, and improves student attitudes, it is apparent that improvements in education alone may not be maintained in time (Corrigan and O'Shaughnessy, 2007; Corrigan et al., 2001; Keane, 1990; Penn et al., 2003). Corrigan (2011: 825) explains: "research generally shows that contact (or contact integrated with education) has greater effect than education alone on attitudes and behaviors (although behaviors are more difficult to assess and thus are less examined) and that positive outcomes of contact seem to last longer than the effects of education". Earlier research supports these findings that negative public attitudes (Corrigan and Watson, 2002, 2007) may be positively influenced by previous direct interpersonal contact (Angermeyer et al., 2004, Corrigan et al., 2001a). Kolodziej and Johnson (1996: 1394) note: "contact interventions seem especially effective when they occur during general training of undergraduate students and when measures pertain to specific individuals". However, exposure to interpersonal contact with persons addicted to heroin is not a fact of the public's everyday life (Ormston et al., 2010) and enhances erroneous negative stereotypic expectations (Rusch et al., 2011).

1.2.2   Addicts

Stigma reduction is important as negative stereotypes contribute to addicts' poor health and impact their ability to undergo successful treatment, full recovery and satisfactory re-integration into society (Anderson and Ripullo, 1996; Corrigan and Rusch, 2002; Singleton, 2011; Vigilant, 2004).

Despite having regular contact with their patients, mental health professions hold stigmatizing attitudes, and contribute to the social exclusion of addicts (Berry et al., 2010; Peris et al., 2008; Schulze, 2007; Stromwall et al., 2011). McLaughlin and McKenna (2000: 6) emphasize: "over the last three decades, a common theme emanating from the research literature is that health care staff abhor and dread illicit drug users". This enduring state provides cause for further evaluating humanized and individualized care, bereft of fear and loathing (Allman et al., 2007; McLaughlin and Long, 1996).

Healthcare professionals also demonstrate distancing attitudes comparable to the general public (Hansson et al., 2013; Lauber et al., 2004, 2006; Nordt et al., 2006). In their critical review of the literature on healthcare professionals' perceptions of illicit drug users, Skinner et al. (2009: 236) provide evidence of common stereotypes: "illicit drug users as difficult, aggressive, demanding, manipulative, deceitful, difficult to communicate with, unmotivated, time-consuming, unpredictable, entrenched and unwilling to change". Health professionals often express moralistic and negative opinions, attitudes and intentions, imbued with non-improvement sentiments, toward substance mis-users (Glozier et al., 2006; Moos, 2005; Richmond and Foster, 2003; Tipper et al., 2006).

Stigma-laden feelings toward unhealthy and risky drug use does not promote social inclusion, and are impediments to carrying out clinical practices (Amaral-Sabadini, 2010). Ignorant, unhelpful and negatively judged relationships are a barrier to social inclusion (Tew et al., 2012), to willingness to seek treatment (Huxley et al., 2009; Ronzani et al., 2009; Thornicroft et al., 2008) and to personal health recovery outcomes (Corrigan and Phelan, 2004; Schon et al., 2009; Topor et al., 2006).

1.3   <u>Theoretical Framework for Validation of ESEM Attribution Model</u>

Currently, stigma associated with heroin addiction is an understudied area of investigation (Livingston et al., 2012; Luoma, 2011; Palamar et al., 2011), with most attention given to harm associated with substance use disorders (Jordan et al., 2008; Logie and Gadalla, 2009; Mak et al., 2007a). The review of the current literature uncovered any prior research investigating an attribution measurement model toward persons addicted to heroin, nor on measures calibrated to assess the multidimensionality of addiction stigma. The majority of the attribution model literature, with validated measures, is centered on severe mental illness (Angermeyer et al., 2003, 2004; Corrigan et al., 2002).

The goal of the dissertation's study was to address this gap in the literature by examining and validating an attribution measurement model for persons addicted to heroin. It is evident from the available studies that addiction stigma is considered a multi-factorial construct comprised of cognitions (attributions), prejudice and discrimination (Corrigan et al., 2009; Kulesza et al., 2014; Stuber et al., 2008; Van Boekel et al., 2013). This approach is largely captured by Corrigan et al.'s (2002) attribution questionnaire items/factors. Grounded in the work of Weiner (1995) and Reisenzein (1986) representing cognitive-emotional-behavioral processes, Corrigan et al.'s questionnaire was originally designed to capture attributions toward persons with severe mental illness, and includes items intended to examine inferences about dangerousness, negative affects and discriminatory intentions.

Using Exploratory Structural Equation Modeling (ESEM), an adapted version of the questionnaire was used to examine perceptions of persons addicted to heroin. The attribution model included personal responsibility, pity, anger, helping behaviour, dangerousness, fear and avoidance factors. Using a comparing-models approach in developing validity for new measurement models (Myers, 2013), additional measures were simultaneously imputed with the 7-factor attribution model to test alternate factor solutions involving social avoidance (Link et al., 1987; Penn et al., 1994), level of familiarity (Corrigan et al., 2005; Holmes et al., 1999) and education (ie., Sociology-Social Control course).

In reviewing revant attribution studies (Angermeyer et al., 2004; Corrigan et al., 2002, 2005; Rose et al., 2012), moderate correlations were found between these most widely-used measures and an attribution measurement model. Because of these relationships, substantial overlap or cross-loading between factors/items were expected because of the multidimensionality of addiction stigma. All items/factors were simultaneously entered in EFA/ESEMs in a step-wise approach with the attribution measurement model to determine if these measures contributed to convergent validity.

Using Mplus software, ESEM was used to allow item indicators (ie., questionnaire items) to cross-load between the seven factors. This theoretically produces "a significantly better representation of the data than constraining all cross-loadings at zero (via CFA)" (Trepanier et al., 2015: 52). A measurement model, particularly one that evaluates personal responsibility and dangerousness factors/ item indicators would likely have many cross-loadings because of underlying reactions toward persons addicted to heroin. By incorporating these cross-loadings via ESEM, this study sought to overcome the overly restrictive CFA assumptions wherein item indicators load only on their corresponding factors (Booth and Hughes, 2014). The ESEM method diverges from the CFA method in that all factor loadings are estimated for model identification (Asparaouhov and Muthen, 2009). The dissertation's study evaluated model fit and compared maximum and mean inter-factor correlations within corresponding CFA and ESEM measurement models.

The dissertation evaluated the validity and reliability of the ESEM 7-factor attribution measurement model in a four stage process: review of questionnaire by panel of experts, preliminary analysis via pilot-test, validation and replication. Further details on multifactorial methodology are provided in Chapter 2.

Note: The dissertation did not test the causal models specified in Corrigan et al. (2002) and did not develop and test any path models in the way a true structure model would be tested, but rather, the study tested different measurement models. In the imputation of data, all factors were tested simultaneously, in a stepwise approach, in one CFA, EFA and ESEM.

1.3.1   Attribution Theory

Consistent with a number of attribution studies (Angermeyer et al., 2004; Corrigan, 2000; Corrigan et al., 2002), attribution theory was chosen as the theoretical framework to validate an attribution measurement model involving perceptions toward persons addicted to heroin. This framework is particularly useful in understanding stigma, as "attribution theory traces a path from a signaling event (a label), to an attribution (or stereotype), to an emotion (negative), and finally to a behavioral response (discrimination)" (Stuart, 2008: 185).

Weiner et al. (1988) used controllability to study reactions toward stigmatized groups in terms of causal inferences involved in a cognitions (attributions)-emotions-behaviors paradigm. Controllability is defined as to whether or not an individual or group is considered to control their behavior, and the ensuing perceptual implications which may explain or support this relationship. Attribution theory states that individuals who have been perceived to have caused their own stigma will be assessed more negatively with respect to personal responsibility and blame than those individuals who are stigmatized as a result of adversity or the actions of others (Haider-Markel and Joslyn, 2008).

For example, declaring that heroin addiction is a chronic relapsing disease with medications available as treatment (National Institute on Drug Abuse, 2014) may suggest that the victim cannot be held accountable for their behavior as addiction is regarded as a disease in a medical sense. However, if one views heroin addiction as personal choice, this suggests that addicts are in control of their condition, and are held accountable for their addiction. It would be anticipated that the perceived controllable cause of the addiction would stimulate greater anger and negative affect toward persons addicted to heroin. Conversely, addicts not perceived in control of their condition may be pitied by others.

Attribution theory is pertinent to addiction stigma as it relates causal events involving blame/responsibility, controllability/non-controllability, affect and behavioral intentions toward

stigmatized groups (Cobb and deChabert, 2003; Law et al., 2009; Steins and Weiner, 1999; Weiner et al., 1988). Corrigan et al. (2009: 143) found that drug addicts were held "significantly more responsible for their disorder compared to people with mental illness or those in a wheelchair". Moreover, those who regard drug addicts as morally deficient (Husak, 2004) have historically held them responsible for their condition (Rivers et al., 1986; Simmons, 1969), and have demonstrated the highest measured social distance, encouraging social exclusion (Albrecht et al., 1982; Martin et al, 2000). When comparing different disparate groupings, Schwarzer and Weiner (1991) found that respondents were unwilling to give help for socially stigmatized individuals, like drug abusers. These relationships were not only found in the general population (Crisp et al., 2005; Lin, 1993; Menec and Perry, 1998), but also in mental health care providers' punitive judgments that substance misusers are recklessly engaging in willful misconduct (Kelly and Westerhoff, 2010). Addicts continue to be moralized by health professionals (Ronzani et al., 2009; Steenbergh et al., 2012).

1.3.1.1   Dispositional vs. Situational Factors

In terms of cognitive and affective assessment influencing future behavior however, Weiner's attribution theory does not take into consideration the over-emphasis of stable dispositional factors, and ignores situational factors. Attributions may be distorted by cognitive biases that overestimate dispositional or personality-based explanations for behavior. Moreover, the most salient perceptual information may dictate an individual's perception of a stigmatized person.

Cultural differences (Choi et al., 1999; Link et al., 2004; Mason and Morris, 2010) may play a role in bias and how individuals create attributions. Consistent with prior studies, East Asian (EA) individuals, including Chinese, Korean and Japanese, were found to be more sensitive to situational explanations (ie. external factors like situations, roles or the broader social context) for behavior over dispositional ones (ie. internal factors like personality and temperament) than Americans (Choi and Nisbett, 1998; Menon et al., 1999; Norenzayan et al., 2002). The tendency to be biased toward personal dispositional explanations

is defined as "fundamental attribution error" (Ross and Nisbett, 1991) or "correspondence bias" (Gilbert and Malone, 1995). In terms of cultural differences, it was suggested that dispositional bias may be unique to Western cultural traditions (Mason and Morris, 2010), and has consequences for interpersonal interactions and potentially anti-stigma strategies. Considering dispositional descriptions of "psychotic patient" vs. "mentally-ill patients", the former dispositional attribution may be viewed more negatively by the Western public (Corrigan et al., 2000). For this group, dangerousness attributional thought processes may be culturally biased (Manusov and Spitzberg, 2008) and affect cognitive mediation, subsequent emotions and avoidant behavior, different from Eastern and Asian cultures.

1.3.1.2 **Social Context Antecedents**

Attributions are influenced by social context antecedents that include rule structures, collection of conventions, personal ideology, religion and life experience to interpret social reality and shape attributions (Haider-Markel and Joslyn, 2008; Link et al., 2004). As a shortcoming, attribution theory does not incorporate these processes "through which explanations are achieved in everyday life" (Semin, 1980: 291). This disregard for social context may lead to incorrect attributions resulting from the perception and comprehension of behavioral events (Newcombe and Rutter, 1982). For example, the inference that "persons addicted to heroin are not responsible for their symptoms and cannot care for themselves" may be replaced by "most persons addicted to heroin have some control over their behaviors and can live independently with sufficient supports" (Corrigan, 2000: 61). For the public, causal inferences about a heroin addict's behavior requires supplementary information to challenge stereotypic misconceptions about the addict's condition. Exposure to educational content (Boysen and Vogel, 2008), such as a risk assessment for personal harm rather than prejudice (Nutt et al., 2007), may lead to greater tolerance and social acceptance. However, as the public regards addicts as more dangerous than persons with depression and schizophrenia, pre-existing knowledge and attributing behavior to enduring stereotypes about addicts may be more consistent and persuasive than conflicting factual evidence that may help to produce empathy in lower stigmatization (Palamar et al., 2011).

Attributing dispositional and internal factors for control and external, uncontrollable factors for less blame may lead to self-serving bias and attribution errors caused by reductionist thinking in perceiver's interpretation of stigmatized persons. In a just-world, the internal factors may match the public's bad expectations of addicts, whereas the external factors may not match their pre-existing causality information about addicts. The perceiver may also not act in a rational, logical way, in opposition to attribution theory's mechanistic assumptions underlying the causal relationship within the cognitive (attribution)-emotion-behavioral paradigm.

Underlying attribution theory, it is anticipated that interpretations of past behavior and what caused that behavior will be important to perceivers to predict future behavior. If there is a change in perceived causality regarding controllability, it is anticipated that a co-incident change in perceptions will also occur. Corrigan (2000: 59) acknowledge that "perhaps the biggest flaw in attribution research is that most studies have measured the effect of attributions and emotional responses on how research participants say they would behaviorally respond, not on how they actually responded". For example, measures of social distance employ a self-report scale, and the perceivers are not responding to actual real-world behavior.

Coincidentally, in terms of a cognitive algorithm of what information perceivers actually seek and use when trying to explain observed behavior and interactions with others, Newcombe and Rutter (1982a) emphasize that consensus, consistency and distinctiveness are important, as they argue that it is unlikely that perceivers use these variables spontaneously. This co-variation information is seldom found in attribution studies because of the complex and time-consuming nature of the required content analysis.

1.3.2   **Stereotypes**

Stereotypes are efficient, social, knowledge structures (Corrigan and Rusch, 2002; Corrigan and Watson, 2002; Hilton and von Hippel, 1996; Judd and Park, 199) that represent a collectively agreed-upon set of attributes that are typical of a stigmatized group (Palamar et al., 2011). The research suggests that

stereotypes may be learned through interaction with family, friends, teachers, etc., or they may develop through contact with one's in-group or the persons being stereotyped (Triandis and Vassiliou, 1967).

The conceptual mechanism of a stereotypy involves categorization, non-discrimination, error-fullness, cognitive rigidity, simplistic thought, phenomenal absolutism, selective distortion, invariance, underestimation, value judgments, misnomers and misperceptions (Bogardus, 1950; Hilton and Von Hippel, 1996; Judd and Park, 1993; Schoenfeld, 1942). The research supports the notion that prejudice is to a great extent found in the mechanization of a stereotype, predominately when responses are not subject to close conscious scrutiny (Devine, 1989).

Stereotypes about individuals with substance abuse problems persist and are extremely negative (Luoma, 2011). Negative labeling advances prejudicial reactions of anger and fear (Corrigan and Wassal, 2008; Corrigan and Watson, 2002; Martin et al., 2007), and increases propensity for social avoidance (Angermeyer et al., 2009; Jorm and Oh, 2009; Liekens et al., 2012; Schomerus et al., 2009). This atttracts discriminatory actions (Rusch et al., 2005) and results in deleterious effects on quality of life (Frischknecht et al., 2011; Marcussen et al., 2010).

Stereotypes govern understanding of a stigmatized group (Corrigan and Watson, 2002a). As most have no direct personal experience with heroin addicts, the public's information about addicts is largely influenced by negative media stereotypes (Dean and Rudd, 1984; Lavack, 2007; Link et al., 1999; Mandell and Amsel, 1976). Drug addicts historically have been regarded with intolerance, apprehension, repulsion and disgust (Kitsuse, 1962; Romney and Bynner, 1972; Schur, 1965; Wolfgang and Wolfgang, 1971). Unless stereotypical characterizations or misinformation are neutralized by closer familiarity or exposure to stigmatized groups, the "kernel of truth" argument continues, with errors being "explained by perceptual biases, processes that are solely related to cognitive mechanisms and not the truth value of the evidence" (Corrigan et al., 2003a: 146).

In consideration of socializing agents, Angermeyer and Schulze (2001: 470) note: "in addition to traditional influences in this process such as family, the educational system and occupational roles, the mass media have recently assumed growing importance as a source of information and imagery in the formation of attitudes and beliefs". Through an analysis of public opinion surveys between 1978 and 1998, Blendon and Young (1998: 828) found that "the majority of Americans (68%) report getting most of their information about the seriousness of the illicit drug problems from the news media, mainly television". The news media has adopted a stance that illegal drug use is dangerous, and illegal drug users cause criminality (Taylor, 2008). The fear, engendered in society, of drug related crime has led to the increased criminalization of drug policy, with coercion and segregation of illegal drug users winning over funding for health and welfare services (Hunt and Stevens, 2004).

Notwithstanding, threat-based rhetoric justifies and perpetuates drug control legal policies. Attention has diverted from public health and focused on law enforcement (Barrett, 2010). Warburton et al. (2005: 59) reiterate: "the current debate about heroin policy rests on narrow stereotypes of the drug, how it is used and its impact. Current policy promotes these stereotypes, and the stereotypes reinforce the legitimacy of current policy". With regards to moral stigma, stereotyping labels persons addicted to heroin to undesirable characteristics, and it is these discrediting characteristics that differentiate 'us' from 'them' (Link and Phelan, 2001). The web of addiction leads to social inequality, exclusion and the marginalization of illicit drug users from the social mainstream (UNODC, 2008). The public's lack of familiarity with addictions raises the potential to discriminate against those that differ by supporting the war on drugs, and by disregarding human rights infringements (Barrett et al., 2008; Bewley-Taylor, 2005).

Where there is no contact, first-hand information or diverse range of personal experiences, there is evidence to suggest a strong association with perceived dangerousness, arousing feelings of anxiety and increased avoidance (Link et al., 1987; Link et al., 1999; Phelan et al., 2000). The evidence suggests that

education programs have the potential to raise awareness, and to affect less stigmatizing attitudes (Cleary et al., 2009; Corrigan et al., 2004a; Yiu et al., 2010).

1.3.3   <u>Dangerousness</u>

There is limited substantiation on the relationship between illicit drugs and violent offending (Torok et al., 2012). Drug dependent persons ie., with a chronic, compulsive drug-taking behavior (Parmar et al., 2015) were reported as being highly vulnerable to economic-compulsive violence to support their addiction (Boles and Miatto, 2003; Koo et al., 2008; Stevens et al., 2007; Weiner et al., 2005). Illicit drug users have been found to experience higher victimization rates than the general population (McElrath et al., 1997; Stewart et al., 2004), with cocaine use (and not heroin) significantly predicting violent victimization (Koo et al., 2008).

The evidence indicates that persons dual-diagnosed with co-occurring severe mental illness and substance abuse/dependence have a higher incidence of violence than people with substance abuse/dependence alone (Elbogen and Johnson, 2009). Alcohol use was also significantly associated with homicide rates (Chermack and Blow, 2002; Pridemore, 2002; Rossow, 2004). Additionally, violent crime was established at higher rates amongst drug and alcohol treatment populations (McKeganey and Norrie, 2000; Neale et al., 2005).

Using a set of vignettes based on DSM-IV criteria, Link et al. (1999) found that people with drug addiction were perceived by the public as most likely to be violent, followed in order by alcohol dependence, schizophrenia, major depression and troubled person. Pescosolido et al. (1999: 1342) established that public opinion was most consistent for individuals with drug addiction: "the effects of drug dependence on evaluations of dangerousness both to oneself and to others were the largest". Yet, it is apparent that levels of dangerousness for heroin users surpasses actual evidence of personal violence to others, with polydrug use associated with acquisitive criminal involvement (Hayhurst et al., 2013).

The public perceives problem drug users as "deviant personalities with a predisposition to chemical dependence that leads to complete mental, physical and moral decay" (Ghatak, 2010: 52). The use of illegal drugs is seen as personally-threatening in relation to criminal victimization (Rolles, 2009; Seddon, 2011), and is morally castigated most often by society (Corrigan et al., 2005; Durrant et al., 2011; Link et al., 2001; Swindle et al., 2000).

In a 1996 survey, the public rated people with cocaine addiction as 87% likely to commit violent offences, compared to those with alcohol dependence (71%), schizophrenia (61%), major depressive disorder (33%) and a "troubled person" (17%) (Torrey, 2011: 893). Pescosolido et al. (1999), in surveying the American public, found that over 85% of respondents rated drug dependent individuals as very or somewhat likely for undertaking violent behavior. Referencing a baseline survey (Crisp, 1998), Ritson (1999: 549) notes that drug addiction was the highest rated in terms of danger to others (74%), compared to the degree of stigmatization attached to six most common mental health disorders: severe depression, panic attacks, schizophrenia, dementia, eating disorders and alcohol. In terms of disapproval, heroin is rated at the top for highest ratings for "potential addictiveness" (Room, 2006) and with the highest harm ratings for an illegal drug (Nutt et al., 2007).

Stereotypes of dangerousness strongly influence the public's prejudice and discriminatory behavior toward addicts (Corrigan et al., 2003, 2004; Link and Cullen, 1986). As perceived dangerousness is a critical component of stigma (Link et al., 1987; Penn et al., 1999; Steadman, 1981), the public remains both fearful and ignorant of heavily stigmatized heroin addicts. With increasing endorsement of the biological basis of addiction, Boyd (2002: 399) reiterates: "the disease model of addiction portrays drugs as dangerous, and the drug user as immoral, pathological, and out of control".

Even users of a controlled drug like ecstasy (Hammersley et al., 1999) distance themselves from heroin users, and view them as "junkies", "drop outs" "and losers" (McElrath and McEvoy, 2001). Amphetamine users view heroin users as "dirty" (Klee, 1998; Power et al., 1996). Similarly, cocaine users

feel superior to those using heroin and needles (Dunlap et al, 1990), and cocaine dealers look upon addicts, with prejudice, as "desperate and dirty" (Coomber, 1997). Finnigan (1996) reported that tobacco smokers and problem drinkers perceive heroin addicts to be dangerous. Avoidance of high-risk heroin addicts exists even among these disparate groups, and the use of a 'harder" more dangerous drugs like heroin is perceived as unacceptable (Palamar et al., 2012; Williams and Parker, 2001).

1.3.3.1 **Heroin Addicts and Violence**

For heroin users, the "drugs-crime link" has become the focus of policy development and practice to diminish the public's fear of drug-related crime (Duke, 2006).

The drugs-crime nexus continues as an enduring controversy, as the relationship between violence and drug use remains largely inconclusive (Oram et al., 2014; Seddon, 2006; Stevens, 2007; Torok et al., 2012). There is little evidence that illicit drug use is directly associated with violence in the general population (Mulvey et al., 2006; Parker and Auerhahn, 1998). Illicit markets and drug dealing contributes to an underground economy that has escalated to a billion dollar business, including greater opportunity for violence, conflicts and retaliation (Goldstein, 1985; Neale et al., 2005; Topalli et al., 2002).

Research investigating the causation of drugs and violence is largely inconsistent (MacCuon et al., 2003; Martin et al, 2004; Parker and Auerhahn, 1998). Direct causality has not been established, with links being influenced by factors, such as effect of control legislation, drug availability, heterogeneity of the drug population, economy, role of poverty and social exclusion. Explanations for the drug-crime causal relationship are conflicting, yet it is apparent that heroin addicts, particularly unemployed users, predominately partake in drug dealing and acquisitive offending and property-related criminal activity, such as theft and burglary (Bennett and Holloway, 2005; Boland, 2008; Gottfredson et al., 2008; Simpson, 2003).

Heroin users are not considered principally responsible for violent offences (Belenko, 2006; Lasnier et al., 2010; Sacks et al., 2009; Swanson et al., 2006). A very small percentage of violent crimes, robbery and assault, are perpetrated by heroin users (Ball et al., 1983; Fischer et al., 2001; Roth, 1994). In fact, opioid use has a predilection to depress violent activity and is not recognized as generating pharmacological violence (Boles and Miotto, 2003). In a 2003-2006 arrestee survey, there is strong evidence to indicate that regular users of heroin or crack were more likely to commit acquisitive crime in the previous twelve months to arrest (Boreham et al., 2007; Jones et al., 2007).

1.3.3.2 <u>Co-morbidity and Violence</u>

Previous research suggests that comorbid mental disorders and substance use elevates the risk for personal harm to others (Edlinger et al., 2014; Hart et al., 2012; Morgan et al., 2013; Van Dorn et al., 2011). Criminal and violent victimization risk is increased by substance use (Chapple et al., 2004; Goodman et al., 2001; Hart et al., 2012; Hiday et al., 1999). Prevalence rates of violence were found to be affected by co-occurring mental disorder and substance abuse (Harris and Lurigio, 2007; Johns, 1997; Steadman et al., 1998). Users of multiple drugs tend toward a problematic lifestyle requiring instrumental violence and acquisitive crime to sustain their drug habit (Bennett and Holloway, 2005; Mulvey et al., 2006).

Sacks et al. (2009: 52) note: "for most offenders with substance abuse problems, the quantity of alcohol consumed and the frequency of drug use were associated with a greater probability of self-reported violence". The findings supports the belief that alcohol (ie. heavy drinking and drunkenness) is associated with violent behavior and criminal involvement (Boden et al., 2012; Boles and Miotto, 2003; Boreham et al, 2007; Marel et al., 2013). Alcohol is most commonly connected to increased aggression, although large doses of amphetamines, cocaine, LSD and PCP may lead to violent outbursts, associated with pre-existing psychosis (Roth, 1994). The link between alcohol and violence has been established for illicit drug use (Hoakan and Stewart, 2003; Parker and Auerhahn, 1998), particularly the use of cocaine in

combination with acute alcohol consumption (Chermack and Blow, 2002; Collins and Schlenger, 1988). The increased risk of violence relationship was also found for individuals with mental health problems and alcohol (Haggard-Grann et al., 2006; Lindqvist, 1991; Melnick et al., 2006; Mulvey et al., 2006).

Hence, there is some validity in the perception that public violence and crime is higher for psychiatric patients diagnosed with co-occurring mental and substance abuse disorders when individuals are under the influence of alcohol or drugs (Boles and Miotto, 2003; Rasinski et al., 2005; Spidel et al., 2010; Torok et al., 2014). For offenders released from prison and referred to substance abuse treatment programs, Sacks et al. (2009: 52) note that: "quantity of alcohol consumed and overall drug frequency were associated with a greater probability of self-reported violence".

Moreover, Douglas et al.'s meta-analysis (2009: 694) reveals "that comorbid psychosis and substance-related diagnoses produced substantially larger effect sizes than did psychosis alone". Penn et al. (1999) also reported that substance abuse tends to co-occur at a high rate with psychiatric disorders, such as bi-polar (Mueser et al., 1995) and antisocial personality disorders (Gerstley et al., 1990; Mueser et al., 2006; O'Malley et al., 1990) and, raises the risk for violence in psychiatric disorders (Swanson et al. 1990, 2006). Walsh et al. (2002: 493) further qualify: "substance abuse merely increases level of the risk rather than causing it" (Arseneault et al., 2000; Brennan et al., 2000).

1.3.3.3   Media and Violence

It is evident that the public's mental health knowledge is suboptimal, particularly for substance use disorders (Francis et al., 2003; Jorm, 2000).

What the public understands about illegal drugs, drug users and drug-related crime is largely garnered from the media (Miller, 2010; Taylor, 2008). In characterizing people impacted by health and social problems, the media is the principal source of communication to the public (McGinty et al., 2015). The

news and popular media plays a critical role in contributing much of the public's information about drugs and addiction (Laudet, 2007; Meurk et al., 2013), emphasizing dangerousness and unpredictability (Bolton, 2000; Dubugras et al., 2011; Goulden et al., 2011), and violence and sensationalized caricatures (Bilic and Georgaca, 2007; Klin and Lemish, 2008; Morgan and Jorm, 2009; Wahl et al., 2002).

The media infrequently addresses addiction causes and therapeutic treatment, and tackles addiction recovery as an ongoing individual process in overcoming problematic drug use (Neale et al., 2014; Yates and Malloch, 2010). Instead of refuting stereotypes and broadcasting accurate positive messages, the media (television or the movies) largely plays to public fears by communicating potent negative stereotypes (Stuart, 2003) and by providing distorted pictures of crime causation and criminality abuse (Dowler et al, 2006).

Heroin addict depictions in the media are largely inaccurate and influenced by selective reporting (Angermeyer and Matschinger, 1996; Link et al., 1992; Miller, 2010). Substance abuse problems are perpetrated by exaggeration of facts that evoke fear in the general public (Stuart and Arboleda-Florez, 2001). This inaccurate reporting is highly influential, perpetrating stereotypes that addicts are unpredictable and dangerous to others (Woll, 2005). Fear of addicts is influenced by media images of being high and out-of-control. Negative media coverage helps to promulgate, punitive legislation, including reluctance to fund services or community care (Stuart, 2003).

Drug market violence, however, does occur in systemic efforts through gangs and cartels to expand or retain market share of the particularly profitable illicit drug trade (Martin et al., 2009; Werb et al., 2011). Drug involvement, moreover, is indirectly connected with illegal activities by individuals to acquire funds to purchase drugs (Fagan and Chin, 1990; Fischer et al., 2001; Goldstein, 1985). Severe penalties are administered to dealers for trading and trafficking in drugs (Farabee et al., 2001; Kaye et al., 1998; Kokkevi et al., 1993; Wojtowicz et al., 2007).

Bennett and Holloway (2005: 78) report that persons "who use heroin, crack, and cocaine and a large number of other drug types have higher offending rates than those who use heroin, crack, and cocaine and a small number of other drug types". Bennett et al.'s (2008) drugs use-crime meta-analysis found that the odds of offending (crime measure= property crime, theft, prostitution, shoplifting) are about 3.0 to 3.5 times greater for heroin users than non-heroin users, with the odds of offending highest for crack users and lowest among cocaine users.

Notwithstanding, heroin addicts are depicted in the mass media as dangerous, predatory and violent, with criminal activities pre-disposed to support their habit, despite the evidence that the bulk of crimes are daily, habitual, low-level drug-related offenses. For heroin users, findings suggest a complex relationship based on static and dynamic predictors of criminal involvement based on co-occurrence of mental health conditions, lack of employment and extensive heroin use (Marel et al., 2013). As the risk of violence galvanizes social stigma and discrimination, the public's fear essentially surpasses the actual risk of personal harm to justify its stereotyping and high levels of stigmatization (Link and Stueve, 1995; Stuart and Arboleda-Florez, 2001; Pescosolido et al., 1999).

The mass media shapes the public's perceptions of heroin users as "deviant others" or "moral outsiders" (Becker, 1963) galvanizing the separation between "us" and "them", and prompting wider public fears about illicit drug users (Caulkins and Menefee, 2009; Lloyd, 2013; Palamar et al., 2011). The media promulgates misconceptions and myths, contributing to perceived dangerousness associated with addicts. As stigmatization about illegal drug use is nearly universal (Palamar et al., 2012), similar fear and avoidant behavior are evidenced in different countries (Angermeyer et al., 2004; Angermeyer and Matschinger, 2003; Levey and Howells, 1995; Madianos et al., 1987).

Accordingly, reporting in the news and prime time television is fraught with inaccuracies (Applegate et al., 2002; Robbers, 2007; Romer et al., 2003; Stuart, 2003a). News media accounts link stories to psychotic symptoms, posing risk and inciting fears of victimization from untreated mental illnesses

(Matas et al., 1985, 1986; McGinty et al., 2014; Williams and Taylor, 1995), influencing a wary public that supports punitive and criminal sanctions for social problems (Robbers, 2005). Hence, the public's opinion toward criminalized addicts is diversely founded on ignorance, social control and incapacitation (Applegate et al., 2002; Harrison, 2001; Mackey and Courtright, 2000; Wojtowicz et al., 2007).

1.3.3.4 <u>Substance Disorders and Domestic Violence</u>

It is evident that substance use disorder is a common risk factor for violent actions (Barrett et al., 2014; Fazel et al., 2009, 2010; Van Dorn et al., 2012; Yee et al., 2011). The increased risk of violence is attributed to alcohol facilitating disinhibiting aggressive impulses (Haggard-Grann et al., 2006; Ten Have et al., 2014). Co-morbidity worsens the association between substance use disorders and violence (Corrigan and Watson, 2005; Elbogen and Johnson, 2009). Intoxication (Fals-Stewart et al., 2003), together with an antisocial personality disorder, increases the likelihood for violence, especially domestic violence (Fals-Stewart et al., 2005).

There is a growing body of literature to substantiate the link between domestic violence and substance abuse (El-Bassel et al., 2005; Macy et al., 2009, 2013; Roche et al., 2007). This link between drug and alcohol abuse and partner violence stresses the negative impacts on the victim's well-being and on access to social services and treatment providers (Bennett and O'Brien, 2007; Macy and Goodbourne, 2012; Taft et al., 2010; Taylor, 2003). Both domestic violence and substance abuse are highly stigmatized, and are difficult issues for perpetrators to discuss when being confronted with representatives from the criminal justice system and from social service providers (Humphreys et al., 2005; Taylor, 2003).

Leaving their spousal residence to escape violence is a long and challenging process for women. Once relocated, women may still feel insecure, and may be exposed to further provocation by their ex-partners. Problematic drug and alcohol abuse exacerbates and contributes to incidents of violence, with the highest incidence of reported partner violence for the combination of crack cocaine and alcohol use. El-Bassel et

al. (2000: 223) reiterate: "a drug-using lifestyle may lead to partner violence because the routine activities and behaviors associated with using illicit drugs (such as a woman's involvement in buying, selling, and obtaining drugs, visiting shooting galleries and crack houses, conflicts around splitting and sharing drugs with main and casual partners, being forced to supply drugs for main partners through sex trading, stealing, or 'hustling' increase her risk of experiencing violent traumas of all types, including rape and physical assault by drug dealers and sex partners". The distress associated with drug withdrawal is also considered a risk factor related to domestic violence (Humphreys et al., 2005).

For women being treated for alcoholism, Berman et al. (1989) report that over 60% were beaten more than once and 81% were involved in chronic domestic violence. Humphreys et al. (2005) emphasize that the number of abused women increases considerably when domestic violence includes child physical abuse, sexual abuse and neglect. Women may resort to drinking and drug use in order to cope with the trauma of domestic violence (Downs et al., 1993; Rogers et al., 2003). Samples from refuges, accident and emergency departments report lower rates of domestic violence and substance abuse (Berman et al., 1989; Gleason, 1993; Hutchinson, 1999; Khan et al., 1993).

The research indicates that perpetration of domestic violence increases when they have a drinking issue or when they also have partners who abuse alcohol or drugs (Bennett and Williams, 2003; Budd, 2003; Hutchinson 2003; Thompson et al., 2003). There is also evidence to show that domestic violence perpetrators who conjointly use drug and alcohol commit more dangerous offenses than single drug users (Humphreys et al., 2005).

Children growing up with parental drug and alcohol misuse are at an augmented risk for serious harm, involving neglect of basic needs, compromised care and inadequate emotional support (Backett-Milburn and Jackson, 2012; Ghate, 2000; Kroll, 2004; Scaife, 2008). Mental health issues, criminal activity, poverty and domestic abuse add to the issues of parental difficulties, increasing the potential for children

to demonstrate significant emotional disturbance and behavioral problems (Holt et al., 2008; Kelley and Fals-Stewart, 2004).

Although there is a strong relationship between substance abuse and domestic violence, Humphreys et al. (2005: 1310) indicate that the issue of causality between alcohol, drug use and domestic violence remains contentious owing to crucial interacting factors involving "interaction of personal and cultural beliefs about substance use" and "abuse of power within intimate relationships". These factors require individual evaluation to understand their interactive roles in domestic violence abuse.

1.3.4   Social Distance

Social distance is a commonly-employed assessment of stigma (Link et al., 2004; Nguyen et al., 2012; Yang et al., 2012). Although not a direct measure of actual behavior, the evaluation of social distance represents discriminatory intentions towards a devalued minority group (Schmoerus et al., 2011).

1.3.4.1   Substance Disorders and Social Distance

As a measure of discrimination (Bogardus, 1925), the desire for social distance is regarded as the highest for drug addicts or for substance use disorders, as opposed to other mental disorders (Albrecht et al., 1982; Angermeyer, 2002; Beck et al., 2003; Corrigan et al., 2009).

Jorm and Oh (2009: 187) reported, in their literature review, that "greater social distance is desired from people with substance use disorders, followed by schizophrenia and then depression/anxiety disorders". This finding is corroborated by other studies (Breheny, 2007; Jorm and Griffiths, 2008; Marie and Miles, 2008; Norman et al., 2008).

1.3.4.2   Mental Disorders and Social Distance

Within the mental disorder literature, there are a number of recent studies that report direct associations between stigma, discrimination and increased social distance (Marie and Miles, 2008; Smith and Cashwell, 2011; Yang et al., 2012). The results from Corrigan et al.'s (2002) earlier study supports a direct relationship between the pernicious stereotype of dangerousness leading to fear (not cognitively mediated) and social avoidance.

In dealing with factors that influence the public's perceptions of mentally-ill people like schizophrenics, Angermeyer et al. (2003: 667) note: "our findings suggest that both labeling and beliefs about the causes and prognosis of schizophrenia, as well as the perceptions of those suffering from it as being unpredictable and dangerous, influence the public's desire for social distance".

1.3.4.3   Reductions in Social Distance

Education is associated with reduced social distance (Jorm and Oh, 2009; Grausgruber et al., 2007; Thornicroft et al., 2007; Van't Veer et al., 2006). Putman (2008) and Thornicroft et al. (2008, 2007) attribute the negative attitudes (prejudice) toward the mentally ill, mainly to the lack of understanding, based on ignorance of the mental disorder. Stuart and Aberleda-Florez (2001a) found a positive relationship between knowledge and less distancing behavior towards people with schizophrenia.

Increased contact is also associated with reduced social distance (Couture and Penn, 2003; Jorm and Griffiths, 2008; Jorm and Oh, 2009; Marie and Miles, 2008).

Chung et al. (2001), Lyons and Hayes (1993) and Rivera et al. (2007) provide additional evidence that field of study is important, as medical and occupational therapy area students who had previous contact with the mentally ill were more willing to interact with mental patients and showed less social distance.

1.3.5   <u>Personal Responsibility</u>

The dynamics of stigmatization for illegal drug use is nuanced by the perceived responsibility for addiction. Crisp et al. (2000) found that two out of three respondents felt that drug addicts were blameworthy for their addiction, compared to other mental disorders. Personal responsibility and social distance associated with mental illness has been reported to be less pronounced compared to persons with substance or drug addiction (McGinty et al., 2015; Pescosolido et al., 2010; Weiner et al., 1988).

The public perceives that drug addicts are not morally blameless (Boysen and Vogel, 2008). Addicts are held personally responsible for their behavior because they have free will to say "no" to their using illegal drugs. Stylianou (2004: 431) reiterates: "on the one hand, behaviors perceived as harmful may, in result, be perceived as immoral because harming oneself may be considered immoral". The immorality of addiction heightens personal responsibility, and negatively influences support related to alternate modes of social control and treatment policies (Carlson and Williams, 1993; McCleary, 1981; Miethe, 1984; Stylianou, 2003). Even portraying drug addicts with successful treatment leads to desired more social distance than from people with mental illness (McGinty et al., 2015).

Drug addiction is considered a "controllable" behavior by the public (Schomerus et al., 2006; Weiner et al., 1988). Punitive responses to heroin addicts are based on their personal culpability for illegal drug use (Ackers, 1993; Elliott and Chapman, 2000; Husak, 2004). With expectations that people with addictions might be aggressive, Van Boekel et al. (2013) also found that personal responsibility, fear and anger were positively related to higher intentions to impose restrictions on people with illicit drug addiction.

In validating Weiner's attribution–emotion model (Weiner, 1993) in the context of dual diagnosis vs. non-dual-diagnosis groups, Niv et al. found that substance abuse in persons with severe mental illness (SMI) is significantly correlated with families' attributions and affective reactions:

Results indicate that family members view their ill relatives as more responsible for their pychiatric symptoms if they abuse alcohol and drugs than if they do not abuse alcohol or drugs.

Niv et al. (2007: 312).

Niv et al. (2007: 311) found that relatives "also perceived the symptoms to be more controllable and judged the patients to be more responsible for their symptoms than did relatives of patients with SMI only". This finding confirms Barrowclough et al.'s (2005: 889) study that reported "relatives of patients with schizophrenia and co-morbid substance misuse were found to attribute patient problems to factors more internal, personal and controllable than did relatives of single diagnosis patients".

1.3.6 <u>Level of Familiarity</u>

The literature research has predominately focused on the effect of contact on stigma associated with mentally-ill people (Corrigan et al., 2001; Corrigan and Watson, 2002; Evans-Lacko et al., 2012; Roth et al., 2000), with findings of less ostracizing, critical attitudes, less blame and less anger (Boyd et al., 2010), and decreased stereotyping (Alexander and Link, 2003; Angermeyer and Matschinger, 2005). Contact with the mentally ill, despite increased potential of harm from them, also diminished perceptions of dangerousness (Phelan and Link, 2004). The evidence also reported that if the general public has regular personal contact with a minority group, it is more likely to sustain positive attitudes toward that group (Gaertner et al., 1996; Pettigrew and Tropp, 2006).

There is abundant support in intervention studies of contact's ability to de-stigmatize mental illness, highlighting its importance in undergraduate training (Kolodziej and Johnson, 1996; Shor and Sykes, 2002) and in student contact-based educational programs (Nguyen et al., 2012; Stuart, 2006; Stuart et al., 2011; Wallach, 2004). Contact has been shown to be the more important part of an intervention, when education and contact have been combined (Pinfold et al., 2005; Schulze et al., 2003). In another study, familiarity was found to augment the impact of education in reducing stigma (Rusch et al., 2005).

Live social contact (Corrigan et al., 2010; Rusch et al., 2008) and filmed / DVD/ video interventions (Brown, et al., 2010; Clement et al., 2012; Kerby et al., 2008; Wood and Wahl, 2006) were associated reducing stigma about mental illness. Changes to mass media messages, raising awareness and delivering correct information have also improved stereotypic attitudes (Jorm et al., 2005; Morgan and Jorm, 2009). Extending further from mental health findings, investigations reported that contact is related to lower levels of stigmatization. In a number of studies, the amount of reported contact was associated with more positive attitudes toward psychiatric patients and acceptance of people with mental disorders (Angermeyer and Dietrich, 2006; Cho and Mak, 1998; Read et al., 2006; Shera and Delva-Tauiliili, 1996). A positive correlation was also found between an increase in contact and a reduction in discrimination (Angermeyer and Dietrich, 2006; Corrigan et al., 2009; Read et al., 2006; Schulze et al., 2003). Importantly, Corrigan and Shapiro (2010) provide evidence that attitude change after contact is sustained over time and changes behavior.

In their meta-analytic synthesis, Kolodziej and Johnson (1996: 1388) indicated that reduced prejudice would more likely occur when participants that have contact with members of a stigmatized group have the following conditions "(a) equal status, (b) a high degree of collaboration, (c) motivation, (d) repeated contact over time, (e) personal rather than formal interactions, and (f) support from the institution in which the contact occurs". Kolodziej and Johnson's review of 35 studies indicated that contact is an effective attitude change tool, leading to greater acceptance of the stigmatized group, regardless of dimension.

1.3.7 Social and Demographic Characteristics

In reviewing the stigma literature, lamentably, there is a distinct paucity of studies relating social and demographic characteristics to attributions toward persons addicted to heroin.

The studies on mental illness stigma that were reviewed were largely inconclusive. Attribution studies that were reviewed reported no significant demographic differences for undergraduate students (Brown, 2008; Corrigan et al., 2002; Law et al., 2009). Despite these insignificant findings, some key social demographic findings related to mental illness are presented.

With respect to the mentally-ill, research evidence indicates that fear of violence was common for young respondents (Pinfold et al., 2003; Putman, 2008; Secker et al., 1999), for the regular public (Wolff et al., 1996); and, healthcare professionals (Brinn, 2000; Mukherjee et al., 2002). In an adult survey of attitudes toward a vignette of a character with mental illness, Alexander and Link found significant relationships between respondent demographic characteristics and desired social distance from the character, and the perceived dangerousness of the character:

> *For all general dangerousness analyses, younger age and higher education level were consistent predictors of lower perceived dangerousness across contact variables, while minority ethnic status predicted higher dangerousness. Age was the most consistent predictor of vignette dangerousness and vignette social distance across contact types. For all analyses of vignette dangerousness, younger age and male gender were associated with lower levels of perceived dangerousness. For all analyses of vignette social distance, younger age and lower income predicted lower vignette social distance.*
>
> (Alexander and Link, 2003: 284).

Martin et al. (2007) reported that older respondents require increased social distance from individuals with mental disorders. Older respondents were significantly less knowledgeable and more distancing than were their younger counterparts. Moreover, Alexander and Link (2003) reported that lower level income earners demonstrated less social distance toward the mentally ill. With regards to racial and ethnic disparities in mental illness stigma, there was inconclusive evidence reported on ethnicity as a significant demographic variable in terms of desired social distance (Rao et al., 2007).

Inasmuch as personal experience with the mentally-ill has a diminishing effect on stigmatizing attitudes, the research indicates that respondent personality and social characteristics, as confounding variables, are mostly not significant in combating stigma (Cuomo and Ronacher, 1998; Holmes, 1999; Stylianou, 2003).

1.4   <u>Labeling Theory, Criminal Stigma and Persons Addicted to Heroin</u>

Considering discredited attributes that stigmatize and exclude heroin users, it is also the intention of this study to investigate informed reactions toward "secondary deviance" (Goffman, 1963), effects of criminal stigma on addicts. According to labeling theory, these personal consequences include "alteration of personal identity, exclusion from conventional opportunities, and an increase in further deviance" (Paternoster and Iovanni 1989: 383). With the scarcity of addiction stigma research in general (Semple 2005), there is no prior study which empirically examines perceptions toward the criminal stigmatization of heroin addicts, norn assessed the "secondary deviations" associated with addicts (Anitha, 2007; Bayer, 1977; Lindesmith, 1965; Room, 2005).

Labeling theory was developed during the 1960s and 1970s, and was prominent during this time (Plummer, 2011). It was conceived as a perspective involving an interactionist theory of labelling that espoused deviance as a consequence of social reaction (Goode, 2014). Its demise was routinely publicized during late 1980s (Paternoster and Iovanni, 1989). The lack of testable propositions and empirical verification were labeling theory's main criticisms (Grattet, 2011). With labeling theory's continuance in contemporary topics over the past three decades, its legacy lives on explicitly in research on crime and delinquency, mental health, social control, criminology and media construction of crime (Greer and Reiner, 2014; Matsueda, 1992; Plummer, 2011).

Existing research has demonstrated that heroin addicts are regarded as the most stigmatized group, evoking very high levels of perceived dangerousness, fear arousal and avoidance. Criminal labeling arouses negative social reactions, designating persons addicted to heroin as being immoral, weak-willed and unpredictable in nature. Addicts, as offenders, are viewed as deeply discredited members of society, and the public tends to distance themselves from social interaction with addicts. Through stereotypes and

negative attributes, persons addicted to heroin are discriminated against, socially excluded and marginalized from society.

As secondary deviations (Lemert, 1951), the personal consequences of stigma on addicts are severe, and are the result of criminal offending and incarceration over their lifetime. Criminal stigma is more likely than in the absence of labeling to affect strengthening of a deviant identity, to further participation in offending behavior and to increase association with like-minded individuals due to structural impediments to ordinary life.

Although the personal consequences of negative labeling on the well-being of addicts have been recognized, the criminal justice system continues to stigmatize and hinder addicts under the guise of protecting the public's welfare.

Please refer to Appendix A for a more detailed discussion of labeling theory, criminalization and the personal consequences of criminal stigma on persons addicted to heroin.

Chapter 2: <u>Methodology</u>

Structural equation models involving attributions toward addicts are rarely tested (Corrigan et al., 2009; Frischknecht et al., 2011). It is suggested that some of this gap in the literature is explained by the scarcity of validated measures involving perceptions toward persons addicted to heroin.

2.1   <u>Aim of Research</u>

Based on Weiner's (1995) attribution theory, Corrigan et al. (2002) developed a model of personal responsibility and dangerousness, describing the relationship between stigmatizing attitudes and discriminatory behavior. Using structural equation modeling, the aim of this study was to evaluate an adapted version of this attribution model for persons addicted to heroin in a number of stages, using data collected from students enrolled at two universities in Toronto.

The study did not follow Corrigan et al.'s experimental manipulation of causal attributions. The investigation involved Exploratory Structural Equation Modeling (ESEM), a new versatile data analytic tool that integrates both exploratory and confirmatory factor analysis, and structural equation modeling (Asparouhov and Muthén, 2009). The study was largely comprised of a psychometric evaluation of goodness-of-fit indicators and correlation analyses, including carrying out an evaluation of test-retest reliability, power and minimum sample size, and effect sizes.

ESEM overcomes the restrictions associated with CFA by allowing item indicators to cross-load on multiple factors (Marsh et al., 2014). The no cross-loading assumption in CFA (ie., "in which each item is allowed to load on one factor and all non-target loadings are constrained to be zero" is often too restrictive (Marsh et al. 2009a: 440). The evidence has indicated that this leads to biased representations of data, the calculation of distorted factors and substantially inflated correlation coefficients, undermining CFA's discriminant validity and decreasing its diagnostic usefulness as a measurement tool for well-differentiated factors (Guay et al., 2015; Trepanier et al., 2015).

Using a community college sample of students, Corrigan et al. (2002) employed a confirmatory factor analysis within their study to obtain psychometric support for two models involving personal responsibility and dangerousness toward people with serious mental illness. Corrigan et al.'s attribution model's psychometric properties were previously assessed, yielding Cronbach's alpha=0.88 comprising a sample of relatives of schizophrenic patients (De Sousza et al., 2012), and reporting Cronbach's alpha=0.82 from an Italian version of the attribution questionnaire (Pingani et al., 2011).

Considering the limitations of the CFA approach, the ESEM approach would appear to be better in simultaneously validating the 7-factor attribution model particularly where it is likely that the CFA approach may not be able to fit the data adequately because of its inflexibility in measuring factors. As the untested 7-factor attribution model toward persons addicted to heroin consisted of multiple factors, there was likelihood that CFA can substantially distort results because it is unable to measure cross-loadings across all factors. ESEM/EFAs permit each indicator item (ie., one questionnaire item) within each factor to cross-load on all other factors, whereas, CFAs constrain each indicator item to load on one and only one factor. With item indicators loading only on one factor, the restrictive CFA structure then was "likely to inflate correlations among the factors and undermine the usefulness of a multidimensional perspective" (Marsh et al. 2009a: 445). Hence, an ESEM approach has been positioned as likely to fit the data properly in a well-defined, meaningful factor structure, especially where applied research results from CFAs may be evaluated as suspect and lead to distorted subsequent structural analyses.

As part of the validation methodology, the intention was to compare ESEM and CFA processes, and determine which approach fits the data better. The study focused on using indices that were sample size independent, and with particular attention given to size of the inter-factor correlation coefficients among the seven attribution factors. As a test for the appropriateness of the ESEM 7-factor attribution model, the CFA approach was evaluated to determine if it fits the data adequately according to recommended indices and if CFA distorts the size of factor correlations because of the imposition of forcing all cross-loadings to be zero.

While the Personal Responsibility and Dangerousness models have demonstrated good psychometric properties including high internal consistency, an ESEM 7-factor attribution model has never- to the author's knowledge- been tested on attributions toward persons addicted to heroin, nor administered on Sociology students.

2.2   Research Design

The design included a four-stage validation of an adapted 7-factor attribution model for persons addicted to heroin. All analyses were performed using Mplus (Muthén and Muthén, 1998-2012), a powerful statistical software program for the analysis of latent variables, to perform Confirmatory Factor Analysis (CFA), Exploratory Factor Analysis (EFA) and Exploratory Structural Equation Modeling (ESEM). CFA and ESEM models were tested to investigate the factorial structure of the adapted attribution model. For each analyses, 7-factor attribution models were simultaneously tested.

CFA tests data to determine if the data fits a hypothesized measurement model based on specified factors (ie. CFA evaluates an a priori structured model and tests hypotheses). CFA requires the researcher to specify the number of factors and their item indicators beforehand. In the CFA solution, each item indicator of the attribution model was allowed to load on its respective factor only. By contrast, EFA discovers a factor structure established by data (ie. explores the factor structure) and attempts to maximize the extent of variance explained. In the EFA/ESEM solution, all loadings were freely estimated. The seven factors of the attribution model were allowed to freely correlate in both the CFA and EFA/ESEM solutions.

2.3   Ethics

The topic of drug addiction is a sensitive issue. Heroin is not only an illegal and addictive substance, but also is considered morally unacceptable. It is perceived as unsafe, linked to dysfunctional behaviors and unhealthy lifestyles, and resulting in personal and family distress (Von Hippel et al., 2008; Lloyd, 2013). Heroin users are believed to be unworthy of support (Eaton et al., 2014; Lloyd, 2010; Room, 2005).

In the Level of Familiarity Report section of the questionnaire (see Appendix B, Question 2), the students were asked to indicate their contact relationship with a person addicted to heroin and hence, disclosure of sensitive personal information:

- least intimate- "I have never observed a person that I was aware had a heroin addiction" (rank=1)
- medium intimacy- "I have worked with a person addicted to heroin at my place of employment" (rank=6)
- most intimate- "I have a heroin addiction" (rank=10)

For the likelihood that there may be students who were/are addicted to drugs and may experience distress caused by unresolved personal problems, the questionnaire included information regarding how to call local drug assistance agencies in Toronto, Ontario Canada, just in case counselling was required for themselves or members of the students' families, ie., call (416) 595-6111 (within Toronto) or 1-800-463-6273 (toll free).

The study is in compliance with the University of Stirling Data Protection Guidelines (July 2001) and the UK Data Protection Act 1998 and with Scottish Educational Research Association Ethical Guidelines for Educational Research 2005 (SERA) guidelines, item 9 on Voluntary Consent.

Based on this compliance, the students were guaranteed anonymity and confidentiality to bolster their confidence in responding to the survey. Moreover, the students' participation was entirely voluntary during survey administration. The respondents had the option of not completing all or any questions on the questionnaire. If the students did not complete any section, there were no consequences on the

respondent. The students could withdraw from completing the survey at any time. No individual personal information or student identification numbers, as an intrusion of privacy, was collected to disclose the student's relationship to a person addicted to heroin. Structural equation modeling is analyzed on a group basis, and is NOT involved in individual student analysis. Hence, there was no way of tracking or detecting individual responses. The students were also informed that electronic data was anonymized and would be destroyed once the dissertation is fully concluded.

All ethical standards for conducting research with students, together with any ethical or legal obligations mandated by the concerned universities were strictly observed. Ethics approval was granted for all four stages of survey administration. The research was authorized and supervised by the two universities in Canada and by the University of Stirling, Scotland, UK.

2.4   <u>Methods and Measures</u>

The following sections contain detailed information on the methodology used to test an attribution model for persons addicted to heroin.

In all stages of questionnaire administration, the students were asked to respond to persons addicted to heroin *in general*, instead of measuring their responses to a person as depicted in a hypothetical vignette. Brown (2011: 138) supports this general stance: "it may capture respondents' inexperienced or unsophisticated attitudes and perceptions towards an identified, labeled group, thus capturing 'real world' attitudes (and possibly erroneous) among the lay public towards a specified group". It was decided not to present vignettes labeling a set of behaviors/characteristics or perhaps less accurate descriptions of persons addicted to heroin, but to use a questionnaire with no descriptors of heroin addicts, "thereby sacrificing, perhaps, some of the face validity inherent in vignettes or simulations in order to maximize the questionnaire's practicality and internal validity" (Jorm et al., 2012: 1041). In assessing stigma or negative labeling with respect to a vignette character, Yap et al. (2013: 299) note that the vignette

character "may not reflect actual experience or behaviors". Moreover, Hengartner et al. (2013: 273) emphasize: "vignettes are sensitive to the case description and usually depict prototypes that one may not frequently encounter in daily life".

2.4.1   Stage 1

Panel testing was facilitated by two subject matter experts during the first week of March 2011. Pilot-testing was completed on student participants at the University of Toronto and at York University in Toronto, Ontario, Canada.

In establishing a face validity review of the items in the questionnaire for pilot testing, a small panel of independent expert raters from the Centre for Addiction and Mental Health (CAMH), Toronto, Ontario, Canada evaluated the scales comprising the questionnaire early March 2011, to assess item indicator relevance in relation to students' perceptions of persons addicted to heroin. Minor adjustments were made to the Personal Consequences of Criminal Stigma portion of the questionnaire to enhance item wording, with some stigma outcome items broadened in the final form of the questionnaire.

2.4.2   Stage 2

The objective of the on-line pilot study was to develop and test an attribution measurement model. Corrigan et al.'s (2002) attribution questionnaire was adapted to test a 7-factor structure for persons addicted to heroin through exploratory (EFA/ESEM) and confirmatory factor (CFA) analyses. As endorsed by Hu and Bentler (1999), a multiple-index strategy was employed to evaluate structural validity (ie. convergent validity and goodness-of-fit). The analysis identified model fit measurements, which permitted the relative merits of exploratory-derived factor solutions to be evaluated when there is no a priori assumption regarding factor structure.

In an iterative approach, additional measures (ie Social Distance scale, Level of Familiarity report, and Personal Consequences of Criminal Stigma measure) were imputed with the 7-factor attribution model data. These measures were free to co-vary with each of the attribution model's seven factors to produce a more complex ESEM model.

From a theoretical model perspective, the pilot-test examined responses to an adapted version of Corrigan et al.'s (2002) attribution questionnaire and assessed its goodness-of-fit from data derived from Sociology students. It was important to investigate measurement model convergence for a new target group (ie., persons addicted to heroin), and to determine if the 7-factor attribution model would exhibit convergent validity from standard SEM indices designed to measure close fit to the data.

2.4.2.1   Pilot-Test Sample and Recruitment

The initial online pilot-test survey at the University of Toronto was administered via Blackboard web-based methodology for gathering and compiling data, with direct assistance from the Sociology-Deviance & Social Control (SOCIOLOGY 212Y) course instructors. The course was a full-year's duration during the Fall-Winter 2010-2011. Three hundred and six students were informed of the research, through emails and in-class announcements from the instructors, and asked to participate in the pilot-test. Several reminders were also forwarded to students to encourage them to complete the survey. Seventy-six students completed the questionnaire, for a response rate of 24.8%. Considering that n=200 is recommended for a valid student pilot sampling, the pilot-test was extended to students enrolled in Spring-Summer-2011 courses at the University of Toronto, involving Sociology 212 course: The Sociology of Crime and Deviance, and Sociology 209H5F course: Current Issues in Law and Criminology. To increase student response rate, the pilot-test was further extended, via on-line Moodle web application, to students enrolled in York University's Summer-2011 Sociology 3810 course: Sociology of Crime and Social Regulation.

2.4.2.2   Pilot-Test Measures

Consistent with previous published attribution research and similar measures, a self-report questionnaire format was deployed.

The research method engaged cognitive (attributions), emotional and behavioral measures. The students were administered the following adapted measures as a means to assess the stigma related to persons addicted to heroin at a time when such measures are needed to investigate an emotive and often misunderstood target group:

- 20-item Attribution Questionnaire (Corrigan et al., 2002).
- Social Distance scale (Link et al., 1987; Penn et al., 1994).
- Level of Familiarity Report (Holmes et al., 1999).
- Personal Consequences of Criminal Stigma.

The Attribution questionnaire, Social Distance scale and the Level of Familiarity Report are established psychometrically-sound measures of substance use stigma (Brown, 2011, 2008; Corrigan et al., 2009). However, the Personal Consequences of Criminal Stigma measure was developed by the author specifically for the dissertation's research.

The following demographic information was collected from the students: age, ethnic origin, marital status, working outside the home, living arrangements, and approximate grade point average last year.

According to best practices (Morin et al., 2013), ESEM method changes were made to model estimation to compare results, for example, using alternative rotational procedures to compare one method over another to determine best fit.

Appendix B contains the final student survey conducted in the in-class and on-line administration. Question 6 of the survey was only used in Stage 4 of the student administration and data analysis.

2.4.2.2.1 **Attribution Questionnaire**

In consideration of the literature review and the significant associations between substance abuse and mental illness (Wang et al., 2010), the 7-factor attribution questionnaire largely mirrors the content domain of public stigma and the cognitive(attributions)-emotional-behavioral processes shaping perceptions towards persons addicted to heroin- anger, fear, blame and avoidance.

Considering analysis strategy, Figure 2 schematically represented item indicators (ie., questionnaire items) for the simultaneous imputation of data to generate the 7-factor Attribution model. In EFA/ESEM solutions, all loadings are freely estimated, and the factors were allowed to fully correlate with eachother.

Figure 2 Data Imputation for the adapted 7-factor Attribution Model involving item indicators for each of the factors (Adapted from Corrigan et al., 2002: 297)
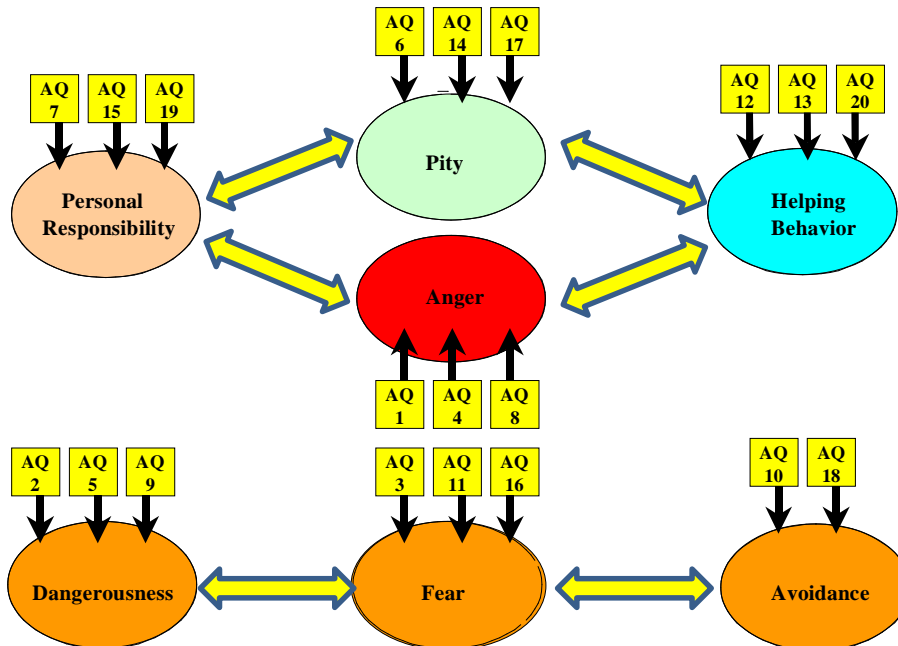
Individual questions (ie. AQ=item indicators for each of the 7 factors) within the Attribution questionnaire are numerically identified within the boxes. There are four Responsibility factors: personal

responsibility, pity, anger and helping behavior. Perceptions of Dangerousness involve appraisals of three latent factors: dangerousness, fear and avoidance.

The item indicators represent each of the 20 questions in the Attribution portion of the questionnaire. The item indicators associated with each factor are shown in bracketed numbers. There are three affective responses: pity, anger and fear, and two behavioural responses: help and avoidance. A 9-point Likert scale was used for each of the 20 items. Question 4 in the student survey (see first 20 item indicators) in Appendix A comprises the students' pilot-test Attribution questionnaire.

Factors	**Item Indicators**
(1) Dangerousness	_____ ____ _____
	(2) (5) (9)
(2) Fear	_____ _____ ____
	(3) (11) (16)
(3) Avoidance	_____ _____
	(10) (18)
(4) Anger	____ _____ ____
	(1) (4) (8)
(5) Pity	____ ____ ____
	(6) (14) (17)
(6) Personal Responsibility	____ _____ ____
	(7) (15) (19)
(7) Help	____ _____ _____
	(12) (13) (20)

The pilot-test strived to test whether there was adequate psychometric support for the adapted attribution questionnaire, that is, with respect to the stigma framework involved with personal responsibility and dangerousness for persons addicted to heroin.

2.4.2.2.2   <u>Social Distance Scale (SDS)</u>

The Social Distance Scale (SDS) was used to assess the students' level of tolerance toward persons addicted to heroin, interacting with responsibility and dangerousness attributions. The social distance scale is an established valid and reliable measure, demonstrating test-retest reliability correlation coefficient > 0.8 (Yamaguchi et al., 2013).

Social distance has been employed as a proxy for discriminatory practices and stigma toward the mentally ill (Lauber et al., 2004; Nguyen et al., 2012; Yang et al., 2012). Previous research has provided evidence that there is differentiation in social distance categorized by mental illness disorder (Corrigan, 2004a; Corrigan et al., 2001; Kasow and Weisskirch, 2010; Link et al., 1999). The evidence indicates that those who propagate stigma are more likely to distance themselves from afflicted individuals, with the resultant loss of status and discrimination that is associated with unequal outcomes (Levey and Howells, 1995; Madianos et al., 1987; Penn et al., 1994).

The Social Distance Scale (SDS) was adapted from the mental illness literature and reworded to ask questions about the acceptance of persons addicted to heroin. The SDS complemented the 2-item indicator avoidance factor in the Attribution questionnaire. The replacement of the 2-item Avoidance factor with the 7-item Social Distance Scale was considered unlikely to impact negatively the validity or reliability of the Attribution questionnaire.

As the SDS was initially constructed to survey interactions with the mentally-ill, it was modified to replace "to someone like Jim Johnson" with "to a person addicted to heroin". The scale includes seven

items, depicting different degrees of intimacy like lodger, co-worker, neighbour, etc. The students indicate to what extent they would accept a person addicted to heroin on each of the items along a scale of 0 to 3, where 0=definitely willing and 3=definitely unwilling. With the summation of scores across the 7-items, possible scores range from 0 to 21. The higher scores would represent greater avoidance of persons addicted to heroin. Cronbach's alpha of the seven items is to be calculated to measure the Social Distance scale's internal consistency. The SDS was administered during stages two, three and four.

Question 2 (Q.2) in the student survey in Appendix A comprises the 7-item Social Distance scale.

2.4.2.2.3   <u>Personal Consequences of Criminal Stigma</u>

The Personal Consequences of Criminal Stigma scale was authored by the writer and reflects some of the basic tenets of secondary deviations of labeling theory (Lemert, 1972). The statements emphasized labeling school's focus on subculture, identity and rehabilitation of deviants rather than centering on "their oppressors and persecutors" (Liazos, 1972: 108).

There are no studies available that consider Sociology students' reactions to the secondary deviations of labeling theory. Based on the stigma literature review, it is also evident that the public is not aware of the personal consequences of criminal stigma: reinforcement of a deviant self-image, maintenance of a sub-cultural existence and alienation from society. The Sociology students may respond with informed decisions, "tough stance" or harm reduction approaches toward treatment or law enforcement policy toward persons addicted to heroin. Compared with the public, it is expected that the Sociology students may have more information about the impact of stigma and the secondary effect of criminal labeling through their exposure to labeling theory lecture content administered by their course instructors.

These items were measured with a five-point Likert scale (0=strongly disagree to 5=strongly agree). Higher scores indicated more intentions to agree with the personal consequences of stigma. Cronbach's

alpha is to be calculated to measure the Personal Consequences of Criminal Stigma scale's internal consistency.

Question 3 (Q.3) in the student survey in Appendix A comprises the 4-item Personal Consequences of Criminal Stigma measure.

2.4.2.2.4 **Level of Familiarity Report**

According to the stigma literature review, there is substantial evidence to indicate that level of familiarity can influence emotional responses (ie. pity, anger, fear) and can lead to less stigmatizing attitudes, concerning avoidant behavior (Holmes et al., 1999; Link and Cullen, 1986; Penn et al., 1994).

Research has also found that familiarity is predictive of reducing misinformed prejudice, negative stereotypes and avoidant behavior (Angermeyer and Matschinger, 1996; Angermeyer et al., 2004; Holmes et al., 1999; Kasow and Weisskirch, 2010; Reinke et al., 2004).

The Level of Familiarity report in the questionnaire was adapted from the mental illness literature (Holmes et al., 1999) to gauge Sociology students' prior exposure to persons addicted to heroin. This exposure presents contact opportunities to challenge negative stereotypes. Wording in the scale was modified to replace "person(s) with (severe) mental illness" with "person addicted to heroin". The scale originally lists eleven situations of varying degrees of intimacy of contact (Corrigan et al., 2001, 2001a; Link et al., 1987; Penn et al., 1994).

The least intimate situation is "I have never observed a person that I was aware had a heroin addiction" (score=1), and the most intimate situation is "I have a heroin addiction" (score=10).

One item was dropped from the original 11-item measure (ie. "My job involves providing services/treatment for persons addicted to heroin") to make the measure more applicable for the Sociology students. Additionally, the level of familiarity report was also adjusted to meet the stringent ESEM 10-item criteria (Muthén and Muthén, 2012) for measuring continuous variables by the Mplus software program.

Students were asked to read the statements carefully and to indicate every statement that represented their experience with persons addicted to heroin during their lifetime. The index for this contact was the rank score of the most intimate situation reported. If a person checked more than one item, the index of familiarity was the rank score of the most intimate situation that was noted by the student.

There is some meta-analytic evidence for lowering of response rates for socially undesirable distortion, ie. under-reporting for drug use, or misreporting for sensitive questions (Tourangeau and Yan, 2007). However, there is also research to suggest that computer self-administration increases respondents' reporting of illicit drug use and reduces biases about mental health symptoms (Tourangeau and Yan, 2007; Richman et al., 1999). Irrespective, it may prove difficult to achieve an adequate sample of students who have reported intimate interaction with persons addicted to heroin.

Question 5 (Q.5) in the student survey in Appendix A comprises the 10-item Level of Familiarity report.

2.4.2.3   **Pilot-Test Methodology**

The structural equation modeling methodology examined the adapted 7-factor Attribution model with a cohort of undergraduate Sociology university students, exploring their perceptions of persons addicted to heroin.

Using structural equation modeling techniques, the factor structure of the Attribution questionnaire was previously validated in several published works involving adult and student samples, involving acceptable fit to the data (Corrigan et al., 2002, 2003). Evidence reported at baseline and follow-up yielded an acceptable and empirically-meaningful converged solution for perceptions toward persons with mental illness (Bathje and Pryor, 2011; Corrigan et al., 2002, 2003, 2007; Pingani et al., 2012).

Analysis, using ESEM/EFA and CFA, was used to determine if there was a need for model modification to obtain the optimal attribution measurement model factor structure. CFA confirms or rejects the factor specification based on item indicators from ESEM/EFA.

In measuring pilot-test responses, EFA/CFA information would provide validation evidence for the 7-factor structure of the Attribution questionnaire and support for a more complex model involving the imputation of three additional factors to the 7-factor attribution measurement model (Svensson et al., 2011): a Social Distance scale, Personal Consequences of Criminal Stigma measure and Level of Familiarity report.

2.4.2.3.1   CFA vs. EFA/ESEM

In Exploratory Structural Equation Modeling (ESEM), each item indicator is related to each latent factor found in the analysis. In comparison, confirmatory factor analysis (CFA) is restrictive in that there is only a direct link between item indicators and latent factors, ie., there is a requirement to specify a priori which latent factor is associated with what item indicators (see http://www.ats.ucla.edu/stat/Mplus/seminars/IntroMplus_CFA/default.htm for details on Mplus CFA capabilities). In CFA, each item indicators load on one and only one intended factor, with unintended loadings on other factors constrained to be zero (Marsh et al., 2010). It is likely that these item indicators will have secondary loadings consistent with underlying theory. Perry et al. (2015: 20) emphasize that secondary loadings can be expected "particularly within highly correlated subscales or aggregated

subscales". In ESEM, primary and secondary indicators are allowed to load freely on all factors (ie., latent variables).

For a CFA representation of the adapted 7-factor attribution model, the ovals in Figure 2.1 visually represents the attribution measurement model's latent factors, and rectangles represent the item indicators per factor. In keeping with modeling conventions (Hu and Bentler, 1998), bi-directional arrows linking the ovals to each-other represent the correlations between factors. Unidirectional arrows linking ovals to rectangles represent the cross-loadings per item indicator per factor. The CFA diagram also denotes the errors associated with the measured item indicators (in the interest of interpretability, only illustrated once in the dissertation).

In testing the hypothesized factor structure through CFA, all item indicators load on one, and only one factor (Morin et al., 2013). Non-target loadings are imposed as zero cross-loadings. This restriction in CFA can lead to misspecification issues when examining more complex, multidimensional or aggregated models (Perry et al., 2015). As Hu and Bentler (1998: 427) point out, misspecification can occur when "one or more parameters are fixed to zero where population values are non-zeros (ie., an under-parameterized mis-specified model". Tomás et al. (2014: 182) also note: "the misspecification of zero factor loadings usually leads to distorted factors with overestimated factor correlations that might lead to distortions in structural relations". This can lead to undermining of discriminant validity for correlations and their utility for diagnostic interpretation. The overly restrictive CFA assumptions have been shown to be problematic in a number of diverse applications, with recommendations that ESEM be used as a desirable alternative or at least a comparison to CFA for testing adapted questionnaires (see Tomás et al., 2014: 179-182).

Figure 2.1
CFA representation of 7-factor Attribution model
(adapted from Corrigan et al., 2002)
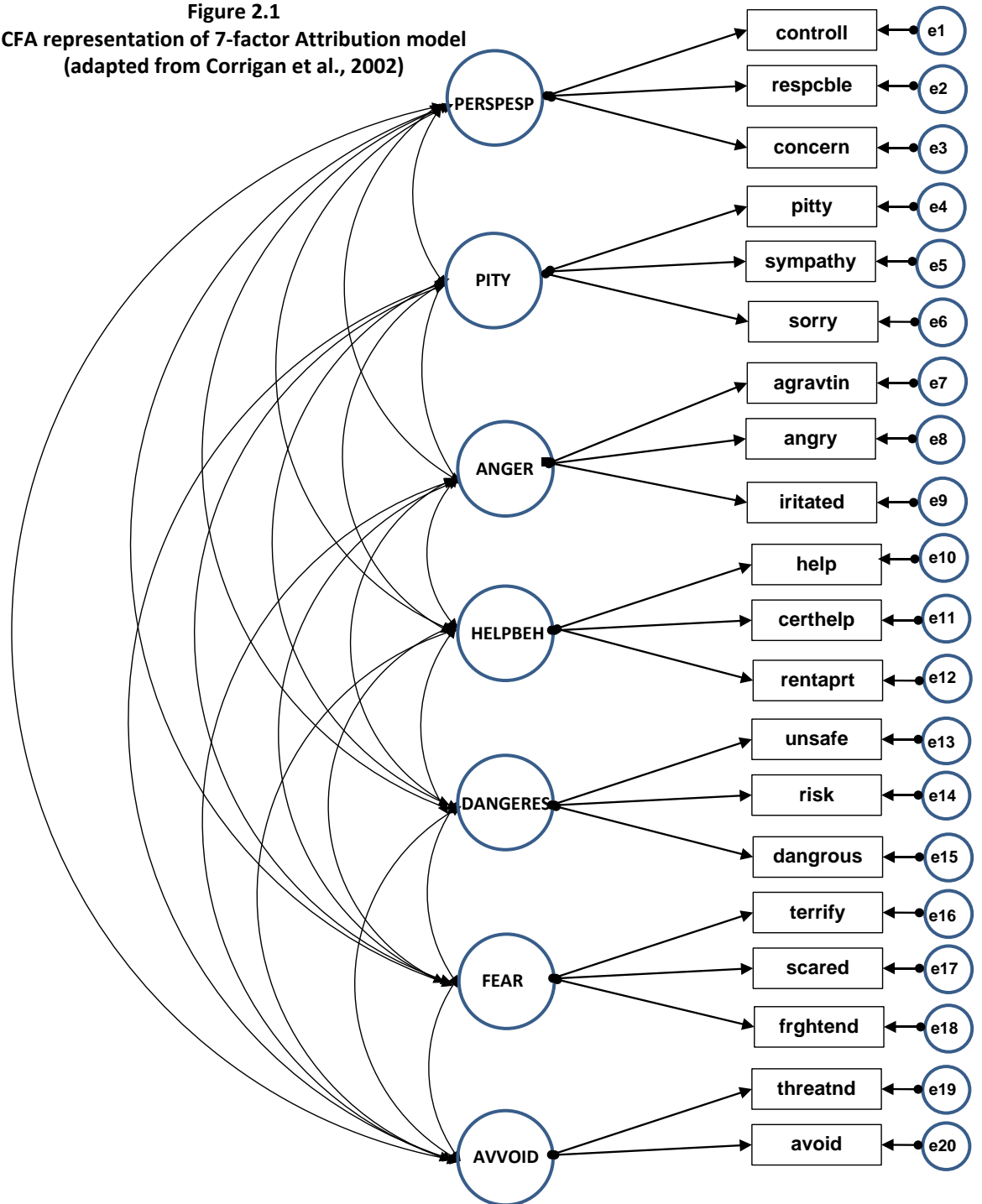
For an ESEM representation of the attribution measurement model, Figure 2.2 depicts that ESEM simultaneously estimates all seven factors at the same time, and allows the factors to freely correlate with eachother without imposing additional structure. All of the seven factors and the 20 item indicators are simultaneously estimated using Muthén and Muthén's ESEM program (Muthén and Muthén, 2012). With all factor loadings estimated, ESEM allows all of the item indicators to cross-load on all of the factors. ESEM is relevant to the validation of not well-defined factor structure, such as adapting a questionnaire used for severe mental illness for a different target group like persons addicted to heroin.

When examining extant literature, the findings indicate that ESEM is more flexible than CFA when testing corresponding models (Marsh et al., 2011a, 2013). The rotated cross-loadings are freely estimated in EFA/ESEM, with item indicators allowed to load on other factors. Marsh et al. (2010: 488) note: "because the number of factor loadings alone in ESEM applications is the product of the number of items times the number of factors, the total number of parameter estimates in ESEM applications can be massively more than in the typical CFA application". Where there are substantial cross-loadings at an item indicator level, ESEM avoids the existence of small item cross-loadings inaccurately fixed to zero, stringently present in CFA.

Considering applications of ESEM in other research areas (Guay et al., 2015; Myers et al., 2011; Tomás et al., 2014), ESEM normally outperforms corresponding CFA models by providing more exact representations of data among factors. By incorporating cross-loadings in the attribution model, ESEM "provides some control over the fact that items are imperfect indicators of a construct, and thus presents some degree of irrelevant association with other constructs (ie. systematic measurement error)" (Litalien et al., 2015: 5).

Figure 2.2
ESEM representation of 7-factor attribution model
(adapted from Corrigan et al. , 2002)
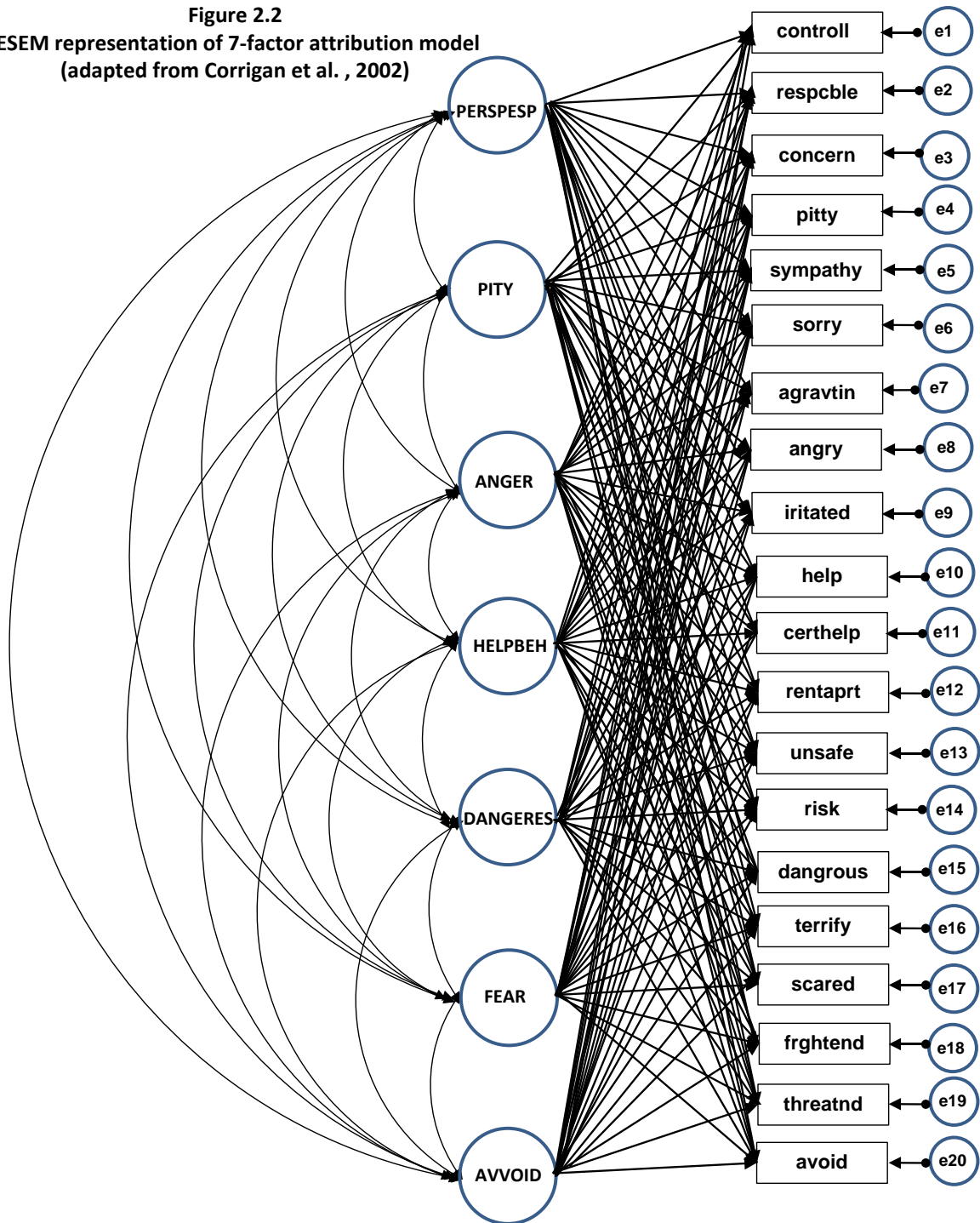
Congruent with recent research, the merits of ESEM are represented by better tests of model fit and by more exact representations of the factor correlations (Marsh et al., 2014; Morin et al., 2013). Furthermore, CFA demonstrated increasing size of relations between factors (ie., over-estimating correlations between factors) due to the impractical assumption in CFA of 0 cross-loadings for non-target factors. By incorporating cross-loadings in the attribution model, ESEM "provides some control over the fact that items are imperfect indicators of a construct, and thus presents some degree of irrelevant association with other constructs (ie. systematic measurement error)" (Litalien et al., 2015: 5).

ESEM, by overcoming the limitations of a CFA approach (Hopwood and Donnellan, 2010; Marsh et al., 2004), offers a less restrictive framework to conduct an evaluation of an attribution model's factor structure, particularly in testing its validity and reliability for persons addicted to heroin. As a viable alternative, ESEM is also recommended for iterative model development (Booth and Hughes, 2014). Moreover, ESEM is regarded as the preferred approach in exploring fit for more complex models which involve the imputation of multi-dimensional measures (Perry et al., 2015).

2.4.2.3.2 <u>Pilot-Test Goodness-of-fit Indices</u>

To be consistent with previous research, evaluation of model fit for the 7-factor attribution measurement model was applied in the pilot-test. EFA, CFA and ESEM models were specified, and typical cut-off values were used to reflect acceptable and close fit to the data.

The analysis did not focus on one index when considering overall model fit between the data and the specified model. Owing to ESEM's developmental mode and due to a lack of consensus on what is considered an acceptable fit, multiple fit indices were chosen, with cut-off values not considered as "golden rules", but as rough guidelines (Marsh et al., 2009; Morin et al., 2013). Different types of model fit were reported at each incremental level of analysis to avoid erroneous conclusions: absolute (ie., χ^2,

SRMR), parsimony-adjusted (ie., RMSEA), and incremental (ie., CFI ,TLI) (Bentler, 2007; Chen, 2007;

Hu and Bentler, 1998, 1999; Marsh et al., 1988):

Comparative Fit Index (CFI): "this statistic assumes that all latent variables are uncorrelated (null/independence model) and compares the sample covariance matrix with this null model" (Hooper et al., 2008: 55). The statistic considers sample size and executes well despite small samples. CFI ranges from 0 to 1, with 0.95 indicative of more than acceptable model fit (Hu and Bentler, 1999).

Tucker-Lewis Index (TLI): As an incremental relative fit index, TLI is "useful for comparing the fit of a particular model across samples that have unequal sizes" (Marsh et al., 1988: 393). It is similar to the CFI in that they both "estimate the differences between the examined model and a hypothetical (null) model where none of the components in the model are related". (Cook et al., 2009: 449). The TLI differs from the CFI "in that it penalizes lack of parsimony in the hypothesized model" (Cook et al., 2009: 449). In small samples, TLI "can indicate poor fit despite other statistics pointing towards good fit" (Hooper et al., 2008: 55). TLI ranges from 0 to 1, with 0.95 indicative of more than acceptable model fit (Hu and Bentler, 1999).

Root Mean Square Error of Approximation (RMSEA): defined as to "how well the model, with unknown but optimally chosen parameter estimates would fit the population's covariance matrix" (Browne and Cudeck, 1993; Tennant and Pallant, 2010). RMSEA ranges from 0 to 1, with a value of 0.05 indicative of more than acceptable model fit (Hu and Bentler, 1999).

Chi-Square (χ^2): "assesses the magnitude of discrepancy between the sample and fitted covariance matrices" (Hu and Bentler, 1999: 2). Larger values indicate poorer fit.

Standardized Root-Mean-Square Residual (SRMR): "is based on average differences between observed and predicted correlation matrices. It represents the average of all standardized residuals and can be interpreted as being the average discrepancy between the correlational matrices of the observed sample and the hypothesized sample" (Cook et al., 2009: 449). SRMR ranges from 0 to 1, with a value of 0.05 indicative of more than acceptable model (Hu and Bentler, 1999).

Despite the complexity of the models involved in our study (ie., more than 5 factors and at least 50 items) to "satisfy even the minimally acceptable fit standards" (Tomas et al., 2014: 184), more stringent close-fit cut-offs were used (Marsh, 2007; Marsh Tucker and Lewis, 1973):

• if TLI and CFI values are greater than 0.90 and 0.95, reflecting acceptable or close fit.
• if RMSEA value is between 0.08 and 0.10 (mediocre fit), 0.05 and 0.08 (fair fit), 0.05 or less (close fit), if ≥0.10 (poor fit) (Browne and Cudeck, 1993).
For 90% confidence interval (CI), values less than 0.05 for lower limit and less than 0.08 for upper limit for well-fitting model (MacCallum et al., 1996).
• if SRMR value is 0.05 or less.
• if χ^2 is statistically significant, then null hypothesis for n factors fitting the data is rejected.

Aside from the chi-square test, these fit indices are reported to be "the most insensitive to sample size, model misspecification and parameter estimates" (Hooper et al., 2008: 56). Moreover, the indices are considered relatively robust to sample size differences involved in multiple group comparisons (Lang et al., 2011; Maiano et al., 2013; Marsh et al., 1998).

The traditional χ^2 statistic is not considered as reliable as the other indices because of its sample size sensitivity and its tendency to increase in relation to non-normality especially in complex models (Herzog and Boomsma, 2009; Jackson et al., 2013; McIntosh, 2007). Consequently, the analysis in all stages of the dissertation reported χ^2 and significance level, but did not employ χ^2 to assess the degree of model fit. Similar sample size dependency issues were found with maximum likelihood χ^2/df ratio and its threshold value of 2.0 (Hau and Marsh, 2004; Marsh et al., 1988).

2.4.2.4   Pilot Test Statistical Analysis

In Stage 2, factor analysis was conducted using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) methodology, and further supported by ESEM. All analyses were carried out using Mplus Versions 6.12 (Muthén and Muthén, 2012). Mplus was employed to evaluate the quality of the adapted attribution questionnaire (ie., to identify bad item indicators within factors), and to satisfy that the 7-factor attribution measurement model met close fit criteria before proceeding to Stage 3 of the study.

The model results were reviewed and changes made for subsequent ESEM analyses. Additionally, the robustness of measurement model was further tested by changing some of the modeling parameters.

Consistent with published standards (Marsh et al., 2009), stringent cutoffs were selected according to hypothesis testing and model evaluation best practices, involving model misspecification, sample size, and estimation method criteria (Gau, 2010; Hu and Bentler, 1998; Marsh et al., 2009; Martens, 2005).

Note: Analyses in Stage 3 and Stage 4 were similarly conducted, using continuous item indicators and the default Mplus maximum likelihood (ml) estimator. Goodness-of-fit statistics were compared for the hypothesized model. Data were imputed relying on oblique Geomin rotation (default in Mplus), standardized rotated loadings and Pearson product moment correlations (Costello and Osborne, 2005; Fabrigar et al., 1999; McDonald and Ho, 2002).

2.4.3 <u>Stage 3</u>

The primary objective of Stage 3 was to validate an attribution measurement model for persons addicted to heroin by surveying the Sociology-Social Control students. All analyses were conducted with Exploratory Structural Equation Modeling (ESEM), Mplus version 6.12.

CFA and ESEM results were compared with respect to inter-factor correlations and model fit to investigate the advantage of the ESEM approach compared to CFA.

An iterative process computed a more complex model to test ESEM convergence with a larger factor structure: the 7-factor attribution model, the Social Distance scale, Personal Consequences of Criminal Stigma measure and Level of Familiarity Report. Cronbach's coefficient alpha was computed to determine the internal consistency of the measures.

Instead of "simple random sampling to split the data into halves" in Stage 3, testing analyses on Sociology- Social Control students was first conducted in Stage 3, and then verified with the validation sample of Sociology-Social Control students for replication in Stage 4 (Glass et al., 2013a). Apart from the timing of the survey administration, the Stage 3 and Stage 4 students participated in the same SOC313 curriculum. To be consistent with anonymity guarantees provided to the students in the questionnaire, there were no unique identifiers or matching of questionnaires at the two time-points. This further reinforced the confidentiality of student self-report data to the sensitive topic of heroin addiction.

2.4.3.1   **Sample and Recruitment**

In reviewing the stigma literature, there are no ESEM studies available relating university students' perceptions toward persons addicted to heroin related to a multi-scale Attribution model. No studies were available involving Sociology students' social distance toward persons addicted to heroin. In terms of labeling theory perspective, there was also no research available that evaluated student perceptions toward the personal consequences of criminal stigma on the well-being of addicts.

The research on college students' attitudes towards drug addiction, though descriptively useful, is predominately centered on prevention of student drug use through education and prevention programs (Baldwin et al., 2006; Coggans, 2006; Gray and Brown, 2009; Rosenberg et al., 2008).

The Sociology-Social Control (SOC313) students were recruited to validate the 7-factor attribution model. On January 24th, 2012, a survey was carried out in-class and subsequently on-line, employing a Blackboard application, at the University of Toronto in Toronto, Ontario, Canada. Data was collected near the beginning of the 4-month semester course.

In parallel with the pilot-test, the following demographic information was collected from the students: age, ethnic origin, marital status, working outside the home, living arrangements, and approximate grade point average last year.

2.4.3.2 Sociology and Liberal Attitudes

Sociology is generally regarded as essential element of a liberal arts education. Studies (Farnworth et al., 1998; Kain, 2007; McKinney et al., 2004) indicate that students in Sociology and the Social Sciences are generally more liberal-minded than students in the Sciences and the Humanities. Feldman and Newcomb (1969) explain these distinctive differences by asserting that curriculum involving a conglomeration of knowledge, skills and ideas determines attitudes, with students in the Social Sciences being more liberal than those in the Humanities and the Natural Sciences, and students in the Humanities being more liberal than students in the Natural Sciences.

2.4.3.3 SOC313 Course

The Sociology department at the University of Toronto is ranked as the 'best Sociology department in Canada' and 'one of the best in the world'. Based on its website (http://sociology.utoronto.ca/Page4.aspx), "the Department of Sociology combines excellence in research and teaching to systematically study human behavior in social contexts. Sociologists at the University of Toronto analyze social data and observe social patterns to address questions about our society and the ways in which it is changing. The results of research in sociology have far-reaching impacts. Not only do they inform the development of new ideas for understanding social interactions, they also inform social policy, programs and laws".

From the Sociology department's website (http://www.artsci.utoronto.ca/futurestudents/academics/progs/sociology), the Sociology curricula offer various courses that prepare students for traditional roles in social work, probation, corrections, policing

and law enforcement and public administration. A number of Sociology major graduates enter graduate school (eg. social work, public health and administration) or law school. The direct career options for graduating students are varied and some include community worker, counsellor, human rights officer, probation or parole officer, public administrator, public policy analyst, public relations, sociologist, social survey researcher and social worker.

The SOC313 course is a one-semester program, involving a weekly schedule between January 10th and April 3rd, 2012. A total of eleven educational sessions were organized and delivered over this period. The course syllabus' objectives were to extend the students' thinking about the nature and implications of social control in society. This included understanding trends in the development of social control, its major techniques, and how it is distributed. The Sociology-Social Control course description, as outlined on the University of Toronto, *Faculty of Arts & Science 2011-2012 Calendar, Sociology Courses*, contains the following summary description (http://www.artsandscience.utoronto.ca/ofr/calendar/crs_soc.htm#SOC313H1).

> *The Sociology-Social Control course examines how society has gone about controlling specific types of deviants (e.g., gang members, sex and drug offenders) and acts of deviance (e.g., organized crime, the deviance of social control agents). In examining these individuals and acts, attention is also directed to why they are defined as deviant and sanctioned, and why some types of deviance are less likely to be detected and sanctioned than others. Finally, consideration is also given to a range of sanctions that have been used to control deviance and the empirical evidence on their effectiveness.*

The textbook for the course was *Understanding Social Control* (Innes, 2011). The lecture topics in this third-year undergraduate level course involved substantively important topics related to social control: history of the concept, history of control practices, moral panics, policing, punishment, architecture, surveillance, risk, the distribution of social control, and social psychological dimensions of social control.

In an email on October 11, 2012, Tyler Frederick, the instructor of the Sociology-Social Control course (SOC313), personally communicated the following connections between the SOC313 course content and responding to the items in the questionnaire for the students:

One of the main connections between the course and the questionnaire is in the discussion of labeling theory. Students are introduced to the notion of labeling from the perspectives of Becker and Lemert, who both question labels of "deviance" and argue that those labels can negatively impact individuals and society.

We also talk about moral panics and I highlight how social reactions to deviant behavior are not always grounded in objective assessment of actual harm or risk, but are subject to manipulation by key actors like the media, social entrepreneurs, and politicians. Another relevant topic is risk. Here we talk about the issues with risk logics and how the use of risk in the criminal justice system is based on some poor assumptions, including the issue of making decisions about individual offenders based on aggregated data and managing certain populations based on what they might do, not on what they have done.

Though I don't reference people addicted to drugs specifically I think these topics would certainly inform how students think about drug users as a population that is often labeled, subject to moral panics, and managed through the logic of risk. Throughout the course I also discuss the harm reduction public health model as a social control strategy that differs from the traditional punishment and policing models. I do discuss the specific example of the safe injection site in Vancouver and the positive impact it has had. Also relevant to your questionnaire is that students are able to pick their paper topic and there are students that do look specifically at topics related to drug use including the war on drugs and harm reduction.

Accordingly, the SOC313 course was chosen because the students are exposed to content from a selection of social control topics involving sociology of deviance, law enforcement and criminal justice, imprisonment and punishment, and stigma-related content. These topics are particularly relevant to counter the narrow framing of persons addicted to heroin in the media.

Discriminatory media reporting, policy and legislation shapes public opinion and policy-making (Corrigan et al., 2004; Lancaster et al., 2011; Wahl, 1992), and is centered on danger, violence and risk themes surrounding heroin addicts and the perceived personal threat associated with their criminality. In a retrospective content analysis of Australian print media 2003-2008, Hughes et al. (2011: 285) emphasize

that in comparison to other drugs, heroin continues to be the most narrowly framed illicit drug in the media, "being reported almost exclusively as a criminal justice issue", with heroin narrowly framed "as a drug that will lead to legal problems". Coincident with this media interpretation, Matheson et al. (2014: 411) found that almost 90% of their respondents agreed that "drug misuse is a major cause of crime" in a public survey exploring public's attitudes toward drug treatment strategies.

Within the SOC313 course's content, the Sociology-Social Control students were also informed about moral panics, wherein risk frames and a distortion of risk from media portrayals cast the heroin addict as an "issue of moral decay" and violent criminals, deserving of punishment (Elliott and Chapman, 2000; Lancaster et al., 2011; Taylor, 2008; Watts, 2003). Considering the framing of heroin as a moral judgment in the media, the media may affect audiences who are misinformed and that may acquiesce to distorted frightening portrayals of addicts. Without adequate knowledge to counter pejorative stereotypes which lead to exclusion and stigmatization (Palamar, 2013), the resultant discrimination and prejudice (Thornicroft et al., 2007) can directly affect the personal well-being and quality of life of addicts, including internalized stigma (Corrigan and Watson, 2002a; Ritsher et al., 2003). Palamar (2013: 367) reinforces: "the stigmatizer tends to feel discomfort or anger, and blames, shuns or excludes such individuals in attempt to purge such 'undesirable' qualities from society…this form of social control leads to loss of status, separation and discrimination".

In the SOC313 course's discussion of labeling theory, the students became knowledgeable about the chief proponents of labeling theory- Becker (1963) and Goffman (1963), and the concept of "secondary deviations" (Lemert, 1972). Labeling theory focuses on negative labeling and its relationship to dominating stereotypes and media interpretation, leading to addicts' exclusion from conventional associations and normal contact. That is, social control through incarceration leads to the development and maintenance of negative self-conceptions, increased involvement in deviant activity and alienation from society.

By way of discussing specific forms of social control, the SOC313 course content includes community-based sanctions, police and policing, total institutions (Goffman, 1961), imprisonment and risk management. These mechanisms of social control regulate the conduct of individuals that are imbued with problems of criminality, deviance and immorality (Innes, 2011), and achieve control by coercion, incarceration and segregation (Innes, 2011; Torok et al., 2012). These are societal reactions to our fear with becoming a victim of crime. Information on how to deal with deviance through the criminal justice system makes students aware that criminal stigma causes the deviant's life to be significantly worse. Stigma, continues to be a formidable barrier, preventing treatment engagement, recovery and social re-integration for persons addicted to heroin (Neale et al., 2011, 2008; Singleton, 2010), producing feelings of shame, embarrassment and alienation (Scott and Wahl, 2011; Thompson et al., 2004; Weichelt, 2007). Innes (2011: 5) emphasizes: "the definition of social control as an organized response to deviant behavior is not uncontentious". The serious impact of stigma challenges the SOC313 student to consider better ways to address modes of control contiguous with changing deviant behavior.

Given that some of the Sociology-Social Control students will aspire to positions in social work, public administration or law, it is entirely possible that they will have the potential to shape criminal justice issues and crime control policy.

2.4.4   Stage 4

Analysis was first conducted in Stage 3, and then verified with the validation sample for replication in Stage 4 (Glass et al., 2013a). The Sociology- Social Control students were surveyed in-class near the end of the semester's term, March 27th, 2012. Apart from the timing of the survey administration, the Stage 3 and Stage 4 students participated in the same SOC313 curriculum. Consistent with questionnaire's anonymity guarantees, there were no unique identifiers or matching of student information in the replication sample. This reinforced the confidentiality of student responses to the sensitive topic of heroin addiction.

Data was replicated according to methods previously identified in Stage 3, provided by ESEM Mplus Version 6.12. Factor means and correlation matrices were compared to Stage 3 student responses to evaluate the construct validity of the attribution model at two time-points.

The replication sample in Stage 4 completed the same questionnaire in the same manner as the Stage 3 students. Additionally, the SOC313 students were asked to indicate the usefulness of the Sociology-Social Control course in responding to the questions in the survey. This Course factor data was imputed on the 7-factor Attribution model to determine the SOC313 Course's simultaneous interaction on the Responsibility and Dangerousness factors. The usefulness of the Sociology-Social Control course was also compared to the Level of Familiarity to evaluate its interaction on the attribution model.

Similarly, data was also imputed from the students' own independent research, and their own personal experience and knowledge with the Attribution model.

These new factors were allowed to freely correlate with the adapted 7-factor attribution model and were tested for goodness-of-fit for a more complex model.

Correlational matrices were also generated to investigate the relationships between these new factors with each of the attribution model factors. A CFA was also performed to investigate the indirect effect of SOC313 Course and Level of Familiarity data on the attribution model factors.

Question 6 (Q.6) in the student survey in Appendix A comprises information on the usefulness of the SOC313 Course, in addition to the students' independent research and personal experience and knowledge.

2.5   <u>**Exploratory Structural Equation Modeling**</u>

To the best of our knowledge, no research has applied ESEM to a 7-factor attribution measurement model for persons addicted to heroin.

ESEM's advantage is its capability to test all CFA and EFA models. Asparouhov and Muthén (2009: 398) explain: "ESEM gives access to all of the usual SEM parameters, such as residual correlations, intercept and mean structures". ESEM allows the estimation of factor loadings across all of the item indicators in all factors. ESEM eliminates indicator item estimation bias in datasets. ESEM theoretically provides the best fitting models.

For all of the ESEM solutions, analyses were conducted using Geomin oblique rotation. Through rotation, the emergence of factor loadings is made more apparent by revealing which item indicators are associated with which factor. The process is intended to extract simple and interpretable factors, allowing for best-fitting data. In terms of guidelines for choosing rotation criterion in EFAs, Sass and Schmitt note:

> *When selecting a rotation criterion for data lacking perfect simple structure, researchers must select between (a) estimating factor solutions with smaller cross-loadings and potentially larger interfactor correlations or (b) identifying more independent factors (i.e., smaller interfactor correlations) and slightly larger cross-loadings. We speculate that researchers will choose smaller cross-loadings and higher interfactor correlations with the notion that if the interfactor correlations are too large, either a factor would be dropped or, possibly, a second order factor would be created. Nevertheless, the central emphasis on selecting the "most appropriate" rotation criterion should depend on the research question and the hypothesized factor structure.*
>
> <div align="right">(Sass and Schmitt, 2010: 97).</div>

Oblique rotation permits rotated factors to be correlated with one another (Russell, 2002). In examining the ESEM attribution model, correlations are essential to the seven factors in the attribution model to determine the strength of their associations. Oblique Geomin rotation is also frequently chosen to allow

evidence for multi-factorial complexity of the item indicators (Elsworth et al., 2015), especially appropriate when additional measures are imputed with the 7-factor attribution model.

ESEM has been previously employed in the psychometric evaluation of measurement instruments (Herrmann and Pfister, 2013; Marsh et al., 2011, 2011a). Simulation studies demonstrate that "the Geomin criterion is the most promising criterion when little is known about the true loading structure" (Asparouhov and Muthén, 2009: 407). Sass and Schmitt (2010: 77) reiterate: "oblique rotation criteria will provide valid solutions for factors' structures that have either correlated or uncorrelated factors and therefore provide a more flexible analytic approach". Geomin oblique rotation minimizes indicator variable complexity and impacts cross-loading magnitudes. According to Schmitt and Sass (2011), Geomin oblique rotation, based on simulated EFA results for approximate simple structure, may lead to extremely low cross-loadings (ie. impression that each variable/item loads only on a single factor), but highly correlated factors.

Hence, previous studies have pointed out that CFA is often unsuitable when employed to validate measurement instruments (Marsh et al., 2009a, 2014). ESEM helps to sidestep the distorted factors with overestimated factor correlations found in CFA (Tomas et al., 2014).

2.6   <u>Null Hypothesis</u>

Acknowledging the lack of a reliable instrument measuring addiction stigma, the study investigates a neglected area of attribution model measurement inquiry related to persons addicted to heroin.

The dissertation's study used ESEM and and relied on goodness-of-fit indices to assess the enclosed null hypothesis:

H₀: the reproduced co-variance matrix would have the specified model structure for persons addicted to heroin for the Sociology-Social Control students, that is, the ESEM adapted 7-factor attribution model would fit the Sociology-Social Control students' data.

Using SAS System's covariance analysis of variance, Corrigan et al. (2005) successfully tested the null hypothesis: "that the reproduced covariance matrix has the specified model structure". The study involved a sample of adolescence varying in age from 13 to 19 years with an attribution questionnaire toward persons with serious mental illness and alcohol abuse. Level of familiarity was also imputed to assess familiarity with mental illness. Corrigan et al. employed a number of fit indices (ie., CFI, Non-normed Fit Index (NNFI) and normed-fit (NFI) index) to evaluate their null hypothesis. Good results were obtained for the responsibility model and mixed results for the dangerousness model.

2.7   <u>Hypothesis Testing</u>

In Stage 4, ESEM was conducted to corroborate the reliability of the attribution model's factor structure in the second sampling of SOC313 students. More complex ESEM models were also tested to assess model fit adhering to close-fitting model guidelines.

In evaluating these additional theoretical models, the estimation of the ESEM model involved several iterative steps to add factors to the attribution questionnaire and to determine if there was an improvement in model fit. The following data was imputed into a progressively more complex model to evaluate model fit statistics, standardized factor loadings and to interpret inter-factor correlational relationships: student demographic characteristics; Personal Consequences of Criminal Stigma; Social Distance; Level of Familiarity; SOC313 Course; My Own Experience; and, My Own Research:

Attribution Model

- Sociology-Social Control course data on the Responsibility factor.
- Sociology-Social Control course data on Dangerousness.
- Level of Familiarity data on Dangerousness.

• Level of Familiarity data on Responsibility.
• Sociology-Social Control course data on Social Distance.
• Level of Familiarity data on Social Distance.

The study also analyzed the imputation of Sociology-Social Control data, involving the students' acceptance of the adverse and social consequences of stigmatization on the well-being of the addict.

Personal Consequences of Criminal Stigma

• Sociology-Social Control course data on Personal Consequences of Criminal Stigma.

With the imputation of the Sociology-Social Control course data on the Attribution model, it was predicted to significantly correlate with less stigmatizing attributions toward persons addicted to heroin with respect to the Responsibility and Dangerousness factors. Moreover, the imputation of the SOC313 course combined with the Level of Familiarity data on the Attribution model was predicted to significantly correlate with less addiction stigma:

Level of Familiarity

• Familiarity with persons addicted to heroin predicts a positive augmentation effect on dangerousness and social distance.

• Familiarity with persons addicted to heroin predicts a positive augmentation effect with pity and a reduction effect on anger and fear.

The Stage 4 hypotheses are summarized below for predictions involving significant correlations with less stigmatizing perceptions toward persons addicted to heroin.

Stage 4 Hypothesis Testing
a. Responsibility predicts anger.
b. Pity predicts help.

c. Anger predicts help.
d. Dangerousness predicts fear.
e. Fear predicts avoidance.
f. Responsibility predicts help.
g. Dangerousness predicts avoidance.
h. Familiarity predicts responsibility.
i. Familiarity predicts dangerousness.
j. Familiarity predicts pity.
k. Familiarity predicts help, and familiarity predicts anger.
l. Familiarity predicts fear, and familiarity predicts avoidance.
m. SOC313 course will correlate with less stigmatizing perceptions for responsibility, pity, anger, helping behavior; dangerousness, fear and social distance.
n. SOC313 course predicts acceptance of the personal consequences of criminal stigma.
o. SOC313+Familiarity with persons addicted to heroin predicts a positive augmentation effect on dangerousness and social distance.
p. SOC313+Familiarity with persons addicted to heroin predicts a positive augmentation effect on pity and a reduction effect on anger and fear.

2.8   Stigma Measures, Reliability and Validity

Documentation on the psychometric properties of the scales (ie., reliability and validity), administered to students, is reported in the following sections.

2.8.1   Attribution Questionnaire

High construct validity and reliability of the attribution questionnaire has been successfully validated in a number of confirmatory factor analyses (Corrigan et al., 2003, 2005; Link et al., 2004; Reisenzein, 1986). The attribution questionnaire has been validated to be reliable and sensitive to anti-stigma programs (Corrigan et al., 2007). The attribution questionnaire is a reliable measure and has demonstrated acceptable internal consistency, with a Cronbach's alpha of 0.82 (Pingani et al., 2011).

Concerning the attribution model, Van Boekel et al. (2013: 2011) found that "the perception that someone is in control of an addiction increased feelings of anger and diminished feelings of pity", increasing intentions to impose restrictions on addicts. In other Attribution model studies, education and familiarity effects were found to significantly influence more positive perceptions of dangerousness (Angermeyer et al., 2004; Chikaodiri, 2010; Corrigan et al., 2001, 2002, 2003). Other supportive evidence is also reported for adolescent views on alcohol abuse (Corrigan et al., 2005), drug addicts (Corrigan et al., 2009; Van Boekel et al., 2013) and people with HIV/AIDS (Mak et al., 2007; Mantler et al., 2003).

For the personal responsibility theoretical model, goodness of fit indices for Corrigan et al.'s study (2002) showed mixed results. However, values on NNFI (non-normed fit index), NFI (normed fit index) (Bentler and Bonett, 1980) and CFI (comparative fit index) (Bentler, 1990), all exceeded 0.90, demonstrating an acceptable fit between the data and the model. Goodness of fit was supported for the dangerousness theoretical model with values on NNFI, NFI and CFI all exceeding 0.90 for n= 213. Mixed results were found in another study involving personal responsibility and dangerousness factors (Corrigan

et al., 2005), with CFI and NFI exceeding 0.90 and NNFI approaching 0.90 for mental illness responses; CFI and NFI exceeding 0.90 for responsibility; and, CFI and NFI approaching 0.90 for dangerousness for alcohol abuse for n=303. Standardized path coefficients for the theoretical model were statistically significant in the predicted direction for both studies.

Using confirmatory factor analysis, Corrigan et al. (2003: 168) demonstrated high reliability for a six-factor version of a 21-item Attribution model, reporting the following Cronbach's alpha coefficients for: Personal Responsibility=0.70; Pity=0.74; Anger=0.89; Fear=0.96; Helping=0.88; and Coercion/Segregation=0.89.

Moreover, Corrigan et al. (2004b: 302) has also reported good test-retest reliability, using community college students, for the expanded 9-factor 27-item Attribution questionnaire related to people with mental illness with a range of correlation indices (Responsibility=0.55; Pity=0.82; Anger=0.64; Danger=0.87; Fear=0.86; No Help=0.80; Coercion=0.56; Segregation=0.75; Avoidance=0.78), with good one-week test-retest reliability r≥0.75 for 6 of the 9 factors.

Following an exploratory factor analysis on an undergraduate student group to evaluate the 27-item Attribution questionnaire, Brown (2008: 89) found that a six-factor structure of the Attribution questionnaire had good test-retest reliability over a one-week period: (Fear/Dangerousness (Intra Class Correlation Coefficients=ICC=0.86), Help/Interact (ICC=0.90), responsibility (ICC=0.80), Forcing Treatment (ICC=0.74), Empathy (ICC=0.76) and Negative Emotions (ICC=0.75). Importantly, for purposes of establishing convergent validity, the Social Distance scale demonstrated (α=.86) more than adequate test-re-test reliability (ICC=0.84).

Employing confirmatory factor analysis, Pingani et al.'s (2011) translation and validation of the 9-Factor Italian version of the Attribution questionnaire demonstrated acceptable internal consistency, reporting Cronbach's alpha of 0.82 for the total scale. Test-retest reliability showed satisfactory results, with an

intra-class correlation coefficient of 0.72 for the total scale. Model fit statistics supported the attribution questionnaire's measurement model.

2.8.2   Level of Familiarity

Holmes et al. (1999) adapted the Level of Familiarity Report from other scales used in mental illness stigma research (Link et al., 1987; Penn et al., 1994). Holmes et al. (1999: 450) asked three experts in severe mental illness and psychiatric rehabilitation to rank the items relating them to "intimacy of contact", resulting in mean rank order correlations summarizing inter-rater reliability of 0.83.

In completing a series of seven yes/no items (coded yes=1; no=0) associated with familiarity with mental illness, Corrigan et al. (2003: 168) reported Cronbach's alpha=0.62, using Holmes et al. (1999) level of familiarity report.

In terms of assessing respondents for level of perceived exposure to general drug use, Palamar et al.'s (2011) pilot-testing of an adapted version of the level of familiarity and contact with people with mental illness demonstrated Cronbach's $\alpha= 0.75$. In adapting the scale for specific exposure to drug use (Palamar et al., 2011: 1461), the index demonstrated acceptable reliability: marijuana ($\alpha=0.79$), cocaine ($\alpha=0.79$), ecstasy ($\alpha=0.77$), opioids ($\alpha=0.82$) and amphetamine ($\alpha=0.82$). Consistent with Corrigan et al. (2002), Palamar et al. suggested that exposure to persons with stigmatized conditions is associated with decreased levels of stigma.

2.8.3   Social Distance Scale (SDS)

The students' willingness to interact with persons addicted to heroin in different situations is assessed through the avoidance factor in the Attribution questionnaire (ie. three item indicators) and in greater detail through an adapted version of the Social Distance Scale (SDS) for persons addicted to heroin.

The SDS scale has achieved satisfactory to excellent internal consistency reliability in a number of studies involving undergraduate students' responses toward the mentally-ill, with Cronbach's $\alpha=0.85$ (Anagnostopoulos and Hantzi, 2011), Cronbach's $\alpha=0.94$ (Kasow and Weisskirch, 2010: 549), with Cronbach's $\alpha=0.75$ (Brown et al., 2010: 496; Penn et al., 1994: 569) and $\alpha=0.76$ (Corrigan et al., 2002: 300). Another study by Link et al., 1987: 1480), involving Ohio residents, Cronbach's α was reported as 0.92. A study by Angermeyer et al. (2004: 178) involving persons of German nationality also reported Cronbach's $\alpha=0.90$. Moreover, for bipolar disorder, unipolar depression and schizophrenia modifications, α values of 0.77, 0.75 and 0.81 were achieved (Rusch et al., 2008: 379).

2.8.4   Personal Consequences of Criminal Stigma

Prominent labeling theory of deviance exponents suggest that stigma may lead to negative effects on the personal well-being of narcotics addicts (Lemert, 1972; McAuliffe, 1975; Schur, 1965). This stigma is firmly deep-rooted even amidst treatment service providers (Treloar and Holt, 2006).

Despite the personal consequences on addicts, this dimension of stigma has not been researched in the literature. Developed by the author, there are no reliability or validity psychometric properties associated with the Personal Consequences of Criminal Stigma scale from previous studies. Measuring the Personal Consequences of Criminal Stigma relationship to the 7-factor attribution model will provide a fuller understanding of the high stigma levels towards addicts. Severe stigma plays a conspicuous role in whether substance misusers seek out treatment services (Brown, 2011).

Buchanan and Young (2000: 409) comment on the drug control policies and the barriers associated with criminalization of problem drug users: "the war on drug users has subjected these people to a process of stigmatization, marginalization and social exclusion, and prevented many of them from recovery by hindering their re-integration into the wider social and economic community. Instead, growing numbers of problematic drug users remain locked into a cycle of chronic drug relapse". The International Drug

Policy Consortium (2010: 2) notes: "drug policies should focus on reducing the harmful consequences rather than the scale of drug use and markets".

2.8.5   <u>Social and Demographic Characteristics</u>

Recent research has not found a predictive role of social characteristics relevant to explaining stigma (Luo et al., 2014; Pescosolido, 2013). In terms of stigmatizing perceptions and demographic characteristics, past research has not reported any statistically significant findings (Jorm and Oh, 2009; Jorm et al., 2012). Considering the attribution questionnaire and an adolescent sample of high school students, Corrigan et al. (2005) did not find any significant role for race, ethnicity and gender, when these demographic characteristics interacted with familiarity, to influence perceptions toward mental illness and alcohol abuse.

There is a distinct paucity of studies relating demographic characteristics of college students to causal attributions involving persons addicted to heroin. Results from studies regarding demographic characteristics and personal responsibility and dangerousness factors were found to be largely inconclusive. In fact, the impact of community college students' demographic variables (ie. age, gender, marital status, ethnicity, household income, education) across similar stigmatizing conditions interacting with education and contact were found not to be significant (Corrigan et al., 2002). Corrigan et al. (2003), however, found that "older persons express less pity and more anger", with married persons particularly reported to have less pity. Corrigan and Watson (2007) also reported that women expressed greater pity and less blame for health conditions, were more likely to help, and less likely to avoid the mentally ill.

The dissertation's study investigated seven demographic item indicators suggested by previous Attribution model investigations. In stages 2 through 4, student demographic data were imputed onto the Attribution model. An iterative process is employed in which demographic characteristics with high loadings are retained, and the non-significant demographic characteristics removed from further analysis.

The student demographic characteristics were examined to determine if there were any significant correlations with the Responsibility and Dangerousness factors in the investigation of the 7-factor attribution model.

Chapter 3:   <u>Analysis</u>

3.   <u>Introduction</u>

Chapter 3 primarily explores and examines the ESEM factor structure and validity for a 7-factor attribution model for persons addicted to heroin.

To recap, SEM techniques were employed in a pilot-test to explore if the attribution model demonstrates validity as a psychometrically-sound instrument for the measurement of attributions toward persons addicted to heroin in samples of Sociology students (Stage 2).

Concerning the testing-validation analytic plan, the Stage 3 Sociology-Social Control students were designated as the "test" group and the Stage 4 Sociology-Social Control students were designated as the validation sample. All analyses were first investigated in the test sample and consequently verified with the validation sample for replication purposes (Glass et al., 2013a). ESEM models were employed in both analyses to compare factor structure underlying the 7-factor attribution model.

ESEM 7-factor attribution models were examined for declines in convergent validity in Stage 3 and Stage 4 Sociology-Social Control student groups, and if there were any comparative differences in parameter estimates, correlations and fit indices for all model tests.

Next, ESEM models were used in the "validation" sample to evaluate the usefulness of the SOC313 course in responding to the questionnaire and if the data supported the 7-factor attribution model. In Stage 4, more complex set of measurement analyses were also conducted on the 7-factor attribution model by the imputation of the SOC313 course and Level of Familiarity data to evaluate overall model fit,. Capitalizing on the ESEM approach, this solution was also examined for any strong correlations resulting from the interaction of these two factors and the 7-factor attribution model.

Finally, Stage 4 provided additional validation evidence, derived from correlations between the "testing" group and the "validation" group to confirm the attribution model's test-retest reliability, power and minimum sample size, and effect sizes.

3.1 Stage 2 Analysis

As the attribution model's indicator variables and underlying factors were without precedence for persons addicted to heroin, an EFA and then an ESEM of the pilot-test data were conducted to evaluate the factor structure of the attribution model. This process evaluated the convergence and goodness-of-fit for the item indicators for the baseline 7-factor Attribution model. For an assessment of perceptions toward persons addicted ro heroin, a multiple-factor EFA model was generated to focus on testing the factors in the attribution model, and to integrate the model with other factors, involving the Personal Consequences of Criminal Stigma measure (CRIMSTIG factor), Social Distance scale (AVOIDD factor) and Level of Familiarity Report (FAMILRNK factor).

3.1.1 Attribution Model

Figure 3 schematically represents the item indicators (ie., items from the attribution questionnaire) and the correlational relationships under study.

For the pilot-tested attribution model, the 7-item Social Distance Scale (SDS), replaced the 2-item Avoidance factor (see red replaced item indicators in Figure 3). Item indicators 10 and 18 from the attribution questionnaire were not used in the test of the 7-factor measurement model, as the analysis was based on the minimally and typically recommended three item indicators per factor (Marsh et al., 1998). Three item indicators per factor is an important consideration for model precision, especially when samples are small and factor loadings are minimal (Marsh, 2007).

Figure 3 **Assessment of Fit for the 7-factor Attribution Model**
(Adapted from Corrigan et al., 2002: 297)
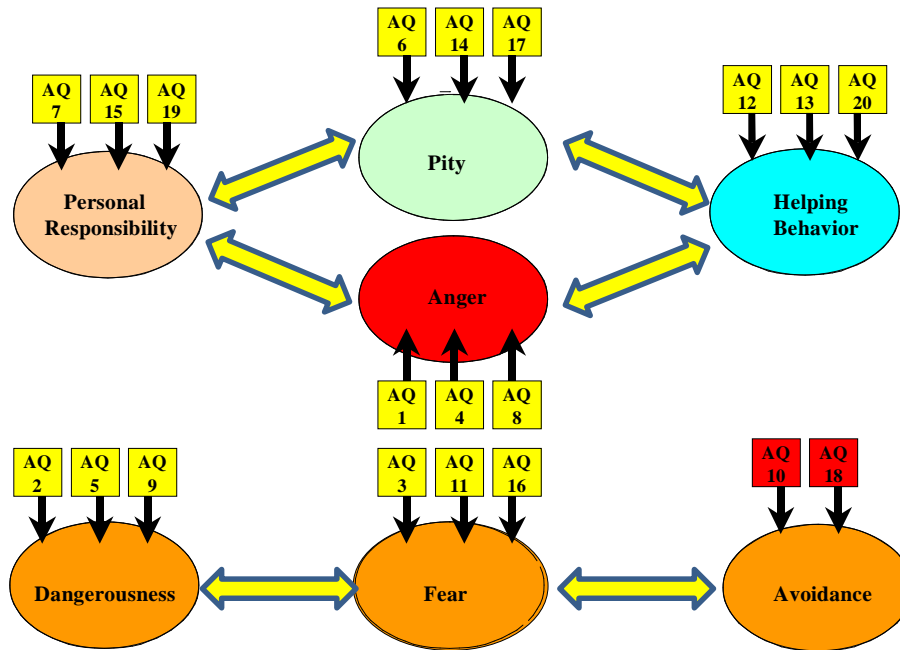
The pilot-test students were recruited from a number of Sociology courses at two large universities in Toronto, Ontario, Canada. Administration of the on-line questionnaires occurred between March and December, 2011. Specific courses are listed in Table 3, and show completed student survey counts. The baseline model fit statistics for the pilot-test data included only the Attribution model with n=201 student participants. The EFA did not include the demographic characteristics of the students.

Figure 3.1 schematically provides an EFA representation of the 7-factor attribution model. The 7-item Social Distance scale (AVOIDD factor) replaced the 2-item Avoidance (AVVOID) factor. In an EFA, all factor loadings between the item indicators and factors are freely estimated. The seven factors were allowed to freely correlate with eachother.

Figure 3.1
Pilot-Test: EFA representation of 7-factor attribution model (includes 7-item AVOIDD factor)
(adapted from Corrigan et al. (2002)
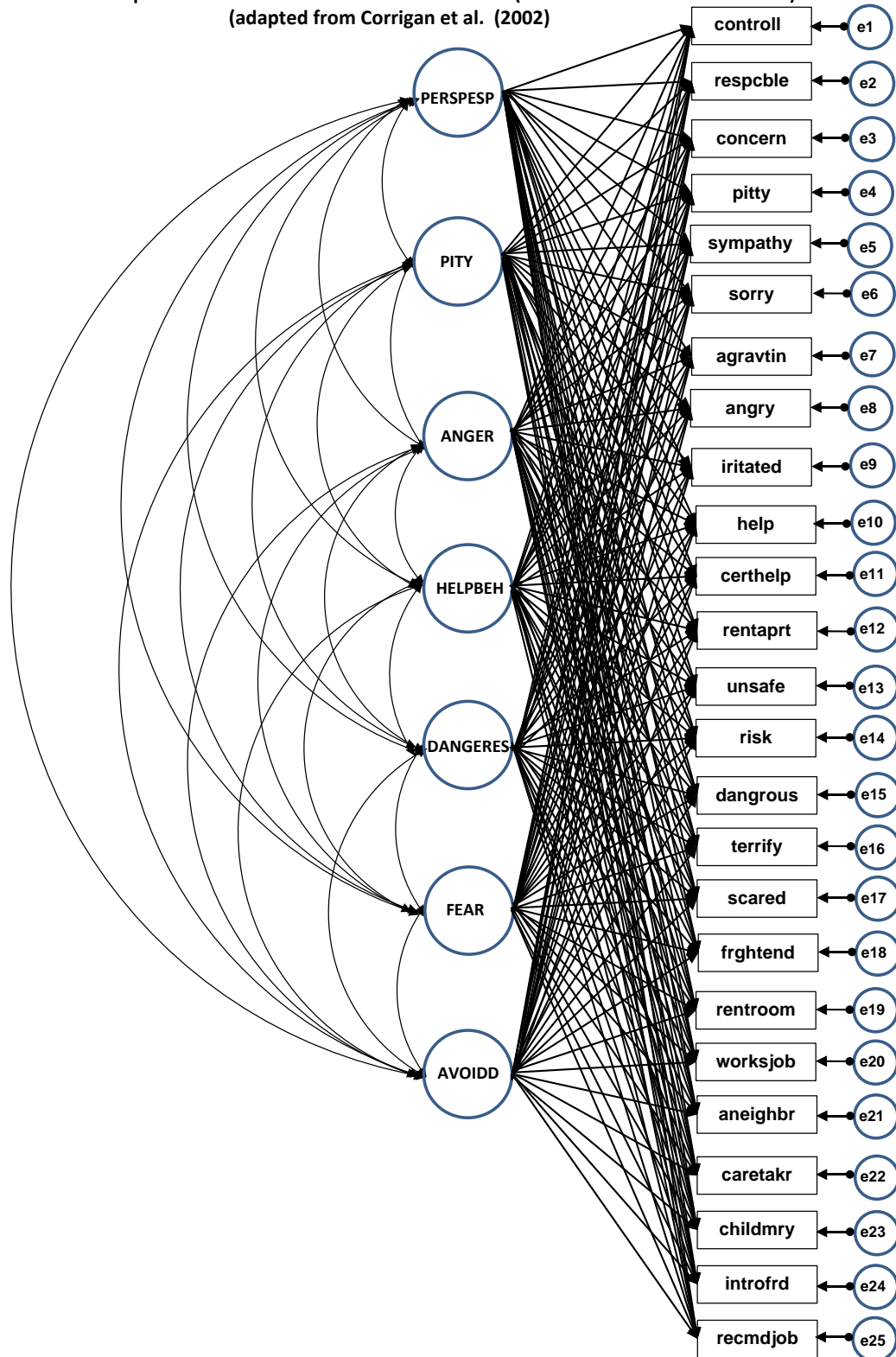
Table 3 Pilot-Test Survey Count (December 2011)		
	# Students	Completed Surveys
University of Toronto, Toronto, Canada		
-SOCIOLOGY 212Y: DEVIANCE AND SOCIAL CONTROL (Fall/Winter 2010-2011)	306	76
-SOCIOLOGY 212: THE SOCIOLOGY OF CRIME AND DEVIANCE (Summer 2011)	92	33
-SOCIOLOGY 209H5F: CURRENT ISSUES IN LAW AND CRIMINOLOGY (Summer 2011) Mississauga Campus	160	50
-SOCIOLOGY 313: SOCIAL CONTROL (Summer 2011)*	75	5*
-SOCIOLOGY 212Y: DEVIANCE AND SOCIAL CONTROL (Fall 2011)	301	78
York University, Toronto, Canada		
-SOCIOLOGY 3810: SOCIOLOGY OF CRIME AND SOCIAL REGULATIONS (Summer 2011)	86	37
Grand Total	1020	279
*Note: For the Sociology 313 Course, taught by Prof. Tyler Frederick, only 5 completed surveys are shown because many of the students who completed the Sociology 212 Summer course also enrolled in the Sociology 313 course. The course lecturer was asked to inform his class that students could complete the survey if they had not previously completed the survey in the Sociology 212 course, in case there was any crossover among students (so the same students were not completing the survey more than once).		

Table 3.1 reports the results of the EFA with 7 factors. The summary output, involving Mplus default Geomin oblique rotation, appears below. Asparouhov and Muthén (2009: 407) note: "Geomin criterion is the most promising rotation criterion when little is known about the true loading structure". Maximum likelihood (ML) estimator was also chosen due to its robustness in dealing with structural equation modeling of non-normal data (Hau and Marsh, 2004). With regard to small sample numbers, Marsh (2007: 780) notes: "ML estimation procedures are robust in relation to violations of normality, particularly in relation to parameter estimates- factor loadings, factor correlations". As oblique rotations automatically yield factor correlation estimates (Byrne, 2005: 28), oblique factor rotation was also used as

it is considered to yield "more realistic and more statistically sound factor structures" than orthogonal rotation (Schmitt, 2011: 312).

<u>Table 3.1 EXPLORATORY FACTOR ANALYSIS WITH 7 FACTORS:</u>

MODEL FIT INFORMATION (Pilot-1)

Number of Free Parameters	213
Chi-Square Test of Model Fit	
Value	234.772
Degrees of Freedom	164
P-Value	0.0002
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.046
90 Percent C.I.	0.032 0.059
Probability RMSEA ≤.05	0.666
CFI/TLI	
CFI	0.974
TLI	0.948
SRMR (Standardized Root Mean Square Residual)	
Value	0.027

Missing data was handled by Mplus, by using all available data during model estimation, with complete and incomplete student data included in EFA analyses. Glass et al. (2013a: E241) reiterates: "Mplus uses all available data during estimation, thus analyses excluded respondents with missing data on all items of a scale but retained participants who had complete data or missing data on one or more items". By default, Mplus uses full information likelihood (FIML) approach to deal with missing data, ie. Mplus uses all of information in the observed data for analyses (Wang and Wang, 2012). Hence, missing data was automatically eliminated from model identification.

There was less than 5% missing data, signifying good acceptance of the questionnaire items by the students (Gabbidon et al., 2013). The students' non-response to questionnaire items was also minimal, "suggesting that items are well understood and had acceptable content" (Osborne et al., 2013: 10).

Despite concern by some as overly harsh model fit cutoff guidelines (Beauducel and Wittmann, 2005; Marsh et al., 2004), the EFA results (CFI=0.974, RMSEA=0.046, SRMR=0.027, TLI=0.948) predominately met close fit criteria (Chen, 2007; McDonald and Ho, 2002). The TLI met 'satisfactory fit' values. Please also refer to Appendix C, Pilot-Test Attribution Model EFA (see Table 3.1) for corresponding Geomin factor loadings.

The imputation of the attribution model data was expanded with the addition of the Personal Consequences of Criminal Stigma (CRIMSTIG) factor. Figure 3.2 schematically provides an EFA representation of an 8-factor model that includes the 4-item CRIMSTIG factor.

As reported by Table 3.2 below, the 8-factor results slightly reduced many of the goodness-of-fit indices.

Table 3.2 EXPLORATORY FACTOR ANALYSIS WITH 8 FACTORS:

MODEL FIT INFORMATION (Pilot-2)

Number of Free Parameters	272
Chi-Square Test of Model Fit	
Value	318.268
Degrees of Freedom	223
P-Value	0.0000

Figure 3.2
Pilot-Test: EFA representation of 8-factor model
(includes 7-item AVOIDD/ 4-item CRIMSTIG factors)
(adapted from Corrigan et al., 2002)
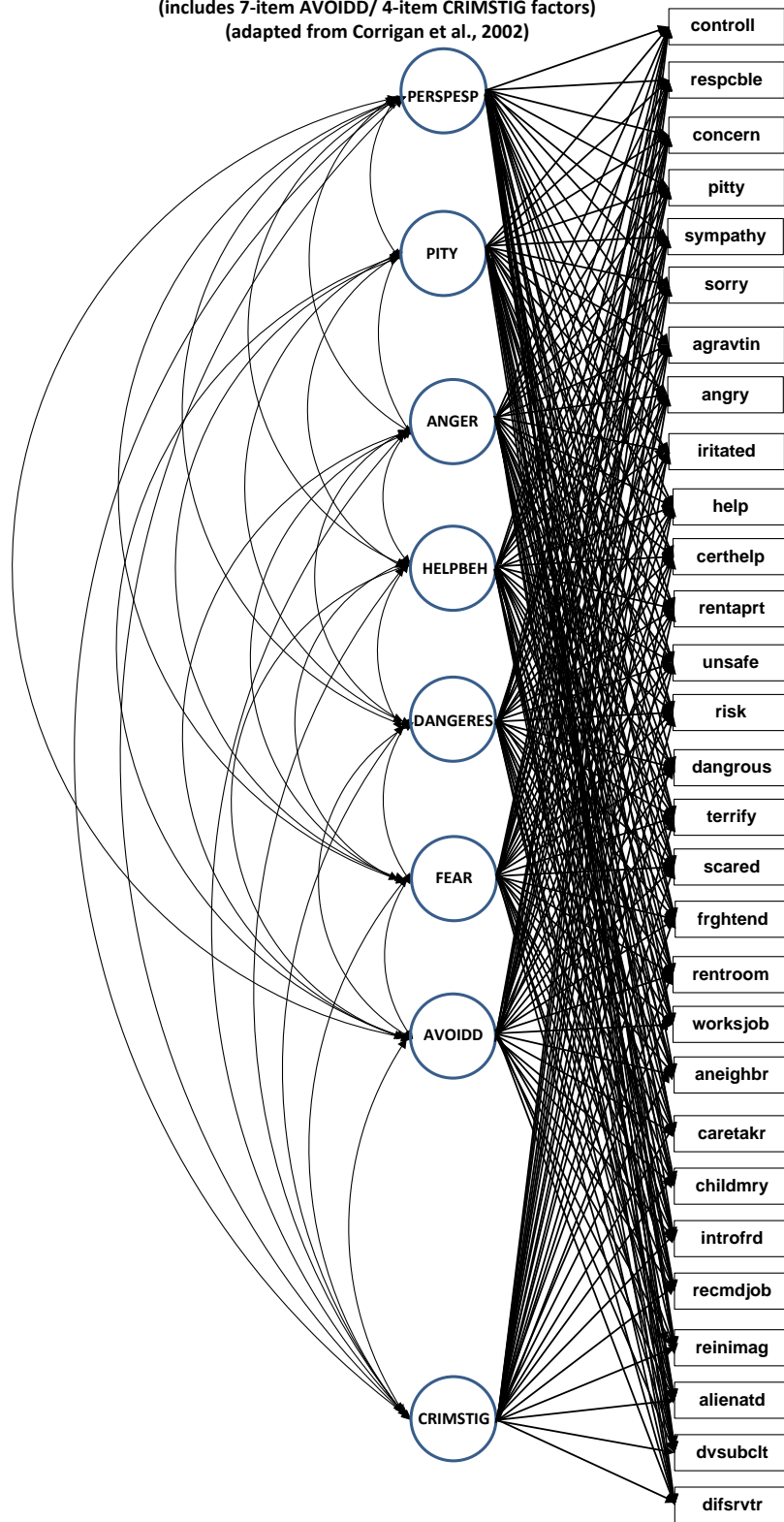
RMSEA (Root Mean Square Error of Approximation)

Estimate	0.046
90 Percent C.I.	0.034 0.057
Probability RMSEA $\leq$ .05	0.706

CFI/TLI

CFI	0.967
TLI	0.936

SRMR (Standardized Root Mean Square Residual)

Value	0.028

With the evaluation of the 8-factor EFA model, the results (CFI=0.967, RMSEA=0.046, SRMR=0.028), represented more than adequate fit to the data. The TLI=0.936 was slightly suboptimal and under 0.95, yet in the acceptable range (TLI$\geq$0.90).

Please also refer to Appendix C, Pilot-Test Attribution Model CrimStig (see Table 3.2) for detailed information on corresponding Geomin factor loadings.

3.2   <u>Exploratory Factor Analysis with December 2011 Participants</u>

The EFA factor structure of Corrigan et al.'s (2002) attribution model was further validated by including an additional 78 respondents from the SOCIOLOGY 212Y: Deviance and Social Control (Fall 2011) at the University of Toronto. These additional respondents support recommended SEM EFA sample size guidelines for pre-analysis of data and model characteristics, with n$\geq$ 250 (Marsh et al., 2004; Mulaik, 2007). Considering the five times the number of free parameters (ie., item indicators) "rule-of-thumb" recommendation for deciding sample size in the model (Bentler, 1990; Russell, 2002), the ratio of respondents-to-items was approximately 7:1, and was considered sufficient to address non-convergent failures and mis-specified model estimation. The EFA models exhibited sample size required to better

statistical power of 0.80. Detailed pilot-test power and minimum sample size calculations are addressed later in the dissertation.

3.2.1 <u>Social and Demographic Characteristics</u>

Table 3.3 summarizes the student demographic characteristics from all of the pilot-test Sociology courses surveyed.

Over 70% of the students were female, and more than 90% of the students were single. In terms of ethnic representation, 45.3% of the students were white, 24.5% were Asian and 7.2% were Black. Over 91% of the students lived in a house/apartment, with 62.4% of the students living with their parents. More than 48% of the students worked outside of the home in part-time jobs. Considering the students' grade point average last year, 9.4% achieved an A-. GPAs of B+ and B average were representative of 21.2% and 21.6% respectively. A B- was reported by 14.7% of the SOC313 students. Five percent of the students reported a C- or less grade point average.

Characteristic			n	%
Table 3.3 Pilot-Test Demographic Characteristics of Students				
Age, mean			279	22.1
Ethnicity				
White			126	45.3
Black			20	7.2
Canadian Aboriginal			1	0.4
Asian			68	24.5
Other			63	22.7
Marital Status				
Single			254	91.4
Married/Common Law			21	7.6
Separated			1	0.4
Divorced			1	0.4
Widowed			1	0.4
Gender				
Male			80	28.8
Female			198	71.2
Working Outside the home				
Full-time			29	10.4
Part-time			136	48.7
Self-Employed			3	1.1
No			111	39.8
Living Arrangements				
House/ Apartment			255	91.4
Residence Hall			22	7.9
Fraternity/Sorority			2	0.7
Other				
With Whom?				
Roommate(s)			48	17.2
Alone			25	9.0
With Parent(s)			174	62.4
Spouse/Partner			24	8.6
Children			5	1.8
Other			3	1.1
Approximate GPA Last Year				
A+			6	2.2
A			13	4.7
A-			26	9.4
B+			59	21.2
B			60	21.6
B-			41	14.7
C+			32	11.5
C			27	9.7
C- or less			14	5

3.2.2 **Attribution Model**

The students' demographic characteristics were not included in the test of the 7-factor attribution model, as sociodemographics have shown little consistent effect on stigma (Pescosolido and Martin, 2015). Pescosolido (2013: 11) reiterates: "findings on stigma revealed little that could be systematically explained by social characteristics. These factors were unreliable, inconsistent, or impotent predictors".

For purposes of robustness, the 7-item Social Distance scale replaced the 2-item avoidance factor from the adapted Corrigan et al.'s (2002) attribution model. The results also excluded the Personal Consequences of Criminal Stigma measure (CRIMSTIG factor). Please refer to the previous Figure 3.1 for an EFA representation of the tested 7-factor attribution model.

The goodness-of-fit statistics, incorporating all of the December 2011 student respondents, is listed in Table 3.4 below:

Table 3.4   EXPLORATORY FACTOR ANALYSIS WITH 7 FACTOR(S):

MODEL FIT INFORMATION

Number of Free Parameters	213

Chi-Square Test of Model Fit

Value	268.368
Degrees of Freedom	146
P-Value	0.0000

RMSEA (Root Mean Square Error of Approximation)

Estimate	0.048
90 Percent C.I.	0.037 0.058
Probability RMSEA $\leq$ .05	0.630

CFI/TLI

CFI	0.972
TLI	0.945

SRMR (Standardized Root Mean Square Residual)

Value	0.023

The EFA December 2011 attribution model results demonstrated a more than satisfactory fit with the data (CFI=0.972, RMSEA=0.048, SRMR=0.023), with only TLI=0.945, marginally below the proposed cutoff value TLI≥0.95, yet in the acceptable range (TLI≤0.90). Please refer to Appendix C, Pilot-Test EFA Attribution Model December Respondents Added (see Table 3.4) for corresponding Geomin factor loadings.

3.2.3   Overall Model

Employing the sample of n=279, an overall EFA model was examined to determine its model fit. The 7-factor attribution model was expanded to include the imputation of data from the following factors to test its convergence validity with the other measures in an overall solution:

- students' demographic characteristics (DEMOGRPH factor).
- 2-item social avoidance scale (AVVOID factor).
- 4-item personal consequences of criminal stigmatization measure (CRIMSTIG factor).
- 10-item Level of Familiarity Report (FAMILRNK factor).

Please see Figure 3.4 for an EFA representation of the 11-factor theoretical model.

The results in Table 3.5 for the 11-factor model showed a better fit to the data than the 7-factor baseline Attribution model.

Figure 3.3
Pilot-Test: EFA representation of 11-factor Overall model
(adapted from Corrigan et al. (2002)
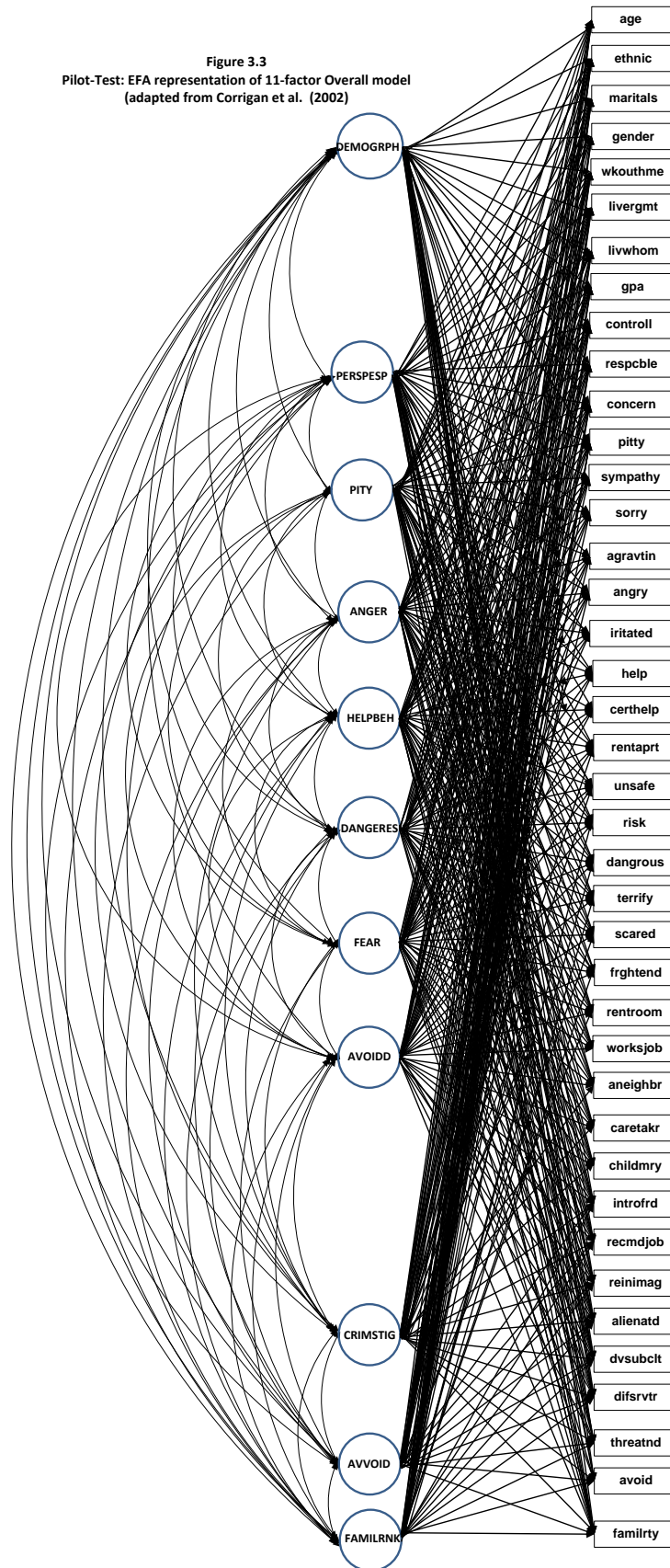
Table 3.5 EXPLORATORY FACTOR ANALYSIS WITH 11 FACTOR(S):

MODEL FIT INFORMATION (Pilot-4)

Number of Free Parameters   465

Chi-Square Test of Model Fit

    Value   514.748

    Degrees of Freedom   395

    P-Value   0.0000

RMSEA (Root Mean Square Error of Approximation)

    Estimate   0.033

    90 Percent C.I.   0.024 0.041

    Probability RMSEA $\leq$ .05   1.000

CFI/TLI

    CFI   0.975

    TLI   0.951

SRMR (Standardized Root Mean Square Residual)

    Value   0.026

The EFA December 2011 overall model results showed improvements across all indices (CFI=0.975, TLI=0.951, RMSEA=0.033, SRMR=0.026). As the EFA factors fitted the student data extremely well, the results suggest factor retention for subsequent analysis.

According to the 'close fit' criteria outlined earlier, the pilot-test results generated more than acceptable support to proceed to the dissertation's further evaluation of a 7-factor attribution model in a replication dataset in Stage 3 and Stage 4. The EFA robust results suggest that the Sociology students' perceptions of persons addicted to heroin can be strongly captured by a multifactorial approach to measure addiction stigma. Construct validity was achieved with the convergence of the Social Distance Scale, the Personal

Consequences of Criminal Stigma measure, and a Level of Familiarity Report data to the baseline attribution model when considering multiple aspects of addiction stigma.

3.2.4   Recommended Changes to Overall Model for Validation Study

In applied research, Marsh et al., however, caution about the practice of so-called "golden rules" for evaluating model fit:

Based on the extensive literature on goodness-of-fit in CFA research, Marsh, Hau, and Wen ... warned against the common practice of using goodness-of-fit indexes as "golden rules" that obviate the need for the researcher to make subjective evaluations of models based on parameter estimates in relation to substantive theory as well as indexes of fit. From this perspective, we recommend that researchers start with models that make sense in relation to theory, a priori predictions, and substantive findings, as well as goodness-of-fit indexes.
(Marsh et al., 2009: 195).

Morin et al. (2013: 16) concur that fit indices in relation to key issues need to be treated carefully in a multifaceted approach, with due consideration given to an "integration of a variety of different indices", "common sense", "evaluations of the actual parameter estimates in relation to theory", and "a comparison of viable alternative models".

Pre-requisite to the main study analysis with the Sociology-Social Control students, an Exploratory Structural Equation Model (ESEM) was also conducted on the December 2011 pilot-test data to determine if the factor structure fits the EFA complete model. Table 3.5a below provides results for the full ESEM model (see also Figure 3.3 for ESEM model representation). For a list of corresponding factor loadings, please refer to Appendix C-Factor Loadings, Pilot-Test ESEM Attribution Model December 2011 Added Complete.

Table 3.5a   PILOT-TEST ESEM COMPLETE MODEL

Number of Free Parameters   465

Chi-Square Test of Model Fit

Value	514.748
Degrees of Freedom	395
P-Value	0.0000

RMSEA (Root Mean Square Error of Approximation)

Estimate	0.033
90 Percent C.I.	0.024 0.041
Probability RMSEA ≤ .05	1.000

CFI/TLI

CFI	0.975
TLI	0.951

SRMR (Standardized Root Mean Square Residual)

Value	0.026

As noted, the EFA December 2011 overall model fully supported by a close-fit to the data: CFI=0.975, TLI=0.951, RMSEA=0.033, and SRMR=0.026.   However, despite full convergence for the ESEM solution, an error message was received, indicating a negative residual variance for the item variable "scared".   Variances by definition cannot be negative. For small negative residual variances, the fix involves setting the residual variance to zero. Alternately, the model can be changed by removing the "scared" item variable from the FEAR factor. These modifications can positively affect the usability of results.

With appropriate caution, this problem was duly noted for the overall pilot-test model. To maintain the construct validity of the adapted attribution questionnaire, the "scared" indicator item within the FEAR factor was not removed for the main study involving Sociology-Social Control students.   "Scared" was retained to further assess the DANGERES factor.

The advantage of ESEM is its capability to eliminate item indicator estimation bias and distorted factors, and to achieve optimal levels of fit (Asparouhov and Muthén, 2009). On the other hand, CFA approaches do not consider cross-loadings on other non-target factors, threatening the discriminant validity of the factors (Marsh et al., 2014; Mattsson, 2012; Spooren et al., 2012). Because ESEM allows "estimation of the factor loadings of all items in all factors" (Sánchez-Carracedo et al., 2012: 165), the results provided further evidence to consider additional changes to item indicators for an expanded 22-item attribution measurement model.

The DEMOGRPH factor item indicators in Table 3.6 were evaluated using z-values. The "Estimate" divided by its standard error (S.E.) can be evaluated as a z-statistic. Accordingly, z values=(Est/S.E.) that exceed +1.96 or fall below -1.96 are significant below p=.05.

Table 3.6	PILOT-TEST DEMOGRAPH STDYX Standardization			
				Two-Tailed
	Estimate	S.E.	Est./S.E.	P-Value
DEMOGRPH BY				
AGE	0.617	0.058	10.639	0.000
ETHNIC	0.009	0.063	0.151	0.880
MARITALS	0.968	0.053	18.336	0.000
GENDER	0.03	0.064	0.471	0.638
WKOUTHME	-0.161	0.075	-2.156	0.031
LIVARGMT	0.059	0.051	1.148	0.251
LIVWHOM	0.542	0.069	7.863	0.000
GPA	0.018	0.055	0.323	0.747

Using z-values to evaluate the standardized results, it was determined for the student demographic characteristics that Ethnicity, Gender, Living Arrangements and Grade Point average (GPA) item indicators were not statistically significant within the DEMOGRPH factor.

Despite these mixed results, it was decided to retain all of the student demographic characteristics for further testing in the main study, involving the Sociology-Social Control students. A review of the item

indicators on the other measures (eg. Attribution questionaire, Social Distance scale, Level of Familiarity Report) also produced items with factor loadings below the statistically significant below p=.05 level.

Given the theoretical importance of the adapted version of Corrigan et al.'s (2002) attribution questionnaire, it was decided to retain all of the measures for subsequent use in the next stage of ESEM testing. The evidence from more than adequate levels of incremental convergent validity and close fit (e.g. RMSEA, CFI, TLI, SRMR), consistently derived from the pilot-test EFA models, helped to support the quality and accuracy of model specification (Marsh et al., 1988), and made this decision easier.

In reviewing the 7-factor EFA solution in Table 3.6a (with added pilot-test December respondents), the Est./S.E. Geomin rotated loadings involving the attribution model were analyzed. The italicized numbers reflect the item indicators per factor from the attribution questionnaire.

It was noted that that the z-values for the PERSRESP and HELPBEH factors were fairly weak, and the strongest loadings were related to ANGER and FEAR factors. Hence, an additional item indicator was added from Corrigan et al.'s (2003) AQ-27 attribution questionnaire. This item became AQ21 (ownfault) in the Responsibility portion of the students' attribution questionnaire: "I would think that it is a person addicted to heroin's own fault that he/she is in their present condition".

	1	2	3	4	5	6	7
Table 3.6a EFA Est./S.E. GEOMIN ROTATED LOADINGS for 7-Factor Solution							
RENTROOM	0.815	6.333	1.014	1.340	1.000	0.700	**1.281**
WORKSJOB	2.028	0.298	3.778	0.889	-0.267	0.286	**-1.088**
ANEIGHBR	3.202	-0.163	-0.294	-0.725	0.243	-0.105	**1.048**
CARETAKR	-0.508	4.365	1.708	-0.164	0.943	0.198	**1.246**
CHILDMRY	0.074	5.222	2.434	0.250	-0.244	-0.335	**0.289**
INTROFRD	0.682	-0.124	7.988	0.676	-0.551	0.828	**-0.615**
RECMDJOB	-0.678	2.461	4.921	-0.364	-1.397	-0.571	**-0.415**
AGRAVTIN	0.741	0.940	0.396	**10.635**	0.977	1.024	0.465
UNSAFE	1.449	2.240	0.614	5.219	**-1.137**	7.004	-0.784
TERRIFY	1.119	0.783	-1.467	3.309	1.151	**15.475**	-0.974
ANGRY	0.394	-3.337	0.676	**9.026**	0.250	2.291	1.009
RISK	0.321	-2.577	1.321	5.558	**-1.592**	3.418	-1.238
PITTY	-1.457	**4.821**	-0.496	0.979	-0.571	-1.121	13.345
CONTROLL	**-0.329**	-2.142	-1.773	1.163	-1.620	-0.316	0.064
IRITATED	-0.844	0.810	-0.750	**15.023**	-1.593	-0.301	-0.983
DANGROUS	-0.103	0.580	0.822	3.030	**0.087**	10.967	0.920
SCARED	-1.460	0.172	0.204	-0.189	1.741	**39.469**	0.612
HELP	-0.648	0.848	**-0.870**	-0.927	2.602	0.932	-0.861
CERTHELP	0.824	-3.811	**0.992**	1.193	1.938	-2.257	3.512
SYMPATHY	-1.088	**-0.595**	1.302	-1.677	0.741	1.662	26.142
RESPCBLE	**-0.558**	0.557	-0.327	4.734	1.399	-0.404	-2.611
FRGHTEND	-0.363	-2.263	-0.113	0.382	-0.441	**32.909**	0.964
SORRY	1.730	**2.343**	-1.315	-1.182	-2.195	0.119	20.911
AVOID	-1.036	-4.020	-0.521	-0.105	0.896	-4.137	2.630
CONCERN	**-0.625**	-0.903	-0.866	0.346	1.278	0.004	15.614
RENTAPRT	0.957	5.166	**1.318**	1.239	0.692	0.564	-0.913

Moreover, it was also noted that "If I were a landlord, I probably would rent an apartment to a person addicted to heroin" was included as an item indicator under the HELPBEH factor. It seemed more reasonable to include this item under the Avoidance (AVVOID) factor. Item indicator AQ20 (rentaprt) was moved and replaced by another indicator item from Corrigan's Attribution Questionnaire (AQ-27): "I would be willing to talk to a person addicted to heroin about their problems". This item became AQ22 (willtalk) within the HELPBEH factor in the revised 22-item attribution questionnaire.

The final factor specification for the adapted 7-factor attribution measurement model, including reorganized item indicators (ie., items in the questionnaire), is represented in Figure 3.4. There is a requirement to assess this changed a priori 7-factor model by using CFA and ESEM, and determine support for convergent validity for the main study.

Figure 3.4   **CFA Structure for the 7-factor Attribution model, including item indicator changes to**
Personal Responsibility and Dangerousness factors.
(adapted from Corrigan et al., 2002: 297)
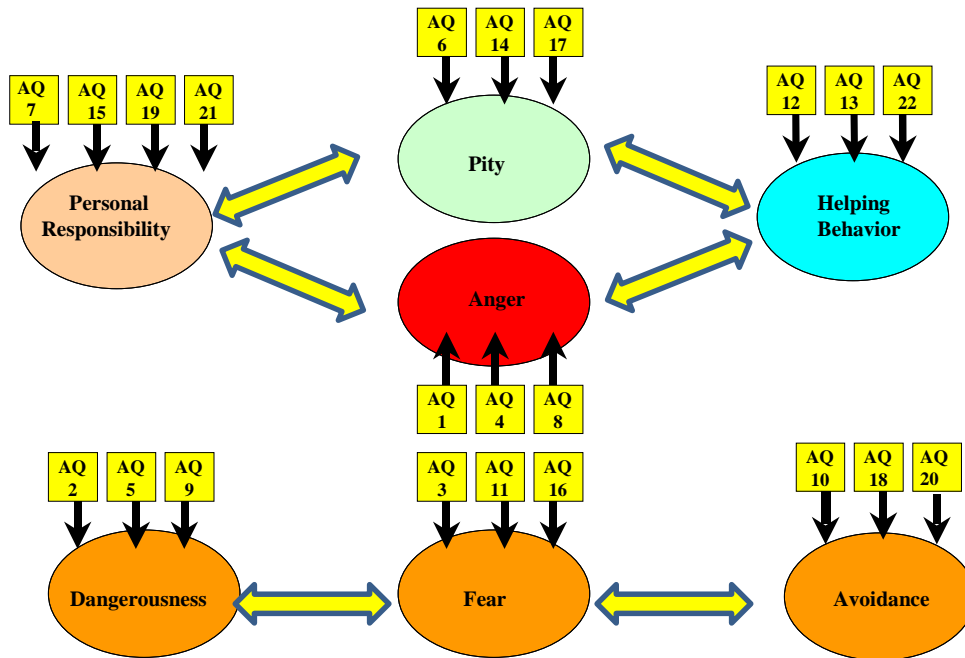
Coincident with the aforementioned modifications to the attribution model's item indicators, changes were made to the Age and Grade Point Average (GPA) item indicators within the DEMOGRPH factor and Level of Familiarity Report (FAMILRNK factor). The maximum allowed 10 categories in Mplus computations were exceeded. Minor revisions were made to the Level of Familiarity Report to accommodate category maximums for Mplus software operation.

3.2.5   <u>Methodological Check of Attribution Model</u>

Given that the dissertation's model estimation was performed with Geomin rotation and maximum-likelihood (ML) estimator, recommended SEM practice is to test results using alternative Mplus parameters (Morin et al., 2013). The corresponding findings can help to support decision-making on optimal criteria to be explored through ESEM. Changing parameters is also considered an essential pre-requisite for multiple group-based assessments, especially for construct validity where factors in a model are compared over two time-points with two different groups of respondents.

A methodological check of EFA and CFA Models was undertaken, by making changes to model input parameters for the attribution model. These changes led to very unreliable CFA results. The Mplus program generated a "latent variable covariance matrix (psi) is not positive definite" output warning, and did not conform to criteria for acceptable model fit. Because the model covariance matrix is not positive definite, factor scores were not computed.

Appendix D documents some of the technical aspects of methodological considerations in conducting the pilot-test factor analysis, and changes made in evaluating EFA and CFA models. Using weighted least-squares with mean and variance adjustment (wlsmv) estimator for categorical outcomes (Muthén et al., 1997) as opposed to the original maximum-likelihood (ML) estimation and continuous variable approach, the changes in model parameters did not prove superior to original results. Overall, the consideration of categorical indicators or wlsmv estimator did not improve nor provide significantly better fit to the data. In comparing and evaluating model fit, the changed parameters illustrated evidence of CFA model misfit.

For practical significance, it was decided that the parsimonious CFA pilot-testing did not consistently produce good fitting data, with ESEM delivering the best fit for the models analyzed. The fit indices supported the superiority of the 7-factor ESEM solution for the exploratory attribution model. Accordingly, ESEM data analysis in the main study would be reported with the default Mplus Geomin

oblique type of rotation method. As opposed to orthogonal rotation, oblique rotation allows for correlated factor analysis. Because the student data is comprised of continuous variables making up the factors, maximum likelihood (ML) choice of estimator was selected to be employed in Stages 3 and 4 of our study. Importantly, with ML factor analysis estimation in Mplus, Schmitt (2011: 313) notes: "when the data contain missing responses all the available information is used to estimate the model. This results in consistent and efficient parameter estimates and test statistics, assuming data are missing completely at random (MCAR) or missing at random (MAR)".

3.3   Stage 3 Analysis

For Stage 3 analysis, Exploratory Structural Equation Modeling (ESEM) was conducted on informed Sociology-Social Control students to test a theoretical measurement model for perceptions toward persons addicted to heroin. The systematic review of the stigma literature has exposed gaps concerning the scarcity of SEM studies on attributions toward heroin addicts. To date, it is particularly evident that there are no studies involving the ESEM validation of this attribution model.

Psychometric evaluations of new assessment measurement instruments, via ESEM, is still fairly limited (Morin et al., 2013). In using ESEM, testing is available for estimated sample statistics, standard errors and goodness-of-fit indicators, and in simultaneously handling CFAs and SEMs (Marsh et al., 2009, 2010; Rosellini and Brown, 2011).

The Stage 3 analysis was unique in its exploratory investigation of addiction stigma, by its imputation of Sociology-Social Control student data on a theoretical 7-factor attribution model for persons addicted to heroin. Data from other measures were imputed to test support for construct and convergent validity between the attribution model factors and the imputation of additional stigma-related factors.

As recommended by Marsh et al. (2014), Stage 3 testing used the same data to evaluate ESEM methodology, and compared the results to a traditional CFA. This comparison provided valuable information to determine if the ESEM attribution model outperforms the CFA model by computing a better fit to the data. For CFA modeling, each item indicator is loaded only on its theoretical underlying factor (Wang et al., 2013). Due to CFA's lack of cross-loadings, Marsh et al. (2014: 88) stress that ESEM overcomes traditional CFA models' limitations: "poor fit to item-level factor structures, poor discriminant validity associated with inflated correlations among CFA factors, and biased parameter estimates in SEMs based on unspecified measurement models".

3.3.1.   Comparison of ESEM and CFA Models

Research participants were drawn from a large university in Toronto, Ontario, Canada. Of the 320 students registered for the course, 201 students from a Sociology-Social Control course (62.8%) completed the survey (see Appendix B). Question 6 was not included in the Stage 3 survey. 172 students completed the survey in-class, and 29 of the "missed" students completed the survey online. The in-class and on-line survey administration was necessary to maximize sample size. The combined "in-class" versus "on-line" student sample was not expected to have any effect on the results.

In reviewing the summary of goodness-of-fit statistics for the attribution model in Table 3.7 the ESEM 7-factor solution closely fits the data, with CFI=0.993, TLI=0.983, RMSEA=0.032, SRMR=0.016. The chi-square statistic of model fit was not significant. Moreover, the chi-square to df ratio did not exceed 2, supporting a good fit to the data.

Table 3.7   ESEM MODEL FIT INFORMATION

Number of Free Parameters   168

Chi-Square Test of Model Fit

 Value   101.476

 Degrees of Freedom   84

     P-Value   0.0942

RMSEA (Root Mean Square Error of Approximation)

Estimate   0.032

90 Percent C.I.   0.000 0.053

 Probability RMSEA $\leq$ .05   0.918

CFI/TLI

     CFI   0.993

TLI   0.983

SRMR (Standardized Root Mean Square Residual)

Value   0.016

This result, however, needed the removal of one of the PERSRESP factor indicator variables (ie. "ownfault") from both the CFA and ESEM use-variable input. "Ownfault" created a residual covariance data output warning in the ESEM analysis, involving a negative/residual variance problem where there was a correlation greater than one between two observed variables. The tested ESEM 7-factor model (ie. without ownfault item indicator) is represented in Figure 3.5. The corresponding CFA model is represented in Figure 3.6.

The CFA (without "ownfault" item indicator) showed marginal results and did not completely fit the data adequately (CFI= 0.913, TLI=0.891, RMSEA=0.082, SRMR=0.092). The ESEM model demonstrated substantially better fit to the data, and was clearly superior to the CFA approach. Even the RMSEA 90% confidence intervals show no overlap with the CFA model.

With "ownfault" previously included in the attribution model, the ESEM model fit was CFI=0.990, TLI=0.976, RMSEA=0.038, SRMR=0.016.

Figure 3.5
ESEM representation of 7-factor attribution model
(adapted from Corrigan et al., 2002)
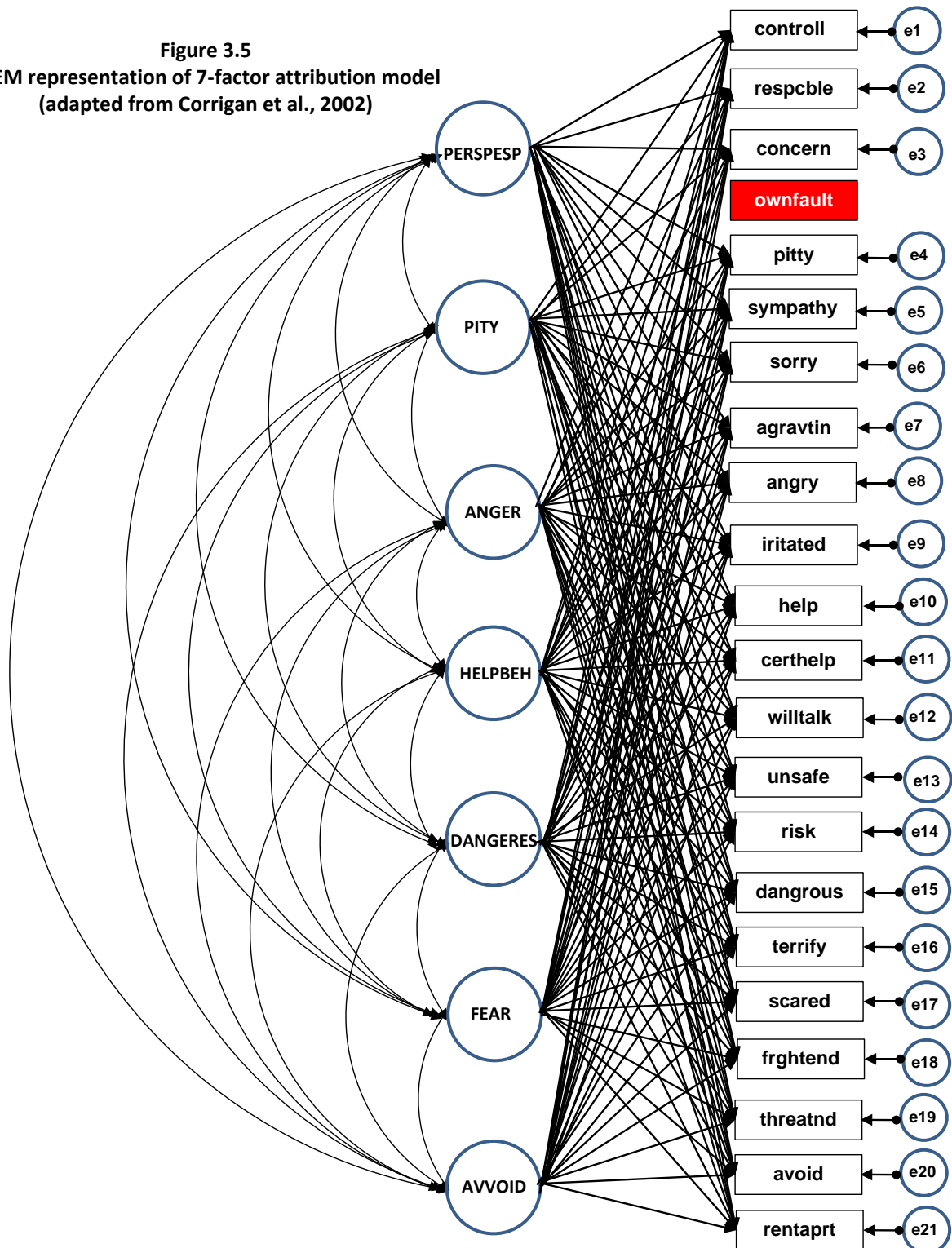
Figure 3.6
CFA representation of 7-factor Attribution model
(adapted from Corrigan et al., 2002)
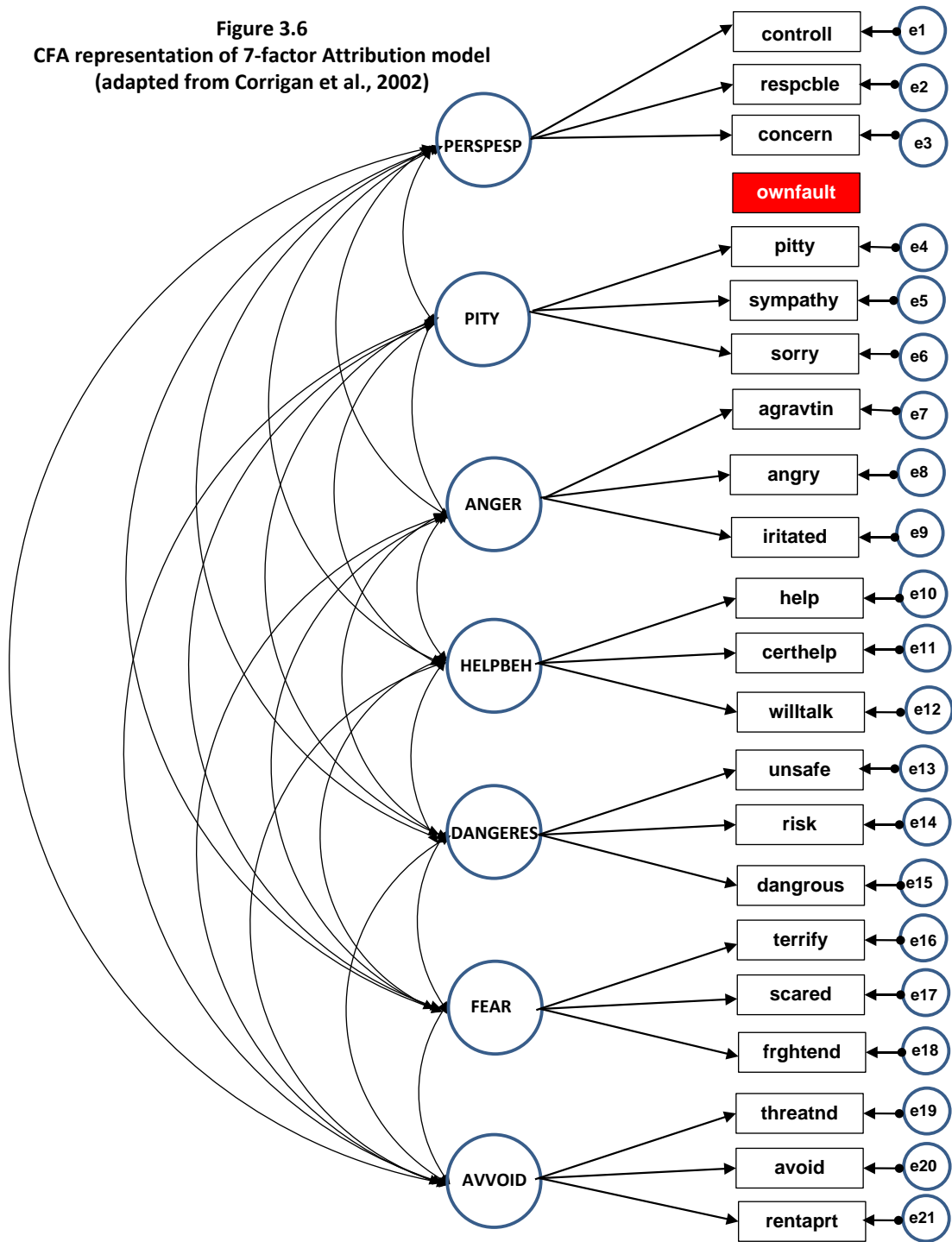
In Mplus, correlations are based on the type of variables included in the study. As all item indicators are considered continuous in the study, Mplus calculated Pearson product moment correlation coefficients for two continuous variables. In the comparison of ESEM and CFA models in Tables 3.8 and 3.9 below, the estimated correlations among factors were smaller in the ESEM solution. ESEM results provided more differentiated (ie., less correlated) factors.

	Table 3.8	ATTRIBUTION MODEL ESEM FACTOR CORRELATIONS				(n=201)	
	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	AVVOID
PERSRESP	1.000						
PITY	0.783***	1.000					
ANGER	0.158*	0.223***	1.000				
HELPBEH	0.475***	0.521***	0.103	1.000			
DANGERES	-0.094	-0.168*	0.427***	-0.067	1.000		
FEAR	-0.216***	-0.131*	0.076	-0.098	0.345***	1.000	
AVVOID	-0.076	-0.009	0.443***	-0.015	0.522***	0.242***	1.000
	*p<.05; ***p<.001						

The equivalent CFA and ESEM models illustrated clear differences in their inter-factor correlations with much lower correlations for ESEM ($|r|$ = -0.009 to r = 0.783, *Mean* = 0.2472) than CFA ($|r|$ = -0.013 to r = 0.993, *Mean* = 0.4263). The mean and maximal inter-factor correlations are lower in ESEM than in the CFA solution. There were 68% of instances where the inter-factor correlations are lower for the ESEM attribution model than for the corresponding CFA inter-factor correlations. Moreover, all of the correlations in the ESEM model are "below the threshold of 0.80-0.85 that is frequently recommended as indicating poor discriminant validity" (Elsworth et al., 2015: 6).

Table 3.9	ATTRIBUTION MODEL CFA FACTOR CORRELATIONS					(n=201)
	PERSRESP	**PITY**	**ANGER**	**HELPBEH**	**DANGERES**	**FEAR**	**AVVOID**
PERSRESP	1.000						
PITY	0.723***	1.000					
ANGER	0.038	0.241***	1.000				
HELPBEH	0.126*	0.512***	-0.013	1.000			
DANGERES	0.502***	0.243***	0.879***	0.121*	1.000		
FEAR	0.121*	0.289***	0.832***	-0.059	0.985***	1.000	
AVVOID	0.134*	0.290***	0.781***	-0.083	0.974***	0.993***	1.000
	p<.05; ***p<.001						

Consistent with past findings, it was apparent that ESEM correlations among factors were markedly smaller than for the CFA solution. ESEM offers substantially more meaningful correlation coefficients. This supports previous simulation and empirical evidence that ESEM is inclined to compute truer correlations between factors (Asparouhov and Muthén, 2009; Marsh et al., 2010, 2013a; Schmitt and Sass, 2011), resulting in recommendations that "ESEM should be retained when the estimated factor correlations are substantially reduced in comparison to CFA" (Morin et al., 2014: 16).

In explaining the elevated results of the CFA model with its un-specification of cross-loadings, Marsh et al. (2009a: 468) noted: "when a large number of relatively small cross-loadings are constrained to be zero…the only way that these cross-loadings can be represented is by inflating the size of correlations". With an insufficient a prior measurement model (Myers et al., 2011), the likelihood of biased estimates may result in increased problems with multi-collinearity (Marsh et al., 2010), undermining the support for the multidimensionality of a factor (Marsh et al., 2011) and weakening the construct validity of the factor structure (Marsh et al., 2012).

Marsh et al. (2013b: 1201) reiterate: "ESEM uses two estimates of overlap between factors (overlap in factor loadings and correlation between factors), whereas CFA uses one estimate (correlation between factors)". In CFAs, non-target loadings are forced to be zero, increasing size of factor correlations,

blurring important differences among factors and potentially causing model misfit (Hopwood and Donnellan, 2010; Marsh et al., 2009a). ESEM methodology permits all items to freely cross-load on other factors resulting in more accurate correlations, more closely approximating a truer attribution measurement model.

On the basis of this evidence, it was concluded that no further CFA models were to be conducted in the dissertation's subsequent analysis. With less methodological constraints compared to the corresponding CFA model, ESEM was revealed as a better fitting model, and produced a more accurate representation of the factor structure. With significant differences in fit and correlations, our findings added to growing support for the reliance of ESEM models as opposed to CFA solutions (Guay et al., 2015; Marsh et al., 2013a, 2010, 2011). Hence, given its increased flexibility in modeling non-target loadings, ESEM is more advantageous in capturing the multidimensionality of addiction stigma when assessing multi-indicator by multi-factor models during the development and testing of psychometric instruments.

3.3.2   **Attribution Model**

Note: Each of the item indicators per factor in the attribution model is listed in Table 3.10 below. For example, the Personal Responsibility (PERSRESP) factor is shown as represented by four item indicators. AQ identifies each item indicator's location in the attribution questionnaire (see Question 4 in Appendix B): control=AQ7, respcble=AQ15, concern=AQ19, ownfault=AQ21. The corresponding question from the questionnaire is also included, for example, AQ19="How much concern do you feel for person addicted to heroin".

The mean for each of the item indicators from the attribution questionnaire is reported in Table 3.10 below. As mentioned previously, the "ownfault' item indicator in the PERSRESP factor caused an ESEM validation problem and was dropped from data input in further steps of Stage 3 analysis.

On the 1 to 9-point Likert-type scale for the attribution questionnaire, fifteen means were greater than the midpoint of 4.50. The following item indicators were less than the average value: "terrify", "angry", "risk", "controll", "irritated" and "avoid". The worst overall student impression was item "rentaprt" with

		Table 3.10 Attribution Model (AQ)	Mean
Responsibility Factors			**Mean**
PERSRESP			
AQ7	**controll**	How controllable do you think persons addicted to heroin are?	3.433
AQ15	**respcble**	How responsible do you think a person addicted to heroin is for their present condition?	5.761
AQ19	**concern**	How much concern do you feel for person addicted to heroin?	6.009
AQ21	**ownfault**	I would think that it was a person addicted to heroin's own fault that he/she is in their present condition.	-------
PITY			
AQ6	**pitty**	I feel pity for persons addicted to heroin.	6.085
AQ14	**sympathy**	How much sympathy would you feel for a person addicted to heroin?	5.812
AQ17	**sorry**	How sorry do you feel for persons addicted to heroin?	5.772
ANGRY			
AQ1	**agravtin**	I would feel aggravated by persons addicted to heroin.	5.139
AQ4	**angry**	How angry do persons addicted to heroin make you feel?	3.637
AQ8	**iritated**	How irritated would you feel by a person addicted to heroin?	4.442
HELPBEH			
AQ12	**help**	How likely is it that you would help a person addicted to heroin?	5.886
AQ13	**certhelp**	How certain would you feel that you would help a person addicted to heroin.	5.207
AQ22	**willtalk**	I would be willing to talk to a person addicted to heroin about their problems.	6.607
Dangerousness Factors			
DANGERES			
AQ2	**unsafe**	I would feel unsafe around persons addicted to heroin.	6.170
AQ5	**risk**	I think persons addicted to heroin pose a risk to other people unless they are imprisoned.	3.254
AQ9	**dangrous**	How dangerous do you feel a person addicted to heroin is?	5.313
FEAR			
AQ3	**terrify**	Persons addicted to heroin terrify me.	4.423
AQ11	**scared**	How scared of a person addicted to heroin would you feel?	4.925
AQ16	**frghtend**	How frightened of a person addicted to heroin would you feel?	4.921
AVVOID			
AQ10	**threatnd**	I would feel threatened by a person addicted to heroin.	5.104
AQ18	**avoid**	I would try to avoid a person addicted to heroin.	3.985
AQ20	**rentaprt**	If I were a landlord, I probably would rent an apartment to a person addicted to heroin.	7.658

a mean=7.658. If students were landlords, they steadfastly would not rent an apartment to a person addicted to heroin. The lowest mean was item "risk"=3.254, with many Sociology-Social Control students fairly certain that a person addicted to heroin is not a risk to other people and should not be imprisoned.

Please see Appendix C- Stage 3 ESEM Attribution Model(no ownfault) for appropriate factor loadings. Reviewing the STDYX results in Table 3.11 below, the Mplus column labeled SE is the standard errors of the parameter estimates.

Note: The standardized coefficient (STDYX) "represents the amount of change in an outcome variable per standard deviation unit of a predictor variable" (Institute for Digital Research and Education UCLA, 2012: 18). The STDYX coefficient result standardizes based on factor and item indicators' variances.

Table 3.11	RESPONSIBILITY FACTOR STANDARDIZED RESULTS				
STDYX Standardization				Two-Tailed	
	Estimate	S.E.	Est./S.E.	P-Value	
PERSRESP BY					
controll	0.005	0.064	0.078	0.938	
respcble	-0.024	0.098	-0.242	0.809	
concern	-0.037	0.059	-0.625	0.532	
PITY BY					
pitty	-0.018	0.075	-0.236	0.813	
sympathy	0.026	0.060	0.430	0.667	
sorry	0.029	0.117	0.250	0.803	
ANGER BY					
agravtin	0.031	0.052	0.596	0.551	
angry	-0.006	0.035	-0.176	0.860	
iritated	0.054	0.053	1.014	0.311	
HELPBEH BY					
help	-0.055	0.049	-1.135	0.257	
certhelp	0.048	0.039	1.220	0.223	
willtalk	-0.107	0.119	-0.897	0.370	

Moreover, the ratio of Est./S.E. determines the statistical significance of the parameter, and is evaluated as a z statistic (z values that exceed +1.96 or fall below -1.96 are significant below p=.05). The Est./S.E. values ranged from -1.135 to 1.220. None of the item indicators load strongly on their respective Responsibility factors.

The Dangerousness standardized factor results are listed below.

Table 3.12 DANGEROUSNESS STANDARDIZED FACTOR RESULTS				
STDYX Standardization				
	Estimate	S.E.	Est./S.E.	P-Value
DANGERES BY				
unsafe	-0.100	0.073	-1.367	0.171
risk	-0.076	0.078	-0.981	0.326
dangrous	-0.047	0.041	-1.144	0.253
FEAR BY				
terrify	0.007	0.042	0.167	0.867
scared	0.028	0.036	0.783	0.433
frghtend	0.021	0.048	0.441	0.659
AVVOID BY				
threatnd	0.012	0.045	0.258	0.797
avoid	0.016	0.050	0.329	0.742
rentaprt	-0.315	0.102	-3.085	0.002

The Est./S.E. values ranged from -3.085 to 0.783. Based on p and z-values, only the factor loading for the indicator item "rentaprt" was statistically significant for the AVVOID factor.

Please also refer to Appendix C- Stage 3 CFA for Attribution Measurement Model (no ownfault). All of the factor loadings are statistically significant, with the exception of "control and "respcble" item indicators under the PERSRESP factor.

In terms of factor correlations for each of the Stage 3 Responsibility and Dangerousness factors (see Tables 3.13 and 3.14), there are a number of strong factor correlations for the close-fitting model. Statistical significance was fixed at $p<.05$.

Table 3.13 Stage 3 Responsibility Factor Correlations (n=201)				
	PERSRESP	PITY	ANGER	HELPBEH
PERSRESP	1.000			
PITY	0.783***	1.000		
ANGER	0.158*	0.223***	1.000	
HELPBEH	0.475***	0.521***	-0.013	1.000
	*p<.05; ***p<.001			

The positive strong correlations between PERSRESP with PITY (0.783, $p<.001$) and between PERSRESP with HELPBEH (0.475, $p<.001$) factors were statistically significant. The more students felt concern for the addict's condition, the more likely feelings of pity and helping behavior were reported for persons addicted to heroin. Coincidentally, there was a fairly strong relationship between PITY and HELPBEH (0.521, $p<.001$). The more pity shown, the more likely helping behavior was to be rendered to the addict. The extremely low negative relationship between feelings of anger and the likelihood to provide help was not a statistically significant result.

The Stage 3 results (see Table 3.14) supported the relationships between dangerousness, fear and social avoidance. There was a fairly significant positive correlation between DANGERES and FEAR factors (0.345, $p<.001$).

Table 3.14 Stage 3 Dangerousness Factor Correlations (n=201)				
	DANGERES	**FEAR**	**AVVOID**	
DANGERES	1.000			
FEAR	0.345***	1.000		
AVVOID	0.522***	0.242***	1.000	
	***p <.001			

The more Sociology-Social Control students reported being unsafe around addicts, the more feelings of fear were aroused. Being afraid of addicts encouraged their avoidance, with significant relationships between FEAR and AVVOID factors (0.242, p<.001). Moreover, there was a strong correlation between the students' perceived dangerousness and avoidance of the addict (0.522, p<.001). The more students regarded addicts as dangerous (DANGERES factor), the more likely that they would avoid (AVVOID factor) persons addicted to heroin.

3.3.3   Addition of Demographic Factor Data to Attribution Model

Demographic characteristics for the Stage 3 Sociology-Social Control students are summarized in Table 3.15. The average age of the students was 21.9 years. Over three-quarters of the students were female and more than 90% unmarried. In terms of ethnic representation, 42.3% of the students were white, 33.8% were Asian and 8.5% were Black. Under Ethnic Other, some students listed Chinese, Eastern European and Askeneizi (Jewish). Over 90% of the students lived in a house/apartment, with 53.5% of the students living with their parents. Under Other living arrangements, students indicated living with their cousins, extended family, sibling, relatives, sister, brother, grandparents and spouse+child. Fifty-one percent of the students had part-time jobs. Considering the students' grade point average last year, 13.1% achieved an A-. a B+ and B average was representative of 21.6% and 24.6% respectively. A B- was acknowledged by 18.1% of the SOC313 students.

Table 3.15 Demographic Characteristics of SOC313 Students

	Stage 3		
Characteristic	n	%	
Age, mean	201	21.9	
Ethnicity			
White	85	42.3	
Black	17	8.5	
Canadian Aboriginal	1	0.5	
Asian	68	33.8	
Other	30	14.9	
Marital Status			
Single	187	93.0	
Married/Common Law	11	5.5	
Separated	1	0.5	
Divorced	2	1	
Widowed	0	0	
Gender			
Male	46	22.9	
Female	155	77.1	
Working Outside the home			
Full-time	20	10	
Part-time	103	51.2	
Self-Employed	4	2	
No	74	36.8	
Living Arrangements			
House/ Apartment	185	92	
Residence Hall	12	6	
Fraternity/Sorority	4	2	
Other			
With Whom?			
Roommate(s)	37	18.5	
Alone	31	15.5	
With Parent(s)	107	53.5	
Spouse/Partner	11	5.5	
Children	2	1	
Other	12	6	
Approximate GPA Last Year			
A+	3	1.5	
A	11	5.5	
A-	26	13.1	
B+	43	21.6	
B	49	24.6	
B-	36	18.1	
C+	15	7.5	
C	5	2.5	
C- or less	1	0.5	

The Stage 3 Sociology-Social Control students were fairly representative of the profile of the Sociology students in the pilot-test. There was an over-representation of female students (over 70%), and over 90% of the students were unmarried. In terms of ethnic representation, there was slightly more students living at home with their parents in the pilot-test. Even the Stage 3 GPAs percentage breakdown was fairly representative of the students surveyed in the pilot-test.

With the addition of the DEMOGRPH factor (ie. student demographic characteristics) data to the 7-factor attribution model, a slight reduction in model fit was realized. As indicated in Table 3.16, the indices (CFI=0.976, TLI=0.953, RMSEA=0.040, SRMR=0.029) demonstrated a close model fit. The ESEM results were robust for the 8-factor model, despite the added data complexity to the attribution model.

Table 3.16 ESEM MODEL FIT DEMOGRPH

Number of Free Parameters	262
Chi-Square Test of Model Fit	
Value	267.265
Degrees of Freedom	202
P-Value	0.0014
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.040
90 Percent C.I.	0.026 0.052
Probability RMSEA $\leq$.05	0.902
CFI/TLI	
CFI	0.976
TLI	0.953
SRMR (Standardized Root Mean Square Residual)	
Value	0.029

Please see Appendix C- Stage 3 ESEM Attribution Model DEMOGRPH (see Table 3.17) for factor loadings. As outlined below, the DEMOGRPH factor is measured by eight item indicators (see Question 1 in Appendix B). Only "age", "marital status" and "living with whom" were found to be strong, positive and statistically significant indicators, ie. z values that exceed +1.96 or fall below -1.96 are significant below p=.05. Standardized factor loadings and estimate to standard error ratios for the other demographic characteristics were very weak, and did not significantly load on the DEMOGRPH factor.

Table 3.17	Stage 3	Standardized Results Demographic Characteristics				
STDYX Standardization				Two-Tailed		
	Estimate	S.E.	Est./S.E.	P-Value		
DEMOGRPH BY						
AGE	0.726	0.120	6.046	0.000		
ETHNIC	-0.055	0.094	-0.583	0.560		
MARITALS	0.508	0.231	2.197	0.028		
GENDER	0.073	0.098	0.739	0.460		
WKOUTHME	-0.125	0.097	-1.282	0.200		
LIVARGMT	-0.137	0.165	-0.832	0.405		
LIVWHOM	0.376	0.128	2.941	0.003		
GPA	-0.122	0.106	-1.148	0.251		
Note: Z score- Estimate to standard error ratio (exceed ±1.96 are significant below p =.05).						

Accordingly, it was decided to re-run the ESEM analysis using only the three indicator variables that significantly loaded on the DEMOGRPH factor, while excluding "ethnicity", "gender", "are you working outside the home", "living arrangements (where)" and "GPA" (grade point average). These weak items did not significantly contribute to the DEMOGRPH factor.

Please refer to Figure 3.7 for representation of the ESEM model with only the three demographic item indicators being imputed with the attribution model.

Figure 3.7 ESEM Attribution Model DEMOGRPH added (adapted from Corrigan et al., 2002)
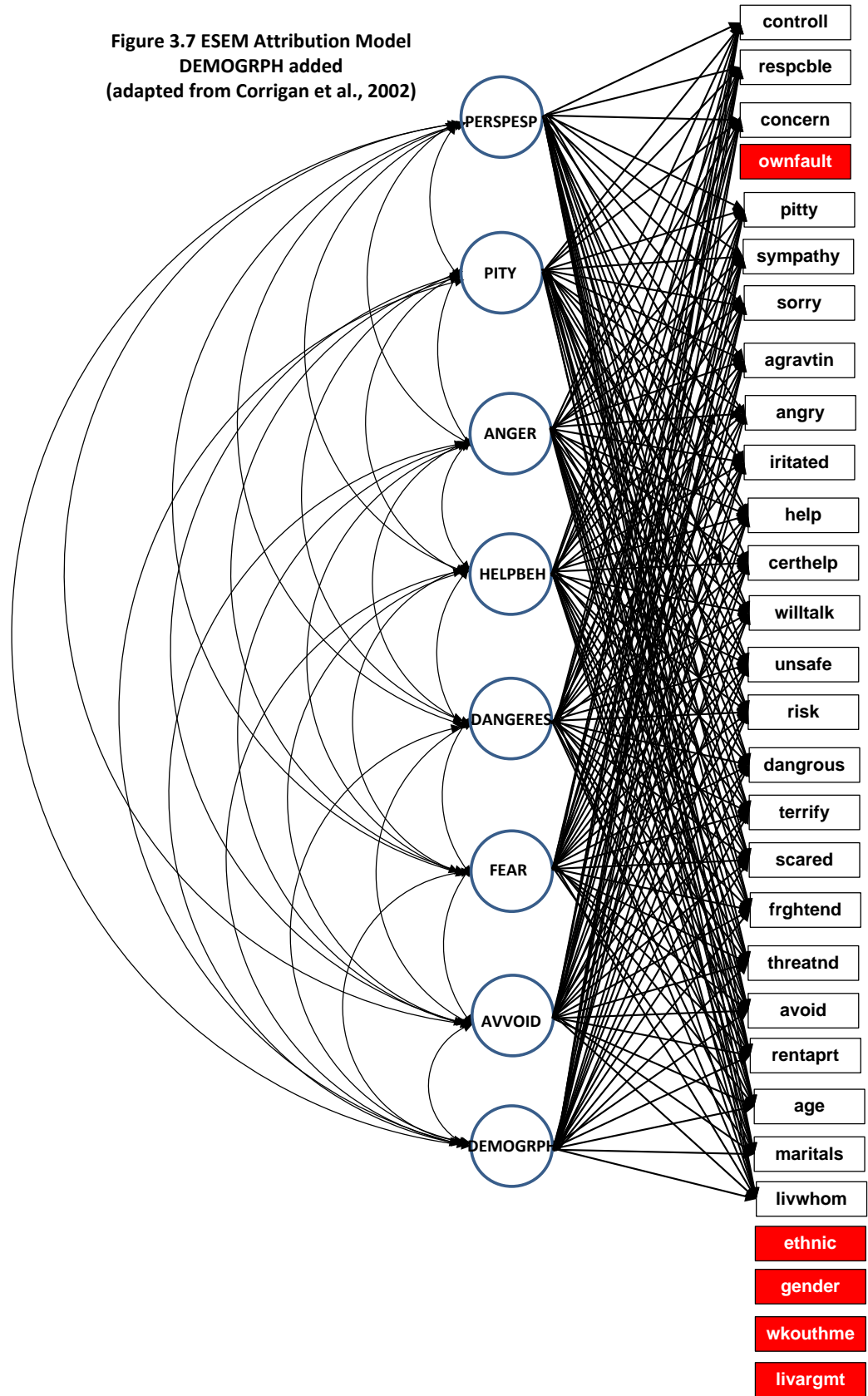
Table 3.18 demonstrated a better fit to the data (CFI=0.992, TLI=0.980, RMSEA=0.032, SRMR=0.021).
The ESEM results for the 8-factor model, with the elimination of five non-significant demographic item
indicators, clearly satisfied a close fit to the data.

Table 3.18   MODEL FIT DEMOGRPH UPDATED

Number of Free Parameters   212

Chi-Square Test of Model Fit

 Value   134.376

 Degrees of Freedom   112

      P-Value   0.0736

RMSEA (Root Mean Square Error of Approximation)

Estimate   0.032

90 Percent C.I.   0.000 0.050

 Probability RMSEA ≤ .05   0.953

CFI/TLI

      CFI   0.992

      TLI   0.980

SRMR (Standardized Root Mean Square Residual)

      Value   0.021

The standardized factor loadings for the new ESEM solution, only imputing the three retained
demographic characteristics' data, is indicated in Table 3.19.

Table 3.19 Stage 3 Updated DEMOGRPH STDYX Standardization				
	Estimate	S.E	Est./S.E.	Two Tailed
DEMOGRPH BY				P-Value
AGE	0.477	0.118	4.051	0.000
MARITALS	0.842	0.102	8.236	0.000
LIVWHOM	0.244	0.106	2.291	0.022

All of the standardized factor loadings are statistically significant, ie. z values that exceed +1.96 or fall below -1.96 are significant below p=.05. For the full list of factor loadings, please refer to Appendix C-Stage 3 ESEM Attribution Model DEMOGRPH (age,maritals,livwhom) no ownfault (see Table 3.19).

With respect to the modified ESEM solution, the correlations between demographic characteristics and the Responsibility and Dangerousness factors are reported below.

Table 3.20 Stage 3 Demographic Correlations (n=201)				
Responsibility Model				
	PERSRESP	**PITY**	**ANGER**	**HELPBEH**
DEMOGRPH				
Stage 3 (n=201)	-0.072	-0.191**	-0.274***	-0.019
Dangerousness Model				
	DANGERES	**FEAR**	**AVVOID**	
DEMOGRPH				
Stage 3 (n=201)	0.145*	0.133*	-0.111	
* p<.05 ; ** p<.01; ***p<.001				

There was a significant moderate negative relationship between the demographic characteristics (age, marital status and living arrangements–with whom) with the ANGER factor (-0.274, p<.001) and with the PITY factor (-0.191, p<.01). The strength of the relationship between these three student demographic characteristics and the Dangerousness factors was not very strong, with modest statistically significant correlations with DANGERES (0.145, p<.05), and FEAR (0.133, p<.05) factors. The negative correlation between DEMOGRPH and AVVOID was very weak, and was not significant (-0.111, p=.06). These demographic relationships were consistent with previous research, which revealed largely mixed results regarding perceptions of people with severe mental illness.

3.3.4   <u>Addition of Personal Consequences of Criminal Stigma Factor to Attribution Model</u>

The Personal Consequences of Criminal Stigma measure (CRIMSTIG) is located as Question 3 in Appendix B. There are four item indicators associated with the CRIMSTIG factor. The personal consequences of criminal stigma measure was examined along a 0 to 5-point Likert scale (0=strongly disagree, 5=strongly agree) to show the Sociology-Social Control students' agreement with the effects of criminal stigma on the personal well-being of the heroin addict.

Figure 3.8 schematically represents the ESEM model with 9 factors, with the further imputation of the CRIMSTIG factor data into the measurement solution. Table 3.21 shows a very slight decrease in model fit (CFI=0.990, TLI=0.976, RMSEA=0.030, SRMR=0.022). The 9-factor ESEM solution, which excluded the non-significant five demographic indicator variables, indicated a close fitting model.

Table 3.21   MODEL FIT INFORMATION (9 Factors)

Number of Free Parameters	272
Chi-Square Test of Model Fit	
Value	192.190
Degrees of Freedom	162
P-Value	0.0527
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.030
90 Percent C.I.	0.000 0.046
Probability RMSEA ≤ .05	0.983
CFI/TLI	
CFI	0.990
TLI	0.976
SRMR (Standardized Root Mean Square Residual)	
Value	0.022

Figure 3.8
ESEM representation of 9-factor model
(adapted from Corrigan et al. (2002)
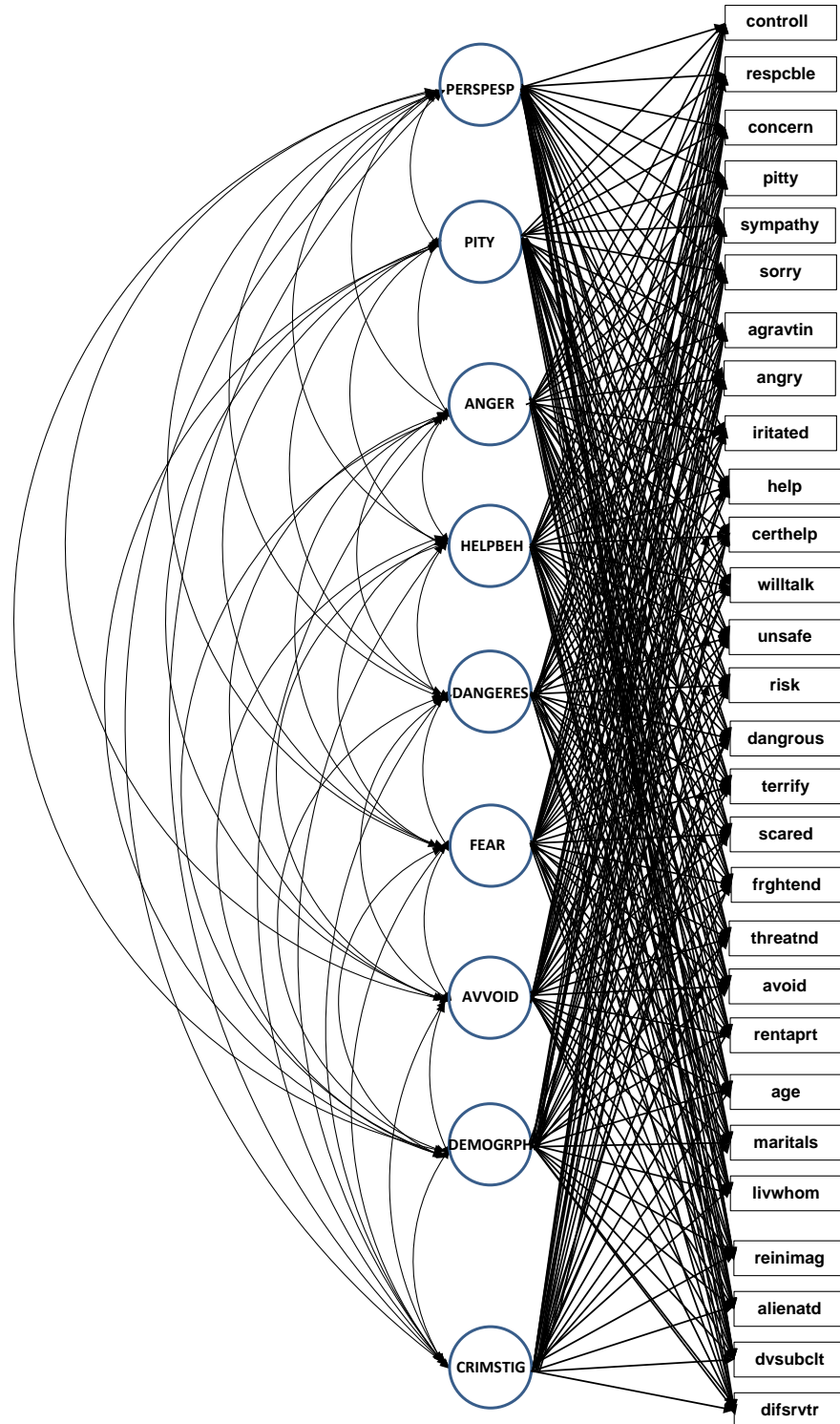
Table 3.22 illustrates that the students were fairly much in agreement about the adverse impact of criminalization on persons addicted to heroin. They strongly agreed that criminalization makes addicts more alienated from society (mean=4.065), and that criminal stigma reinforced the addict's deviant self-image (mean=3.761). They also agreed that criminalization leads addicts into deviant subcultures, often organized around procuring and using illegal drugs (mean=3.444). The students, however, tended to agree less that criminal labeling makes it difficult to access health services and treatment (mean=2.920).

Table 3.22	Stage 3 Criminal Stigmatization Indicator Item Means	
CrimStig		**Mean**
reinimag	To label a person addicted to heroin as a criminal, reinforces his/her deviant self-image.	3.761
alienatd	To label a person addicted to heroin as a criminal, makes him/her more alienated from society.	4.065
dvsubclt	To label a person addicted to heroin as a criminal, leads him/her into heavy-using deviant sub-cultures, often organized around procuring and using illegal drugs.	3.444
difsrvt	To label a person addicted to heroin as a criminal, makes it difficult for him/her to access health services and treatment.	2.920

For the full list of factor loadings, please refer to Appendix C- Stage 3 ESEM Attribution Model DEMOGRPH (age,maritals,livwhom) CRIMSTIG (see Table 3.23). In reviewing the standardized coefficient results, it was apparent that none of the criminal stigmatization item indicators loaded on the CRIMSTIG factor at a significant p or z-value, ie. z values that exceed +1.96 or fall below -1.96 are significant below p=.05.

Table 3.23 Stage 3 Personal Consequences of Criminal Stigma STDYX					
STDYX Standardization				Two-Tailed	
		Estimate	S.E.	Est./S.E.	P-Value	
CRIMSTIG BY					
reinimag		-0.209	0.120	-1.748	0.081
alienatd		0.028	0.035	0.809	0.418
dvsubclt		-0.138	0.124	-1.111	0.266
difsrvtr		0.160	0.170	0.943	0.346

Moreover, the correlations in Table 3.24 show that the CRIMSTIG factor positively associated with the AVVOID (0.221, p<.01) and with the FEAR (0.170, p<.01) factors. The more students agreed with the understanding that criminal stigmatization negatively impacts the personal well-being of the addict, the more likely they were afraid of the addict, and the more likely they would try to avoid the addict. There were no other statistically significant relationships, at p<.05, with the other attribution factors.

Table 3.24	Stage 3	Criminal Stigmatization Correlations (n=201)							
	DEMOGRPH	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	AVVOID
CRIMSTIG	-0.102	-0.020	-0.097	0.021	0.070	-0.007	0.170**	0.221**
		**p<.01						

3.3.5   Addition of Social Avoidance Factor to Attribution Model

As an adjunct to the Dangerousness factors, the Sociology-Social Control students were also administered the Social Distance scale (SDS). The SDS represented seven questions about how the SOC313 students would interact with persons addicted to heroin (see Question 2 in Appendix B). The 7-item AVOIDD factor was measured on a 0 to 3-point Likert-type scale (0=definitely willing, 3=definitely unwilling). Higher scores indicated higher distancing behavior. The 7-item Social Distance scale replaced the 3-item AVVOID factor in the attribution model. The DEMOGRPH and CRIMSTIG factors remained in the

Figure 3.9
ESEM representation of 9-factor (SDS) model
(adapted from Corrigan et al., 2002)
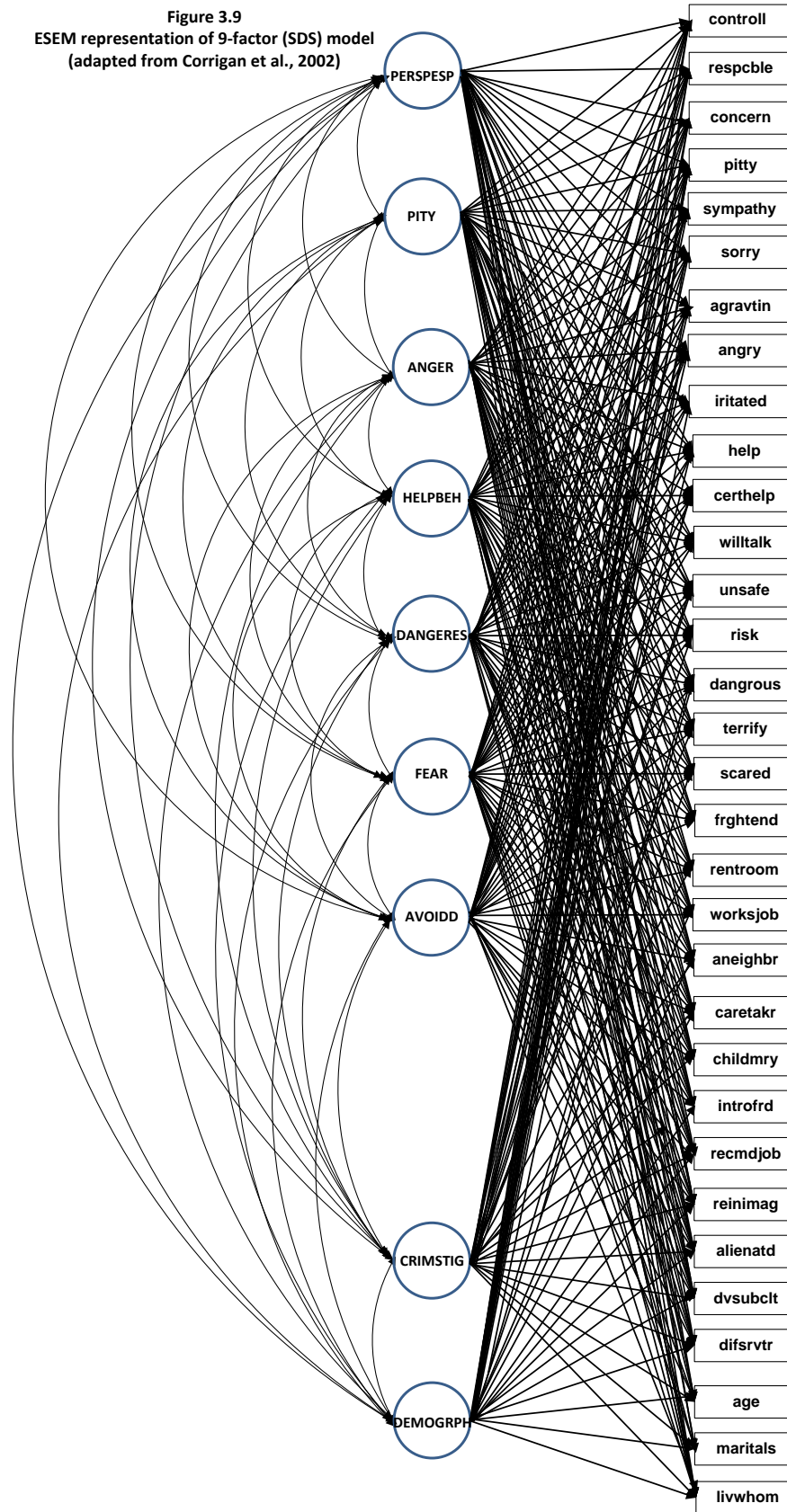
ESEM model solution. Figure 3.9 schematically represented the ESEM model.The results in Table 3.25 demonstrated that there was a relatively close fit with the data for this 9-factor ESEM/SDS model solution (CFI=0.966, TLI=0.931, RMSEA=0.045, SRMR=0.025). However, there was a marked improvement in ESEM model fit, when only including the 3-item AVVOID factor in the attribution model (CFI=0.990, TLI=0.976, RMSEA=0.030, SRMR=0.022).

Table 3.25   MODEL FIT INFORMATION (9 Factors/SDS)

Number of Free Parameters	316
Chi-Square Test of Model Fit	
Value	344.208
Degrees of Freedom	244
P-Value	0.0000
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.045
90 Percent C.I.	0.034 0.056
Probability RMSEA $\leq$ .05	0.759
CFI/TLI	
CFI	0.966
TLI	0.931
SRMR (Standardized Root Mean Square Residual)	
Value	0.025

Overall, the Stage 3 student responses on the 7-item SDS scale were strongly negative. The composite average mean score of 16.933, comprising 80.63% of the 21 possible total score for each student, indicated that the students were strongly unwilling to interact with persons addicted to heroin on many

personal levels. Table 3.26 reported students' mean scores for each item in the SDS scale. The students' mean value on the SDS scale=2.419 demonstrated a very strong negative reaction to persons addicted to heroin. Despite the SOC313 group's very moderate mean average of 5.89 for PITY and 5.90 for HELPBEH factors on the 9-point Likert-type scale, there was a definite strong unwillingness to interact with persons addicted to heroin on many social levels.

Table 3.26	Stage 3 Social Distance Scale (SDS)	
		Mean
AVOIDD		(n=201)
rentroom	How would you feel about renting a room in your home to a person addicted to heroin?	2.756
worksjob	How about being a worker on the same job as a person addicted to heroin?	1.846
aneighbr	How would you feel about having a person addicted to heroin as a neighbour?	1.930
caretakr	How about as the caretaker of your children for a couple of hours?	2.935
childmry	How about having one of your children marry a person addicted to heroin?	2.821
introfrd	How would you feel about introducing a person addicted to heroin to a young woman or man you are friendly with?	2.157
recmdjob	How would you feel about recommending a person addicted to heroin for a job working for a friend of yours?	2.488

Almost all of the SOC313 students were unwilling to allow addicts to be a caretaker of their children for a couple of hours (item mean=2.93/3.00=97.6%). Other intimate relationships such as renting a room, having an addict marry one of your children or recommending for a job to a friend were not supported. The students were less amenable to introducing an addict to a young woman or man that they are friendly with. However, the students felt fairly comfortable in having an addict as a co-worker or a neighbor.

For the corresponding list of factor loadings, please refer to Appendix C- Stage 3 ESEM Attribution Model DEMOGRPH (age,maritals,livwhom) CRIMSTIG AVOIDD (see Table 3.27). In reviewing the standardized coefficient results in the table below, it was apparent that none of the Social Distance Scale specific item indicators load on their respective AVOIDD factor at a significant p or z-value (ie., z values that exceed +1.96 or fall below -1.96 are significant below p=.05).

Table 3.27 Stage 3 Social Distance Factor Standardization

STDYX Standardization				Two-Tailed
	Estimate	S.E	Est./S.E.	P-Value
AVOIDD BY				
rentroom	0.036	0.066	0.536	0.592
worksjob	-0.013	0.038	-0.352	0.725
aneighbr	-0.013	0.054	-0.246	0.806
caretaker	0.011	0.071	0.156	0.876
childmry	-0.042	0.053	-0.800	0.424
introfrd	0.155	0.083	1.866	0.062
recmdjob	0.052	0.084	0.618	0.537

Table 3.28 reported the Stage 3 correlations for the Social Distance scale (AVOIDD factor) with the other factors in the 9-factor ESEM solution.

Table 3.28   Stage 3   Social Distance Scale Factor Correlations (n=201)

	DEMOGRPH	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	CRIMSTIG
AVOIDD	-0.051	-0.097	0.206**	0.055	0.331***	0.025	0.052	-0.117*
			*p<.05; **p<.01; ***p<.001					

The strongest statistically significant correlation arose between AVOIDD and HELPBEH factors (0.331, p<.001). The more strongly the students would show avoidance toward the addict, the more agreement to help the addict. There was also a moderate positive significant relationship between AVOIDD and PITY factors (0.206, p<.01). The more pity shown toward the addict, the more students would distance

themselves from persons addicted to heroin. A fairly low inverse correlation was demonstrated between AVOIDD and CRIMSTIG (-0.117, p<.05). The more students were willing to avoid the addict, the less likely that they would agree with the negative consequences of criminal stigma on the addict's personal well-being.

3.3.6   Addition of Level of Familiarity Factor to Overall Stage 3 Model

As indicated in Table 3.29, the Level of Familiarity Report listed 10 situations of differing intimacy with persons addicted to heroin (FAMILRNK factor). The ranking for the 10-item measure of familiarity is shown below, ranging from the least intimate: "I have never observed a person that I was aware was addicted to heroin" (score=1) to the most intimate: "I have an addiction to heroin" (score=10). The students were asked to identify all categories that they had experienced in their lifetime. The ranking for each student was based on the most intimate category the student identified.

Table 3.29			Stage 3 Level of Familiarity Ranking (n=194)
Rank	**n**	**%**	
3	52	26.8	I have watched a movie or television show in which a character depicted a person addicted to heroin.
2	2	1.0	I have observed, in passing on the street, a person addicted to heroin.
5	17	8.8	I have observed persons addicted to heroin many times.
10	2	1.0	I have an addiction to heroin.
6	4	2.1	I have worked with a person addicted to heroin at my place of employment
1	5	2.6	I have never observed a person that I was aware was addicted to heroin.
7	11	5.7	A friend of the family has an addiction to heroin.
8	9	4.6	I have a relative who has an addiction to heroin.
4	91	46.9	I have watched a documentary on the television about addiction to heroin.
9	1	0.5	I live with a person addicted to heroin.
Mean Rank	4.21		

A total of 194 students responded to this measure. Despite the confidentiality statements found in the survey instructions, it is possible that some students may have felt that this item encroached on their privacy for a very sensitive topic and opted not to complete this item as indicated by the respondents' directives prefacing the survey: "You can withdraw from the survey or opt out of any section. There are no consequences on yourself".

The Stage 3 student ranking for the FAMILRNK factor was Mean=4.21 (ie., closest to item "I have watched a documentary on the television about addiction to heroin"). The majority of students' level of familiarity with persons addicted to heroin was through the media (73.7%), either watching a movie or television show in which a character depicted a person addicted to heroin, or viewing a documentary on television. Fewer than three percent of the students indicated that they never observed a person that they were aware was addicted to heroin. In terms of greater intimate familiarity, such as a friend, relative or living with someone addicted to heroin, twenty-one students (10.8%) indicated this type of contact.

For these students, direct personal contact with addicts is an extremely rare event. Only two students (1.0%) identified that they had an addiction to heroin. One student (0.5%) reported living with a heroin addict. Eleven students (5.7%) indicated that a friend of the family had an addiction to heroin.

The FAMILRNK factor was simultaneously imputed with the other ten factors for an overall Stage 3 model. Figure 3.10 repesented the ESEM model under evaluation. In this overall model solution, data from both avoidance scales are imputed, together with FAMILRNK, CRIMSTIG, and DEMOGRPH (ie. three statistically significant demographic characteristics) factors, to generate an overall model. For the full list of factor loadings, please refer to Appendix C- Stage 3 ESEM Attribution Model DEMOGRPH (age,maritals,livwhom) CRIMSTIG AVVOID AVOIDD FAMILRNK (see Table 3.30).

Figure 3.10
ESEM representation of 11-factor Stage 3 Overall model
(adapted from Corrigan et al., 2002)
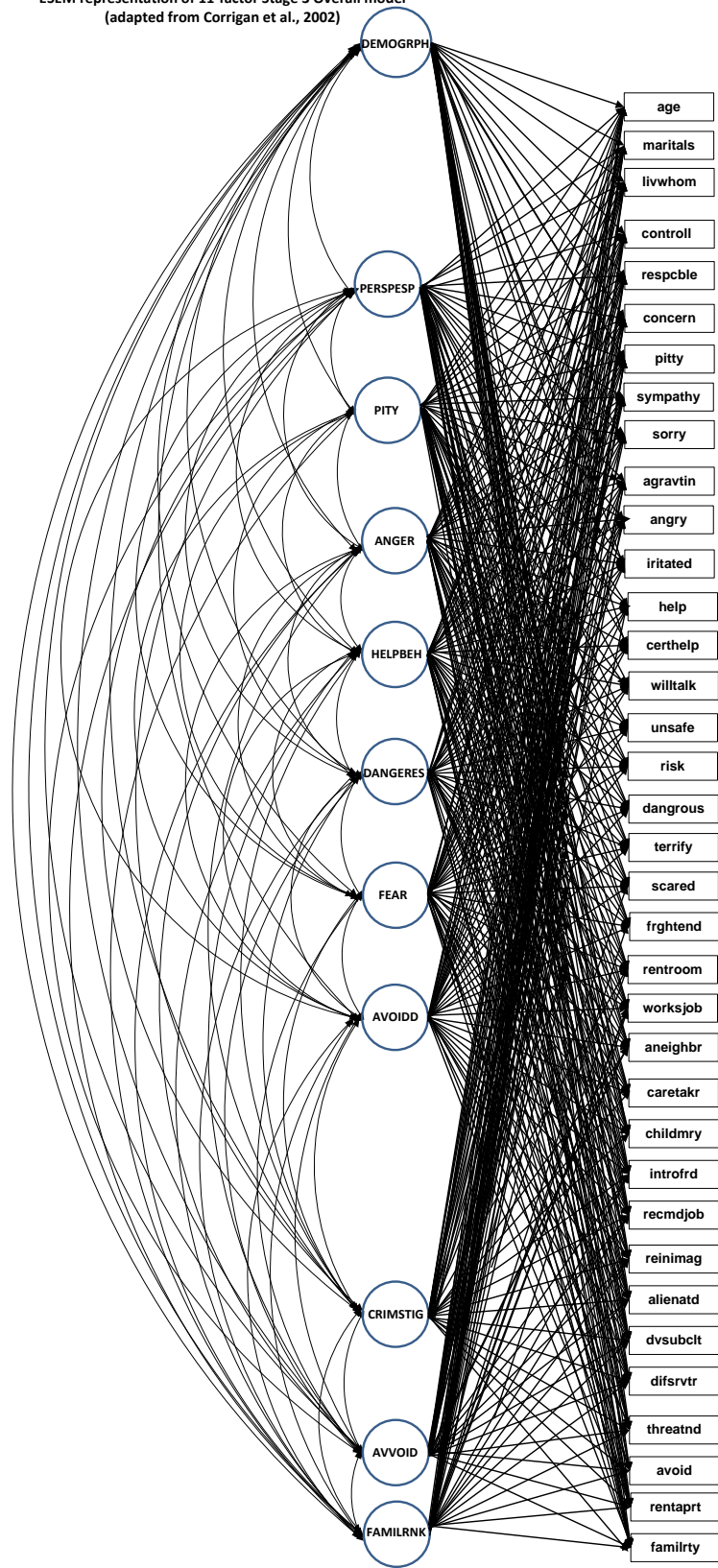
Table 3.30 illustrates that there is a close fit for the 11-factor ESEM solution (CFI=0.976, TLI=0.948, RMSEA=0.038, SRMR=0.025). There was an improvement for CLI/TLI/RMSEA fit indicators over the previous model solution which included the replacement of the 3-item AVVOID factor with the 7-item SDS scale (AVOIDD factor).

Table 3.30   STAGE 3 MODEL FIT INFORMATION (11 Factors Overall)

Number of Free Parameters	413
Chi-Square Test of Model Fit	
Value	371.505
Degrees of Freedom	289
P-Value	0.0007
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.038
90 Percent C.I.	0.025 0.048
Probability RMSEA ≤ .05	0.972
CFI/TLI	
CFI	0.976
TLI	0.948
SRMR (Standardized Root Mean Square Residual)	
Value	0.025

It was noteworthy that when the 3-item AVVOID factor (ie. item indicators "threatnd", "avoid", "rentaprt") was removed from the overall model, the Mplus output reported a host of misspecification errors. The model did not converge, and the number of iterations was exceeded. A major problem with item "unsafe" was also identified. There was also notification that the chi-square statistic was negative and loglikelihood values may be unreliable.

The exclusion of the 3-item AVVOID factor from the overall model emphasized the importance of building up factors in iterative steps toward an overall ESEM model, as a combination of factors, item indicators and data may lead to model non-convergence. Accordingly, it was pertinent to retain both the 3-item AVVOID and 7-item AVOIDD factors in the overall Stage 3 model.

The inter-factor correlations between FAMILRNK and the Responsibility and Dangerousness factors, together with adding the CRIMSTIG, AVVOID and AVOIDD factors, are shown in Table 3.31 below.

Table 3.31 Stage 3 Familiarity Rank Correlations (n=201)				
Responsibility Factors				
		PERSRESP	**PITY**	**ANGER**	**HELPBEH**
FAMILRNK		-0.190**	0.014	-0.068	0.264***
Dangerousness Factors				
		DANGERES	**FEAR**	**AVVOID**	**AVOIDD**
FAMILRNK		0.204**	0.089	0.128*	0.161*
		DEMOGRPH	**CRIMSTIG**		
FAMILRNK		-0.011	0.233***		
*p<.05; **p<.01; ***p<.001				

Level of Familiarity (FAMILRNK factor) was found to be statistically significant with the following factors: HELPBEH (0.264, p<.001), CRIMSTIG (0.233, p<.001), DANGERES (0.204, p<.01), PERSRESP (-0.190, p<.01) and 3-item AVVOID (0.128, p<.05). A low significant positive association was also found for the 7-item AVOIDD factor (0.161, p<.05).

Within the Responsibility factors, students who were familiar with persons addicted to heroin were more likely to offer help and to agree with the personal consequences of criminal stigma. Within the

Dangerousness factors, the findings indicated a positive but moderate relationship between familiarity and feelings of being unsafe around persons addicted to heroin. Interestingly, those students who are familiar with addicts were more likely to consider them as being dangerous, as a consequence of their substance abuse, as dangerousness was associated with students' intentions to avoid addicts.

Moreover, there was a weak inverse relationship between familiarity and assigning personal responsibility for the addict's condition. Those students familiar with persons addicted to heroin were fairly unlikely to assign personal responsibility for the addict's condition.

A moderate positive relationship was found between FAMILRNK and the two social distance factors (3-item AVVOID, 7-item AVOIDD). Students who were familiar with addicts were more likely to avoid and to be socially distant from them.

There was no statistically significant relationship found between familiarity and feelings of fear, nor between familiarity with emotions of pity and anger.

3.3.7 <u>Incremental Validity and Reliability</u>

In interpreting coefficient alpha as "an estimate of reliability based on internal consistency among items", each of the Stage 3 measures demonstrated adequate reliability for scales in development, based on an acceptable cutoff level of at least 0.70 for Cronbach's α values (Yang and Green, 2011: 381,389), Cronbach's alpha coefficient of 0.80 or greater is also highly recommended as a pre-specified cutoff for reliability (Lance et al., 2006).

It is acknowledged that the current Cronbach's alpha criticism is concerned about violations of classical test assumptions: essential tau equivalence and uncorrelated errors (Bentler, 2009; Revelle and Zinbarg,

2009; Sijtsma, 2009; Streiner, 2003). Other concerns are related to the failure to control for measurement error in test-retest correlations leading to artificially inflated path coefficients (Marsh et al., 2010, 2010a).

Cronbach's α value of ≥0.80 was sought and achieved for the adapted version of the attribution questionnaire, indicating highly acceptable reliability. The reliability for Personal Consequences of Criminal Stigma measure and the Social Distance scale was Cronbach's α value≥0.70. The change in wording involving "persons addicted to heroin" did not appear to alter the psychometric properties of these measures.

- Attribution model (Dangerousness and Responsibility factors): 0.892
- Criminal Stigma measure (CRIMSTIG factor): 0.712
- Social Distance Scale (AVOIDD factor): 0.764

At Cronbach's α value≥0.70, the new Personal Consequences of Criminal Stigma measure had an acceptable alpha (Kassam et al., 2012). Its α value, however, was weaker than the other scales, possibly indicating the shortness of the measure. It is possible that a longer version of the scale may result in a better internal consistency rating (Luoma et al., 2010). Interestingly, as a proxy measure of behavior toward persons addicted to heroin, Cronbach's alpha for the Social Distance Scale (SDS) was almost identical to a previous finding involving attributions toward persons with severe mental illness, ie., α=0.76 (Corrigan et al., 2002).

The factor structure and reliability of the attribution model involving individuals with mental illness were validated in earlier versions through confirmatory factor analysis (Corrigan et al., 2002, 2003, 2005). In comparing the adapted 7-factor attribution model for persons addicted to heroin, the factor structure and reliability appeared to be fairly valid. The Dangerousness factors, however, were more robust, in that Dangerousness factors were strongly-to-moderately correlated and Responsibility factors were moderately-to-weakly correlated.

Interfactor correlations between the attribution model factors and the AVOIDD, CRIMSTIG and FAMILRNK factors tended to be moderate, indicative of generally good construct validity (Brown, 2011).

3.3.8   Model Fit Summary

Adapting from previous research involving attributions toward persons with mental illness, the Stage 3 ESEM measurement model was validated for persons addicted to heroin. The ESEM adapted 7-factor attribution model closely fit the Stage 3 Sociology-Social Control student data. As indicated in Table 3.32, the estimation of ESEM model solutions involved several simultaneous iterations of data with the attribution measurement model. It was apparent that the imputation of additional factors to the baseline 7-factor attribution model did not overly translate into better goodness-of-fit indices.

Table 3.32	Stage 3		Goodness of Fit Statistics for ESEM Models				
Model	χ^2	**(df)**	**TLI**	**CFI**	**RMSEA**	**90% CI**	**SRMR**
Attribution Model	101.476	84	0.983	0.993	0.032	0.000 - 0.053	0.016
Demographics	267.265	202	0.953	0.976	0.040	0.026 - 0.052	0.029
without 5 indicators	134.376	112	0.980	0.992	0.032	0.000 - 0.050	0.021
Criminal Stigma	192.19	162	0.976	0.990	0.030	0.000 - 0.046	0.022
Social Distance	344.208	244	0.931	0.966	0.045	0.034 - 0.056	0.025
Familiarity	371.505	289	0.948	0.976	0.038	0.025 - 0.048	0.025

When compared to the more complex factor solutions, the parsimonious 7-factor attribution measurement model provided evidence of a better fit to the data. The findings showed that most of the fit indices performed reasonably well, and were above recommended cutoff values.

Considering the restrictive nature of CFA methodology, the attribution model presented mixed results (CFI= 0.913, TLI=0.891, RMSEA=0.082, SRMR=0.092), yet the CFA results for persons addicted to heroin were at the limit of acceptability thresholds for assessing model fit (Hu and Bentler, 1999; Marsh et al., 2004; Schreiber, 2008). Nonetheless, it is highly recommended that exploratory methods are employed for the development of new instruments when prior research is not available, especially where CFAs fail to provide clear support for research instruments previously validated by EFA results (Hopwood and Donnellan, 2010; Fabrigar et al., 1999; Marsh et al., 2011).

Where there are substantial cross-loadings, ESEM correlations were found to be distinctively smaller than those based on CFA methodology. The constraint of cross-loadings to zero in the CFA model led to overestimated factor correlations among attribution model factors. Marsh et al. (2011: 342) emphasized that CFA's substantially higher factor correlations "can undermine support for the multidimensionality of a construct and for the discriminant validity (or distinctiveness) of the multiple factors". By estimating all cross-loadings between item indicators and factors, the ESEM solution produced lower correlations, higher fit indexes and out-performed the CFA 7-factor attribution measurement model solution.

It was also apparent from Table 3.32 that with the addition of student demographic characteristics (excluding five non-significant item indicators), the ESEM solution recovered to realize a close fitting model. The results (CFI= 0.992, TLI=0.980, RMSEA=0.032, SRMR=0.021) are fairly comparable to the parsiminonious attribution model. However, with the imputation of Personal Consequences of Criminal Stigma measure and then Social Distance (SDS) scale, the ESEM solution demonstrated a reduction in fit indices. Despite these reductions, the measurement models mostly exhibited a close fit to the data, with the exception of TLI which fell below 0.95, but was above TLI≥0.90 for an acceptable fit to the data.

With the imputation of the Level of Familiarity data, the overall model again exhibited a marked improvement to a close-fitting model (CFI= 0.976, TLI=0.948, RMSEA=0.038, SRMR=0.025). With the

exception of TLI which was at 0.948, all of the fit indicators were substantively above the cutoff values. The TLI was just marginally below the TLI≥0.95 close fit value.

The use of ESEM is a viable confirmatory alternative to CFA "on the basis of the strong theoretical assumptions regarding the expected factor structure" (Guay et al., 2015: 62). With all of the increasingly more complex models, ESEM models provided more than satisfactory level of fit to the data, with CFI >0.95 and RMSEA/ SRMR<0.05. The Stage 3 results corroborated the multi-dimensional nature of addiction stigma. With most items not loading strongly on their respective factors, the ESEM evidence supported the factorial complexity of the item indicators involved with the simultaneous imputation of the 7-factor attribution measurement model with the other measures. Compared to theoretical expectations evidenced in other attribution studies, the students did not exhibit particularly high levels of addiction stigma as reported by the public.

3.4   <u>Stage 4 Analysis</u>

Stage 4 further assessed the ESEM factor structure for the 7-factor attribution measurement model in a second group of the Sociology-Social Control students. ESEM models were tested in several steps as previously generated in Stage 3. Consistent with the validity-driven method, it was important to reproduce the same pattern of results, verifying model fit, correlations and parameter estimates, in the testing of the second group of Sociology-Social Control students.

Descriptive statistics were examined for each of the measures to test for significant differences between Stage 3 and Stage 4 students. Test-retest reliability was determined to corroborate the consistency of students' responses.

The ESEM 7-factor attribution measurement model formed the baseline for the incremental comparison of tested models. Data was imputed from student demographic characteristics (DEMOGRPH factor), the Personal Consequences of Criminal Stigma measure (CRIMSTIG factor) and the Social Distance scale (AVOIDD factor), Level of Familiarity Report (FAMILRNK factor), Sociology-Social Control course (COURSE factor), my own research (MR factor) and my own experience (ME factor). As in Stage 3, the same cutoff values were used to assess differences in model fit to the data.

Considering the testing of Level of Familiarity data with the ESEM 7-factor attribution model, it was hypothesized that Sociology-Social Control students who were more familiar with persons addicted to heroin would more likely show less stigmatizing perceptions toward addicts. It was also expected that with the imputation of SOC313 Course data on the attribution model, comparatively similar results would occur.

3.4.1 Attribution Model

With Stage 3 establishing the ESEM adapted attribution model as a close-fitting solution, it was employed as the parsimonious model for the Stage 4 Sociology-Social Control student group.

The Stage 4 survey was administered near the end of the semester for the Sociology-Social Control course (see Appendix B for the complete survey). The in-class survey counts were not well supported by the students. The lack of student attendance was possibly the result of the close proximity of the end of semester to the final exam period. Of the 320 students registered for the course, 177 students (55.3%) completed the survey. Of these students, 137 participants completed the survey in-class, and 40 of the "missed" in-class students completed the survey online. There were very few incomplete surveys returned, with 4 blank questionnaires and 3 with incomplete information – two of which were included in the analysis because they were more than 75% complete. Because of this relatively low non-completion rate, missing data were considered "missing at random". Again, it is proposed that the extremely low proportion of student non-responses to questionnaire items confirmed that the questions were easy to understand and had satisfactory content.

In reviewing the summary of goodness-of-fit statistics for the attribution measurement model, the ESEM analysis fits the data closely, with CFI=0.981, TLI=0.956, RMSEA=0.052, SRMR=0.022. The Stage 3 analysis involved the removal of one of the PERSRESP indicator variables (ie., ownfault) from both the CFA and ESEM indicator item input, as "ownfault" created a residual covariance data output warning in the ESEM output. With "ownfault" removed in the attribution model, the ESEM model fit was marginally better: CFI=0.985, TLI=0.963, RMSEA=0.049, SRMR=0.025.

However, despite the ESEM model estimation terminating normally, the Mplus output reported a residual variance problem with item indicator "angry". The model was again re-run, excluding "angry" from the ANGER factor. The item's removal eliminated the negative residual variance error.

With "ownfault" removed from the PERSRESP factor and "angry" eliminated from the ANGRY factor, the Stage 4 adjusted item indicators (ie., questionnaire items) and corresponding factors are represented in Figure 3.11 below.

Figure 3.11   Stage 4 Adjusted Attribution Model including indicators items and factors.
(Adapted from Corrigan et al., 2002: 297)
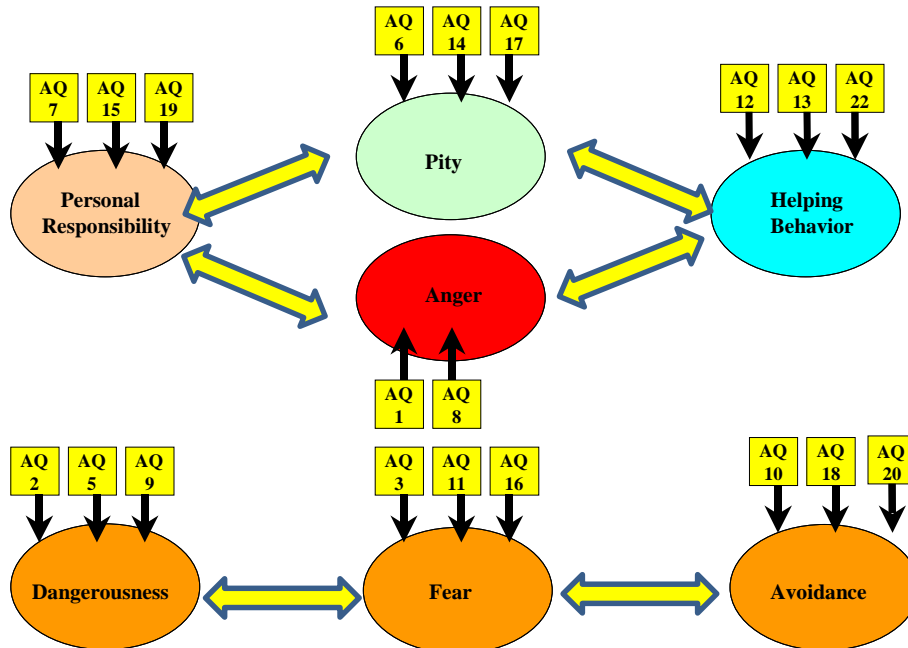
Figure 3.12 represents the ESEM model with "ownfault" and "angry" removed from the 7-factor attribution model. As in Stage 3, all rotated loadings for item indicators were freely estimated with all of the factors, and all seven factors were allowed to freely correlate.

Table 3.33 demonstrated the corresponding fit indices' improvement with the removal of "ownfault" and "angry" item indicators.

Figure 3.12
Stage 4 Adjusted ESEM Attribution Model
(adapted from Corrigan et al., 2002)
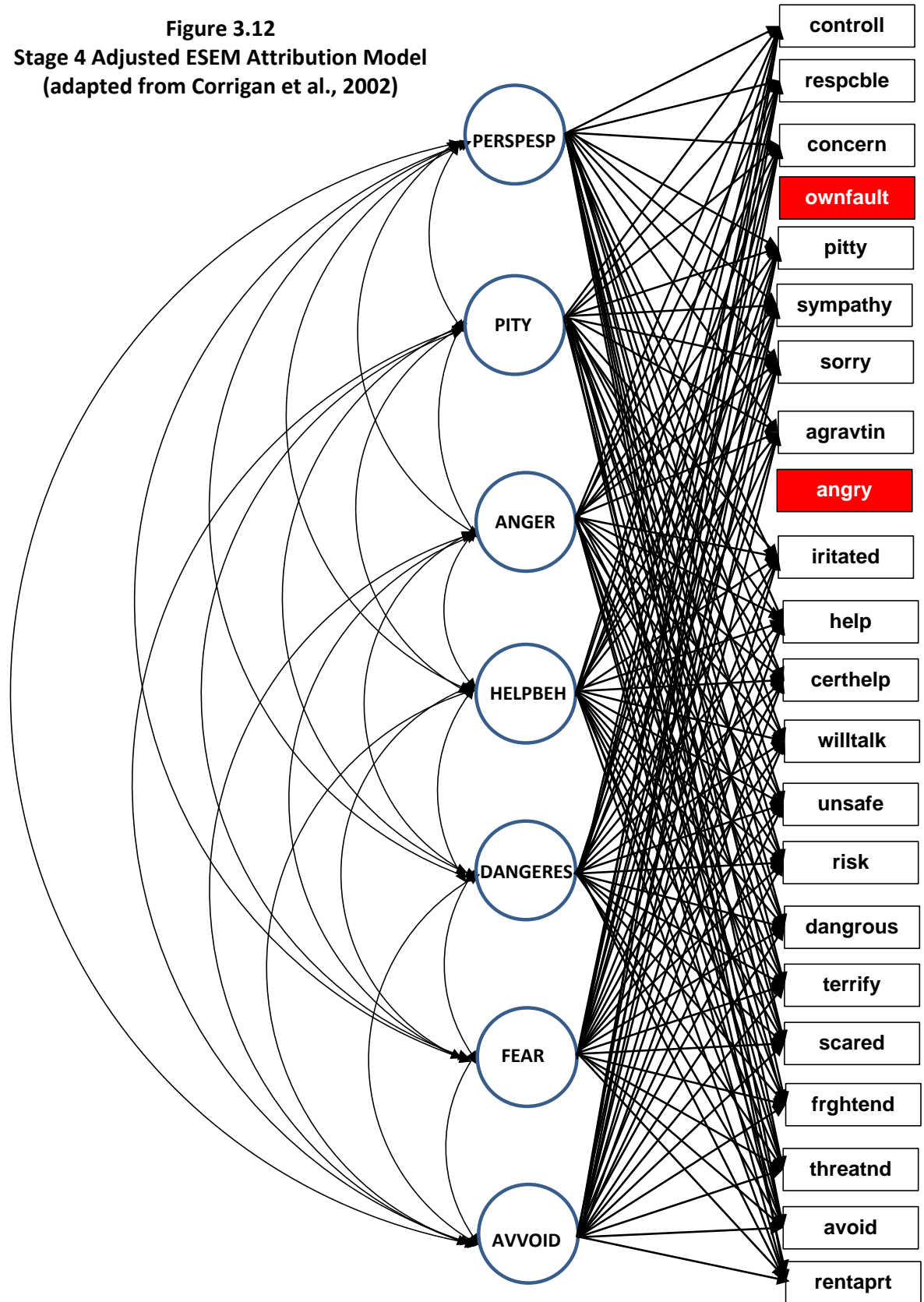
Table 3.33 ESEM MODEL FIT INFORMATION (ownfault/angry removed)

Number of Free Parameters   159

Chi-Square Test of Model Fit

  Value   98.947

  Degrees of Freedom   71

     P-Value   0.0159

RMSEA (Root Mean Square Error of Approximation)

Estimate   0.047

90 Percent C.I.   0.021 0.068

 Probability RMSEA ≤ .05   0.565

CFI/TLI

    CFI   0.987

    TLI   0.966

SRMR (Standardized Root Mean Square Residual)

   Value   0.020

However, with the comparison to ESEM Stage 3 attribution model, there was a decline in goodness-of-fit statistics, (CFI=0.997, TLI=0.993, RMSEA=0.021, SRMR=0.021).

In generating an ESEM validation problem, a further modification was made to the attribution model. The "ownfault' and "angry" item indicators were permanently dropped from the PERSRESP and ANGRY factors respectively. There were no item indicators dropped from the other factors.

The Stage 4 mean for each item indicator in the attribution questionnaire (AQ) is shown in Table 3.34. The mean and standard deviations for each of the seven factors in the attribution model are also reported.

		Table 3.34 Stage 3 vs. Stage 4 Attribution Model			Standard	
			Mean		Deviation	
Responsibility Factors			Stage 3	Stage 4	Stage 3	Stage 4
PERSRESP						
AQ7	controll	How controllable do you think persons addicted to heroin are?	3.433	3.582		
AQ15	respcble	How responsible do you think a person addicted to heroin is for their present condition?	5.761	5.672		
AQ19	concern	How much concern do you feel for person addicted to heroin?	6.009	5.921		
AQ21	ownfault	I would think that it was a person addicted to heroin's own fault that he/she is in their present condition.	-------	-------		
			15.203	15.175	0.951	0.906
PITY						
AQ6	pitty	I feel pity for persons addicted to heroin.	6.085	6.181		
AQ14	sympathy	How much sympathy would you feel for a person addicted to heroin?	5.812	5.977		
AQ17	sorry	How sorry do you feel for persons addicted to heroin?	5.772	5.938		
			17.669	18.096	0.987	0.985
ANGRY						
AQ1	agravtin	I would feel aggravated by persons addicted to heroin.	5.139	4.808		
AQ4	angry	How angry do persons addicted to heroin make you feel?	3.637	3.588		
AQ8	iritated	How irritated would you feel by a person addicted to heroin?	4.442	4.418		
			9.581	9.226	0.824	0.959
HELPBEH						
AQ12	help	How likely is it that you would help a person addicted to heroin?	5.886	5.808		
AQ13	certhelp	How certain would you feel that you would help a person addicted to heroin.	5.207	5.201		
AQ22	willtalk	I would be willing to talk to a person addicted to heroin about their problems.	6.607	6.627		
			17.700	17.636	0.940	0.945
Dangerousness Factors						
DANGERES						
AQ2	unsafe	I would feel unsafe around persons addicted to heroin.	6.170	5.684		
AQ5	risk	I think persons addicted to heroin pose a risk to other people unless they are imprisoned.	3.254	3.192		
AQ9	dangrous	How dangerous do you feel a person addicted to heroin is?	5.313	5.288		
			14.737	14.164	0.926	0.943
FEAR						
AQ3	terrify	Persons addicted to heroin terrify me.	4.423	4.034		
AQ11	scared	How scared of a person addicted to heroin would you feel?	4.925	4.802		
AQ16	frghtend	How frightened of a person addicted to heroin would you feel?	4.921	4.701		
			14.269	13.537	0.953	0.815
AVVOID						
AQ10	threatnd	I would feel threatened by a person addicted to heroin.	5.104	4.898		
AQ18	avoid	I would try to avoid a person addicted to heroin.	3.985	4.181		
AQ20	rentaprt	If I were a landlord, I probably would rent an apartment to a person addicted to heroin.	7.658	7.311		
			16.747	16.390	0.829	0.783

On the 1 to 9-point scale for the attribution questionnaire, fifteen of twenty Stage 4 means were greater than the midpoint of 4.500. The following item indicators were less than the average value: "terrify", "risk", "control", "irritated" and "avoid". The worst overall student impression continued to be item

"rentaprt" with a mean=7.311. The lowest mean was item "risk"=3.192, with students continuing to feel that a person addicted to heroin was not a risk to other people and should not be imprisoned.

Compared to Stage 3, the Stage 4 factor results demonstrated slight mean item reductions for all of the attribution model factors. Separate t-tests were performed for the mean factor differences between the Stage 3 and Stage 4 Responsibility and Dangerousness factors, with no significant results at p>.05 detected between the variances of the two samples.

For the full list of factor loadings, please refer to Appendix C- Stage 4 ESEM Attribution Model no ownfault angry (see Table 3.35). As shown below, the Stage 4 standardized model results (ie.

Table 3.35	PERSONAL RESPONSIBILITY STANDARDIZED RESULTS				
STDYX Standardization				Two-Tailed	
	Estimate	S.E.	Est./S.E.	P-Value	
PERSRESP BY					
controll	0.017	0.037	0.459	0.646	
respcble	-0.086	0.105	-0.824	0.410	
concern	0.010	0.064	0.152	0.879	
PITY BY					
pitty	0.041	0.106	0.386	0.700	
sympathy	-0.036	0.069	-0.512	0.609	
sorry	0.010	0.068	0.141	0.888	
ANGER BY					
agravtin	-0.014	0.031	-0.464	0.643	
iritated	0.036	0.050	0.724	0.469	
HELPBEH BY					
help	0.007	0.044	0.167	0.867	
certhelp	0.136	0.081	1.682	0.093	
willtalk	-0.108	0.083	-1.300	0.193	

standardized factor loadings=Est./S.E.) for the four Responsibility factors ranged from -1.300 to 0.141. None of the item indicators per their respective Responsibility factor was statistically significant at p or z-value(ie., z values that exceed +1.96 or fall below -1.96 are significant below p=.05).

The three Dangerousness factors' standardized results are listed in Table 3.36 below. The standardized factor loadings (Est./S.E.) ranged from -1.523 to 0.254. None of the factor loadings for the item indicators per respective Dangerousness factor in Stage 4 was statistically significant.

Table 3.36	DANGEROUSNESS STANDARDIZED RESULTS				
STDYX Standardization					
	Estimate	S.E.	Est./S.E.	P-Value	
DANGERES BY					
unsafe	0.021	0.052	0.407	0.684	
risk	-0.125	0.082	-1.523	0.128	
dangrous	0.012	0.048	0.254	0.800	
FEAR BY					
terrify	0.052	0.056	0.919	0.358	
scared	-0.057	0.058	-0.978	0.328	
frghtend	0.020	0.068	0.296	0.768	
AVVOID BY					
threatnd	0.057	0.075	0.758	0.448	
avoid	-0.146	0.145	-1.005	0.315	
rentaprt	-0.028	0.053	-0.526	0.599	

The correlation matrices for the Stage 4 attribution model factors are reported in Tables 3.37 and 3.38. There were a number of fairly strong factor correlations for the well-fitting ESEM factors. Statistical significance was fixed at p<.05.

In comparing students' stigmatizing attitudes toward persons addicted to heroin to Stage 3, all of the Responsibility factors' correlation strengths were reduced. In Stage 3, factor correlation coefficients between PERSRESP with PITY (0.783) and PERSRESP with HELPBEH (0.475) were significant at

p<.001. However, in Stage 4, the factor correlations between PERSRESP with PITY (0.551) and PERSRESP with HELPBEH (0.291) were decreased, but significant at p<.001. The perception that addicts were under control for their condition, increased feelings of pity and helping behavior. Additionally, in Stage 3, there was a fairly strong relationship between PITY and HELPBEH (0.521, p<.001). In Stage 4, the corresponding correlation is slightly reduced to 0.461, p<.001. The emotional feeling of pity yielded increased intentions to help addicts.

Table 3.37 Stage 4 Responsibility Factor Correlations (n=177)					
		PERSRESP	PITY	ANGER	HELPBEH
PERSRESP		1.000			
PITY		0.551***	1.000		
ANGER		0.141*	-0.205**	1.000	
HELPBEH		0.291***	0.461***	-0.282***	1.000
	*p<.05; **p<.01; ***p<.001				

In Stage 4, there is an additional statistically significant inverse relationship between PITY and ANGER (-0.205, p<.01) factors. Pity toward the addict was associated with a moderate correlation, but diminishing effect on anger. Also, in Stage 4, a fairly moderate significant negative relationship was found between ANGER and HELPBEH (-0.282, p<.001). In Stage 3, this correlation was not found to be statistically significant (-0.013, p=0.854). In stage 4, feelings of anger are associated with a moderate correlation, but diminishing effect on helping the addict.

In Table 3.38, the Stage 4 Dangerousness factor correlations followed similar reductions in correlation strength compared to Stage 3. All three Dangerousness factors were found to be significantly correlated in Stage 3 student results.

Table 3.38 Stage 4 Dangerousness Factor Correlations (n=177)				
		DANGERES	FEAR	AVVOID
DANGERES		1.000		
FEAR		-0.035	1.000	
AVVOID		-0.320***	-0.076	1.000
		***p<.001		

However, the Stage 4 results only showed a significant inverse correlation between DANGERES and AVVOID (-0.320, p<.001) factors, but not as strong as the positive correlation in Stage 3 (0.522, p<.001). The remaining two negative relationships are very weak and are not statistically significant.

In Stage 3, the students presented a significant correlation between DANGERES and FEAR factors (0.345, p<.001), and between FEAR and AVVOID factors (0.242, p<.001). Perceived dangerousness and feeings of fear were not significantly correlated in Stage 4 results (-0.035, n.s.). The students did not report being unsafe around addicts, nor being aroused by emotions of fear. Moreover, because students were not afraid of persons addicted to heroin, this lack of fear did not encourage their avoidance.

In reviewing the Stage 4 inter-correlations between the Responsibility and Dangerousness factors, there was a significant strong inverse relationship between FEAR and HELPBEH (-0.471, p<.001) and a strong positive correlation between DANGERES and ANGER (0.426, p<.001) factors. More moderate but significant positive relationship was found between PITY and DANGERES (0.228, p<.001). The perception of addicts' dangerousness strongly increased feelings of anger and moderately increased feelings of pity. The emotional response of fear was strongly associated with less intentions to help the addict.

3.4.2   Addition of Social and Demographics, Personal Consequences of Criminal Stigma and Social Distance Factors on Attribution Model

In the incremental inclusion of additional factors to the attribution model, the next step in Stage 4 was to simultaneously include demographic characteristics of the Sociology-Social Control students (DEMOGRAPH factor), the Criminal Stigmatization (CRIMSTIG factor) and Social Distance scale to adapted 7-factor attribution model. Coincidentally, the 7-item Social Distance scale (AVOIDD factor) replaced the 3-item AVVOID factor in the attribution model. The model now included the imputation of data from nine factors.

Figure 3.13 represents the estimated Stage 4 ESEM 9-factor model. As in all previous Stage 3 ESEM model solutions, all factors and item indicators were freely estimated. All of the rotated nine factors were allowed to freely correlate with eachother.

3.4.2.1   Demographic Characteristics

The demographic statistics for the Stage 3 and Stage 4 Sociology-Social Control students are summarized in Table 3.39. Despite 13% fewer respondents, the Stage 4 students' characteristics were remarkably alike to those administered at the beginning of the semester. The number of SOC313 students that completed the survey in-class (137) and on-line (40) totaled n=177, compared to n=201 in Stage 3.

Over three-quarters of the student sample were female and more than 90% single. In terms of ethnic representation, 43.3% of the students were white, 28.7% were Asian and 8.4% were Black. Under Ethnic Other, some students listed Chinese and Eastern European. Almost 92% of the students lived in a house/apartment, with 56.5% of the students living with their parents. Almost fifty-one percent of the students had part-time jobs. Considering the students' grade point average last year, 15.3% achieved an

Figure 3.13
Stage 4 ESEM representation of 9-factor model
(adapted from Corrigan et al., 2002)
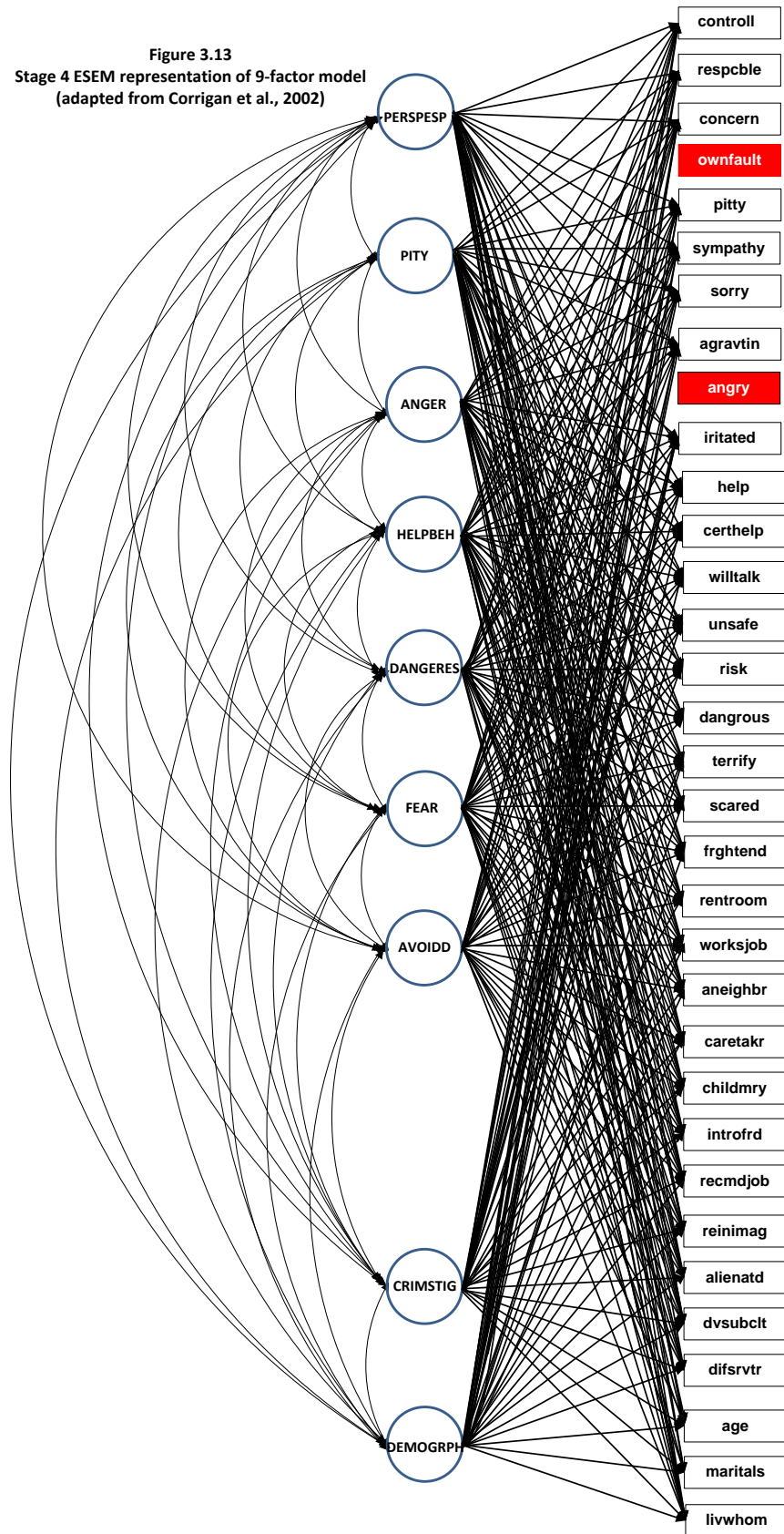
Table 3.39 Stage 3 vs Stage 4 Demographic Characteristics of SOC313 Students						
	Stage 3			**Stage 4**		
Characteristic	n	%		n	%	
Age, mean	201	21.9		177	21.9	
Ethnicity						
White	85	42.3		77	43.3	
Black	17	8.5		15	8.4	
Canadian Aboriginal	1	0.5		3	1.7	
Asian	68	33.8		51	28.7	
Other	30	14.9		32	18.0	
Marital Status						
Single	187	93.0		170	96.0	
Married/Common Law	11	5.5		7	4.0	
Separated	1	0.5				
Divorced	2	1				
Widowed	0	0				
Gender						
Male	46	22.9		35	19.8	
Female	155	77.1		142	80.2	
Working Outside the home						
Full-time	20	10		13	7.3	
Part-time	103	51.2		90	50.8	
Self-Employed	4	2				
No	74	36.8		74	41.8	
Living Arrangements						
House/ Apartment	185	92		162	91.5	
Residence Hall	12	6		14	7.9	
Fraternity/Sorority	4	2		1	0.06	
Other						
With Whom?						
Roommate(s)	37	18.5		31	17.5	
Alone	31	15.5		24	13.6	
With Parent(s)	107	53.5		100	56.5	
Spouse/Partner	11	5.5		11	6.2	
Children	2	1		3	1.7	
Other	12	6		8	4.5	
Approximate GPA Last Year						
A+	3	1.5		1	0.06	
A	11	5.5		9	5.1	
A-	26	13.1		27	15.3	
B+	43	21.6		29	16.5	
B	49	24.6		48	27.3	
B-	36	18.1		32	18.2	
C+	15	7.5		19	10.8	
C	5	2.5		4	2.3	
C- or less	1	0.5		7	4.0	

A-. GPAs of B+ and B average were representative of 16.5% and 27.3% respectively. A grade of B- was reported by 18.2% of the SOC313 students.

With the imputation of the 9-Factor model data, all of the indices (CFI=0.961, TLI=0.919, RMSEA=0.049, SRMR=0.025), except TLI, showed a close fit to the data (see Table 3.40 below). With TLI >0.90, the TLI measurement did represent a satisfactory fit to the data. The Stage 4 ESEM results were fairly robust for the 9-factor solution, despite the extra complexity of adding two factors to the attribution model and replacing the 3-item AVVOID factor, with the 7-item AVOIDD (SDS) factor.

Table 3.40 ESEM MODEL FIT INFORMATION (9 Factors)

Number of Free Parameters	305
Chi-Square Test of Model Fit	
Value	315.920
Degrees of Freedom	222
P-Value	0.0014
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.049
90 Percent C.I.	0.036 0.061
Probability RMSEA ≤.05	0.548
CFI/TLI	
CFI	0.961
TLI	0.919
SRMR (Standardized Root Mean Square Residual)	
Value	0.025

For the full list of factor loadings, please refer to Appendix C- Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd (see also Tables 3.41, 3.44 and 3.47).

The DEMOGRPH standardized factor loading comparison is indicated in Table 3.41 for the Stage 4 vs. Stage 3 results. The DEMOGRPH factor only includes the three retained student demographic item indicators.

Table 3.41 Stage 3 vs. Stage 4 DEMOGRPH STDYX Standardization					
STDYX Standardization					
	Estimate	S.E	Est./S.E.	Two Tailed	
DEMOGRPH BY				P-Value	
AGE					
Stage 3	0.477	0.118	4.051	0.000	
Stage 4	0.466	0.099	4.715	0.000	
MARITALS					
Stage 3	0.842	0.102	8.236	0.000	
Stage 4	0.655	0.121	5.415	0.000	
LIVWHOM					
Stage 3	0.244	0.106	2.291	0.022	
Stage 4	0.528	0.138	3.837	0.000	

All results for the three social and demographic variables were statistically significant at p and z-values, ie., z values that exceed +1.96 or fall below -1.96 are significant below p=.05.

The correlations between the students social and demographic characteristics and the attribution model are reported, and Stage 3 vs. Stage 4 results are compared in Table 3.42.

In Stage 4, there were only two significant correlations between the student characteristics (age, marital status and living arrangements–with whom) and the four Responsibility factors. Conspicuously, the correlation between DEMOGRH and PERSRESP factors has increased in strength over Stage 3 (0.220, p<.001), and the negative correlation between DEMOGRH and PITY has also marginally increased in

161

strength (-0.172, p<.05). The strength of the other correlations has markedly been reduced compared to Stage 3 results.

Table 3.42 Stage 3 vs. Stage 4 Social and Demographic Correlations				
Responsibility Factors				
	PERSRESP	**PITY**	**ANGER**	**HELPBEH**
DEMOGRPH				
Stage 3 (n=201)	-0.072	-0.191**	-0.274***	-0.019
Stage 4 (n=177)	0.220***	-0.172*	0.041	0.083
Dangerousness Factors				
	DANGERES	**FEAR**	**AVVOID**	
DEMOGRPH				
Stage 3 (n=201)	0.145*	0.133*	-0.111	
Stage 4 (n=177)	-0.032	-0.070	-0.006	
* p<.05 ; ** p<.01; ***p<.001				

In Stage 3, there was a significant moderate inverse relationship between DEMOGRPH and ANGER (-0.274, p<.001), and between DEMOGRPH and PITY (-0.191, p<.01) within the Responsibility factors. For the Dangerousness factors, the strength of the DEMOGRPH relationships was not meaningful, with modest statistically significant correlations with DANGERES (0.145, p<.05), and FEAR (0.133, p<.05). Moreover, the inverse association with AVVOID was weak and not significant (-0.111, p=.06).

3.4.2.2 Personal Consequences of Criminal Stigma

Considering the 4-item personal consequences of criminal stigma measure in Table 3.43, Sociology-Social Control student perceptions indicated a slight, but not significant increase over Stage 3 results. The Stage 4 total mean score for the CRIMSTIG factor marginally increased from 14.190 to 14.485.

The Stage 4 students showed fairly strong agreement with all 4 item indicators defining the personal consequences of criminal stigma. They strongly agreed that criminalization makes addicts more alienated

Table 3.43 Stage 3 vs. Stage 4 Criminal Stigmatization Item Comparison			
		Mean	
CRIMSTIG		Stage 3	Stage 4
reinimag	To label a person addicted to heroin as a criminal, reinforces his/her deviant self-image.	3.761	3.915
alienatd	To label a person addicted to heroin as a criminal, makes him/her more alienated from society.	4.065	4.090
dvsubclt	To label a person addicted to heroin as a criminal, leads him/her into heavy-using deviant sub-cultures, often organized around procuring and using illegal drugs.	3.444	3.497
difsrvt	To label a person addicted to heroin as a criminal, makes it difficult for him/her to access health services and treatment.	2.920	2.983
	Total	14.190	14.485

from society (mean=4.090), and that criminal stigma reinforced the addict's deviant self-image (mean=3.915). The students were more apt to agree that criminalization leads addicts into deviant subcultures, often organized around procuring and using illegal drugs (mean=3.497). In Stage 4, there was also slightly more agreement that criminal stigmatization makes it difficult for persons addicted to heroin to access health services and treatment.

In reviewing the Stage 3 and Stage 4 comparison for the standardized loading coefficient results in Table 3.44, it was apparent that none of the criminal stigma items load on their respective factor at a significant p or z-value level (ie., z values that exceed +1.96 or fall below -1.96 are significant below p=.05). However, it was worth noting that most of the Stage 3 CRIMSTIG factor loadings are somewhat lower than their Stage 4 counterparts, suggesting marginally more agreement about the personal consequences of criminal stigma by the SOC313 students. The differences were not statistically significant at p≤.05.

Table 3.44 Stage 3 vs. Stage 4 CRIMSTIG STDYX Standardization				
STDYX Standardization				
				Two-Tailed
	Estimate	S.E.	Est./S.E.	P-Value
CRIMSTIG BY				
reinimag				
Stage 3	-0.209	0.120	-1.748	0.081
Stage 4	-0.083	0.075	-1.104	0.270
alienatd				
Stage 3	0.028	0.035	0.809	0.418
Stage 4	-0.006	0.026	-0.232	0.817
dvsubclt				
Stage 3	-0.138	0.124	-1.111	0.266
Stage 4	0.117	0.100	1.174	0.241
difsrvtr				
Stage 3	0.160	0.170	0.943	0.346
Stage 4	0.066	0.089	0.743	0.457

In Table 3.45, compared to Stage 3 responses, fairly strong correlations in Stage 4 were found between CRIMSTIG with many more of the other factors, particularly with FEAR (0.399, p<.001), PERSRESP (0.288, p<.001) and ANGER (0.225, p<.01) factors. The SOC313 students who agreed that criminal

Table 3.45	Stage 3 vs. Stage 4 Comparison Criminal Stigmatization Correlations							
	DEMOGRPH	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	AVVOID
CRIMSTIG								
Stage 3 (n=201)	-0.102	-0.020	-0.097	0.021	0.070	-0.007	0.170**	0.221**
Stage 4 (n=177)	0.165*	0.288***	-0.027	0.225**	-0.066	-0.052	0.399***	0.054
		*p<.05; **p<.01; ***p<.001						

stigma negatively impacts the personal well-being of the addict, showed more perceptions of personal responsibility, and additional feelings of fear and anger. In Stage 3, there was a positive association only between CRIMSTIG and FEAR (0.170, p<.01) factors, and CRIMSTIG and AVVOID (0.221, p<.01) factors. Fairly moderate agreement with the personal consequences of criminal stigma was associated with increased feelings of fear and increased intentions to avoid addicts.

3.4.2.3 Social Distance Scale

The Stage 3 and Stage 4 comparison of the students' responses on the Social Distance Scale (AVOIDD factor) is shown below in Table 3.46.

Table 3.46	Stage 3 vs. Stage 4 Mean Comparison Social Distance Scale		
		Mean	
AVOIDD		Stage 3 (n=201)	Stage 4 (n=177)
rentroom	How would you feel about renting a room in your home to a person addicted to heroin?	2.756	2.576
worksjob	How about being a worker on the same job as a person addicted to heroin?	1.846	1.582
aneighbr	How would you feel about having a person addicted to heroin as a neighbour?	1.930	1.847
caretakr	How about as the caretaker of your children for a couple of hours?	2.935	2.876
childmry	How about having one of your children marry a person addicted to heroin?	2.821	2.740
introfrd	How would you feel about introducing a person addicted to heroin to a young woman or man you are friendly with?	2.157	2.028
recmdjob	How would you feel about recommending a person addicted to heroin for a job working for a friend of yours?	2.488	2.311
	Total	16.933	15.960

The Stage 4 total mean score=15.960 on the 7-item AVOIDD factor was a modest decrease in students' willingness to interact with addicts, compared to the Stage 3 total mean score=16.933. The Stage 4 data reinforced the SOC313 students' desire largely to circumvent addicts. Social discriminatory behavior was personally relevant to these students' perceptions of persons addicted to heroin. Consistent with Van der Sar et al. (2012), the students appeared to be quite reserved about social accommodations for heroin drug users and their acceptance as a normal part of society.

With Stage 4's total mean score=15.960 from a possible total score=21 for the seven items, the students continued to be strongly unwilling (Stage 4=76% vs. Stage 3=81%) to interact with persons addicted to heroin on many personal levels. Almost all of the students remained unwilling to allow addicts to be a caretaker of their children for a couple of hours (item mean score=2.87/3.00=95.6%). Other intimate interactions such as renting a room, having an addict marry one of your children or recommending a person addicted to heroin for a job working for a friend were definitely not supported. The students were, however, more willing to introduce an addict to a young woman or man that the students are friendly with. The students also felt somewhat more comfortable in accepting an addict as a co-worker or a neighbor.

In reviewing the AVOIDD factor standardized results, including p and z-values (, ie. z values that exceed +1.96 or fall below -1.96 are significant below p=.05) in Table 3.47, the standardized factor loadings were not statistically significant for any the item indicators for their respective factor. The items "worksjob" and "recmdjob" came closest to significantly loading on the AVOIDD factor with values of 1.644 and 1.258 respectively.

Table 3.47	Stage 3 vs. Stage 4	Social Distance STDYX Standardization			
	STDYX Standardization				Two-Tailed
		Estimate	**S.E**	**Est./S.E.**	**P-Value**
	AVOIDD BY				
	rentroom				
	Stage 3	0.036	0.066	0.536	0.592
	Stage 4	0.079	0.082	0.958	0.338
	worksjob				
	Stage 3	-0.013	0.038	-0.352	0.725
	Stage 4	0.174	0.105	1.664	0.096
	aneighbr				
	Stage 3	-0.013	0.054	-0.246	0.806
	Stage 4	-0.065	0.075	-0.869	0.385
	caretaker				
	Stage 3	0.011	0.071	0.156	0.876
	Stage 4	0.018	0.042	0.423	0.672
	childmry				
	Stage 3	-0.042	0.053	-0.800	0.424
	Stage 4	-0.030	0.060	-0.496	0.620
	introfrd				
	Stage 3	0.155	0.083	1.866	0.062
	Stage 4	0.046	0.068	0.677	0.499
	recmdjob				
	Stage 3	0.052	0.084	0.618	0.537
	Stage 4	0.119	0.095	1.258	0.209

In reviewing Table 3.48, the Stage 4 AVOIDD factor is associated with more of the attribution model factors than in Stage 3. Higher significant correlations were also found between AVOIDD and DANGERES factors, and AVOIDD and FEAR factors.

	Table 3.48 Stage 3 vs. Stage 4		Comparison Social Distance Scale Correlations					
	DEMOGRPH	**PERSRESP**	**PITY**	**ANGER**	**HELPBEH**	**DANGERES**	**FEAR**	**CRIMSTIG**
AVOIDD								
Stage 3 (n=201)	-0.051	-0.097	0.206**	0.055	0.331***	0.025	0.052	-0.117*
Stage 4 (n=177)	-0.006	0.018	0.090	0.492***	0.365***	0.407***	-0.146*	0.054
			*p<.05; **p<.01; ***p<.001					

The strongest significant positive correlations arose between AVOIDD with ANGER (0.492, p<.001), AVOIDD with DANGERES (0.407, p<.001), and AVOIDD with HELPBEH (0.365, p<.001) factors. However, a lower significant inverse correlation was found between AVOIDD and FEAR (-0.146, p<.05).

It was apparent that Stage 4 students' feelings of anger were strongly associated with more avoidant behavior. Those students who were irritated by the addict were more likely to avoid them. Moreover, those students who were willing to help the addict were more likely to avoid the addict. Coversely, there was a fairly low inverse relationship between fear and avoidance. Fear showed a small but significant diminishing effect on intentions to avoid addicts. In Stage 4, no significant relationship was found between AVOIDD and PITY factors.

In Stage 4, it was apparent that addiction evokes avoidant behavior in the Sociology-Social Control students because of their feelings of anger and perceived dangerousness toward the addict. However, feelings of fear was not a predictor of avoidance toward persons addicted to heroin in general. Based on the evidence, most of the Sociology-Social Control students have never had any direct personal contact with heroin addicts. Their inexperience with heroin addiction may increase their perceived dangerousness and avoidant behavior, and the lack of perceived responsibility for the addicts' condition may have mediated their feelings of fear toward addicts.

### 3.4.3 Addition of Level of Familiarity Data

The Stage 3 and Stage 4 comparison for each of the Level of Familiarity items (FAMILRNK factor) is reported in Table 3.49. The Stage 4 familiarity mean ranking was 3.95. This ranking was very close to that reported for Stage 3: mean=4.21. The majority of students' level of familiarity with persons addicted to heroin was through the media: 76.1% (Stage 4) compared to 73.7% (Stage 3), either watching a movie or television show in which a character depicted a person addicted to heroin, or viewing a documentary on television. Four percent of the students stated that they never observed a person that they were aware

was addicted to heroin. In terms of greater intimate familiarity, such as a family friend, relative or living with someone addicted to heroin, twenty-one students or 8.5% indicated this type of contact, compared to 10.8% in the Stage 3. In the Stage 4, ten students (5.7%) indicated that a friend of the family has an addiction to heroin. None of the Stage 4 Sociology-Social Control students indicated an addiction to heroin, whereas, two Stage 3 students reported an addiction to heroin. None of the students were living with a person addicted to heroin.

	Table 3.49			Stage 3 vs. Stage 4 Level of Familiarity Comparison	
	Stage 3		Stage 4		
Rank	n	%	n	%	
3	52	26.8	49	27.8	I have watched a movie or television show in which a character depicted a person addicted to heroin.
2	2	1.0	1	0.1	I have observed, in passing on the street, a person addicted to heroin.
5	17	8.8	14	8.0	I have observed persons addicted to heroin many times.
10	2	1.0			I have an addiction to heroin.
6	4	2.1	5	2.8	I have worked with a person addicted to heroin at my place of employment
1	5	2.6	7	4.0	I have never observed a person that I was aware was addicted to heroin.
7	11	5.7	10	5.7	A friend of the family has an addiction to heroin.
8	9	4.6	5	2.8	I have a relative who has an addiction to heroin.
4	91	46.9	85	48.3	I have watched a documentary on the television about addiction to heroin.
9	1	0.5			I live with a person addicted to heroin.
	194		176		
Mean Rank	4.21		3.95		

The imputation of Level of Familiarity data on the attribution model demonstrated a better fit to the data than the 9-factor ESEM solution. Figure 3.14 represents the Stage 4 ESEM 10-factor solution: 7-factor attribution model (includes AVOIDD factor) and DEMOGRPH, CRIMSTIG and FAMILRNK factors.

Table 3.50 illustrates that there was a close fit with the data for the 10-factor ESEM solution (CFI=0.973, TLI=0.940, RMSEA=0.041, SRMR=0.025). TLI was under the 0.95 cutoff, but still showed an acceptable fit to the data (TLI$\geq$0.90).

Figure 3.14
Stage 4 ESEM representation of 10-factor model
(adapted from Corrigan et al., 2002)
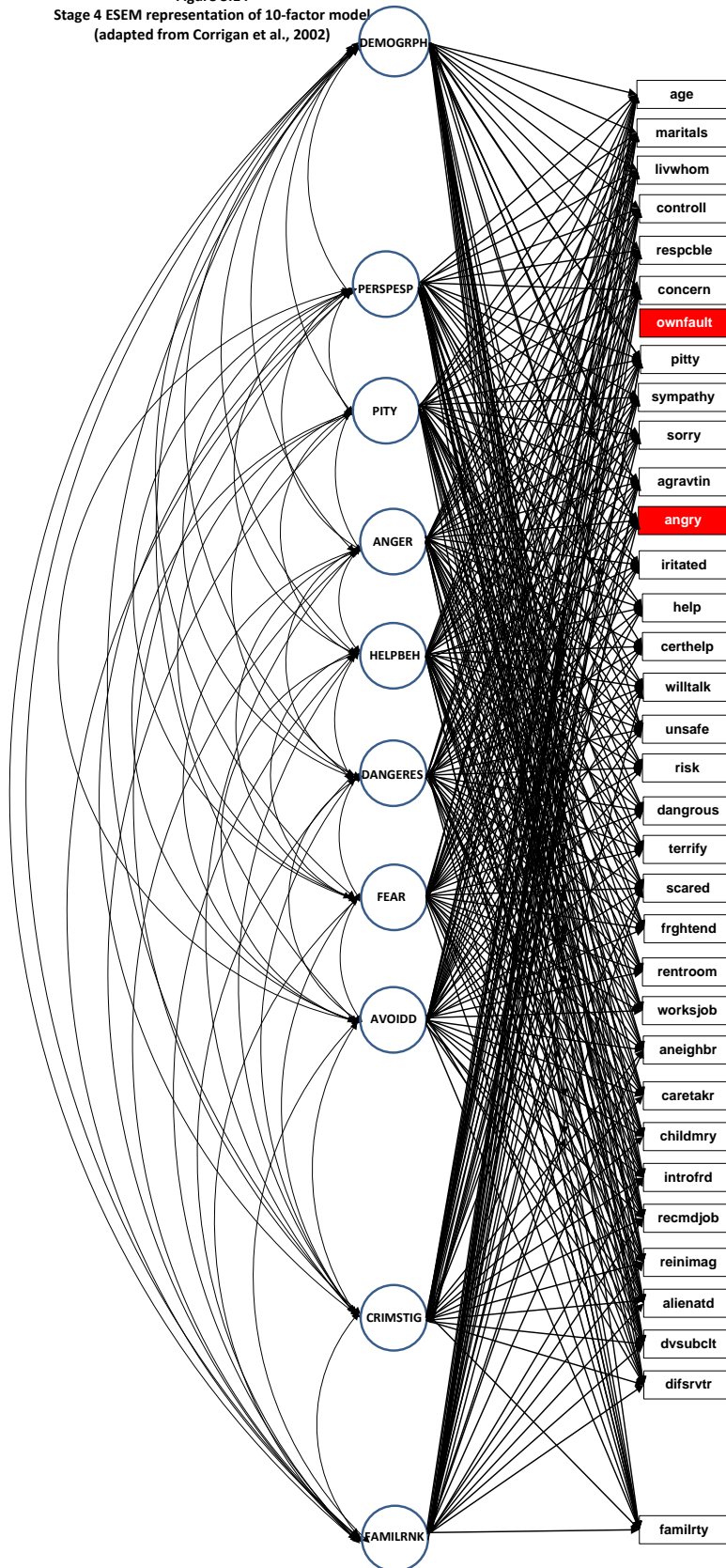
Table 3.50 MODEL FIT INFORMATION (10 Factors)

Number of Free Parameters	339

Chi-Square Test of Model Fit

Value	286.031
Degrees of Freedom	221
P-Value	0.0021

RMSEA (Root Mean Square Error of Approximation)

Estimate	0.041
90 Percent C.I.	0.026 0.054
Probability RMSEA ≤ .05	0.874

CFI/TLI

CFI	0.973
TLI	0.940

SRMR (Standardized Root Mean Square Residual)

Value	0.025

It was noteworthy that when the 3-item AVVOID factor (ie. item indicators "threatnd", "avoid", "rentaprt") was added to the 10-factor model, the Mplus output generated a number of major error messages. Moreover, there was notification that the chi-square statistic was negative and the loglikelihood values may be unreliable. The ESEM model did not converge and the number of iterations was exceeded. Based on this result, the re-run results did not include the 3-item AVVOID factor. The 7-item Social Distance scale (AVOIDD factor) replaced the 3-item AVVOID factor within the 7-factor attribution model.

For the full list of factor loadings, please refer to Appendix C- Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd Familrnk (10 Factors) (see Table 3.50).

The Stage 3 and Stage 4 correlations between the FAMILRNK and the 7-factor attribution measurement model are shown in Table 3.51 below.

Table 3.51 Stage 3 vs. Stage 4 Comparison Familiarity Rank Correlations						
Responsibility Model						
		PERSRESP	**PITY**	**ANGER**	**HELPBEH**	
FAMILRNK						
Stage 3 (n=201)		-0.190**	0.014	-0.068	0.264***	
Stage 4 (n=177)		-0.050	0.210**	0.420***	0.413***	
Dangerousness Model						
		DANGERES	**FEAR**	**AVVOID**	**AVOIDD**	
FAMILRNK						
Stage 3 (n=201)		0.204**	0.089	0.128*	0.161*	
Stage 4 (n=177)		-0.273***	-0.086	------	0.029	
FAMILRNK		**DEMOGRPH**	**CRIMSTIG**			
Stage 3 (n=201)		-0.011	0.233***			
Stage 4 (n=177)		-0.004	0.232***			
*p<.05; **p<.01; ***p<.001						
Note: The 3-item AVVOID factor was replaced by the Social Distance scale (7-item AVOIDD factor).						

In Stage 4, a fairly strong positive correlation was found between FAMILRNK and ANGER (0.420, p<.001). The more the students were familiar with persons addicted to heroin, the more likely that feelings of anger would be increasingly expressed by students. Familiarity was also positively associated with HELPBEH (0.413, p<.001) and PITY (0.210, p<.01) factors. The more the students were familiar with addicts, the more likely that they would demonstrate increased feelings of pity and intentions to help addicts.

Consistent with student perceptions toward persons with severe mental illness (Corrigan et al., 2001), stage 4 familiarity with addicts showed a moderate but significant diminishing effect on perceptions of dangerousness (-0.273, p <.001). However, at Stage 3, a significant positive correlation was found between Level of Familiarity and perceived dangerousness (0.204, p<.01). Stage 4 responses, moreover, did not indicate a significant correlation between familiarity and avoidance. As in Stage 3, there was a neglible association between familiarity and fear.

As in Stage 3, the students indicated an almost identical moderate association between FAMILRNK and CRIMSTIG (0.232, p<.001). Familarity with persons addicted to heroin was found to positively correlate with students' agreement with the personal consequences of criminal stigma on the personal well-being of the addict.

3.4.4   Addition of SOC313 Course Data

With the imputation of the usefulness of the SOC313 course data to the previous 10-factor model, the analysis tested the utility of the COURSE factor in associating with stigmatizing perceptions toward persons addicted to heroin. Question 6 in Appendix B provides the related questionnaire items completed by the Sociology-Social Control students. The 5-item COURSE factor was measured by a 9-point Likert scale (1=no, not at all, through 9=yes, very much).

Figure 3.15 represents the ESEM 11-factor solution: 7-factor attribution model (includes 7-item AVOIDD factor), and DEMOGRPH, CRIMSTIG, FAMILRNK, and COURSE factors. All loadings are freely estimated, and all of the rotated factors were allowed to freely correlate with eachother.

The student responses are listed in Table 3.52. It was generally apparent that the SOC313 course was fairly useful in responding to the questionnaire, with a mean=5.033, demonstrating that information from the lectures may have had some importance in influencing student answers to the survey (mean=5.201).

Figure 3.15
Stage 4 ESEM representation of 11-factor model
includes SOC313 COURSE factor
(adapted from Corrigan et al., 2002)
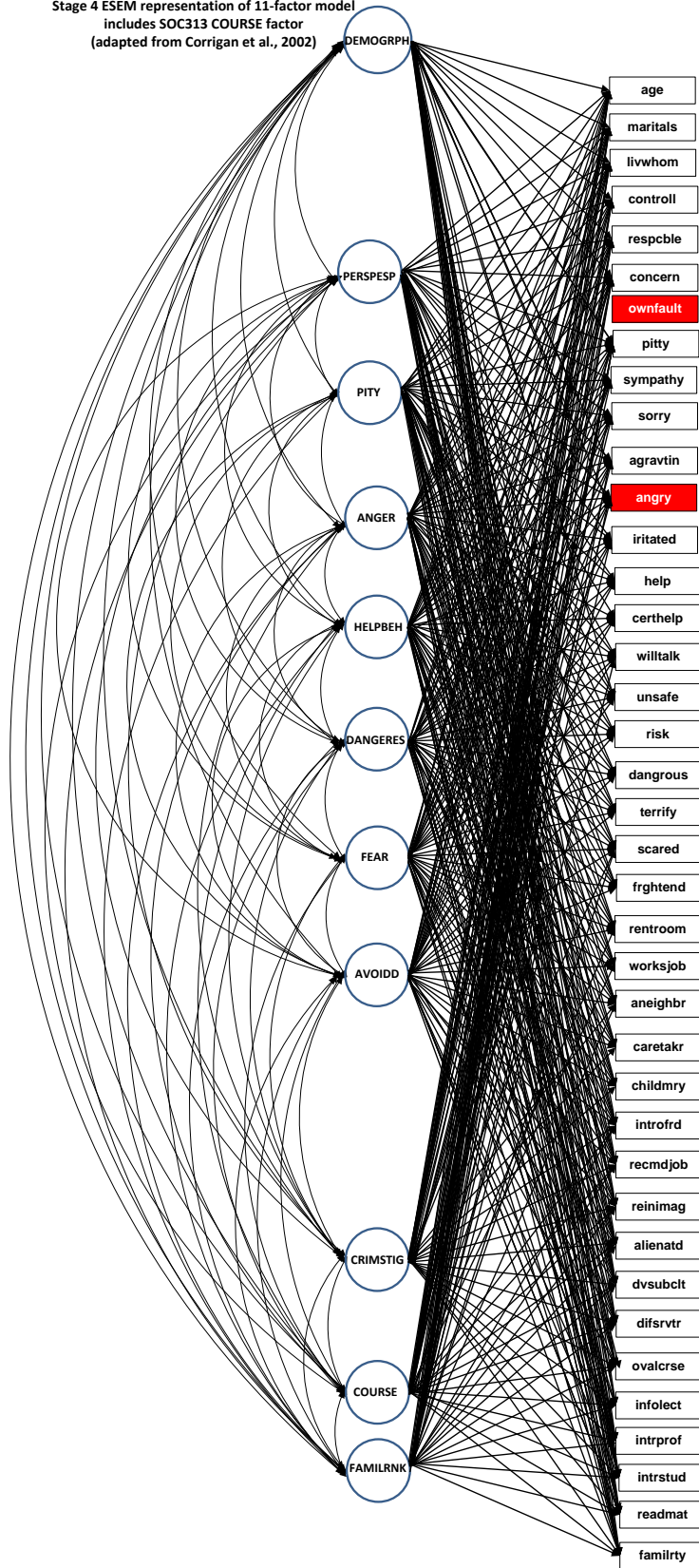
Table 3.52		Stage 4 Imputation of SOC313 Course on Student Perceptions (n=177)	
			Mean
	ovalcrse	Overall, to what degree was the SOC313 course useful in responding to the questions in the survey.	5.033
		Which part of the SOC313: Social Control course was influential in providing your answers to the questions in the survey?	
	infolect	Information from the SOC313 lectures?	5.201
	interprof	Interaction with the instructor?	3.688
	interstud	Interaction with fellow students?	2.621
	readmat	Reading material from the SOC313 course content?	4.702

Reading material was reported as being less important in student responses (mean=4.702). Interaction with the instructor and students were fairly low in importance to the students.

By including the imputation of the COURSE factor data, the ESEM model demonstrated an acceptable fit to the data (CFI=0.962, TLI=0.920, RMSEA=0.044, SRMR=0.026).

As indicated in Table 3.53 below, CFI, RMSEA and SRMR revealed a close fit. With TLI=0.920, TLI computed an adequate fit to the data. When compared to the 10-factor model, there was a slight reduction in model fit.

Table 3.53   ESEM MODEL FIT INFORMATION (11 Factors)

Number of Free Parameters	426	
Chi-Square Test of Model Fit		
Value		423.358
Degrees of Freedom	314	
P-Value		0.0000

RMSEA (Root Mean Square Error of Approximation)

Estimate	0.044
90 Percent C.I.	0.033 0.055
Probability RMSEA ≤.05	0.803

CFI/TLI

CFI	0.962
TLI	0.920

SRMR (Standardized Root Mean Square Residual)

Value	0.026

For a full list of factor loadings, please refer to Appendix C- Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd Familrnk Course (11 Factors) (see Table 3.54).

In reviewing Table 3.54,m the p and z-values (ie., z values that exceed +1.96 or fall below -1.96 are significant below p=.05) for the standardized factor loadings were not statistically significant for any items related to the SOC313 COURSE factor.

Table 3.54   SOC313 Course Factor STDYX Standardization

	Estimate	S.E	Est./S.E.	Two Tailed P-Value	
STDYX Standardization					
Course BY					
ovalcrse	-0.019	0.045	0.420	0.675	
infolect	0.032	0.046	0.687	0.492	
intrprof	0.071	0.093	0.766	0.444	
intrstud	-0.008	0.086	0.094	0.925	
readmat	0.025	0.058	0.430	0.667	

As indicated in Table 3.55, the Stage 4 COURSE factor was significantly associated with only two other factors. The COURSE factor showed a small, but significant diminishing effect on fear (-0.149, p<.05),

and a moderate but significant diminishing effect on perceived responsibility (-0.252, p<.001). Those students who agreed that the SOC313 course was effective in responding to the survey were not likely to show feelings of fear toward addicts, nor holding addicts responsible for their condition.

			Table 3.55		SOC313 COURSE Factor Correlations (n=177)					
	DEMOGRPH	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	CRIMSTIG	FAMILRNK	AVOIDD
COURSE	-0.032	-0.252***	-0.021	0.007	0.031	-0.003	-0.149*	0.068	0.098	0.015
			*p<.05; ***p<.001							

3.4.5   CFA Indirect Effect of Level of Familiarity and SOC313 Course Factors

Using a confirmation approach, a CFA was performed to determine the indirect effects of Level of Familiarity and the Sociology-Social Course on the 7-factor attribution measurement model.

Initially, Level of Familiarity and Course mediators were examined simultaneously with the attribution measurement model factors. The AVOIDD factor was defined by the 7-item Social Distance scale. The attribution model did not include the "angry" item indicator within the ANGRY factor. When the "angry" item indicator was imputed, there was non-convergence or a non-identified model.

Despite the multiple-mediator model terminating normally, the following warning in the Mplus output was noted:

> *WARNING: THE LATENT VARIABLE COVARIANCE MATRIX (PSI) IS NOT POSITIVE DEFINITE. THIS COULD INDICATE A NEGATIVE VARIANCE/RESIDUAL VARIANCE FOR A LATENT VARIABLE, A CORRELATION GREATER OR EQUAL TO ONE BETWEEN TWO LATENT VARIABLES, OR A LINEAR DEPENDENCY AMONG MORE THAN TWO LATENT VARIABLES. CHECK THE TECH4 OUTPUT FOR MORE INFORMATION. PROBLEM INVOLVING VARIABLE ANGER.*

However, when the ANGER factor was entirely excluded from the model, the model did not converge and no data was computed.

In terms of how well the CFA model fits the Sociology-Social Control students' data (see Table 3.56a below), fit indicators for the measurement model with the indirect effect of Level of Familiarity and SOC313 Course demonstrated mixed results (CFI=0.850; TLI=0.829; RMSEA=0.075; SRMR=0.097). TLI was below the acceptable 0.90 cutoff and CFI approached 0.90. Moreover, SRMR was above the 0.08 minimum, with RMSEA better than the minimum 0.08 cutoff level.

Table 3.56a   Indirect Model Level of Familiarity & Course

Chi-Square Test of Model Fit

Value	820.916
Degrees of Freedom	409
P-Value	0.0000

RMSEA (Root Mean Square Error of Approximation)

Estimate	0.075
90 Percent C.I.	0.068 0.083
Probability RMSEA ≤ .05	0.000

CFI/TLI

CFI	0.850
TLI	0.829

SRMR (Standardized Root Mean Square Residual)

Value	0.097

Similarly, when the 7-item AVOIDD factor was replaced by the 3-item AVVOID factor (avoid, threatnd, rentaprt), the model produced the following mixed results: (CFI=0.854, TLI=0.827, RMSEA=0.089, SRMR=0.113).

In terms of indirect effects among the factors, the simultaneous effect of Level of Familiarity and the SOC313 course factors on the attribution measurement model factors did not result in significant relationships. Through an examination of z-values, the standardized results for indirect effects were not found to be statistically significant (p.>05). Despite the lack of significant mediated effects, Level of Familiarity consistently provided a considerably stronger indirect effect than the SOC313 Course on the 7-factor attribution measurement model.

When the Dangerousness and Personal Responsibility factors were re-run separately to determine the indirect effect of the SOC313 Course and Level of Familiarity, there was no convergence for the Responsibility factors' path model. Goodness-of-fit indicators were not computed. Figures 3.16a, 3.16b, 3.16c and 3.16d graphically represent the hypothesized models tested for indirect effects.

Model convergence, however, occurred when the indirect effect of the Course was run on the Dangerousness factors: (CFI=0.878, TLI=0.858, RMSEA=0.094, SRMR=0.149). Standardized path coefficients were insignificant for the indirect effect of the SOC313 Course on DANGERES, FEAR and AVOIDD factors.

However, with substantially improved fit indices that indicate an acceptable fit, model convergence occurred when the indirect effect of Level of Familiarity was computed for the DANGERES factor: (CFI=0.915, TLI=0.895, RMSEA=0.087, SRMR=0.062). Based on the standardized coefficient, there was a significant indirect effect for Level of Familiarity on the DANGERES factor:

**Figure 3.16a   CFA Indirect Effect of SOC313
Course on Responsibility Factors**
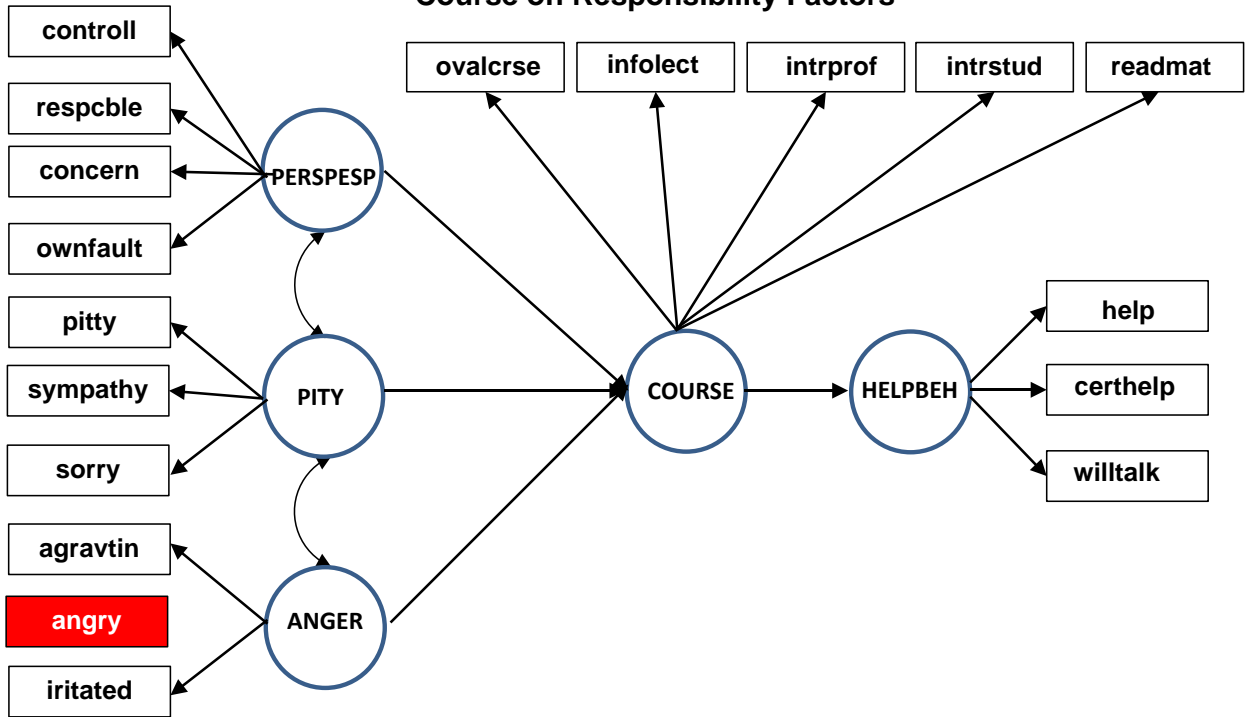
**Figure 3.16b   CFA Indirect Effect of SOC313
Course on Dangerousness Factors**
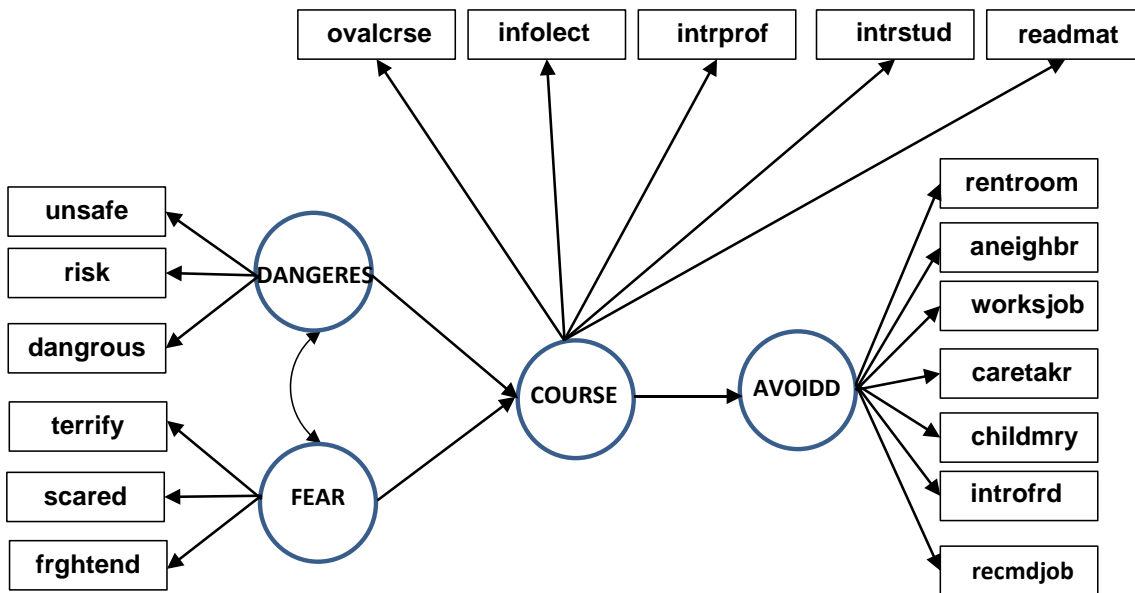
Figure 3.16c   CFA Indirect Effect of Familiarity on Responsibility Factors
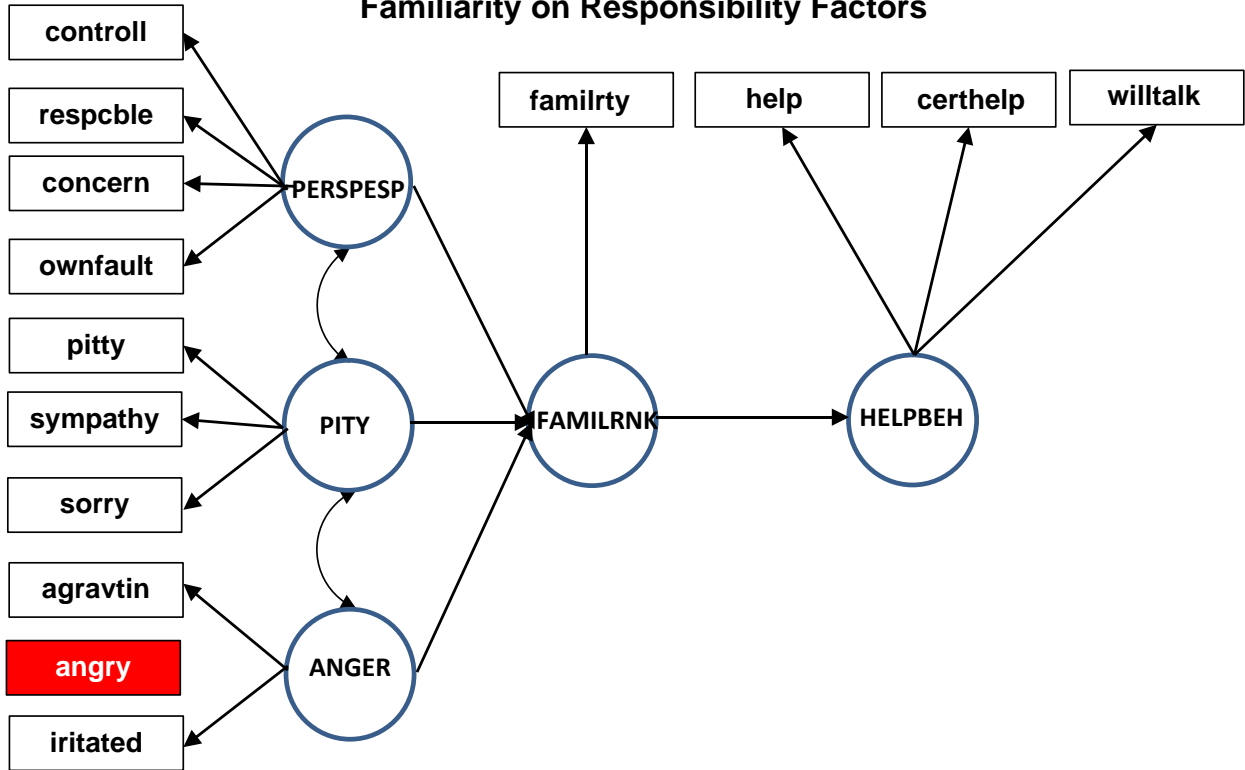
Figure 3.16d CFA Indirect Effect of Familiarity on Dangerousness Factors
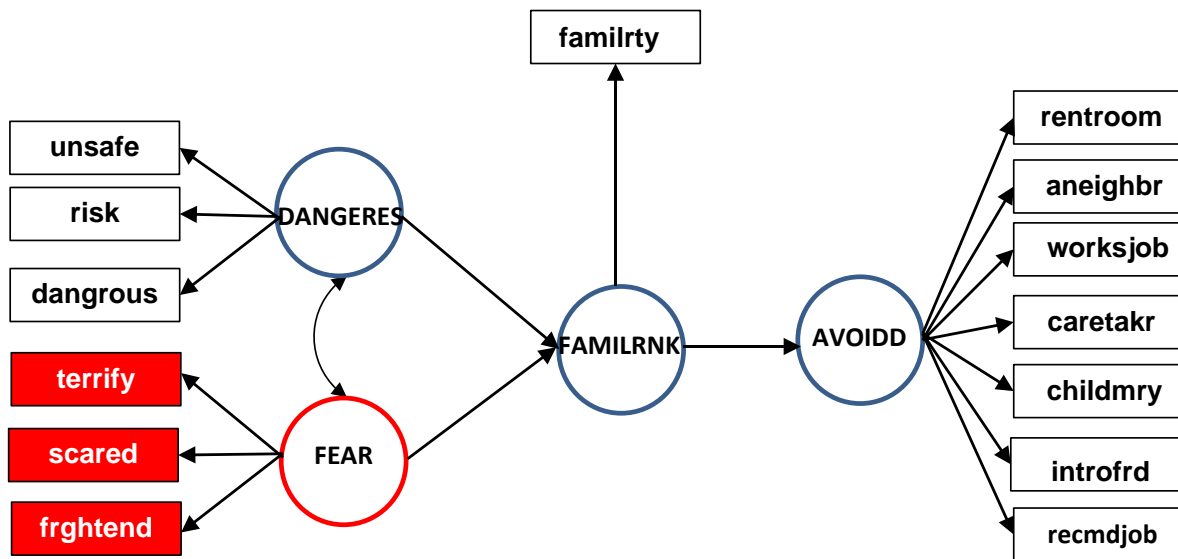
Indirect Effect of Level of Familiarity on Danger

STDYX Standardization

				Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
Effects	**from**	**DANGERES**	**to**	**AVOIDD**			
Sum		**of**	**indirect**	0.637	0.061	10.423	0.000
Specific indirect							
AVOIDD FAMILRNK DANGERES				0.637	0.061	10.423	0.000

The FAMILRNK factor significantly and inversely predicted AVOIDD and DANGERES factors (p=0.000 and z-value>1.96; p<.05). All item idicators were statistically significant, and loaded strongly on their respective factors, ranging from .489 to .915 (p=0.000), Mean=.696.

However, when the indirect effect of the FEAR factor was added to the CFA model which included the DANGERES and AVOIDD factors, acceptable fit indices were realized: (CFI=0.920; TLI=0.901; RMSEA=0.084; SRMR=0.059), but no significant standardized path coefficients were reported between AVOIDD→ FAMILRNK→FEAR, and AVOIDD→FAMILRNK→DANGERES.

In sum, the CFA indirect effect modeling suggested that the Dangerousness path model with Level of Familiarity as a moderating variable adequately fit the data, and standardized path coefficients demonstrated a strong and significant relationship only between danger→familiarity→avoidance. The CFA results also suggest that the Responsibility path model with both SOC313 Course and Level of Familiarity as moderating variables did not satisfactorily fit the data.

3.4.6   Addition of My Own Experience and My Own Research Data

Data from two additional factors, ME factor (myownexp=my own personal experience and knowledge) and for the MR factor (myownres=my own research), were imputed to estimate an 11-factor ESEM solution. Please refer to Question 6 in Appendix B for the ME and MR item indicators.

The values for the ME factor and for the MR factor were mean=5.021 and mean=3.806 respectively, on the 1 to 9-point Likert-scale (1=not at all, 9=very much). The MR factor was below the mid-point value of 4.500, indicating that students did not take much initiative in researching addiction subject matter on their own.

In order to test if "my own experience and knowledge" (ME factor) and "my own research" (MR factor) were influential in providing answers to the questions in the survey, the Level of Familiarity (FAMILRNK) and SOC313 (COURSE) factors' data were removed from the overall model. In generating the ESEM solution, this 11-factor measurement model was problematic, and resulted in non-convergence. A grave error was generated, specifically involving a negative residual variance for item indicator "risk". This misspecification required modification of the 3-item DANGERES factor within the measurement model. The 11-factor ESEM solution was re-run with iterations increased to 10000 and the "risk" item indicator removed from the DANGERES factor.

Figure 3.16 represents the 11-factor ESEM solution: 7-factor attribution model (includes 7-item AVOIDD factor) and DEMOGRPH, CRIMSTIG, ME and MR factors. All loadings for the item indicators were freely estimated, and the rotated eleven factors were allowed to freely correlate with eachother. For the full list of corresponding factor loadings, please refer to Appendix C- Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd ME MR No Risk.

Figure 3.16
Stage 4 ESEM representation of 11-factor model
includes ME and MR factors
(adapted from Corrigan et al., 2002)
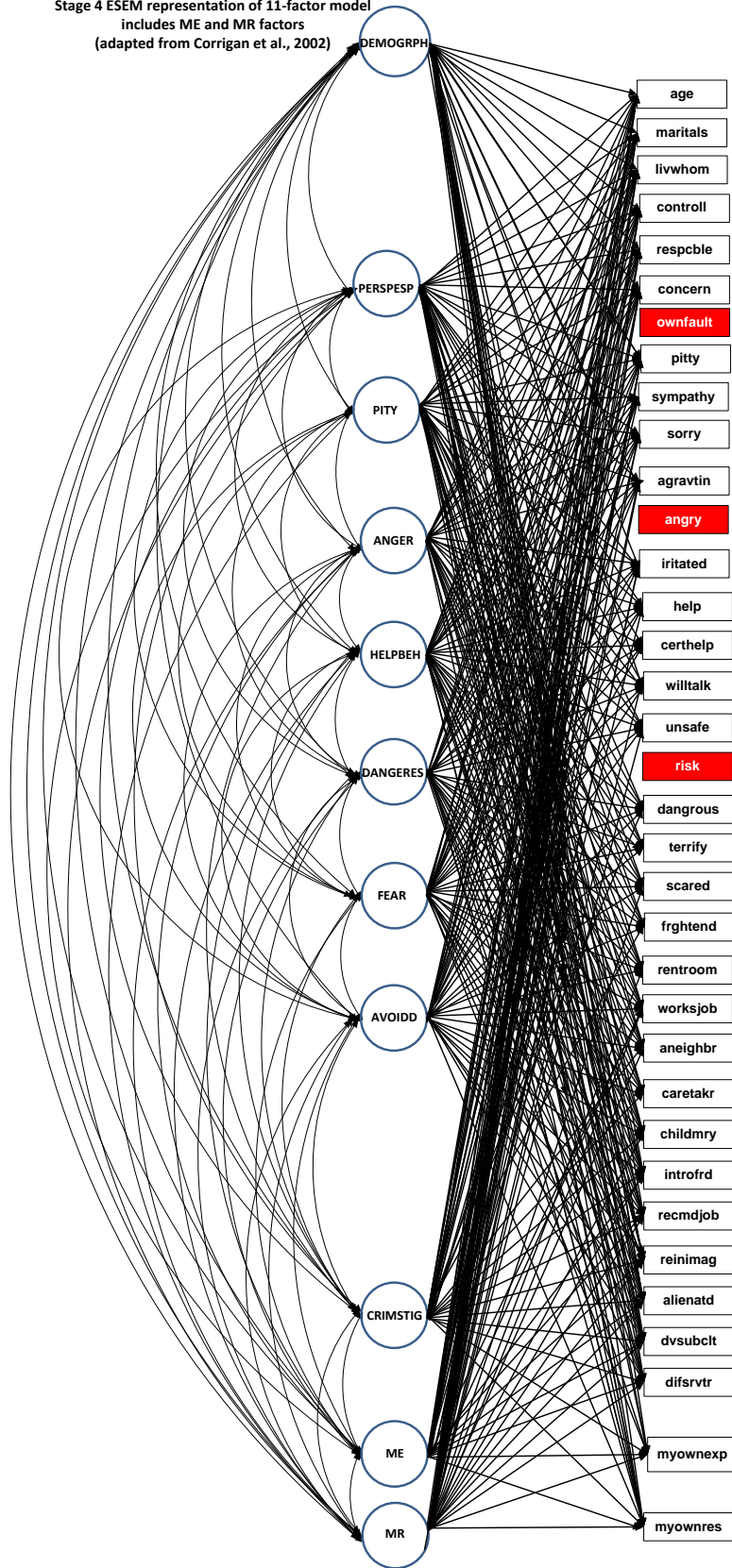
As indicated in Table 3.56 below, the modified model satisfied requirements for a close fit (CFI=0.996, TLI=0.991, RMSEA=0.016, SRMR=0.020).

Table 3.56   ESEM MODEL FIT INFORMATION (11 Factors) UPDATED

Number of Free Parameters	361
Chi-Square Test of Model Fit	
Value	207.770
Degrees of Freedom	199
P-Value	0.999
RMSEA (Root Mean Square Error of Approximation)	
Estimate	0.016
90 Percent C.I.	0.000 0.037
Probability RMSEA ≤.05	0.999
CFI/TLI	
CFI	0.996
TLI	0.991
SRMR (Standardized Root Mean Square Residual)	
Value	0.020

The correlations between ME and MR factors, and the attribution model factors are shown in Table 3.57. No significant correlation was found between the ME and MR factors (r=0.026).

The MR factor demonstrated significant inverse correlations with three of the Responsibility factors, with a strong moderate association with PITY (-0.259, p<.001), and fairly moderate associations with ANGER (-0.199, p<.01) and HELPBEH (-0.155, p<.01). The more the students indicated "my own research" (MR factor) as a basis for responding to questions in the survey, the less pity, anger and helping behavior shown toward persons addicted to heroin.

Considering the Dangerousness factors, the MR factor was also positively correlated with the DANGERES factor (0.156, p<.01) and negatively correlated with the AVOIDD factor (-0.180, p<.01). The more the students indicated "my own research" as a basis for answering the questions in the survey, the more they felt addicts were dangerous. The MR factor showed a small, but significant diminishing effect on student intentions to avoid addicts.

Table 3.57	Stage 4 My Own Research (MR) and My Own Experience (ME) Factor Correlations (n=177)								
			Responsibility Model			Dangerousness Model			
	DEMOGRPH	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	AVOIDD	CRIMSTIG
MR	-0.046	-0.023	-0.259***	-0.199**	-0.155**	0.156**	0.005	-0.180**	-0.094
ME	-0.152*	0.285***	0.072	0.112	0.050	-0.025	0.197**	0.011	0.055
			*p<.05; **p<.01; ***p<.001						

Alternately, my own experience and knowledge (ME factor) was inversely correlated with the DEMOGRPH factor (-0.152, p<.05), and positively correlated with the PERSRESP (0.285, p<.001) and FEAR (0.197, p<.01) factors. The ME factor was associated with students' increased perceptions of personal responsibility for the addict's condition, and increased feelings of fear towards addicts.

3.4.7 Addition of Only My Own Experience Data to Overall Model

The imputation of MR and ME factor data to the overall ESEM measurement model resulted in non-convergence. The imputation of the ME factor data only within the 12-factor ESEM model resulted in a close fit to the data (CFI=0.969, TLI=0.931, RMSEA=0.041, SRMR=0.025).

Please refer to Figure 3.17 for a schematic representation of this 12-factor ESEM model solution, involving PERSRESP, PITY, ANGER, HELPBEH, DANGERES (no "risk" item indicator), FEAR, 7-item AVOIDD(SDS), DEMOGRAPH, CRIMSTIG, FAMILRNK, COURSE and ME factors.

Figure 3.17
Stage 4 ESEM representation of 12-factor model
includes ME factor only
(adapted from Corrigan et al., 2002)
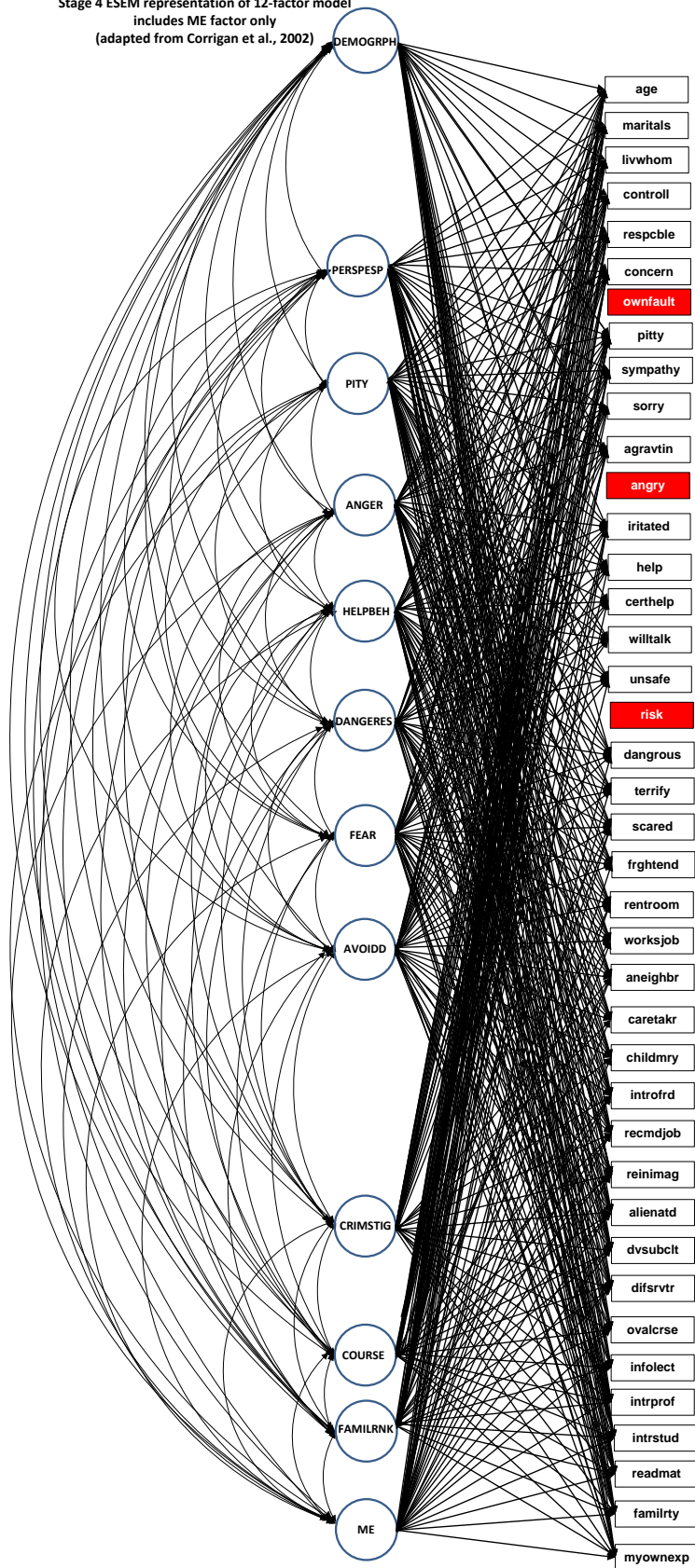
With the removal of the "risk" item indicator which negatively impacted the previous 9-factor ESEM model (ie., FAMILRNK and COURSE factors were excluded), Table 3.58 illustrated a close fit to the data (CFI=0.976, TLI=0.944, RMSEA=0.037, SRMR=0.023). Only TLI was slightly below the close-fitting TLI≥0.95 cutoff .

Table 3.58   ESEM MODEL FIT INFORMATION (12 Factors)

	With Risk	Without Risk
Number of Free Parameters	466	452
Chi-Square Test of Model Fit		
Value	404.208	355.939
Degrees of Freedom	313	288
P-Value	0.0004	0.0039
RMSEA (Root Mean Square Error of Approximation)		
Estimate	0.041	0.037
90 Percent C.I.	0.028 0.052	0.022 0.049
Probability RMSEA ≤.05	0.919	0.969
CFI/TLI		
CFI	0.969	0.976
TLI	0.930	0.944
SRMR (Standardized Root Mean Square Residual)		
Value	0.025	0.023

For the full list of factor loadings, please refer to Appendix C- Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd ME.

As reported in Table 3.59 below, the ME factor showed a significant moderate inverse association with FAMILRNK (-0.273, p<.001) and ANGER (-0.214, p<.01) factors. There was also a fairly low inverse relationship with the HELPBEH (-0.133, p<.05) factor. The more students indicated that they were influenced by their "own experience and knowledge" in responding to questions in the survey, the more unlikely that they would help addicts. The ME factor indicated a small, but significant diminishing effect on students' feelings of anger toward addicts. A small positive correlation was also found between the ME factor and the perceived dangerousness associated with the addict (0.132, p<.05).

	Table 3.59 Stage 4 My Own Experience (ME) Factor Correlations Overall Model No Risk (N=177)										
			Responsibility Model			**Dangerousness Model**					
	DEMOGRPH	PERSRESP	PITY	ANGER	HELPBEH	DANGERES	FEAR	AVOIDD	CRIMSTIG	FAMILRNK	COURSE
ME	-0.056	0.033	-0.083	-0.214**	-0.133*	0.132*	-0.093	-0.034	-0.048	-0.273***	-0.002
		*p<.05; **p<.01; ***p<.001									

The more "personal experience and knowledge" was identified, the more likely that the students believed that persons addicted to heroin were dangerous. No significant relationships were found with the other factors.

3.5   Power and Minimum Sample Size

Following Preacher and Coffman (2006), a web utility (http://quantpsy.org/rmsea/rmsea.htm) was employed to assess power and minimum sample size on the basis of the RMSEA fit index for the ESEM models. For stage 3 and stage 4 Sociology-Social Control students, statistical power for ESEM models was computed to achieve a good model fit (ie. power of 0.80 at p=0.05 level).

Table 3.60 summarizes the power and minimum sample size test statistics, based on the model testing of close fit *(H$_0$:* $\varepsilon \leq 0.05$) when $\varepsilon_a= 0.08$ and, employing, n= actual student sample size, degrees of freedom (df), $\alpha= 0.05$ and desired level of power= 0.80 (MacCallum et al., 1996: 143-144). As defined by Browne and Cudeck (1993), a value of $\varepsilon \leq 0.05$ for RMSEA displays a close fit, whereas, 0.08 indicates a fair fit and 0.10 a poor fit.

The computed results illustrated assurance that there were sufficiently powerful tests of close fit for the Stage 2 Pilot-Test EFA models, and the Stage 3 and Stage 4 ESEM models, with all models exhibiting sample size required to better statistical power of 0.80, "a commonly accepted value for sufficient power" (Muthén and Muthén, 2002: 606).

Table 3.60 Power and Minimum Sample Size for EFA and ESEM Models

Model	(df)	RMSEA	90% CI	Minimum n for Test of Close Fit	Power
Attribution Model (n=201)					
Pilot-Test (7-Factors)	146	0.048	0.033 - 0.061	102.7	0.991590
Criminal Stigma (n=201)					
Pilot-Test (8-Factors)	202	0.048	0.035 - 0.059	83.6	0.9990005
Attribution Model (n=279)					
Pilot-Test (7-Factors)	146	0.045	0.034 - 0.056	102.7	0.9996286
includes 7-item Social Distance Scale					
Overall Model (n=279)					
Pilot-Test (11-Factors)	395	0.033	0.024 - 0.041	55.9	1.000000
Attribution Model					
Stage 3 (n=201)	84	0.032	0.000 - 0.053	147.7	0.9239142
CFA Stage 3 (n=201)	168	0.082	0.071 - 0.092	93.8	0.9963108
Stage 4 (n=177)	71	0.047	0.021 - 0.068	166.4	0.829795
Demographics					
Stage 3 (n=201)	202	0.040	0.026 - 0.052	83.6	0.999001
Stage 4 (n=177)					
without 5 indicators					
Stage 3 (n=201)	112	0.032	0.000 - 0.050	121.8	0.9711363
Stage 4 (n=177)	222	0.049	0.036 - 0.061	78.9	0.9981276
Criminal Stigma					
Stage 3 (n=201)	162	0.030	0.000 - 0.046	96.1	0.995373
Stage 4 (n=177)	222	0.049	0.036 - 0.061	78.9	0.9981276
Social Distance					
Stage 3 (n=201)	244	0.045	0.034 - 0.056	74.4	0.999810
Stage 4 (n=177)	222	0.049	0.036 - 0.061	78.9	0.9981276
Familiarity					
Stage 3 (n=201)	289	0.038	0.025 - 0.048	67.2	0.9999692
Stage 4 (n=177)	221	0.041	0.026 - 0.054	78.9	0.9980665
Stage 4					
SOC313 Course (n=177)	314	0.044	0.033 - 0.055	63.9	0.999910
ME & MR Factors (n=177)	199	0.016	0.000 - 0.037	84.4	0.996100
ME- Overall Model (n=177)	313	0.041	0.028 - 0.052	64.1	0.999907
ME -Overall Model-No Risk (n=177)	288	0.037	0.022 - 0.049	67.2	0.9997853

Note: For power and minimum sample size, $\alpha = 0.05$. "For the test of close fit, $\varepsilon_0 = 0.05$ and $\varepsilon_a = 0.08$, where ε_0 is the null value of the root-mean-square error of approximation (RMSEA) and ε_a is the alternative value of RMSEA" (MacCallum et al., 1996: 144).

3.6   Effect Sizes

A repeated measure effect size design (Morris and DeShon, 2002) was used in the Stage 3 and Stage 4 sampling of the Sociology-Social Control students. The study required a minimum n=150 with two student group samples, as power statistics ensure that the results for each survey will have an 80% power to detect an effect size of 0.50 at the 50% significance level (Luty et al., 2007: 378). This calculation is based on a student participation rate of 47% respectively (n= 320) for each of the Sociology-Social Control classes. The number of Sociology-Social Control students that completed the Stage 4 survey totalled n=177 (55.3% participation rate), compared to n=201 (62.8% participation rate) in the Stage 3.

Cohen's d effect sizes for each of the seven factors in the attribution model are indicated in Table 3.61. Cohen's d effect size was based on the average standard deviation (SD) from the two means for each of the factors. The effect size was calculated by using a web-based procedure devised by Cepeda (2008). Cohen's d effect sizes for the majority of the attribution factors were fairly moderate. The smallest effect size was found for the Personal Responsibility factor (0.030), and the largest effect size occurred for the Fear factor (0.828). The next largest effect sizes were for the Dangerousness (0.613), Avoidance (0.444), Pity (-0.434) and Angry (0.400) factors.

The effect size for the four Responsibility factors was negligible (0.005), compared to a large effect size for the three Dangerousness factors (0.633).

Note:

*Cohen's d Effect Size is based on the average SD from the two means.
Small: 0.00-0.20   Medium: 0.30-0.50   Large: 0.60-2.00

		Table 3.61 Stage 3 and Stage 4 Attribution Model Cohen's D			Standard		
			Mean		Deviation		Cohen's D*
Responsibility Factors			Stage 3	Stage 4	Stage 3	Stage 4	
			(n=201)	(n=177)	(N=201)	(n=177)	
PERSRESP							
AQ7	**controll**	How controllable do you think persons addicted to heroin are?	3.433	3.582			
AQ15	**respcble**	How responsible do you think a person addicted to heroin is for their present condition?	5.761	5.672			
AQ19	**concern**	How much concern do you feel for person addicted to heroin?	6.009	5.921			
AQ21	**ownfault**	I would think that it was a person addicted to heroin's own fault that he/she is in their present condition.	-------	-------			
Sum			15.203	15.175	0.951	0.906	0.030
PITY							
AQ6	**pitty**	I feel pity for persons addicted to heroin.	6.085	6.181			
AQ14	**sympathy**	How much sympathy would you feel for a person addicted to heroin?	5.812	5.977			
AQ17	**sorry**	How sorry do you feel for persons addicted to heroin?	5.772	5.938			
Sum			17.669	18.096	0.987	0.985	-0.434
ANGRY							
AQ1	**agravtin**	I would feel aggravated by persons addicted to heroin.	5.139	4.808			
AQ4	**angry**	How angry do persons addicted to heroin make you feel?	3.637	3.588			
AQ8	**iritated**	How irritated would you feel by a person addicted to heroin?	4.442	4.418			
Sum			9.581	9.226	0.824	0.959	0.400
HELPBEH							
AQ12	**help**	How likely is it that you would help a person addicted to heroin?	5.886	5.808			
AQ13	**certhelp**	How certain would you feel that you would help a person addicted to heroin.	5.207	5.201			
AQ22	**willtalk**	I would be willing to talk to a person addicted to heroin about their problems.	6.607	6.627			
Sum			17.700	17.636	0.940	0.945	0.068
RESP SUM			60.153	60.133	3.702	3.795	
RESP AVG			15.038	15.033	0.926	0.9488	0.005
Dangerousness Factors							
DANGERES							
AQ2	**unsafe**	I would feel unsafe around persons addicted to heroin.	6.170	5.684			
AQ5	**risk**	I think persons addicted to heroin pose a risk to other people unless they are imprisoned.	3.254	3.192			
AQ9	**dangrous**	How dangerous do you feel a person addicted to heroin is?	5.313	5.288			
Sum			14.737	14.164	0.926	0.943	0.613
FEAR							
AQ3	**terrify**	Persons addicted to heroin terrify me.	4.423	4.034			
AQ11	**scared**	How scared of a person addicted to heroin would you feel?	4.925	4.802			
AQ16	**frghtend**	How frightened of a person addicted to heroin would you feel?	4.921	4.701			
Sum			14.269	13.537	0.953	0.815	0.828
AVVOID							
AQ10	**threatnd**	I would feel threatened by a person addicted to heroin.	5.104	4.898			
AQ18	**avoid**	I would try to avoid a person addicted to heroin.	3.985	4.181			
AQ20	**rentaprt**	If I were a landlord, I probably would rent an apartment to a person addicted to heroin.	7.658	7.311			
Sum			16.747	16.390	0.829	0.783	0.444
DANG SUM			45.753	44.091	2.708	2.541	
DANG AVG			15.251	14.697	0.90267	0.847	0.633
		*Cohen's D Effect Size based on the average SD from the two means.					
		Small: 0.00-0.20 Medium: 0.30-0.50 Large: 0.60-2.00					

The effect sizes for the 4-item Personal Consequences of Criminal Stigma factor and the Social Distance Scale (SDS) is reported in Tables 3.62 and 3.63 below.

Table 3.62 Criminal Stigmatization: Stage 3 and Stage 4 SOC313 Course Item Variable Comparison/Cohen's d

		Mean		SD	SD	Cohen's d
CrimStig		**Stage 3 (N=201)**	**Stage 4 (N=177)**	**Stage 3 (N=201)**	**Stage 4 (N=177)**	
reinimag	To label a person addicted to heroin as a criminal, reinforces his/her deviant self-image.	3.761	3.915			
alienatd	To label a person addicted to heroin as a criminal, makes him/her more alienated from society.	4.065	4.090			
dvsubclt	To label a person addicted to heroin as a criminal, leads him/her into heavy-using deviant sub-cultures, often organized around procuring and using illegal drugs.	3.444	3.497			
difsrvt	To label a person addicted to heroin as a criminal, makes it difficult for him/her to access health services and treatment.	2.920	2.983			
	SUM	14.190	14.485	0.7981	0.8462	-0.359

Table 3.63   Stage 3 and Stage 4 SOC313 Course Social Distance Scale/ Cohen's d

		Mean		SD	SD	Cohen's d
AVOIDD		**Stage 3 (N=201)**	**Stage 4 (N=177)**	**Stage 3 (N=201)**	**Stage 4 (N=177)**	
rentroom	How would you feel about renting a room in your home to a person addicted to heroin?	2.756	2.576			
worksjob	How about being a worker on the same job as a person addicted to heroin?	1.846	1.582			
aneighbr	How would you feel about having a person addicted to heroin as a neighbour?	1.930	1.847			
caretakr	How about as the caretaker of your children for a couple of hours?	2.935	2.876			
childmry	How about having one of your children marry a person addicted to heroin?	2.821	2.740			
introfrd	How would you feel about introducing a person addicted to heroin to a young woman or man you are friendly with?	2.157	2.028			
recmdjob	How would you feel about recommending a person addicted to heroin for a job working for a friend of yours?	2.488	2.311			
	Total	16.933	15.960	0.8503	0.9792	1.064

Using a scale of 0 to 5, where 0=strongly disagree and 5=strongly agree, the 4-item CRIMSTIG factor demonstrated a fairly moderate effect size at -0.359. In comparing the respective Stage 3 and Stage 4 means, the effect size for the 7-item Social Distance scale, where 0=definitely willing and 3=definitely

unwilling was considerably larger at 1.064. The effect size of 1.064 indicates that the Stage 4 Sociology-Social Control students are at the 86th percentile of the Stage 3 Sociology-Social Control group. The Stage 4 effect size was considerably greater for the students' avoidance responses than for their agreement with the personal consequences of criminal stigma. It is noteworthy, irrespective, that the Sociology-Social Control students, moderately agree with the negative ramifications associated with criminal stigma, endorsing the in-group alignment, self-isolation and blemished identity tenets of labeling theory's secondary deviations (Goffman, 1963).

Note: All of the measurements used in the questionnaire were based on Likert-type scales. Palamar et al. (2011: 1465) note: "Likert scales have limitations due to their ordinal nature and increased likelihood of acquiescent response patterns". Social desirability may not have been a issue in the administration of the survey because of the two-month time interval between measurements in the Stage 3 and Stage 4 student administration. Social desirability effects rarely occur when gathering data anonymously.

3.7   <u>Descriptive Statistics</u>

The Sociology-Social Control students were compared at two time-points to examine the consistency of their responses on the attribution model, Social Distance Scale and the Personal Consequences of Criminal Stigma measure.

In comparing the descriptive statistics for the two groups of students, none of the factor means for the Stage 3 (n=201) vs. Stage 4 (n=177) Sociology-Social Control students were significantly different considering paired-group t-test result, $p>.05$.

As indicated by the Pearson product moment correlations, there was very little variation between the means for each of the factors within these measures. The results indicated no significant differences for the two Sociology-Social Control groups' responses.

Each of the measures demonstrated good test-retest reliability. This confirmed the consistency of survey item responses across two time-points.

3.7.1   <u>Attribution Model</u>

For the 7-factor attribution model, the Pearson product moment correlations for the ESEM solution are shown below, indicating high levels of short-term test–retest data:

<u>Responsibility Factors</u>

Responsibility ($r=1.000$)

Pity ($r=0.9995$)

Angry ($r=1.000$)

Helping ($r=0.9977$).

<u>Dangerousness Factors</u>

Dangerousness ($r=0.990$)

Fear ($r=0.9935$)

Avoidance ($r=0.9967$).

The results, involving a validation sample and a replication sample, indicated no significant differences for the Sociology-Social Control student responses.

As shown in Figures 3.18 and 3.19, the two groups of students demonstrated a high degree of consistency for the item indicators for each of the Responsibility and Dangerousness factors, when comparing means for the validation sample at the beginning of the SOC313 course and the replication sample at the end of the course. The tallest columns indicated a total mean score for each factor.

For the PERSRESP factor, the largest difference in mean scores was reported for the "respcble" and "control" item indicators. The smallest difference for a factor was found for items within the PERSRESP factor (15.203 vs. 15.175).

Figure 3.18 Responsibility Factors
Stage 3 and Stage 4 Means

	controll	respcble	concern	ownfault	Total		pitty	sympathy	sorry	Total		agravtin	angry	iritated	Total		help	certhelp	willtalk	Total
Mean Stage 3	3.433	5.761	6.009	0	15.203		6.085	5.812	5.772	17.669		5.139	3.637	4.442	9.581		5.886	5.207	6.607	17.700
Mean Stage 4	3.582	5.672	5.921	0	15.175		6.181	5.977	5.938	18.096		4.808	3.588	4.418	9.226		5.808	5.201	6.627	17.636

Of all the item indicators in Stage 3 and Stage 4, less stigmatization for the Responsibility factors were reported for the "controll" item: "How controllable do you think persons addicted to heroin are?"

In reviewing the Dangerousness factors in Figure 3.19, the largest difference occurred for the FEAR factor mean total (Stage 3: 14.269 vs. Stage 4: 13.537). The students responded in a fairly impartial direction for the "terrify", "scared" and "frghtend" item indicators in the FEAR factor.

Figure 3.19 Dangerousness Factors Stage 3 and Stage 4 Means

		unsafe	risk	dangrous	Total		terrify	scared	frghtend	Total		threatnd	avoid	rentaprt	Total	
■	Mean Stage 3	6.170	3.254	5.313	14.737		4.423	4.925	4.921	14.269		5.104	3.985	7.658	16.747	
■	Mean Stage 4	5.684	3.192	5.288	14.164		4.034	4.802	4.701	13.537		4.898	4.181	7.311	16.390	
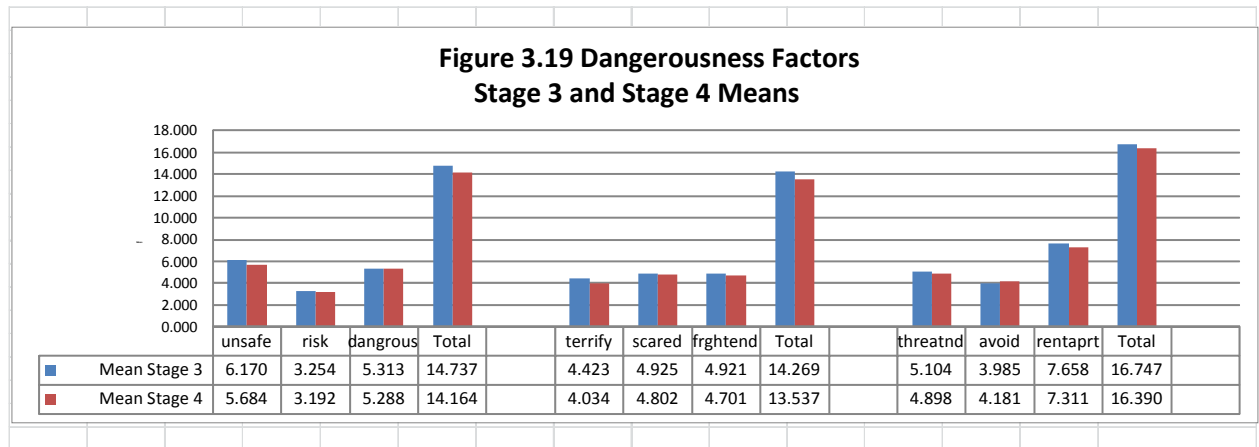
It is suggested that the Sociology-Social Control students are not afraid of addicts, and they did not feel persons addicted to heroin were in control of their condition. In terms of a "badness-illness" dichotomy (Holma et al., 2011), it is suggested that the students image of addicts is different from the public's severe representation of addicts' behavioral link to criminality. The lowest total response in the attribution questionnaire was found on the "risk" item. The Sociology-Social Control students did not support imprisonment as they did not feel that addicts posed a risk to other people.

3.7.2   Personal Consequences of Criminal Stigma

In reviewing (see Figure 3.20), the imputation of Personal Consequences of Criminal Stigma data on the attribution model, the Stage 3 students (n=201) were compared to the Stage 4 (n=177) students to examine their consistency of response. The Stage 4 responses of the Sociology-Social Control students did not exhibit statistically significant mean differences in their acceptance of the adverse consequences of criminal stigma.

The test-retest reliability, as measured by the Pearson product moment correlation coefficient for the 4-item Personal Consequences of Criminal Stigma measure at two time-points, was r=0.9936. This revealed a high level of short-term consistency.

Figure 3.20 Personal Consequences of Criminal Stigma Stage 3 and Stage 4 Means

		reinimag	alienatd	dvsubclt	difsrvt	Total
■	Mean Stage 3	3.761	4.065	3.444	2.920	14.190
■	Mean Stage 4	3.915	4.090	3.497	2.983	14.485
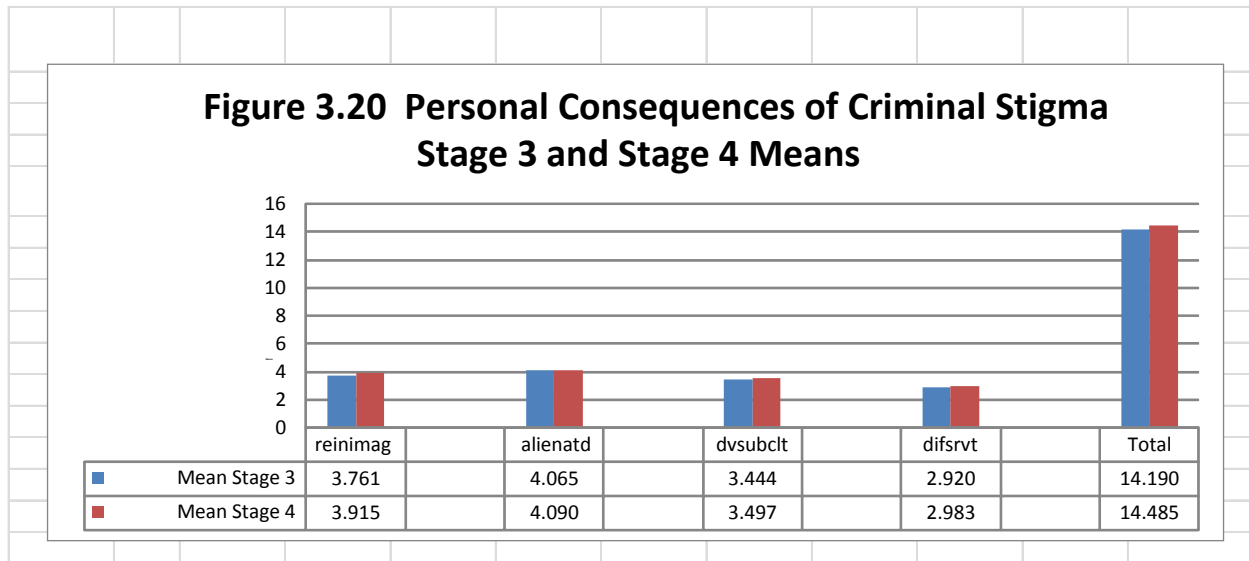
In comparing the Stage 3 and Stage 4 means for the item indicators within the CRIMSTIG factor, there was an insignificant difference in mean scores. The largest item mean difference (3.761 vs. 3.915) occurred for the "reimag" indicator variable within the CRIMSTIG factor, with students slightly more in agreement that "to label a person addicted to heroin as a criminal reinforces his/her self-image". Using the item midpoint of 2.50, the students were strongly in agreement with item "alienatd" (Stage 3 vs. Stage 4 mean: 4.065 vs. 4.090): "to label a person addicted to heroin as a criminal, makes him/her more alienated from society". Conversely, the Sociology-Social Control students demonstrated the least agreement (Stage 3 vs. Stage 4 mean=2.920 vs. 2.983) with item "difsrvt": "to label a person addicted to heroin as a criminal, makes it difficult for him/her to access health services and treatment".

Hence, the Sociology-Social Control students fairly strongly agreed with three of the item indicators for the CRIMSTIG factor. These findings contributed fairly good support for students' endorsement of the negative effects of criminal labeling on addict's well-being. Moreover, it is suggested that these students

would agree that interactional labeling processes produce devaluation and discrimination related to "self-esteem, treatment seeking and social functioning" (Pescosolido and Martin, 2007: 311). Further research should consider whether these student responses are specific to the current study or are found to be common in other student samples.

3.7.3   Social Distance Scale (SDS)

In reviewing the Stage 3 (n=201) and Stage 4 (n=177) mean difference comparison for the 7-item Social Distance scale in Figure 3.21, there was very little variation in students' responses between the two testing points. There was no statistically significant differences, considering paired-group t-test result, p>.05.

Figure 3.21 Social Distance Scale Stage 3 and Stage 4 Means

	rentroom	worksjob	aneighbr	caretakr	childmry	introfrd	recmdjob	Total
Mean Stage 3	2.756	1.846	1.930	2.935	2.821	2.157	2.488	16.933
Mean Stage 4	2.576	1.582	1.847	2.876	2.740	2.028	2.311	15.960
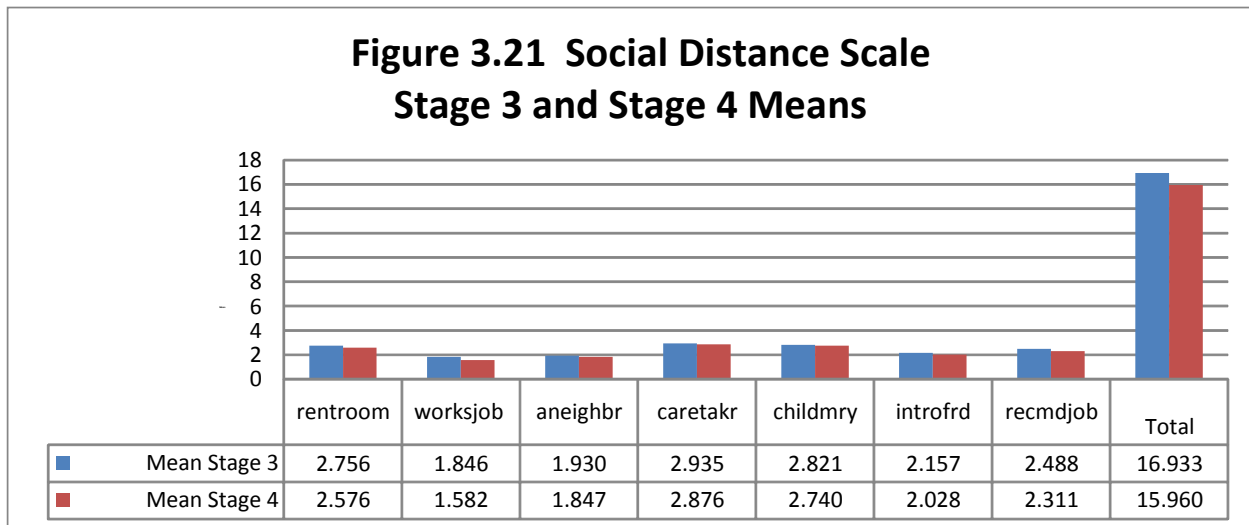
Once more, the test-retest reliability for the Social Distance scale was measured by the Pearson product moment correlation coefficient. The Pearson correlation coefficient was r=0.991, indicating high level of short-term test-retest reliability.

The greatest decrease in mean differences on the 7-item scale, based on a 0-to-3 point Likert-type scale (0=definitely willing, 3=definitely unwilling), was realized for the "worksjob" indicator variable (mean Stage 3=1.846 vs. mean Stage 4=1.582): "how about being a worker on the same job as a person addicted to heroin?" As a proxy of discrimination against persons addicted to heroin, the Sociology-Social Control students were resolute in their unwillingness to socially interact with heroin addicts, despite the students' apparent lack of fear toward persons addicted to heroin.

In Stage 3, despite attributing low personal responsibility and demonstrating encouraging helping behavior, the SOC313 students did not reduce their social distance (SDS) toward the addict. It is reasonable to assume that if persons are not blamed for their addiction, the students would be more willing to interact with addicts. The emotions of low anger and fear did not reduce distancing behavior.

In Stage 4, the students slightly reduced their avoidance of addicts (total SDS score at Stage 3=16.933 vs at Stage 4=15.960). What was especially noticeable was a significant low inverse association between avoidance and feelings of fear (r=-0.146), yet a moderate positive correlation was reported between dangerousness and avoidance (r=0.407). The students' increased feelings of anger were also associated with increased avoidance of addicts (r=0.492). There was no significant correlation found between perceptions of personal responsibility and avoidance, and between feelings of pity and avoidance.

3.7.4 Level of Familiarity

The test-retest reliability for the 10-item Level of Familiarity Report was measured by the Pearson product moment correlation coefficient. The Stage 3 students (n=194) were compared to the Stage 4 (n=176) replication sample to examine their consistency of response on the scale. The Pearson correlation coefficient was r=0.9942 for the two overall mean scores, indicating high level of test-retest reliability over the two time-points for the two groups of Sociology-Social Control students.

Chapter 4:   <u>Discussion</u>

4.   <u>Introduction</u>

Chapter 4 provides support for the validity and reliability of an attribution model for persons addicted to heroin. The discussion involves parallels and differences with the extant literature, and compares the dissertation's findings to previous attribution studies.

This chapter also expands on the conceptual framework concerning the attribution model by examining the usefulness of the SOC313 course and students' Level of Familiarity in conjunction with perceptions toward persons addicted to heroin.

4.1   <u>Validation of Factor Structure</u>

The study sought to confirm the factor structure, validity and reliability of the adapted attribution model for persons addicted to heroin through the implementation of ESEM. Multiple incremental theoretical models were successfully tested, and the size of relationships were determined among the addiction stigma factors.

A total of 657 Sociology students across two universities in Toronto, Ontario, Canada illustrated favorable evidence as to the hypothesized 7-factor attribution model's adequate structure, reliability and validity. Through testing in validation and replication samples, the present investigation provides evidence that the attribution model for persons addicted to heroin has stable internal consistency across two groups of Sociology-Social Control students.

4.1.1   Pilot-Test

The pilot-test was successful in validating the underlying structure of an adapted 7-factor attribution measurement model in a sample of 279 Sociology students across two universities in Toronto, Ontario, Canada. The key benefit of the pilot-test included EFA and CFA methodology to examine the factor structure of the attribution measurement model. Through calibration testing, the EFA analyses supported a well-defined 7-factor solution. The factor structure was also confirmed by confirmatory factor analysis. Despite the overly-restrictive nature of the CFA model (Morin et al., 2013), adequate fit indices were derived for the more parsimonious measurement model. Consequently, it was with confidence that the use of the 7-factor model was applied in the main study.

The pilot-test extended the 7-factor attribution model by incorporating items from theoretically related measures used by other researchers in attribution studies. The imputation of data related to social distance, level of familiarity and personal consequences of criminal stigma resulted in a more than adequate fit to the data for the EFA solutions, providing support for inclusion in the validation study involving Sociology-Social Control students. Based on our knowledge, this was the initial application of these models to the stigma associated with persons addicted to heroin.

4.1.2   Confirmatory Factor Analysis and Exploratory Structural Equation Modeling

4.1.2.1   Reliability

At the beginning of the Sociology-Social Control course in Stage 3, the students' data was screened to determine if assumptions for ESEM factor analysis were satisfied with respect to Cronbach's alpha and inter-item correlations for the attribution model (see Table 4 in Appendix E- Supplementary Information).

Multi-collinearity between item indicators in the attribution model was not present as correlations were not above r=0.90 (Van Boekel et al., 2013), except for the association between "scared" and "threatnd"=0.904 within the Dangerousness factors. However, four inter-item correlations within the Dangerousness factors were above r=0.80 and below 0.90: "scared" and "frghtend"=0.855; "scared" and "dangrous"=0.801; "frghtend" and "threatnd"=0.809; and, "dangrous" and "threatnd"=0.818.

During Stage 3, Cronbach's alpha was good (0.70 and above) and verified the internal consistency of the attribution model and other measures (Cronbach, 1951).

Moreover, the Sociology-Social Control students' data also met assumptions of normal distribution for the factors, with the skewness and kurtosis results providing strong support for the multidimensionality of the attribution model's factors. Considering distribution of Stage 3 and Stage 4 attribution model data, the mean skewness was below 2 and mean kurtosis below 7 (Curran et al., 1996; Schreiber, 2008), satisfying maximum likelihood estimation and multivariate normality assumptions for a test of model fit.

4.1.2.2   **ESEM Factor Analysis**

In examining multiple fit indices for ESEM models (see Table 4.1 in Appendix E- Supplementary Information), the primary objective of the dissertation was realized in that the parsimonious attribution measurement model for persons addicted to heroin exhibited a good fit to the Sociology-Social Control students' data. Goodness-of-fit indicators (Chen et al., 2008; Heene et al., 2011) supported the well-fitting model for heroin addicts when assessed by ESEM. Hu and Bentler (1999) suggested that to minimize Type I and Type II errors, investigators should employ one of CFI or TLI indices and the SRMR (value<0.08) or the RMSEA (value<0.06). Nearly all RMSEA and SRMR values met superior values indicative for tests of close fit.

A number of progressively more multifactorial models were successfully derived that included an iterative loading of factors to simultaneously assess student perceptions of persons addicted to heroin. In the progression from a 7-factor to a 12-factor ESEM solution, all of the fit indices displayed convergent validity with a close fit to the data, with the exception of TLI≥0.90 representing an acceptable fit to the data. The imputation of data for the SOC313 COURSE factor did not lead to improvements in model fit. The differences between the Level of Familiarity and SOC313 Course models were fairly meaningful (CFI: 0.973 vs. 0.962; TLI: 0.940 vs. 0.920; RMSEA: 0.041 vs. 0.044), demonstrating that the imputation of Level of Familiarity data did produce a better fit to the data. Through CFA, the standardized path coefficients showed a fairly moderate but significant indirect relationship between familiarity and dangerousness.

The Stage 4 simultaneous imputation of My Own Experience (ME) and My Own Research (MR) factors to the attribution model were shown to be the best fitting models, respectively.

In stage 3, CFA confirmed the 7-factor attribution model at an acceptable fit level and supported structural validity. However, by estimating all cross-loadings between the attribution questionnaire's item indicators and factors, ESEM permitted us to overcome the restrictions of CFA in terms of exaggerated correlations among factors. This too restrictive assumption for multi-factor models weakens ability to provide well-defined factor structure (Morin et al., 2013). More differentiated attribution factors than the equivalent CFA model are particularly important to diminish the likelihood of multi-collinearity.

With the ESEM factor correlations being meaningfully reduced, the study's findings confirmed recent research (Guay et al., 2015), by showing superiority over a comparative CFA model. Where there are considerable cross-loadings– as was found between the addiction stigma factors (see Appendix C), CFA correlations tend to be higher than in an ESEM solution. Future research isneeded to confirm whether the complexity of cross-loadings is duplicated.

Moreover, to be consistent with CFA/SEM research and model testing, the current study employed approximate goodness-of-fit indices that are recommended for model complexity (Hooper et al., 2008; Marsh et al., 2004). Inasmuch as the chi-square test is sensitive to sample size and to minor model misspecifications (Marsh et al., 2005), reliance was placed on assessment of SEM sample-size independent model-fit criteria. Geomin oblique rotation was used to take full advantage of correlations within addiction stigma's multidimensional factor structure (Costello and Osborne, 2005). The traditional maximum likelihood estimator was employed as "it allows for the computation of a wide range of indexes of the goodness of fit of the model, and permits statistical significance testing of factor loadings and correlations among factors and the computation of confidence intervals" (Fabrigar et al., 1999: 277).

4.2   **ESEM Attribution Model**

The ESEM goodness-of-fit results for the attribution measurement model were quite robust in the validation and replication samples. The main hypothesis involving attribution model fit for Sociology-Social Control students' perceptions for persons addicted to heroin was verified, with consistent results for CFI$\geq$0.90 and TLI$\geq$ 0.90, supporting a more than adequate fit to the data. In most instances, the attribution measurement model's CFI and TLI relative fit indices were greater than 0.95, indicating a close fit to the data.   Nearly all RMSEA (value<0.06) and SRMR (value<0.08)   met superior values indicative for tests of close fit.

ESEM was applied to an attribution measurement model to determine its construct validity for persons addicted to heroin in Stage 3 and Stage 4 (see Figure 4 in Appendix E- Supplementary Information). Pearson product moment correlation coefficients' relationships were reported between the personal responsibility, pity, anger and helping behavior, and dangerousness, fear and avoidance factors. The findings, particularly those for the Dangerousness factors, highlighted some important differences from the extant stigma literature. These differences are compared to other attribution study findings in the following sub-sections.

4.2.1   Responsibility Factors

Compared to the enduring social stigma attributed to substance disorders (Pescosolido et al., 2013; Schomerus et al., 2014), the Sociology-Social Control students did not assert a high level of responsibility for the addict's behavior that would tend to increased anger and avoidance, and to low levels of sympathy and helping. Possibly owing to the students' low levels of perceived responsibility, more feelings of pity and intentions to help were attributed to persons addicted to heroin.

In Stage 3 responses, almost all of the Responsibility factor correlations were statistically significant, with the exception of a very small inverse correlation between feelings of anger and helping behavior (r=-0.013). The Sociology-Social Control students' perceived addicts as not being in control of their condition. These perceptions were also linked to less anger and more pity. The Sociology-Social Control students did not mirror the public's responses towards addicts. Moreover, the students were inclined to providing more helping behavior, and were less apt to choose imprisonment as a likely coercive response.

The students' showed dissimilarities from past findings which demonstrated high feelings of responsibility for substance disorders, and less willingness to help (Crisp et al., 2000, 2005; Schomerus et al., 2011). Angermeyer et al.'s (2010) study showed that respondents demonstrated particularly negative emotions (ie., anger and fear) toward addiction problems. In other studies, personal responsibility and perceived control were found to be higher for addictions than for mental illness (Corrigan et al., 2001, 2005; Crisp et al., 2000; Schomerus et al., 2011). In their Dutch public sample, Van Boekel et al. (2013) also found personal responsibility to be a strong predictor of discriminatory behavior toward illicit drug users.

However, in contrast to an earlier study on Canadian college student reactions to various stigmas, which included drug addiction as one of nine stigmas, our Stage 4 results indicated a significant difference between anger and willingness to help persons addicted to heroin. Menec and Perry's study (1998: 448),

found that "anger was not significantly related to willingness to help the stigmatized target in the overall analysis". Their study is consistent with results found in Dooley's study (1995: 865) involving an AIDS target, where "the influence of onset controllability on helping was mediated by feelings of pity, but not of anger". In contrast, our study indicates that Sociology-Social Control students do not adhere to this influence premise, in that both pity and anger were significantly correlated with helping judgments, reliably supporting Weiner's attribution-effect-help model (Weiner, 1980, 1980a). Our study largely corresponds with earlier research by Schmidt and Weiner (1988) and Reisenzein (1986), in which significant relationships were found "between pity and helping judgments and between anger and helping judgments, but not between perceptions of controllability and helping judgments" (Dooley, 1995: 859).

According to Weiner's attribution paradigm, controllability should not affect helping behavior, but is mediated by pity and anger. This result may, however, be changed by the relationship between the perceiver and the target, as the target may be a friend and anger may not have any effect on helping behavior, with the perceiver willing to help irrespective of the level of anger portrayed. As opposed to students' responding to persons addicted to heroin "in general", future research should consider presentation of different vignettes portaying anger and helping behavior and taking into account the nature of the personal relationship between the perceiver and the addict.

4.2.2   **Dangerousness Factors**

Considering attribution theory, the ESEM correlation results for the Dangerousness factors were found to be substantially less robust than for the Responsibility factors. In Stage 4, direct relationships between dangerousness, fear and avoidance did not exist. Mental illness stigma research, on the other hand, provides evidence of significant relationships between perceptions of dangerousness, feelings of fear and avoidant behavior (Rusch et al., 2005). The dissertation's findings are also inconsistent with prior attribution research, in which both personal responsibility and dangerousness were the best predictors of stigmatization and rejection (Feldman and Crandell, 2007; LeBel, 2008).

The Sociology-Social Control students' attributions were not fully consistent with Corrigan et al.'s (2003) dangerousness path model for mental illness, wherein a significant relationship was reported between dangerousness and the likelihood of avoidance as a discriminatory response, with fear predicting avoidance and coercive behavior. Similarly, the study's finding was also inconsistent with other attribution studies, as perceptions of dangerousness and feelings of fear were found to be directly related to avoidant behavior toward the mentally-ill (Angermeyer et al., 2004; Angermeyer and Matschinger, 1997; Madianos, et al., 1987; Wolff et al., 1996a).

Counterintuitively, a significant inverse relationship between dangerousness and avoidance (-0.320, p<.001) was found for the Sociolgy–Social Control students. Although students felt that persons addicted to heroin are dangerous, they were not aroused by fear of persons addicted to heroin. Because the Sociology-Social Control students showed little distress with heroin addicts, their lack of fear appeared to mediate perceptions of dangerousness and intentions to avoid addicts. Coincidentally, the students also did not endorse punishment as a form of segregation toward addicts. It is possible that these students were not concerned about the greater likelihood of physical harm to themselves nor to others, thus diminishing the stigma of dangerousness.

In a recent study of perceptions of addictions, as societal problems in Canada, Sweden, Finland and Russia, Holma et al. (2011) found that "hard" drug use received the highest loadings, reflecting criminal or addiction-related issues, instead of concerns for addicts' rehabilitation. The threat to personal safety was of primary concern, suggesting that the public often views addicts as threatening to themselves and others, and why addicts continue to be severely stigmatized.

In their attribution study examining attitudes towards people with alcohol and drug addiction, Van Boekel et al. (2013) suggested that public stigma surrounding substance misuse may also be more associated with safety concerns, as perceived aggressiveness was a significant predictor to impose restrictions on addicts. They speculated that ambiguity or ignorance may be the primary basis of feelings of fear.

Recent evidence indicates that those who stigmatize addicts have very little contact with them (Palamar et al., 2012). Most people have no direct personal experience with heroin addiction. For the public, addiction may imbue higher feelings of responsibility for the condition and hence, discriminatory behavior because of an inability to understand why persons cannot stop their addictive behavior (Blendon and Young, 1998; Palamar, 2013). Less pre-existing information does not encourage feelings of accommodation (Corrigan et al., 2005), and addicts are likely to be targets for mistreatment.

Furthermore, the public may be strongly influenced by depictions of violent behavior related to drug-induced hallucinations and delusions, and unlawful associations of drug misuse, largely fabricated by the mass media (McGinty et al., 2014; Wahl et al., 2002). Swaying public opinion, the media conjures up and perpetuates an image of addicts as "junkies", and rarely portrays addicts as having a substance disorder that can be successfully treated. Inaccurate media reporting continues to sensationalize addiction. Enduring stigma creates a host of troubles for addicts, including ineffectual social interactions and concealing treatment history –even from family members. Discrimination and the expectation of being socially devalued may also be instrumental in the internalization process for self-stigma (Quinn et al., 2015).

Violence and dangerousness are common themes in the media for mental disorders (Dubugras et al., 2011), articulating newsworthiness and reaffirming longstanding negative stereotypes (Allen and Nairn, 1997). One may speculate that the Sociology-Social Control students are not influenced by media messages which sensationalize the dangers of drugs that arouse fear in the general public. It is possible that the students' more sophisticated knowledge of addiction (ie., psycho-social etiological beliefs) may have lessened their fear of addicts (Mannarini and Boffo, 2013; Pattyn et al., 2013). The Sociology-Social Control students improved knowledge of addiction possibly allows them to rationalize the relative risk and harms to users and society, thereby challenging distorted stereotypes and depictions promulgated by the media.

4.3   Personal Consequences of Criminal Stigma

The incorporation of "secondary deviations" by an informed group of Sociology-Social Control students extends the applicability of the attribution model to heroin addicts. Personal consequences of criminal stigma are primary elements of labeling theory's underlying assumptions of "stigmatization, isolation, re-socialization, internationalization of the new discredited identity, and assumption of roles connected to the deviant status" (Winnick and Bodkin, 2008: 299). Drawing from labeling theory, the personal consequences of criminal stigma are important to consider in any societal context model of addiction stigma.

Being dual-diagnosed with psychiatric disorders increases the potential for adverse consequences on the personal well-being of addicts. Rasinki et al. (2005: 220) explain: "surveys of large populations have indicated that a past history of mental disorder more than doubled the risk of alcohol dependence and quadrupled the risk of drug dependence". Moreover, the incidence for violence and criminal behavior grows when addicts combine drugs and alcohol. Because of a high comorbidity rate and greater potential for running afoul of the law, substance misuse is a condition particularly likely to be viewed more harshly and to be perceived as more dangerous than mental disorders like schizophrenia and anxiety disorders (Corrigan et al., 2011: xix).

According to Anderson and Ripullo (1989: 25), "the social construction of drug addicts as a 'deviant' and heavily stigmatized population" has been the result of "increasingly punitive mechanisms of social control". The evidence illustrates that the ontological status of the heroin addict and the attribution of criminal intentionality are determining factors in prejudicial attitudes about addicts. The public's labeling of addicts as personally dangerous is important to the imputation of fearfulness to a devalued group identity and, in turn, reactions of others to avoid addicts (McAuliffe, 1975).

Future studies might wish to consider the incorporation of Lemert's (1972) "secondary deviations" in multidimensional models of addiction stigma across different samples of students in other university faculties. The current results are from only one specific group of Sociology-Social Control students. The Personal Consequences of Criminal Stigma measure was employed for the first time by imputing its data with the 7-factor attribution model, and should consequently be further assessed for evidence of reliability and validity.

4.4   Social Distance Scale (SDS)

Considering the Social Distance scale in Stages 3 and 4, the Sociology-Social Control students were definitely unwilling to interact with addicts on many social levels. The students' low score on the FEAR factor versus the high score on the AVOIDD factor was in sharp contrast to Crisp et al.'s (2000) study on a British sample which found the most negative views (ie., perceptions of dangerousness) for drug dependence. This parallels other findings in the United States (Pescosolido et al., 1999). Our counterintuitive but complex finding suggests that the Sociology-Social Control students are not representative of the public's resiliently strong moral reaction to an illegal and highly stigmatized drug like heroin (Pescosolido et al., 2010; Schnittker, 2008; Schnittker and John).

In a systematic review of population studies by Schomerus et al. (2011), drug addicts evoked strong connections to problematic attitudes and discriminatory reactions: held more responsible for their addiction than other conditions (ie. alcoholism, schizophrenia, depression, obsessive-compulsive disorder, mental illness, etc.), associated with increased risk of violence, dangerousness and unpredictability, and earned the strongest desire for avoidance.

A recent study (Holma et al., 2011) reported that the public considers addicts to be a threat to themselves and their children. Attributions of drug addiction is more harshly viewed by the public when compared to homeless people, criminal offenders or individuals with mental illness (Schomerus et al., 2011a; Van

Boekel et al., 2013). Martin et al. (2000: 208) reiterate: "using vignette data from the 1996 General Social Survey (n=1,444), we find that respondents discriminate among different types of mental health problems by expressing more desire to avoid those with drug and alcohol problems than with those with mental illness". Almost seventy-two percent of respondents in Martin et al.'s study preferred to avoid personal contact with drug dependent individuals.

It is evident, moreover, that a genetic model, would theoretically reap more public negative attributions because of feelings about absence of control over drug misuse (Arboleda-Florez and Stuart, 2012; Pescosolido et al., 2010; Phelan et al., 2006). Considering that "genetic explanations are not associated with the perceived likelihood of improvement" (Schnittker, 2008: 1370), a medical or genetic view is unlikely to increase tolerance.

Pescosolido et al. (2010: 1325) further note: "our most striking finding is that stigma among the American public appears to be surprisingly fixed, even in the face of anticipated advances in public knowledge". The disease-based focus of neurobiological conceptions of mental illness was found to be related to support for help-seeking behavior and treatment, but unrelated to the stigma of avoidance. Schnittker (2008: 1372) explains: "genetic arguments inflate perceptions of dangerousness insofar as the mentally ill are always at risk for violence, even when treated". Emphasizing biogenetic causes for mental health problems was positively associated with fear, prejudice and discrimination (Angermeyer et al., 2011; Read et al., 2006; Read and Cain, 2013; Schomerus et al., 2012).

Future studies might also investigate whether heroin addiction is considered a mental illness, a neurobiological illness, or a stress-or behavior-related condition, and if these perceptions are associated with distancing attitudes (Rusch et al., 2012). The evidence is strong that medical treatment labeling or biological explanations do not automatically lead to reductions in stigma (ie,"a disease like any other") (Angermeyer and Matschinger, 2005; Lebowitz et al., 2014; Pescosolido et al., 2010; Read et al., 2006). Notwithstanding the increasing prominence of biomedical methods in mental health care, these

explanations reframing addiction as illnesses as opposed to moral failings are frequently connected to prognostic pessimism and more distancing behavior (Lebowitz, 2014). As the public obtains most of its information about addiction from the media, McGinty et al. (2015) findings suggest that publicizing portayals of persons with addiction and mental illness who have undertaken successful treatment and recovery in the news media may be more productive in mitigating public stigma and discrimination.

4.5   <u>Hypothesis Testing</u>

The ESEM results supported the hypothesis that the 7-factor attribution measurement model would fit the Sociology-Social Control students' data. Table 4.2 below summarizes Stage 4 overall hypothesis-testing, describing the feelings of the students towards persons addicted to heroin. Size and direction of the correlations among the factors are reproduced.

As evidenced by the discussions in section 4.2, the Sociology-Social Control student correlations for the 7-factor attribution measurement model for persons addicted to heroin are fairly consistent for the Stage 4 relationships between the Responsibility factors, and are far less robust for the relationships between the Dangerousness factors.

The imputation of data from the SOC313 Course factor and students' Level of Familiarity with persons addicted to heroin with the attribution model factors demonstrated mixed results. The findings suggest that the SOC313 Course data did not have a significant interaction effect on the 7-factor attribution model, nor on the Social Distance scale and Personal Consequences of Criminal Stigma measure, compared to the imputation of Level of Familiarity data.

Level of Familiarity produced a better fitting model, and stronger and more significant positive relationships demonstrated by Pearson product moment correlation coefficients. Significant correlations between attribution model factors and familiarity were substantially more evident than those found for the

SOC313 Course factor, thus supporting predictions that Level of Familiarity is likely to lead to less stigmatizing perceptions of persons addicted to heroin. This result is further supported by the standardized coefficents reported by the indirect effect of Level of Familarity on the Dangerousness factors.

Table 4.2 Stage 4 Hypothesis Testing Correlations	
a. Familiarity predicts responsibility.	r=-0.050, Not Significant.
b. Familiarity predicts dangerousness.	r= -0.273, p<.001
c. Responsibility predicts anger.	r= 0.141, p<.05
d. Pity predicts help.	r= 0.461, p<.001
e. Anger predicts help	r= -0.282, p<.001
f. Dangerousness predicts fear.	r= -0.035, Not Significant.
g. Fear predicts avoidance.	r= -0.076, Not Significant.
h. Responsibility predicts help.	r=.291, p<.001
i. Dangerousness predicts avoidance.	r= -0.320, p<.001
j. Familiarity predicts pity.	r= 0.210, p<.01
k. Familiarity predicts help, and familiarity predicts anger.	Familiarity predicts help (r= 0.413, p<.001) Familiarity predicts anger (r= 0.420, p<.001)
l. Familiarity predicts fear, and familiarity predicts avoidance.	Not Significant.
m.SOC313 course will lead to improvement in perceptions of responsibility, pity, anger, helping behaviour; dangerousness, fear and social distance.	Marginal improvement. Not Significant
n. SOC313 course will lead to more intense acceptance of the personal consequences of criminal stigma.	Marginally more intense. Not Significant.
o. Familiarity with persons addicted to heroin predicts a positive augmentation effect on dangerousness and social distance change scores.	SOC313 + Familiarity augmentation effect was found on FEAR factor.
p. Familiarity with persons addicted to heroin predicts a positive augmentation effect with pity and a reduction effect on anger and fear.	SOC313 + Familiarity augmentation effect was found on PERSONAL RESPONSIBILITY factor.

Additional key findings related to the COURSE and FAMILRNK factors involving the attribution measurement model are discussed in following two sub-sections.

4.5.1   SOC313 Course Data on Attribution Model

In Stage 4, the Sociology-Social Control students indicated that the SOC313 course had a fairly moderate influence in answering the survey. More than half of the responses reported that information from the lectures had some influence in answering questions in the survey (mean=5.201/9=57.8%). The "readmat" item indicator: "reading material from the SOC313 course content" was considered somewhat less important (mean=4.702/9=52.2%), while the students designated that both "interprof" item indicator: "interaction with the instructor" (mean=3.688/9=40.9%) and "interstud" item indicator: "interaction with fellow students" (mean=2.621/9=29.1%) were not very beneficial in responding to the questions in the survey.

However, the students specified that their own personal experience and knowledge (ME factor mean: 5.021/9.000=55.7%) was more important than the students' own independent previous research (MR factor mean: 3.806/9.000=42.2%). Next to "interaction with fellow students" (mean: 2.621/9.000=29.1%), the students' "own independent previous research" was deemed least important to providing answers to questions in the survey. In sum, the COURSE factor and "my own personal experience and knowledge" (ME factor) were endorsed as moderately beneficial by the students in responding to the attribution questionnaire.

Overall, most of the correlations between the COURSE factor and the factors examined in Stage 4 were weaker or non-existent compared to the correlations with the Level of Familiarity factor. The mean scores reflected fairly neutral responses, yet the students did agree that there were factors that influenced their answering the questions in the survey. Those students who identified "my own personal experience and knowledge" may have found this personal source useful to diminish some of their negative stereotypes associated with addicts.

A significant moderate inverse correlation was found between the COURSE and FEAR factors (-0.149, p<.05). Another moderate significant inverse relationship was found between the COURSE and PERSRESP factors (-0.252, p<.001). Those students who felt that the course was relevant to answering the questionnaire were less likely to hold the addict personally responsible for sustaining their drug use. There was, however, no significant associations between the COURSE and DANGERES (r=-0.003), and COURSE and AVOIDD (r=0.015) factors.

Corrigan and Kosyluk (2013: 137) suggest that fear is a negative emotional reaction that "corresponds with endorsing the stereotypes that energize prejudice and discrimination". Because of the inverse correlation with the FEAR factor, it is suggested that the "education about social control" focus of the SOC313 course content may be relevant to less fearful perceptions of addicts. The Sociology-Social Control students did not perceive that addicts pose a risk to other people, and they did not endorse imprisonment for addicts. This contrasts with the mass media's depiction of addicts as "junkies" likely to engage in violent and criminal behavior toward others in the community, predicated on the public's vagueness or ignorance surrounding persons addicted to heroin. Misapprehension or incomprehensibility about addiction may increase the public's uneasiness about interactions with addicts and produce avoidance outcomes.

The result of adding the SOC313 Course factor data with the Level of Familiarity (FAMILRNK) factor to the 7-factor model resulted in a slight reduction in ESEM fit indicators, with a very marginal improvement in the RMSEA test statistic. This result was further supported by the lack of a significant indirect effect of Level of Familarity combined with the SOC313 Course data through a CFA on the 7-factor attribution model. This is contrary to past evidence found in stigma research that shows a combination of education with contact interaction does produce positive stigma effects (Chan et al., 2009; Corrigan et al., 2007; Holzinger et al., 2008; Yamaguchi et al., 2011).

In contrast with past research that indicates people with substance disorders are perceived more blameworthy than those with mental illness, it is evident that the Sociology-Social Control students who felt that the course was useful in responding to the survey did not appear to view addicts as personally irresponsible and morally weak people, as they did not blame persons addicted to heroin for their condition. In this regard, our study suggests that the Sociology-Social Control students felt more favorably about heroin addicts than endorsements from the general public (Corrigan et al., 2009; Silton et al., 2011).

4.5.2   Level of Familiarity Data on Attribution Model

The evidence indicated that the imputation of Level of Familiarity data yielded a more significant interaction effect than the COURSE data on the attribution model involving persons addicted to heroin.

Using data from Stage 4, Pearson product moment correlations were statistically significant for three of the four Responsibility factors and two out of three Dangerousness factors (See Figures 4.1 and 4.2 in Appendix E- Supplementary Information). The imputation of the COURSE data on the attribution model demonstrated that the COURSE factor was only significantly correlated with two factors (PERSRESP, FEAR). Compared to the imputation of the SOC313 COURSE data, the greater interaction result supports the construct validity of Level of Familiarity (FAMILRNK factor) in influencing the ESEM 7-factor attribution model. Convergence of both datasets was also realized supporting the imputation of factors that successfully converged with the attribution model across Stage 4 students.

This result corresponds with recent literature which found that the amount of interpersonal contact with members of the stigmatized group is the strongest predictor of a decrease in fear and discrimination toward persons who are the object of the discrimination (Read et al., 2013a), more so than education (Dalky, 2012; Livingston et al., 2012; Parcesepe and Cabassa, 2013). In other studies, direct interaction or

increased interpersonal contact was found to disconfirm the negative stereotypes involving beliefs about dangerousness (Graves et al., 2011; Jorm et al., 2010; Pettigrew and Tropp, 2008; Spagnolo et al., 2008).

Research indicates that younger persons have a fair amount of contact with people with mental illness (Corrigan et al., 2005), as compared to direct personal contact with persons addicted to heroin (Blendon and Young, 1998). The majority of the Sociology-Social Control students in this study did not have any direct personal contact with persons addicted to heroin. The media (ie., movie, television, documentary) was reported as the students' primary experience with persons addicted to heroin. Palamar et al. (2011: 1463) found that for stigma associated with illicit drug users "respondents who reported higher levels of stigmatization or greater perceived public stigma tended to be less exposed to users". Notwithstanding their lack of exposure to addicts, the students do hold fairly tolerant perceptions of heroin addicts.

In Stage 4 responses, familiarity seems to diminish stigmatizing perceptions towards addicts. The students did not endorse greater attributions of responsibility, as indicated by a non-significant relationship between familiarity and the PERSRESP factor. Familiarity led to more pity, increased likelihood of helping behavior, and increased awareness of the personal consequences of criminal stigma. Interestingly, a positive significant correlation between familiarity and feelings of increased anger was also found, but anger did not appear to reduce the students' intentions to help addicts.

These results parallel an earlier study by Menec and Perry (1998) on Canadian student reactions toward nine stigmas which included drug addiction. Using structural equation modeling, their findings demonstrated that previous contact with stigmatized persons did not affect "judgments of the controllability of the cause of a stigma"; moreover, "prior contact was directly related to more willingness to help the targets; increased contact was associated with increased willingness to help stigmatized contacts" (Menec and Perry, 1998: 452). As evidenced in our study, familiarity with addicts had a positive effect on students' stated intentions to help addicts. Despite higher feelings of anger associated with familiarity, the students were unwilling to accept imprisonment for the risk posed by addicts.

The replication sample demonstrated an inverse significant relationship between Level of Familiarity and perceived dangerousness (DANGERES factor). Familiarity with addicts was associated with a diminishing effect on perceived dangerousness (-0.273, p<.001). There were, however, no significant correlations between students' familiarity and fear, and between familiarity and social distance (SDS). The associations between familiarity and fear, and familiarity and avoidance were negligible. For this group of Sociology-Social Control students, familiarity is not considered a predictor of reduced fear and discriminatory intentions. Accordingly, our results did not support the study's hypothesized familiarity predictions for significant direct associations between fear and avoidance toward addicts

Conversely, Janulis et al. (2013) and Angermeyer et al. (2004) reported significant inverse relationships between familiarity and perceived dangerousness, fear and social distance factors. Angermeyer et al.'s representative population survey mostly replicated findings from Corrigan et al.'s (2001) attribution model study on community college students, using modeling techniques. Inasmuch as Corrigan et al. (2001) reported that fear positively predicted social distance, the same study found no significant relationship between familiarity and fear. Angermeyer and Matschinger (1997), however, reported a significant relationship between familiarity and fear.

Prior mental health research has shown that factors that "may contribute to perceived danger are perceived unpredictability of the risk of violence and lack of familiarity…and with the degree of risk" (Phelan and Link, 2004: 78), linking fear and social distance, and perceived dangerousness and social distance (Angermeyer and Schulze, 2001; Corrigan et al., 2005; Martin et al., 2000; Philo et al., 1994). Thus, stigma research suggests that more certainty and predictability with the stigmatized person's behavior may influence respondents' perceptions of dangerousness (Albrecht et al., 1982; Corrigan and Shapiro, 2010), with untreated heroin addiction heightening negative social distance (McGinty et al., 2015).

The finding that the media is the Sociology-Social Control students' primary level of familiarity with addicts is fairly consistent with the public's level of contact with mental health issues (Rukavina et al., 2012). The students' perceived dangerousness, however, does not appear to be cognitively-driven by the sensationalist style of media images that reify violence and menacing behavior, and stimulate stigma and discrimination toward addicts (Boles and Miotto, 2003; McGinty et al., 2014).

It may be suggested that the Sociology-Social Control students are more knowledgeable about the risk posed by addicts and their potential for criminality, leading to a more critical assessment of addicts' behavior that would explicitly counter the flawed reality solicited by the media. That is, addicts do not generally commit violent crimes and are more likely to be charged with theft and property offenses.

Consequently, future research needs to delve deeper into the type of contact when promoting personal experience or familiarity with heroin addicts in anti-stigma strategies. Citing social contact theory (Allport, 1954), Eisenberg et al. (2012: 1126) indentified the following direct interaction conditions as likely to influence stigmatizing attitudes: "equal status, sustained and close contact, and socially sanctioned relationships". The type of contact needs to be examined with a student cohort more closely aligned with addicts' treatment and rehabilitation to determine the influence of the respondent's experience on their perceptions of dangerousness, fear and avoidance.

4.5.3   My Own Experience and Knowledge, My Own Research Data on Attribution Model

The imputation of My Own Experience and Knowledge (ME factor) data to the attribution measurement model for persons addicted to heroin led to only two significant positive correlations with PERSPESP and FEAR factors. However, the imputation of My Own Research (MR factor) data led to four significant inverse correlations, with diminishing effects on PITY, ANGER, HELPBEH, and AVOIDD factors, and one significant positive correlation with the DANGERES factor. It is suggested that "my own research" is more important than "my own experience and knowledge" in terms of Sociology-Social Control students'

interactions with persons addicted to heroin. Unexpectedly, both of these factors include increased stigmatizing perceptions of addicts. The MR factor leads to reduced feelings of pity, less helping behavior and more perceptions of dangerousness. The ME factor leads to more perceptions of personal responsibility and increased feelings of fear. However, the MR factor is also associated with reduced feelings of anger and less avoidance of addicts.

In terms of the Dangerousness factors, reducing stigmatizing beliefs about the fear of persons addicted to heroin appears to be more important when the COURSE factor is considered, compared to the Sociology-Social Control students' "own experience and knowledge" (ME factor). The fairly modest inverse relationship between the COURSE factor and the FEAR factor (-0.149, p<.05) supports an education-based approach, compared to the modest positive relationship between ME factor and FEAR factor (0.197, p<0.1). The SOC313 course seems to provide support for students to be less terrified and frightened by addicts.

In the examination of the Responsibility factors, a moderate inverse association was found between the SOC313 COURSE factor and the PERSRESP factor (-0.252, p<.001), whereas, the students' own experience (ME factor) was positively related to the PERSRESP factor (0.285, p<.001). Again, from a stigmatizing point of view, it is suggested that the SOC313 COURSE factor, because of the significant inverse relationship, appears to be more important than "the personal experience and knowledge" (ME) and the students "own research" (MR) in decreasing the personal responsibility associated with the addict. The imputation of the ME and MR factor data on the overall model revealed a significant positive correlation for the ME factor with the PERSRESP factor (0.285, p<.001)   and a non-significant correlation for MR factor with the PERSRESP factor (-0.023, non-significant).

Hence, the Sociology-Social Control student responses reveal that the imputation of the COURSE data, although not as important as the Level of Familiarity data in terms of interaction effects, appears to be associated with less stigmatizing perceptions than the ME factor. The COURSE factor is associated with

inverse relationships with the PERSRESP and the FEAR factors. The COURSE factor seems to be as useful as the MR factor in reducing students' addiction stigma, despite both factors relatively small association with more tolerant perceptions of persons addicted to heroin.

Coincident with stigma research, these findings support previous findings that Level of Familiarity is most important to challenge and disconfirm dangerousness stereotypes. The results also confirm that familiarity positively corresponds with increased feelings of pity and intentions to help persons that are severely stigmatized.

4.6   <u>Discussion Summary</u>

In summary, the factor structure of the attribution measurement model was successfully validated on two groups of Sociology-Social Control students. The findings reflected adequate sample size, sufficient power and strong test-retest reliability for the Stage 3 students coincident with the replication sample in Stage 4 for the 7-factor attribution model, desired social distance and acceptance of the personal consequences of criminal stigma. Evidence of satisfactory internal consistency were also realized.

Using the Stage 4 Sociology-Social Control student data to provide analysis on the usefulness of the SOC313 course in completing the survey, the COURSE factor contained items to identify the efficacy of the course's content compared to lectures, the instructor, fellow students, course content, independent research, personal experience and knowledge. The COURSE factor was poorly associated with the attribution model factors, and with the Personal Consequences of Criminal Stigma measure and Social Distance scale. This finding, however, presents a validity check for the value of Level of Familiarity in the comparative factor correlations, and supports existing research that indicates familiarity is important as a predictor in diminishing stigmatizing attitudes.

The data for this dissertation was largely an effort to employ Exploratory Structural Equation Modeling and to investigate risk-averse students' attributions toward heroin addicts. The study provided a comparison of ESEM and CFA methodology in attributions toward persons addicted to heroin. The CFA attribution measurement model demonstrated an acceptable fit to the data, whereas the ESEM model showed its superiority over the corresponding CFA solution. ESEM models at both Stage 3 and Stage 4 datasets showed an excellent fit to the data for the 7 through 10-factor solutions. Taking all evidence into account, the ESEM results conformed to published CFI, TLI, RMSEA and SRMR fit criteria for the stepwise addition of new factors to the attribution model, yet did not lead to improvements in each step of incremental validity.

The results illustrate sufficient evidence to concur that ESEM has an advantage over CFA for psychometric evaluation of measurement scales. ESEM is considered more flexible, allowing for "a more appropriate representation of factor correlations due to the non-imposition of arbitrary zero cross-loadings" (Morin et al., 2013: 37-38). ESEM delivered meaningfully better fit and comparatively smaller correlations among the attribution model factors because of its less restrictive approach. As a practical alternative to CFA, ESEM is recommended as an adequate and informative approach in generating better multifactorial models in the context of addiction stigma.

In consideration of substantive findings, very distinct attributions were found in the Sociology-Social Control students that differentiate them from the general public. The Sociology-Social Control students expressed moderately low levels of personal responsibility and dangerousness. Fear and avoidance were less strongly endorsed. The superior Responsibility factor associations are in line with prior mental illness research which found direct relationships between cognitive-emotion-helping behavior, supporting Weiner's (1980) attribution model. On the other hand, the Dangerousness factors did not confirm expected statistically significant relationships between dangerousness-fear-avoidance. This finding contrasts very conspicuously with the very severe and distressing perceptions of addicts found in population studies, underlining the need to research the quality of information transmitted through the

media to assess stereotypes about heroin addiction. Social stigma exacerbates public pereptions and reduce support for policies that adavantage persons with substance disorders, including under-treatment, housing and employment (McGinty et al., 2015).

Moreover, the ESEM findings reveal that Sociology-Social Control student attributions of dangerousness and personal responsibility may be mutually exclusive and comprised of distinct components. The interactions between the Responsibility factors were more robust than those found within the Dangerousness factors. Based on this differentiation, it is evident that the relationships between dangerousness-fear-avoidance needs to be targeted in future studies. Compared to the harsh stigma associated with addicts revealed in population studies, the Dangerousness factors show the greatest differentiation for the Sociology-Social Control students.

Chapter 5: <u>**Study Contribution and Conclusions**</u>

Using a series of analyses, this dissertation provides evidence for the adequacy of psychometric properties of an attribution model for persons addicted to heroin. The study reported a consistent and replicable factor structure for the attribution measurement model using EFA, CFA and ESEM, suggesting that the Sociology-Social Control students did not report high levels of addiction stigma. Although substance misusers are commonly viewed as being worse by the public than most other stigmatized groups, the students did not regard heroin addicts as particularly problematic, signifying that they interpret the challenge of heroin addiction as surmountable and resolvable.

While there is robust literature on mental illness stigma, limited research was found on addiction-related stigma, with very few standardized stigma measures regarding heroin users (Adlaf et al., 2009; Brown, 2011; Luoma et al., 2013). The research, however, provided evidence of many validated stigma measures associated with mental illness (Livingston et al., 2011; Link et al., 2004; Yang et al., 2008). One key area of focus is the dearth of stigma measures related to addictions (Kulesza et al., 2013). The dissertation's study incorporated a multifaceted approach by examining cognitive (attributions), emotions and behavioral outcomes in assessing addiction stigma.

This is the first study to investigate the factor structure of an attribution model by using Exploratory Structural Equation Modeling (ESEM). All factors were allowed to correlate freely. The test of ESEM fit indices for the two Sociology-Social Control students' samples exceeded the acceptable criteria for multiple goodness-of-fit measures (Schermelleh-Engel et al., 2003**)**. Results suggest high validity and internal consistency were established through incremental testing of multiple models. The results offer psychometric support for good construct validity, as evidenced by the greater importance of Level of Familiarity compared to a SOC313 Course toward decreasing addiction stigma.

Therefore, the psychometrically robust attribution model provides adequate confidence in research efforts to test other students' stigmatizing perceptions of persons addicted to heroin. Replication of results would strengthen the degree to which our ESEM findings could be generalized to other student populations.

5.1   Contributions of Study

The analyses obtained more than adequate Cronbach's alpha for the 7-factor attribution model. The results compared favorably with internal consistency reported in other attribution studies (Angermeyer et al., 2004; Corrigan et al., 2002).

The attribution measurement model demonstrated satisfactory convergent validity. Many of the correlation coefficients between the attribution model factors and the Social Distance Scale and the Personal Consequences of Criminal Stigma measure were statistically significant. The relatively high correlations ensured good convergent validity of the ESEM 7-factor attribution model.

5.1.1   Exploratory Structural Equation Modeling (ESEM)

As the current literature reflects few measures calibrated for addiction-related stigma, the present study addressed this lack of research by being the first to develop, assess and refine an attribution measurement model for persons addicted to heroin by using a new structural equation modeling method. ESEM is a data-analytic technique that is not yet widely used in evaluating psychometric properties of self-report questionnaires (Mattsson, 2012; Morin and Maiano, 2011; Herrmann and Pfister, 2013; Sanchez-Carracedo et al., 2012).

A growing body of evidence from simulation studies and real data currently suggests CFA models are too restrictive to impute an acceptable fit for many psychological measurements (Marsh et al., 2014). Our findings added to this evidence by juxtaposing results from a comparative examination of EFA and CFA

methodology. The Sociology-Social Control students established that the ESEM model delivered a better fit than the CFA attribution measurement model. The size of factor correlations in the CFA model were overestimated compared to the ESEM 7-factor attribution model, impacting differential validity of the Responsibility and Dangerousness factors. ESEM was found to be a useful SEM framework in validating the model, but did not include within its validation process CFA's more stringent criteria.

Based on past simulation research, model fit assessment in SEM remains a thorny issue, particularly with regard to "golden rules" for acceptance or rejection of the validity of a reproduced model within the process of hypothesis testing (Barrett, 2007; Goffin, 2007; Markland, 2007; Millsap, 2007). With this in mind, the dissertation's study followed the advice of Marsh et al. (2010: 488): "we suggest that applied researchers use an eclectic approach based on a subjective integration of a variety of different indices, detailed evaluations of the actual parameter estimates in relation to theory, a priori predictions, common sense, and a comparison of viable alternative models specifically designed to evaluate goodness of fit in relation to key issues".

5.1.2   **Attribution Theory**

Weiner's model of causal attributions (1995) integrated components of stigma involving responsibility factors and dangerousness factors. Validation of these factors has been substantiated with a number of samples, most notably in mental health research (Angermeyer et al., 2004; Corrigan et al., 2003; Corrigan and Shapiro, 2010). Compared to previous research (Cooper et al., 2003; Corrigan et al., 2002; Feldman and Crandall, 2007), our study demonstrates strong empirical support for the factor structure of an adapted attribution measurement model related to personal responsibility and dangerousness toward persons addicted to heroin.

The findings on Sociology-Social Control students extends previous attribution research (Menec and Perry, 1998; Dooley, 1995) by showing that controllability is not related to helping behavior. The results

demonstrate that the students' attributions of helping behavior toward persons addicted to heroin are mediated through the emotional responses of pity and anger. It is possible that other emotions such as annoyance or resentment may mediate the association between controllability and helping behavior (Obonsawin et al., 2013). Further research is required to evaluate the influence of these other emotional responses, and to test if there is a direct effect on helping behavior through a mediation analysis.

The Sociology-Social Control students' lack of fear may be the result of their being more well-informed about the personal threat to self and others presented by the addict, compared to the general public (Fazel et al., 2010). Misinformation or ignorance by the public is suggested as the basis of fear of addiction. With the disproportionate focus of news coverage on violence and criminality for the general public, fear is a strong and prevailing influence predicting the anticipated danger associated with addiction. Consequently, fear might be hard to overcome in anti-stigma programs. Even the United Nations' Single Convention on Narcotics Drugs describes "addiction to narcotics drugs" as a form of "evil", serving as a validation for its administration of social control, coercion and segregation (Lines, 2010: 7, 12).

5.2   **Implications for Role of Media**

Although recent improvement in press reporting of addict stereotypes is evident (Thornicroft et al., 2013), various media sources continue to fuel perceptions of dangerousness and personal threat associated with heroin users (Bertram and Stickley, 2005; Cutcliffe and Hannigan, 2001). Negative framing is also reported by service users (Barney et al., 2006; Corrigan, 1998; Lancaster et al., 2015; Schulze and Angermeyer, 2003). Importantly, it has been suggested that the lack of press or media quality is contributory toward sustaining punitive legislation and discriminatory policies (Cutcliffe and Hannigan, 2001; Mestdagh and Hansen, 2014; Stuart 2003) and repudiating social and legal entitlements (Angermeyer and Schulze, 2001a; Link and Phelan, 2001). Structural stigma and anticipated discrimination stymies the road to recovery (Quinn et al., 2015; Williams et al., 2012).

Research involving the news and popular media have portayed addicts as violent and with untreated symptomatic conditions (McGinty et al., 2015). Pejorative reporting is filled with exaggeration, distortion and inaccuracy (Coomber et al., 2000). This 'demonizes', 'marginalizes', and misrepresents addicts (Singleton, 2011). Addicts are considered a major cause of crime (Luty and Grewal, 2002). Heroin users are presented as a threat to families and the social fabric, with children viewed at risk from "the scourge of drug abuse"; moreover, heroin users are depicted "as selfish, irresponsible and immoral people who chose not to say no" (Elliott and Chapman, 2000: 200). There is no focus on recovery or treatment effectiveness in media content (Hughes et al., 2011; Lancaster et al., 2011; Sieff, 2003; Taylor, 2008).

In emphasizing the sensationalized reporting of the media in "stoking fears and amplifying dangers", Lloyd (2013: 92) emphasizes that "the root causes of such fears include the illicit status of drugs which contributes to their dangerousness…but also the fact that many illicit drugs are unfamiliar and poorly understood and render an unfamiliar form of intoxication, with all the potential loss of control and inhibition that this suggests". With the public's tacit understanding of the etiology of addiction, Jorm et al. (2012) suggest that this type of biased reporting encourages unnecessary public fear, and fear becomes part of the public's worldview of addicts, restricting their acceptance in the community, leading to mistreatment and increased risk for compromised outcomes.

Conversely, the media, as a social marketing tool, can contribute positively to educate the public about the adverse mental and physical outcomes of stigma on the well-being of persons who struggle with addictions (Ahern et al., 2007; Glass et al., 2013, 2014; Schomerus et al., 2011). McGinty et al.'s (2015) findings also suggest that portrayals of successful treatment and recovery in national stigma reduction campaigns may be a powerful anti-discrimination tool, possibly counteracting news media portrayals of persons with addiction as deviants exhibiting abnormal or frightening behavior.

5.3   <u>Implications for Healthcare Professionals</u>

The healthcare setting is a crucial environment in which persons addicted to heroin experience stigma and discrimination by healthcare professionals. There is a requirement to reduce stigma that discourages, provokes and penalizes addicts who seek and accept treatment for substance use disorders.

5.3.1   <u>Healthcare Professionals and Stigmatizing Attitudes</u>

Stigmatizing encounters continue to be a common experience for addicts in interactions with healthcare professionals (Magliano et al., 2013; Mestdagh and Hansen, 2014; Ram and Chisolm, 2015). Healthcare professionals need to be more involved in addressing drug-related stigma issues concerning clinical practice (ie., professional attitudes involving role legitimacy, deservingness of medical care), receive training in dual diagnosis treatment, and play a crucial role central to effective prevention and treatment.

There is evidence that changes in medical education curricula is required to bridge deficiencies in knowledge and clinical skills to comfortably evaluate, communicate with, and treat individuals with addictions and substance misuse (Gill and O'May, 2011; Lalaguna et al., 2014; O'Gara et al., 2005; Steed et al., 2012). Specialized training is recommended for nurses (Rassool and Rawaf, 2008), physicians (Polydorou et al., 2008), psychiatrists (Avery et al., 2013; Korszun et al., 2012; Pintard and Sciascia, 2012) and mental health professionals (Lovi and Barr, 2009).

5.3.1.1   <u>Challenges with Patients with Substance Disorders</u>

Within the healthcare system and treatment facilities, healthcare practitioners are not resistant to stigmatizing attitudes towards patients with substance disorders (Brener et al., 2010a; Von Hippel et al., 2008; Schafer et al., 2011; Wahl and Aroesty-Cohen, 2010). People who inject drugs are often stigmatized when accessing health care facilities, and encumbered with stringent administrative rules

which "produce negative or mistrusting relations between services and clients" (Lancaster et al., 2015: 229). Moralistic, pessimistic and generally negative views are evident, particularly towards illicit drug users (Brener et al., 2010; Richmond and Foster, 2003; Tipper et al., 2006; Treloar and Holt, 2006).

Nurses often struggle to provide their duty of care to patients who use illicit drugs (Adams, 2008; Ford et al., 2008, 2009; McCreaddie et al., 2008). Nurses have often reportedly attributed illicit drug use to a weak personality and a failing of character (Moodley-Kunnie, 1988; Sheehan, 1992). Non-judgemental interactions are considered important to improved patent experiences to enable substance users to overcome fears of rejection, and to contribute to the attainment of recovery from addiction (Chorlton et al., 2014; Neale et al, 2008; Price and Wibberley, 2012).

Considering a European multi-disciplinary sample of health professionals, Gilchrist et al. (2011) found that physicians (the majority of whom were GPs), amongst all professional groups, reported the lowest regard for alcohol and drug users, particularly in primary care. The treatment of addicts is regarded as unrewarding and unpleasant (Biener, 1983; Blank and Nelles, 1993; McKeown et al., 2003; Siegfried et al., 1999), with physicians displaying unwillingness to work with problem drug users (Albery et al., 2003; George and Martin, 1992; Moodley-Kunnie, 1988; Strang et al., 2004). Past research has also reported refusals to treat people with substance disorders because of poor compliance, and the need for special expertise and training (Soyka and Gorelick, 2009).

Van Boekel et al.'s (2013a: 29) systematic review of healthcare professionals attitudes toward patients with substance disorders found that general practitioners perceived patients with drug abuse problems as "manipulative, aggressive, rude, and poorly motivated". Moreover, Pelet et al. (2005: 1) reported that general practitioners are encumbered with problems related to "burnout, lack of training, a negative attitude and a lack of motivation". Reasons why general practitioners refuse care for methadone treatment patients include: non-compliant patients (biggest obstacle), a specialized center is better, time consuming, lack of specialized training, fear of being overwhelmed by drug-addicted patients, feeling of

ineffectiveness toward drug addicted patients and difficulties with accompanying psychiatric disorders. Low levels of knowledge and the lack of specialized skills and training in treating people with substance disorders is very evident, and contributes to negative attitudes (Van Boekel et al., 2013a, 2014).

Medical practitioners were found to embrace negative, stereotypic views of illicit drug users (Jacka et al., 1999; Roche, 1991, 1997; Roche et al., 2002). General practitioners are reported to struggle to find rapport with substance misusers (Greenwood, 1992). They are also revealed as less confident and less effective in dealing with illicit drug users (Jacka et al., 1999). Moreover, considering job-related stressors, patients with drug problems were regarded as difficult and un-co-operative (Abed and Neira-Munoz, 1990).

Structural stigmatization found in hospitals' emergency department perpetuates issues regarding deservedness for resources and care for illicit drug users (Paterson et al., 2013). Van Boekel et al. (2013a: 33) note that "health professionals make shorter visits, show less empathy and have diminished personal engagement when caring for these patients". Based on prevalent moralistic and negative attitudes toward substance misuse (Moos, 2005), stigma from healthcare providers promote conflict and avoidance relationships, thereby impeding addicts' recovery efforts (Digiusto and Treloar, 2007; Earnshaw et al., 2013; Kassam et al., 2012).

Findings suggest these experiences lead to internalized acceptance of stereotypes and prejudice for persons diagnosed with substance disorders (Van Olphen et al., 2009). Injecting drug users assume that they will be devalued and discriminated against (Neale et al., 2008). Self-stigma is described as a potent barrier to treatment utilization and poorer treatment outcomes for people with substance disorders that weakens opportunities for recovery (Deering et al., 2011; Neale et al., 2014a; West et al., 2011; Yanos et al., 2010).

5.3.1.2   <u>Challenges with Patients with Dual-Diagnosis</u>

In terms of anti-stigma strategies, there is a requirement for educational interventions specifically targeting GPs to improve their healthcare assessment, interactions and treatment of dual-diagnosed patients (Latkin et al., 2010; Marshall and Deane, 2004). Co-morbidity is highly prevalent in heroin addicts in inpatient and outpatient treatment settings (Chen et al., 2011; Jané-Llopis and Matytsina, 2006; Weaver et al., 2003). Co-morbidity conditions place heavy case-load demands on healthcare professionals who find that they are unprepared because of deficiencies in formal training, experience or knowledge (Adams, 2008; Gilchrist et al., 2011; Livingston et al., 2012; Wheeler et al., 2014).

Primary care physicians are reported to be often reluctant to treat people with alcohol and drug related disorders (Leech, 1997; Miller et al., 2001; Ucok et al., 2006), and have shown greater blame and disregard for HIV-infected injecting drug users (Brener et al., 2010; Chan et al., 2008; Ding et al., 2005; Von Hippel et al., 2008). Psychiatrists were found to display stigmatizing attitudes (Avery et al., 2013), and hold the most negative stereotypic outlooks regarding prognosis and recovery (Hori et al., 2011; Lauber et al., 2006; Loch et al., 2013; Nordt et al., 2006).

There is a also clear requirement for healthcare professionals to be aware of the clinical challenges of polydrug use of heroin users (Darke et al., 2015; Dietze et al., 2013; Sarkar and Chakrabarti, 2008; Solomon et al., 2008). Mackesy-Amiti et al. (2012: 70) emphasize that young injecting drug users "experience major depression, alcohol dependence, anti-social personality disorder, and borderline personality disorder at high rates, and multiple substance use disorders are common".

The status of research on healthcare professionals' perceptions of people with dual-diagnosis is limited, especially in the areas of stigmatizing beliefs and discrimination, and their effect on quality of care (Avery et al., 2013; Danda, 2012; Evans-Lacko and Thornicroft, 2010; Sartorius et al., 2010). Further

evaluation is needed to expand the inquiry of stigma toward persons with co-morbidity, with practical implications for training, treatment and recovery-oriented concerns.

5.3.2   Education of Healthcare Professionals

The importance of education in targeting attitudes of healthcare professionals is increasingly recognized to meet the increasing requirement for substance use disorder prevention and treatment (Ram and Chisolm, 2015), particularly in dealing with addicts in a non-judgemental, non-confrontational and non-punitive manner (Brener et al., 2007; McLaughlin et al., 2006; Merrill et al., 2002). Unfavorable and negative perceptions highlight the need to focus on cynicism toward addicted patients' recovery, and to demonstrate more positive attitudes toward their therapeutic success (Beldie et al., 2012; Fernando et al., 2010; Skinner et al., 2005). By improving healthcare professionals' stereotypic views and biased opinions, changes may benefit better acceptance and understanding of addicts, and help addicts to choose personally meaningful recovery outcomes (Neale et al., 2014a).

Nurses play a pivotal role in facilitating stigma reduction (Pinto-Foltz and Logsdon, 2009, 2011), and in providing better health opportunities for illicit drug users (Allman et al., 2007; Ford et al., 2008; Nkowane and Saxena, 2004). However, barriers to nurses' effective care of addicts include patient interactions labeled "as violent, manipulative and irresponsible" (Ford, 2011), resulting in lack of trust, feelings of fear and perceived risk (Peckover and Chidlaw, 2007).

Reviews of nursing curricula in the UK, USA, Australia and Brazil (Rassool and Oyefeso, 1993; Rassool, 2000; Rassool and Villar-Luis, 2004; Rassool and Rawaf, 2008) report little evidence of drug education involving substance misuse (Rassool et al., 2006). Recommended education would include clinical placements on professional practice (Rassool and Oyefeso, 2007) and in-service programs to understand "the nature to AOD issues, the correct treatment modality, the rights of these clients to receive effective care irrespective of their condition and the need to advocate for their physical and mental well-being"

(Lovi and Barr, 2009: 174). Moreover, it is suggested that specialized training may enhance nurses' knowledge, clinical skills and confidence, and lead to more tolerance, dignity and respect toward patients with co-occurring mental health problems and substance misuse (Howard and Holmshaw, 2010).

Specific education and training may improve healthcare professionals' awareness of their stigmatizing attitudes and relational setting of their patients, thereby increasing addicts' treatment compliance (Lavack, 2007; Room, 2005; Simmonds and Coomber, 2009), in overcoming their addiction (Franken, 2003) and in addressing a chronic relapsing disease (Goldstein and Volkow, 2002; Volkow and Li, 2004). Interventions addressing stigmatizing interactions can produce more effective therapy engagements and retention of substance abusers in treatment (Ford et al., 2007; Hayes et al., 2004; Luoma et al., 2013).

Anti-stigma initiatives should pay more attention to close contact-based mediation during their training, as the current medical model has not been successful in improving perceptions toward the mentally-ill (Friedrich et al., 2013; Schomerus et al., 2013a; Yap et al., 2013). With addicts facing troubles at an interpersonal level, Livingston et al. (2012: 47) conclude: "programs focused on educating medical students about substance abuse problems and exposing them to people with substance use disorders are likely to decrease their stigmatizing attitudes and increase comfort levels with this population". The supportive evidence is well-documented as contact and education are effective strategies to challenge underlying beliefs, prejudice and discrimination (Dalky, 2012; Nemec and Swarbrick, 2015; Schachter et al., 2008; Thornicroft et al., 2008).

Because addicts do experience stigma and discrimination in healthcare settings, future research needs to investigate healthcare providers' negative attitudes and effects involving social distance and helping behavior toward persons with addictions (Van Boekel et al., 2013a). Accompanying the pre-clinical addictions training curricula (Ram and Chisolm, 2015; Rasyidi et al., 2012), and clinician attitudes and behavior education (Gabbidon et al., 2013), the attribution model findings may be extended into the culture of care strategy toward addicts in medical and nursing students (Romem et al., 2008; Kassam et

al., 2010) toward more supportive and non-judgemental attitudes (Brener et al., 2010; Palamar, 2012; Yang et al., 2008). For rejecting and distancing attitudes of medical students (Arkar and Eker, 1997; Mino et al., 2001; Mukherjee et al., 2002), removing misunderstandings regarding dangerousness, together with contact-based interactions with individuals with lived experience of addiction, are also recommended interventions to diminish anxiety and fear toward addicts (Fernando et al., 2010; Sadow and Ryder, 2008; Ungar et al., 2015; Yamaguchi et al., 2011).

Future research can also extend the dissertation's findings by investigating how students in the nursing and medical professions perceive the personal consequences of stigma on the well-being of persons addicted to heroin. Through education, these students should be made aware of criminal stigma and its negative consequences as a strategy to reduce highly "moralized" views of drug misuse and to foster empathic attitudes in future healthcare providers (De Olivera et al., 2013).

5.4   <u>Limitations in Study</u>

Although the ESEM goodness-of-fit results for the attribution measurement model for persons addicted to heroin were quite robust and with good internal consistency and adequate reliability for persons addicted to heroin, there are several limitations in the dissertation that should be noted.

The relatively restricted sample of Sociology-Social Control students with reliance on a self-report measure at a single university limits generalization of findings to other student groups (Jorm et al., 1999; Pittman et al., 2010), and may have contributed toward decreased variability in attributions. Third-year university students from a Sociology-Social Control course are not demographically representative of the adult population as a whole. More than three-quarters of the students are single and living at home. The samples consisted of over 75% females and approximately 85% Whites. Future research needs to examine the responsibility and dangerousness factors across a more even distribution of gender and wider ethnicity characteristics of the student population.

In comparison to the pilot-test student characteristics, the Stage 3 and 4 Sociology-Social Control students are reflective of the demographic distribution of students, enrolled in Sociology courses at two large universities in Toronto, Ontario, Canada. The use of the 7-factor attribution measurement model results is limited to students comprising similar characteristics. Future studies would provide new psychometric evidence based on different student profiles in other university departments to validate the factor structure of the attribution measurement model toward persons addicted to heroin.

Social desirability and respondent bias testing was not controlled (Crowne and Marlowe, 1960) in the current analyses as there was more than two-month interval separation between validation and replication sampling (January 24th versus March 27th, 2012). There is some vulnerability for social desirability bias when respondents are requested to evaluate attributions toward a stigmatized group like persons addicted to heroin.

Since heroin addiction is a sensitive issue, the concern is that the Sociology-Social Control students may be influenced by the items in the questionnaire in a socially desirable manner. In the complete reliance on a voluntary, self-report, the on-line sampling may have provided more anonymity for the respondents (Rhodes et al., 2003), and reduced acquiescence bias (Henderson et al., 2012).

The Stage 4 Sociology-Social Control ESEM replication student sample was modest in size (Watson, 2004), but power calculations confirmed adequate sample size to assess the attribution model and other more complex models. Mplus uses all available data during estimation, including partial data on all item indicators for all factors and measures. The in-class participation was reduced because of the students' lower attendance on the day of the survey administration.

Due to the two differing sample sizes between the validation (n=201) and replication (n=177) samples, it is important to focus on the strength of correlations among the attribution measurement model factors to avoid misleading conclusions based on significant correlational p-values (Barbosa-Leiker et al., 2015). Centering on the Responsibility factors, the highest correlation in Stage 4 was a significant positive correlation between Personal Responsibility and Pity factors (0.551, p<.001) and in Stage 3, the highest correlation was a significant positive correlation between Personal Responsibility and Pity factors (0.783, p<.001). Focusing on the Dangerousness factors, the highest correlation in Stage 4 was an inverse significant relationship between Dangerousness and Avoidance factors (-0.320, p<.001), and in Stage 3 the highest correlation was a positive significant correlation between Dangerousness and Avoidance factors (0.522, p<.001). Therefore, the largest correlations among the attribution measurement model factors in Stage 4 were fairly moderate compared to those found in Stage 3.

This inspection provides valuable information on the Sociology-Social Control student differences across validation (Stage 3) and replication (Stage 4) samples to exhibit the mixed results found in the Dangerousness factors compared to the robustness of the Responsibility factors. This finding is dissimilar to past mental illness research which indicated significant direct positive correlations between dangerousness-fear-avoidance. Despite the study's close-fitting 7-factor attribution measurement model in both Stage 3 and Stage 4, additional analyses using data from different student populations is required to endorse findings regarding factorial structure, and before conclusions can be drawn on the ability of the attribution measurement model to equivalently measure Dangerousness factors across validation and replication samples.

Due to the correlational nature of the statistical analysis, causality cannot be inferred regarding the attribution measurement model's Responsibility and Dangerousness factors and their effect on other measures. Indirect mediation analysis, using non-experimental data, provides suggestive rather than definitive evidence (Shrout and Bolger, 2002). For causal inferences, the experimental manipulation of a control group is recommended for a test of the attribution model.

The students were asked to respond to a person addicted to heroin "in general". It may prove helpful in future studies to describe a person addicted to heroin in a vignette (Hengartner et al., 2013; Pescosolido et al., 2010; Silton et al., 2011). The wording of the vignette description would follow to DSM-5 criteria (American Medical Association, 2012). It has been suggested that vignettes present a more elaborate and more flexible stimulus to evaluate conceptions about target groups and the corresponding stigma process (Yang et al., 2008).

Many of the measures in the questionnaire were adapted from the mental illness stigma literature, and the Personal Consequences of Criminal Stigma measure was newly created by the author and untested. This may have weakened measurement item indicators and reduced optimal convergence with our attribution measurement model (Luoma et al., 2013). However, Cronbach's alphas for the various measures were all above 0.70, providing evidence of adequate internal consistency.

Moreover, it would be prudent to validate the ESEM empirical results by exploring different rotational procedures, including other fit indices, and following up on multiple time-points (Cudeck and Henly, 1991; Tomarken and Waller, 2003, 2005). Replication of the 7-factor attribution model with different model estimation contexts would further extend the validity of the theoretical model of stigma.

Despite these limitations, the study presented here supports the validity of an adapted attribution measurement model for persons addicted to heroin across the Sociology-Social Control students. The results supported the hypothesis that the 7-factor attribution model would fit the Sociology-Social Control students' data.

Exploratory Structural Equation Modeling for the Sociology-Social Control students' datasets showed an excellent model fit to the data for the attribution measurement model. Fit values were consistently associated with RMSEA/SRMR$\leq$0.05 and CFI/TLI$\geq$0.95, with adequate power to support the null

hypothesis. Students who reported more familiarity endorsed less attributions of dangerousness and responsibility. Familiarity diminished stigma more than the SOC313 Course.

The findings highlight marked differences between the Sociology-Social Control students and the general population's perceptions of heroin addicts. The Sociology-Social Control students demonstrated less stigmatizing attributions: they are not afraid of persons addicted to heroin, nor do they hold them responsible for their condition. The evidence suggests that the public's perception of dangerousness of addicts surpasses the supporting evidence (Jorm et al., 2005a, 2012; Monahan et al., 1992; Swanson et al., 1990).

To conclude, the study provides newly validated measures with adequate reliability to allow investigators to assess other students' level of addiction stigma. It is anticipated that the dissertation's study will lead to further comparative psychometric testing with healthcare students that are directly involved with the care and treatment of persons addicted to heroin to provide a better understanding of the factorial structure of the attribution measurement model. Longitudinal data is also needed to examine our model and how levels of perceptions change over time.

UNIVERSITY OF STIRLING

APPENDICES

for

Investigating a Structural Model of Addiction Stigma related to Student Perceptions towards Persons Addicted to Heroin

Sunday, October 18, 2015

APPENDIX A: <u>Labeling Theory, Criminal Stigma and Persons Addicted to Heroin</u>

Stigma and its main components- stereotypes, prejudice and discrimination- adversely affects heroin addicts. Stigma causes addicts to be marked with negative attributes, labeled as different and excluded from social interaction. Within this socially constructed framework, stigma's consequences include "status loss and discrimination that lead to unequal outcomes" (Link and Phelan, 2001: 367).

In *Stigma: Notes on the Management of Spoiled Identity* (Goffman, 1963: 3), Goffman describes how stigma occurs when an individual has an attribute that marks him/her dissimilar from other people "and of a less desirable kind – in the extreme, a person who is quite thoroughly bad, or dangerous, or weak. He is thus reduced in our minds from a whole and usual person to a tainted, discounted one'. Goffman (1963) evoked stereotypes as inferences to explain what causes a condition and propagates critical attributes to predict deviant behavior in the public's mind. However, the validity of stereotypic assessments may be limited in nature. Bates and Stickley (2013: 570) explain: "according to Goffman, the roots of stigma lie in the perceived discrepancy between a person's virtual and actual social identities". Individuals who are considered as endowed with controllable behaviors or disorders that are unfamiliar or with an indiscriminate addiction etiology are more likely to be attributed stigmatization. For example, media representations castigate addicts as violent and dangerousness through framing messages with their malevolent depictions (Dubugras et al., 2011; Slopen et al., 2007).

Despite improvements in education around neuroscience and advances in treatment, public opinion on mental illness, including substance abuse as "a disease like any other", has not undergone positive change in more than two decades (Phelan et al., 2000; Phelan, 2005; Pescosolido, 2013; Pescosolido et al. 2010). With the public's endorsement of genetic attributions, the growing emphasis is that stereotypes of dangerousness and incompetence may have become stronger (Link and Phelan, 2010), resulting in

increased prejudice and discriminatory behavior (Angermeyer and Matschinger, 2005a; Schomerus et al., 2012). These attributions currently promote views of unhealthy genes or neurochemical dysfunction.

Stigma found its roots in the symbolic interactionist perspective, which infers a separation of "us" from "them". Rusch et al. (2005: 530) explains: "this separation easily leads to the belief that 'they' are fundamentally different from 'us' and that 'they' even *are* the thing they are labelled". Based on assigned meanings ie. "definitions of the situation" (Markowitz, 2014), negative labeling shows them to be cast as different sort of people (Link and Phelan, 2001). With personal harm on their well-being evident, Bates and Stickley (2013: 570) remark: "those who are part of a stigmatized group are treated by society in such a way that their life chances and prospects of realizing their own potential are significantly reduced".

Moreover, within labeling theory, there is considerable focus on the assertion that societal reactions lead to the maintenance and reinforcement of deviant behavior (Gove, 1975, 1975a; Palamara et al., 1986). An "engulfing role" (Schur, 1971) or a "master status" (Becker, 1963) is attributed via processing of institutional social control for deviance. This "reflected appraisals" process (Markowitz, 2014) is heightened with the application of criminal sanctions (Plummer, 2011) for residual rule-breaking (Scheff, 1974). Blemished individuals attain a highly stigmatized master status or new role identity following hospitalization or voluntary, outpatient basis or imprisonment, with profound alterations on self-conceptions and social opportunities. According to Scheff (1966) and Goffman (1961), stigma is regarded as a "key causal factor in the production of careers of stabilized secondary deviance" (Gove, 2004: 365).

There is a continuing body of literature associating labeling with rejection, fear and punitive reaction for the stigmatized group (Crisp et al., 2000; Link et al., 1999; Link and Cullen, 1990; Phelan et al., 2000). It is evident that the application of the label of being "mentally ill" becomes personally relevant to the public's perceptions of dangerousness and social rejection (Pescosolido and Martin, 2007). This label is linked to violence and danger (Monahan, 1992; Pescosolido et al., 1999) and shapes stigma (Pescosolido and Martin, 2007). Using stigmatizing assumptions, the mentally-ill are to be feared, and excluded from society. Discrimination leads to impairment in employment prospects (Brohan et al., 2012; Kessler et al.,

1987; Link, 1982; Pearlin et al., 1981), in self-esteem (Penn and Martin, 1998), in life-span (Farnham et al., 1999) and in housing (Page, 1983), and disrupts interpersonal processes and social support (Link et al., 1989; Turner, 1981; Sibicky and Dividio, 1986). Stigma imposes adverse impact on intensive care (Schlosberg, 1993) and on recovery processes (Markowitz, 1998).

For addicts, labeling theory discussions also include coercion interventions or drug courts (McBride et al., 2003), involving mandated visits to clinics or hospitalization. These decisions are largely predicated on the likelihood of harm to other people and anticipated reduction in recidivism than from standard court processing (Spohn et al., 2001). Where increased expectation of violence is concerned, the public is unequivocal in its extremely negative attitudes and on its coercion endorsement for drug addiction than for mental illness disorders, such as schizophrenia (Pescosolido et al., 1999). With the widespread public fear for substance abusers, there is evidence that negative labeling unduly impacts the lives of these troubled individuals, lessening their quality of life and reinforcing a deviant self-image, sub-cultural existence and alienation from society (Link et al., 1989; Palamara et al., 1986; Scheff, 1966). The personal consequences of spoiled identity (Goffman, 1963) are substantial with stigmatized individuals avoiding care, and concealing their tabooed status (Keusch et al., 2006) and perpetuating the misperception that their condition cannot be treated (Jamieson, 2006).

A.1 <u>Labeling Theory of Deviance</u>

With the perspective's prominence in the 1960s and 1970's, it is evident that labeling theory is a controversial area that has undergone vigorous critical analysis by numerous reviewers in its early interactionist perspective (Goode, 1975; Hagan, 1973; Hirschi, 1975; Tittle and Logan, 1973). Its revitalization ensued in the late 1980s and early 1990s within mental illness (Gove, 2004; Link, 1987; Link et al., 2004; Scheff, 1966) and delinquency work (Anderson and Schoen, 1985; Bartusch and Matsueda, 1996; Bernburg and Krohn, 2003; Triplett, 1993).

The early literature review of labeling theory by Gibbs (1966), Hagan (1973a), Hirschi (1973) and Mankoff (1971) stressed that labeling theory is limited in scope- often simplistic, vague, ambiguous and porous in its empirical explorations. Williams (1976: 6) reinforces: "in reality, the labeling perspective is a particular application of the basic sociological perspective, which does not qualify as a new theory".

With regard to its methodological considerations, Ward (1971) asserted that research into labeling is descriptive and tends to draw on subjective criteria for viewing the impact of institutions on deviants. Lemert (1974: 459) agrees: "labeling unfortunately conveys an impression that is both sociologistic and unilateral". The theory tends to scrutinize from the point of view of the enforcer or observer, and does not center on the deviant and his/her self-definitions of being incarcerated by the police or prosecuted by the courts, or on studying the effects of being subjected to societal pervasive negative labeling. There are virtually no early empirical studies that deal with the stigma of criminalized deviants and recommendations to reduce the stigma. With respect to labeling theory and criminology, Plummer (2011: 84) notes: "it has traditionally given insufficient attention to the panoply of social control responses to deviance- from the law and the police to media and public relations".

During the 1960s and 1970s, there were other critics of labeling theory (Broadhead, 1974; Gibbs, 1970; Gove, 1970; Wellford, 1975) pointing to its inadequate empirical testable propositions, and particularly critical of works by major labeling theorists: Becker (1963), Erikson (1962) and Kitsuse (1962). Gibbs comments on the formulation of a conception, but not substantive theory, to explain reactions to deviant behavior:

> *The lack of concern with etiological factors suggests that Becker, Erikson, and Kitsuse actually are seeking a theory not about deviant behavior per se but rather about reactions to deviant behavior (ie., why does the quality of reaction vary from place to place and time to time?). In any event, the three persons closely associated with the perspective have not explicitly stated that they are seeking such a theory.*

(Gibbs, 1966: 12).

Critics on labeling theory as applied to mental illness were led by Gove (1975) and Chauncey (1975), with rebuttals from Scheff (1974, 1975, 1979) and Rushing (1971, 1978). Weinstein (1983: 79) notes: "the major points of contention between the critics (Gove, Chauncey) and proponents (Scheff, Rushing) were empirical findings from studies dealing with outcomes of psychiatric examinations and court proceedings, patients commitment status and social characteristics, relatives' definition of disturbed behavior and rejection of patients, public perceptions of mental illness, and the causes of rehospitalization". The criticism largely revolved around the lack of studies addressing the attitudes of the mentally ill and the impact of stigmatization on their personal well-being. Weinstein explains:

> *There is nothing in labeling theory that considers the possibility that labeled deviants may deny the wrongfulness of their social and personal situation or the appropriateness of community evaluations of them. Mental patients are not affected by the labeling process as much as the theory presupposes. Societal reactions to disturbed behavior and mental hospitalization are acutely understood, but not internalized by patients.*

<div align="right">(Weinstein, 1983: 81).</div>

Labeling theory's focus on societal reactions was also critically reinforced by Akers (1968) and Schervish (1973), with recommendations that more emphasis be placed on the personal consequences of labeling.

Despite labeling theory's fall from its previous standing, it is alive today and new research can be found, particularly in the field of alcohol use disorder (Glass et al., 2013), in mental health, involving the rejection of persons with mental illness (Link et al., 1987, 1989, 2001, 2002) and in demonstrating perceived stigma as a barrier to addict's treatment involvement (Corrigan and Watson, 2002; Luoma et al., 2007; Semple et al., 2005). Labeling theory can also be found in many studies involving criminal justice and stigma, moral panic and drugs, stereotyping, discrimination, deviance and exclusion, construction of social problems and media creation of crime (Plummer, 2011).

A.1.1   <u>Secondary Deviations</u>

The major criticism of the works of Lemert (1972), Erikson (1962), Kitsuse (1962) and Becker (1963) was the lack of empirical substantiation for social reactions in determining "secondary deviations" (Cohen, 1965; Goode, 1975; Lorber, 1965).

With the attachment of negative labels to deviants (ie., negative images or stereotyped traits), a primary tenet of the societal reaction to deviance literature is the focus on societal reaction in determining "secondary deviations" for the behavior of devalued groups like persons addicted to heroin (Lindesmith, 1965). Lemert reinforces:

> *Secondary deviation concerns processes which create, maintain and intensify stigma; it presumes that stigma may be unsuccessfully contained and lead to a repetition of deviance similar or related to that which originally initiated stigmatization.*
>
> *Secondary deviations refers to a special class of socially defined responses which people make to problems created by the societal reaction to their deviance. These problems are essentially moral problems that revolve around stigmatization, punishments, segregation, and social control…The secondary deviant, as opposed to his actions, is a person whose life and identity are organized around the facts of deviance.*
>
> <div align="right">(Lemert, 1972: 63).</div>

Once labeled, societal reaction persuades addicts to accept the "inherently deviant" nature of their behavior:

> *The drug identity becomes a master status and the user is assigned a number of negative traits. Past and present use is taken to be indicative of underlying personality problems- usually expressed as weakness of will, loss of control- which has always been and will always be part of self. Users are also categorized as innately criminal and amoral in light of their tendency to support their habits with illegal activities.*
>
> <div align="right">(Covington, 1987: 317-318).</div>

Informal labeling, through stereotyping, retrospective interpretation and role engulfment (Schur, 1971), are also important components of negative labeling to impact the personal well-being of deviants. Maddan and Marshall explain:

Stereotypes help individuals in complex interactions to classify the expectations of others' behaviors and the actual behavior of others. Second, stereotyping frequently involves the potential for individual reactions based on inaccurate assessments. Just because a stereotype (ie., a label) is applied incorrectly, that does not mean that it affects the stereotyped individual any less.

(Maddan and Marshall, 2009: 255).

Retrospective interpretation involve the "mechanisms by which reactors come to view deviators in a new light", such as criminal trial processing (Schur, 1971: 52). The internalization of the negative label that other people have of them leads to personal agreement with the label and acting in the same way as suggested by the stereotype (Corrigan et al., 2006a). Maddan and explain further:

Role engulfment, or the process by which an individual takes a label and fully internalizes it, thus becoming the individual the label implies. This concept includes accepting the deviant identity or disavowing the deviant identity, or the joining of a deviant subculture by the labeled individual.

Maddan and Marshall (2009: 256).

Even accepting the role of "addict" in treatment, heroin addicts are mindful of the greater stigma associated with treatment and loss of control over their drug-using status (Radcliffe and Stevens, 2008: 89). Profound personal negative stigmatized effects include depressed self-concept and lowered overall personal well-being (Corrigan et al., 2006a).

On a level of analysis, Schur (1971: 11) points out that the basic response processes can be divided into "collective rule-making, interpersonal reactions and organizational processing" in that the intended acts of the deviant are defined, evaluated and given moral meaning, and at which segregation and punishment are legitimated by reactors. Lindesmith reiterates (1965) that the effects of a punitive drug policy is to recruit

addicts into sub-cultural groups so that the primary purpose of involvement is for drug availability and consumption. Arrest and formal sanctions further exacerbates addicts' ability to participate in normal social routines and to engage toward conventional aims during incarceration. Moreover, imprisonment provides opportunity to create bonds with other offenders and miscreant others. Accordingly, it is through this process that identities, lifestyles and "moral careers" are formed, and individuals are given ascribed status and related characteristics.

In the "discrediting events" of condemned and stigmatized behavior (Goffman, 1961; Liazos, 1972), discrimination, rejection and isolation, leads to "irrevocable" loss of roles, leading to identification with a deviant self-image, sub-cultural existence and alienation from society (Becker, 1963; Kitsuse, 1962; Scheff, 1966; Schrag, 1971). Erikson explains the influence of negative, segregating processes:

> *Deviance is not a property inherent in certain forms of behavior; it is a property conferred upon these forms by the audiences which directly or indirectly witness them.*

(Erikson, 1962: 308).

Earlier studies on narcotic drug addicts support these findings (Skolnick and Dombrink, 1978; Schur, 1965). Individuals, through criminal sanctions, move from primary deviance to "secondary" deviance (Van Olphen et al., 2009; Bernburg et al., 2006; Paternoster and Iovanni, 1989). Referencing Kitsuse and Cicourel (1963), Lemert (1972: 64) reinforces: "organizational forces of social control through which public and private agencies actively define and classify people, impose punishments, restrict or open access to rewards and satisfactions, set limits to social interaction, and induct deviants into special, segregated environments". In proselytizing how societal labeling impacts deviants, Becker (1963: 37) remarks: "a final step in the career of a deviant is movement into an organized deviant group".

A.1.2   <u>**Myths and Persons Addicted to Heroin**</u>

Reoffenders such as persons addicted to heroin became defined and stigmatized through criminal trial processing. Maddan and Marshall (2009: 256) explain: "negotiation and bargaining are important concepts in that they are the methods by which moral entrepreneurs and rulemakers assert labels; examples include the pleabargaining process in criminal trials and lobbyists who influence legislators". Most interactions with police are coercive and adversarial (Lloyd, 2013). For addicts, moral crusades around criminal potential lead to heightened addiction problem awareness, promulgated by the stigmatized identity of the junkie (Radcliffe and Stevens, 2008).

With respect to the early literature, criminal stigmatization was especially prominent in the construction of the heroin addict's role and identity, and the evaluation of behavior as being morally degenerate. For the heroin addict, the subordination to any "normal" role or potential for a "normal" typification was irrevocably undermined by a "dope-fiend" mythology (Lindesmith, 1940a), linking addiction to psychopathological states of existence. Reasons (1976: 136-137) stressed that the "dope-fiend" mythology comprised the following myths:

1.   ***The drug addict is a violent criminal.*** Lindesmith (1940: 199) notes, "drug addicts are often regarded as the most dangerous and heinous criminals and are linked up with killing and rape".

2.   ***The drug addict is a moral degenerate.*** "The belief that a drug addict automatically becomes a moral degenerate, liar, thief, etc., because of the direct influence of the drugs is simply nonsense quite on a par with a belief in witchcraft…" (Lindesmith, 1940: 202).

3.   ***The drug peddler wants to convert nonusers into addicts.*** "The peddler of drugs, contrary to widespread belief, does not ordinarily attempt to induce nonusers to try the drug" (Lindesmith, 1940: 205).

4.   ***The drug addict wants to convert nonusers into addicts.*** *"*Another current myth is that all addicts, in accordance with the proverb that misery loves company, have a positive mania for making new addicts" (Lindesmith, 1940: 206).

5.   ***The drug addict takes drugs because of inferior and abnormal personality.*** "The central idea is that prior to becoming addicts, people are distinguished from the general population by having more than their share of traits which may be taken as evidence of abnormality, weakness, psychopathology, etc."

(Lindesmith 1940a: 914).

In reviewing the number of myths and non-myths appearing in articles on drug habits, Reasons (1976: 138) earlier found that "the Federal Bureau of Narcotics dominated in the persistent perpetuation of the myths". From a household sample taken in Baltimore in 1972, Rossi et al. (1974) established that selling heroin was considered third most heinous crime next to the "planned killing of a policeman" or the "planned killing of a person for a fee", and using heroin was a more serious act than "'beating up a child" or "assault with a gun on an acquaintance". Moreover, Glaser (1971) notes that perceptions of criminality have become predicated on "crazed" states associated with illicit drug use. Despite attempts of constructing views of "ill us", the negative ideology of heroin use continues as "a choice requiring punishment rather than help", and reinforces opinions of drug use "as a problem of individual morality" (Elliott and Chapman, 2000: 191). Little has changed with negative perceptions and counter-therapeutic beliefs about illegal drug use and addiction during the past two decades (Barry et al., 2014; Lalaguna et al., 2014; Lloyd, 2013; Van Boekel et al., 2013).

Considering the negative outcomes of societal reaction, it is noteworthy that the criminal image of the heroin addict posits a dilemma of normative expectation. Schur (1971: 41) states: "on one hand, it reflects the needs of participants in complex interactions to order their expectations so that they can predict the actions of others, at least to an extent sufficient for coherent organization of their own behavior. On the other hand, when we think of the selective perception frequently involved in this process, we recognize the potential for reactions based on inaccurate assessments is substantial". This is especially true in the

heroin addict's case in that the etiology of addiction and its recidivism is not included in public perceptions of deviant behavior. Being spatially and temporally contiguous (Campbell, 1967), the negative aura of criminal stigma is linked and causally related to the repeated incarcerations for previous narcotic offenses and coalesce around the public's conception of the junkie (Lloyd, 2013).

A.2 Crime-Responsibility Framework of Labeling Theory

Society's reaction to crime is important to the perpetuation and intensification of criminal careers (Wellford, 1975). The crime-responsibility-framework of labeling theory supports the notion that society needs to be protected and retribution needs to be accorded the deviant (Ericson, 1975; Packer, 1969).

A.2.1 Criminalization and Criminal Stigma

With regard to labeling theory's major premise, Paternoster and Iovanni (1989: 361) intimate that "the experience of being labeled is instrumental in the creation of both a more deviant character and a more deviant lifestyle- the symbolic interactionist tradition". Based on the establishment and execution of rules, deviance is marked by two criteria: "that of rule violation and that of imputation (by self or others) of stigma and devaluation" (Plummer, 1979: 97). Social control determination may incur counter-productive consequences, with social control interventions and application of a criminal label, causing "secondary deviations" and more deviant involvement (Lemert, 1967).

Through successful "status degradation" ceremonies (Garfinkel, 1956), criminal sanctions officially recasts the threatening individual as a criminal deviant with "tainted and discounted" status, with the potential for further anti-social or criminal behavior (Becker, 1963; Goffman, 1963; Lemert, 1967). Erikson and Becker reinforce this interactive conception of deviants by the official agents of society:

From a sociological viewpoint, deviance can be defined as conduct which is generally thought to require the attention of the social control agencies- that is conduct about which 'something should be done'.

(Erikson, 1962: 308).

Social groups create deviance by making rules whose infractions constitute deviance, and by applying those rules to particular people and labeling them as outsiders. From this point of view, deviance is not a quality of the act a person commits, but rather a consequence of the application by others of rules and sanctions to an 'offender'. The deviant is one to whom that label has successfully been applied; deviant behavior is behavior that people so label.

(Becker, 1963: 9).

The nature of detection, surveillance, arrest, incarceration and sentencing of heroin addicts is a process that negatively affects not only the heroin addict, but also how the public perceives the addict in terms of a retrospective interpretation. Garfinkel (1956: 421-422) explains: "the work of the denunciation effects the recasting of the objective character of the perceived other: The other person becomes in the eyes of his condemners literally a different and *new* person...the former identity stands as accidental; the new identity is the 'basic reality'. What he is now is what, 'after all', he was all along".

Tannenbaum provided the following interpretation of the tagging of offenders and alteration of personal identity by rule makers and moral entrepreneurs in the criminal justice system:

[The entire] process of making the criminal is a process of tagging, defining, identifying, segregating, describing, emphasizing, making conscious and self-conscious; it becomes a way of stimulating, suggesting, emphasizing, and evoking the very traits that are complained of.

(Tannenbaum, 1938a: 214).

Reed and Reed (1973: 464-465) found a hypothetical criminal elicited two distinct sets of traits in the public: "on the one hand, the criminal is psychologically maladjusted (frustrated, emotionally disturbed… He is evil, mean, and dangerous. This dual label seems to make the criminal image one part pathological

and one part religious morality". Schwartz and Skolnick (1964: 107) emphasize that "a record of conviction produces a durable if not permanent loss of status".

Negative extra-legal attributions by social control agencies hinder the deviant's ability to gain access to normal undertakings and prospects, and "may result in an alteration of personal identity, an exclusion from the normal routines of everyday life, and a greater involvement in delinquent acts" (Paternoster and Iovanni, 1989: 363). Coincident with the latter requisites for secondary deviations, support from deviant or criminal others increases the possibility of further rule-breaking behavior.

A.2.2 **Labeling Theory and Criminalization Effects**

Labeling theory as it referred to criminalization was considered a fragmented theoretical model (Maddan and Marshall, 2009). Early studies involving labeling theory by Kitsuse (1962), Rooney and Gibbons (1966) and Simmons (1965) exemplify a lack of evidence for the effects of labeling on the offender. The theory was regarded as overly simplistic with regard to labeling and self-concept effects (Wellford, 1975). Other criticisms involved: inadequate research on the extent of rule-breaking (Akers, 1968); little validation of the theoretical relationship between labeling and recidivism (Tittle, 1975); and scant application of typologies to behavior (Schrag, 1961). Moreover, the labeling perspective did not pay enough empirical attention to intensification of secondary deviations following labeling (Hagan, 1973); and, what kinds of sanctions create career deviance (Gibbs, 1966).

Moreover, with regard to its methodological deficiencies, Ward (1971) states that research work into labeling is descriptive and tends to draw on subjective criteria for viewing the impact of institutions on deviants. With regard to understanding the dynamics of career deviance, Mankoff (1971: 213) noted: "it is important to determine the sources and salience of self-labeling in the development of career deviance". Mankoff (1971: 213) expounded further: "labeling theorists have not clearly specified what sort of reaction on the part of the community members- formal, informal, or both- is necessary and/or sufficient

to produce career deviation". Mankoff reiterates this lack of viable research, particularly for "secondary deviations" in criminalized deviants:

One must point out that to date there has not been a systematic examination of one of labeling perspective's profound derivative "theories"; that is, rule breakers become entrenched in deviant roles because they are labeled "deviant" by others and are consequently excluded from resuming normal roles in the community (Lemert, 1951: 75-79, Becker, 1963: 31-36; Scheff, 1966). Much of the documentation of the discriminatory use of labeling is based on the belief that labeling is the primary determinant of career deviance.

(Mankoff, 1971: 204).

Early research on labeling was more concerned about examining ascriptive rule-breaking than criminology's focus on achieved rule-breaking (Maddan and Marshall, 2009). In terms of this one-way level of interaction, labeling theory tends to scrutinize from the point of view of the enforcer or labeler, and did not bring attention on the deviant and effects of self-stigma, by being institutionally incarcerated or deliberated by the courts.

A.2.3   Recidivism and Drug Control Policy

Early studies by Ray (1964), Roebuck (1964) and Schur (1965) contributed evidence to substantiate that there is a significant recidivism in the behavioral tendencies of persons addicted to heroin. Regarding recidivism, Rose (1969: 39) questioned the use of criminal sanctions for narcotic offenses: "criminal sanctions seem to be more effective in controlling problems in which no compulsive behavior is involved, and with persons who are especially ashamed to be recipients of criminal sanctions". Coincidentally, Blum reported (1973: 516): "criminal sanction…does not work to deter widespread use of illicit substances or the occurrence of drug dependence". The ineffectiveness of criminal sanctions for deterring narcotics addiction was supported by others (Deschin, 1973; Lindesmith, 1973; Packer, 1969).

With approximately 25,000 registered physicians being convicted for prescribing narcotics between 1918 and 1925 (Reasons, 1975: 20), the criminal definition of addiction was entrenched in the United States through the deletion of the medical exception from the Harrison Act of 1914. The moral crusade against marihuana use involved with the 1937 Marijuana Tax Act (Dickson, 1968) added convictions, and this new peril increased activity for Bureau of Narcotics agents. In spite of the call for change for "get tough" legislation proscribed through the Boggs Amendment of 1951 and 1956 Narcotics Control Act, Reasons (1975: 19) stressed that "the cornerstone for our approach to drugs remains what it was forty-five years ago: the addict is defined in law as a criminal, is dealt with officially as a criminal, and is widely regarded as a criminal". The criminal approach stayed the prevailing method in adjudicating the drug problem in North America through the 1960s, with concern for college-age students' drug abuse and drug enforcement practices dominating over growing public attention to treating drug addiction as an illness or a disease.

Over two decades past the mid-1970s, public support in the United States for competing strategies for drug control policy has not changed. Using largely "punitive" and "ineffective" means to wage the drug war, Timberlake et al. (2003: 74) emphasizes: "74% of respondents to a February 2001 survey … believed that 'we are losing the drug war' and that 'demand is so high we will never stop drug use'. Respondents rated interdiction (48%) and arresting drug dealers (19%) as the 'most effective' drug control policies, followed by drug education (15%), treatment (10%), and arresting drug users (4%)".

Law enforcement has been accepted by the public as the preferred method to reduce the amount of drug use (Timberlake et al., 2003). This policy continues, despite labeling theorists assertion that "sanctions increase the probability of recidivism by activating a process of self-reappraisal leading to a deviant identity" (Ward and Tittle, 1993: 43-44). The early understanding by the public of heroin addiction was shaped by mythology of the addict's violent criminality and moral degeneracy. The "dope-fiend mythology" surrounding the heroin addict was a conspicuous example of "pathological" explanation. Lindesmith (1940: 208) noted: "the 'dope-fiend' mythology serves, in short, as a rationalization of the

status quo. It is a body of superstition, half-truths and misinformation which bolsters up an indefensible repressive law, the victims of which are in no position to protest".

The labeling of addicts as serious criminals was propagated by media linkages to official agencies of social control. Accordingly, criminal stigmatization of addicts served as a mechanism of social control by reinforcing a moral consensus. Coser (1962: 174) reiterates: "it is with the body social as it is with individuals: a moral indignation against deviants serves to purge the righteous from a sense of their own sins and unworthiness and helps sustain their moral identity". The moral sentiment involved in public indignation towards heroin use was resolved in assigning blame for their condition, and the public's acceptance of criminal process. It included the pronouncement of guilt, the sentencing through approval of the choice of sanction, the incarceration in a criminal setting and the subsequent affixing of criminal stigma upon release from incarceration.

Stereotypic images of criminality may lead to "negative reactions by others that are driven by fear, mistrust, self-righteousness, and so on, as well as people's fear of being associated with stigma" (Bernburg, 2009: 191). With criminal stigma leading to lost opportunities, Link et al. (1989: 403) underline: "withdrawal may lead to constricted social networks and fewer attempts at seeking more satisfying, higher paying jobs". Other negative impacts include low self-worth (Kaplan and Johnson, 1991) and avoidance with social encounters (Bernburg et al., 2006; Winnick and Bodkin, 2008).

Inasmuch as criminalization serves to punish and deter the heroin addict, there are profound and exclusionary effects on the addict's well-being, posing a significant barrier to recovery. As Horowitz and Liebowitz (1968: 284) point out: "the source of responsibility for deviant behavior, whether it be drug addiction, homosexuality, alcoholism, or prostitution is not borne by the person making the charges but rather absorbed by the victims of such charges". Addict stereotyping, historically, has been important to the imputation of danger and blame, being fearful of injecting drug users and avoidance (Lloyd, 2013;

McAuliffe, 1975). Criminal stigma reinforces strong emotional reactions of fear and perpetuates the "unhelpful morality and solutions suggested by the myth" of addiction (Hammersley and Reid, 2002: 7).

The harsh treatment by the law and in the courts is relevant for maintaining and reinforcing the deviant self-image of the heroin addict. Schur explains:

> *This is largely the result of the dominant social definition of their behavior being outside the pale of respectability, and the more specific labeling of behavior as 'criminal' reinforces and heightens this process. It is, of course, very difficult if not impossible to draw a clear-cut distinction between a deviant self-image and a criminal one. Yet the criminalization of deviance may have an especially crucial influence on the individual's view of himself. Thus, the realization that they are considered criminals- and even more significantly- the need to act like criminals causes most drug addicts to develop- at very least- a pronouncedly antisocial outlook.*

<div align="right">(Schur, 1965: 171-172).</div>

Goode (1974: 181), moreover, stressed: "it was the criminalization of addiction that created addicts as a special and distinctive group, and it is the very groupness of addicts that gives them their recruiting power". The effect of a punitive drug policy is to recruit addicts into a sub-cultural existence so that the primary purpose of association is for drug availability and consumption.

The nature and social consequences of criminal stigma on addicts, as such, increases the tendency for an individual's "moral career" (Goffman, 1963). With ties to conventional society at risk, DeLamater (1968: 454) concurs: "if the person cannot neutralize conventional norms and standards, he may label himself as a deviant; as a result, he will incur a negative self-evaluation and may perceive primary relations as being disrupted. Such self-labeling may produce as much of a self-fulfilling prophecy as does labeling by society's agents". Simmons (1969: 88) reiterates: "beyond the ties of similar interests and views which lie at the base of most human associations, deviants find that establishing fairly stable relationships with other deviants does much to ease procurement and coping problems and to provide a more stable and reliable source of direct support and interaction". With lowered self-esteem and constricted interpersonal

networks, labeling and stigma indirectly affect and sustained the course of subcultural existence "through changes in the self-concept and key social outcomes" (Markowitz, 2014: 1584).

A.2.4   **Empirical Evidence for Negative Consequences of Labeling**

Regardless of earlier shortcomings, later research has brought solid support for the effects of criminal labeling: "the majority of the findings indicate that individual labels have moderate to strong effects on an individual's engagement in secondary deviance or crime" (Maddan and Marshall, 2009: 258). In testing the consequences of the application of formal sanctions, Palmara et al. reported:

> *Utilizing this strategy, labeling effects were detected and hence empirical support was given to the etiological premise of labeling theory. Specifically, the data revealed (1) that police and mental health intervention had both independent and interactive effects in increasing juvenile deviance, and (2) that the impact of these various modes of formal reaction differed according to the form of deviance being examined, whether delinquency, regressive anxiety, or general psychological impairment.*

> (Palmara et al., 1986: 103).

Adams et al. (2003), Davies and Tanner (2003), Glass et al. (2013) and Link and Phelan (2006) provide empirical evidence for juveniles, mental patients, heroin addicts and alcohol users to report that negative outcomes of labeling include social support network reduction and self-esteem impairment, leading to acceptance of deviant labeling, withdrawal from social contacts, and sub-cultural immersion.

Other evidence provided some level of support in studies for continued deviance and criminality involving juvenile delinquency (Johnson et al., 2004; Thomas and Bishop, 1984). Additional confirmation is available in a variety of studies supporting labeling theory involving mental illness, high school students and youths (Kaplan and Johnson, 1991; Triplett and Jarjoura, 1994; Ward and Tittle, 1993). Paternoster and Iovanni (1989: 387) provide strong evidence for mental illness studies by Link et al. (1987, 1989) mentioning their use of "intervening causal mechanisms through which ex-mental patients

experience problems of adjustment because of their label" and including, as contingent conditions of the labeling process, public perceptions of mental patents as dangerous persons.

Other findings within substance disorders research related to devaluation and discrimination has found that perceived stigma impedes addict's treatment adherence and recovery outcomes (Marcussen et al., 2010; Thornicroft et al., 2009; UK Drug Policy Commission, 2012; Wahl, 2012).

A.3   Drug Addiction and Crime

The public perceives drug addiction as a serious social and criminal problem (Ahern et al., 2007; Gomes, 2007; Harrison, 2001; Kreek, 2011). The economic costs of heroin addiction are pervasive, resulting in major economic and social burdens (French et al, 2004; Mark et al., 2001; McCollister et al., 2009; Rehm et al., 2006). Societal costs involved with lost productivity, criminal behavior and disrupted families continue to soar (Soyka and Gorelick, 2009). Societal overhead, involving increased financial burden on the criminal justice system, use of medical health and social care services, lost productivity and disrupted families, are economically significant (Godfrey et al., 2004; Larney et al., 2012; Soyka and Gorelick, 2009).

Incarceration is a common experience for persons addicted to heroin (Bennett and Holloway, 2009; Larney et al., 2012; Marzo et al., 2009; McMillan et al., 2008). Reducing drug-related crime has largely become a strategy of social control through the "criminalization" of drug policy (Duke, 2006; Hunt and Stevens, 2004; Seddon, 2011; Seddon et al., 2008). Complementing the war on drugs (Buchanan and Young, 2000), the overarching criminalization policy has been exacerbated by prejudicial views by the public towards persons with mental health difficulties and addictions (Angermeyer and Dietrich, 2006). Drug addiction is harshly stigmatized, ranked mid-point in a range of 18 stigmatizing conditions (Room, 2006).

Based on the early empirical evidence on deterrence and punishment, the efficacy of legal sanctions for deterring addiction is at best suggestive and inconclusive (Tittle, 1975). Chiricos and Waldo (1970) and Tittle (1969) found no significant relationships between severe punishment and criminal deterrence. However, other research by Chambliss (1966), Gibbs (1968), Tittle and Logan (1973) and Waldo and Chiricos (1972) indicate that sanctions had a significant role in the deterrence of deviance. It is noteworthy that many of the aforementioned studies do not deal with deviance with recidivistic tendencies. This is an important consideration for persons addicted to heroin, as these studies have little extrapolation value for the heroin addict's criminal offenses. Criminal recidivism is a prevalent characteristic of drug addicts (Blum, 1973; Harrison, 2001; Martin et al., 2004; Wojtowicz et al., 2007). Where recidivism is an acknowledged characteristic of anti-social behavior, early studies by Giffen (1966) and Lovald and Stub (1968) demonstrate that the use of criminal sanctions was not a good measure of deterrence for public intoxication offenses by chronic drunks.

Despite the unintended consequences of the "drugs as threat" discourse (Crick, 2012) involving addiction to narcotics drugs as a form of "evil" (Lines, 2010) , the war on drugs and narcotic control is not being won (Blendon and Young, 1998; Buchanan, 2006; Rolles, 2009; Timberlake et al., 2003), despite public support for criminal justice responses involving the mounting severity of drug laws (Califano, 2009; Cooper, 2004; Leipold, 2002; Van Olphen et al., 2009), increasing rates of arrest and incarcerations for drug offenses (Farabee et al., 2001; Harrison, 2001; Lurigio, 2008; Martin et al., 2004) and harsh sentencing (Pollard, 2008). Scholarly critics (e.g. Caulkins and Chandler, 2006; Lundberg, 1997; Nadelmann, 1992) have long been resolute in their condemnation of the criminal justice system policies to reduce the use of illicit drugs through the incarceration and punishment of drug dealers and users.

Russell and McVeigh (2011: 83) currently reiterate: "there is a broad consensus, not only within harm reduction, but in politics, the media and the general public, that the war on drugs has failed", given that "prohibition and enforcement have a central role in creating many of the harms and risks that harm reduction struggles to mitigate". The war on drugs is ineffective, unnecessarily punitive and unsuccessful

(Caulkins et al., 2005; Courtwright, 1991; Shepard and Blackley, 2005; Timberlake et al., 2003). Moreover, in their systematic review, Werb et al. (2011) stress that these are failed objectives and suggest that the drug law enforcement approach likely increases drug market violence. An earlier analysis by Resignato (2000) also suggested that drug-related violent crime was resultant from drug prohibition and increased law enforcement.

The war on drugs continues unabated, with advocates condoning vigorous law enforcement efforts that punish producers, major distributors and wholesalers of heroin (Nguyen, 2009; Nordt and Stohler, 2010; Weatherburn and Lind, 1997). Scant attention is paid to harm reduction by the drug regulatory system in its war on drugs (Burris and Burrows, 2009). The traditional view of addiction involves a moralistic blaming, punitive approach to substance abuse that is associated with crime and violence (Rasinski et al., 2005). Heroin addiction continues to be regarded as an illegal, chronic, harmful and dangerous behavior that needs to be eliminated through severe anti-drug legislation, harsh laws and strict law enforcement policies. These measures have negative consequences on the addict's personal well-being, increasing the risk environment of infection, injury and death (Burris et al., 2004). Instutionalized stigma is an unavoidable experience in methadone maintenance interventions to treat heroin dependence (Harris and McElrath, 2012; Vigilant, 2004). Because substance abuse co-occurs with psychiatric disorders, Rasinski et al. (2005: 220) note a further conundrum: "law enforcement officials often do not have the training to deal with the mental illness component with those with dual diagnosis".

Using Goldstein's taxonomy for considering the drugs/violence nexus (Goldstein, 1985), the causal model posits that drug use is indirectly related to crime, through pharmacological effects (Pihl and Peterson, 1995), economic-compulsive motivation to finance continued purchase of drugs (Casavant and Collin, 2001; Fagan and Chin, 1990) and through the street business/ distribution/ drug dealing systemic activities for market control (Koo et al., 2008; MacCoun et al., 2003). Pharmacological relationships are very uncommon, with considerable evidence of a relationship between economic-compulsive violence and expensive and addictive drugs like cocaine and heroin, and most importantly the systemic

relationship to violence that is generally highlighted in the media (Collins, 1990). Drug distribution and use are inherently associated with violent crime, with involvement in criminal subcultures leading to future drug use (White and Gorman, 2000).

Co-morbidity has also been evaluated with unclear results for violent behavior causality (Compton et al., 2003; Kessler et al., 1996; Moran and Hodgins, 2004; Mueser et al., 2006), with rates of mental illness higher for alcohol or drug dependent individuals (McBride et al., 2003; Peters et al., 1992; Teplin, 2001). With respect to criminal offenses, Bennett and Holloway (2005: 76) remark that persons "who used heroin or crack and who used heroin substitutes, recreational drugs, and tranquilizers had higher offending rates" than other persons "who used heroin and crack without these additional drugs". Koo et al. (2008: 1124) report that "sustaining frequent use of multiple substances requires additional hustling activities that often include criminal behavior". The use of multiple substances leads to most overdose deaths in heroin addicts, with over half of deaths attributed to two or more of opiates, cocaine or alcohol in combination (Coffin et al., 2003; Drake, 2003). A lifestyle that includes drug use, drug selling and recidivism is likely for some persons after release from incarceration (Harrison, 2001; Wojtowicz et al., 2007). Hence, there is an avowed need for public health and addiction treatment strategies considering that police crackdowns do not "alter the price of drugs or the frequency of use", nor do they "encourage enrolment in methadone treatment programs" (Wood et al., 2004: 1551).

There is a necessity to reconcile the high level of misperceptions about addiction, crime and punishment evidenced in the public (Hutton, 2005). The public needs to be informed of the adverse impact of public policy and punitive law enforcement methods resulting in personal consequences on the addict's well-being. The double stigma, associated with drug addiction and incarceration, has negative impacts on job and employment opportunities after release, with further impacts leading to a lack of safe housing and to social isolation (Van Olphen et al., 2009).

Incarceration does not reduce drug use among addicts, and does not decrease drug use cessation and cumulative time spent in prison (Bruneau et al., 2004; DeBeck et al., 2009). Moreover, incarceration blocks availability to addiction treatment and support programs, and perpetuates high-risk behavior in prison (i.e., incidence of AIDS/HIV) (Buavirat et al., 2003; Small et al., 2005). Harm reduction measures are recommended for addiction treatment (Costa, 2008; Pollard, 2008; Reuter, 2009; Reuter and Pollack, 2006), such as methadone maintenance programs, to make a positive impact on injection cessation for high-risk drug use (DeBeck et al., 2009; Deren et al., 2007). Aside from reductions in needle sharing and drug taking related to heightened risk of overdose, the benefits of drug treatment include reductions in acquisitive offending and committing crimes to support a drug habit (Donmall et al., 2009). Other treatment benefits involve reduced demand for heroin abuse, reductions in offending rates by lessening intoxication-related crimes, and increased motivation to distance oneself from sub-cultural affiliation (Reuter, 2006). Hence, there is a need to further develop flexible drug treatment services for recovering addicts, tackling discrimination, and "understanding and addressing the underlying causes that cultivate, foster and sustain problem drug use" (Buchanan, 2006: 397).

A.4   Personal Consequences of Criminal Stigma

Public stigma, i.e. emergence of discrimination and prejudice when the public endorses specific stereotypes (Corrigan et al., 2010), is reinforced through the war on drugs, and has led to the historical marginalization of addicts, represented as dangerous felons with poor prognosis (Robins et al., 2000). Lock et al. (2002: 395) stress: "in the 1980s and 1990s, the US government clearly made a choice to favour the criminal justice approach over that of treatment and prevention". For public conceptions before 1980, Rossi et al. (1974) and Schur (1964) provide evidence of the public's extremely punitive reactions for seriousness ratings attributed to narcotics offenses. Selling or "peddling" heroin were regarded as more serious than 'planned killing of a "spouse", "armed robbery, and "rape". Even sixty years ago, Lindesmith (1940a: 919) remarked: "addicts, to a greater or lesser extent, always have been a pariah class

which has not been in a position to refute any charges leveled against it. Apparently, it gives people some kind of secret satisfaction to call names when they cannot understand".

The demonization of addiction is shaped by what Lindesmith (1940a) and Keys (2008) call a "dope-fiend mythology". It is "a body of superstition, half-truths and misinformation" that has permeated narcotic drug use and is the conceptual foundation of today's addiction-related stigma (White, 2009: 19). Because of heroin's illegal status, the mass media continues to present depictions of junkies, associated with criminal activities. The marginalization and stigmatization of drug users is reinforced through the war on drugs, and secured by its international drug control system and human rights violations (Barrett, 2010; Costa, 2010; Elliott et al., 2006; Mena and Hobbs, 2010), competing drug policy goals of harm minimization or imprisonment (Stevens, 2011; Thoumi, 2010; Weatherburn, 2009, 2009a) and law enforcement apparatus dominance (Reuter, 2001; Stalcup, 2006; Takahashi, 2009). The criminal justice approach has been favored over that of treatment and prevention (Lock et al., 2002), notwithstanding studies showing significant reductions in criminal convictions, involving acquisitive, drug selling and violent offences, during methadone maintenance or other opioid maintenance treatment for heroin users (Bukten et al., 2012; Gossop et al., 2005; Lind et al., 2005; Oliver et al., 2010). There are clear economic benefits to treatment (Cartwright, 2000; Godfrey et al., 2004).

The risk of harm toward others or criminal behaviour, involving arrests or violent crime, justifies the stereotypes about dangerousness, resulting in social policies to control addicts (Gordon, 2000). This motivation is based on public policy to defend the moral integrity of existing social systems. System-justification of out-groups (Jost and Banaji, 1994; Jost and Burgess, 2000) is instrumental to the historical treatment of drug addicts, inherent in the illicitness of narcotics and the anticipation of punitive sanctions for illicit behaviour. The fear of criminality justifies the perceptions of dangerousness and subsequent avoidant behaviors. Buchanan and Young (2000: 409) reiterate: "the war on drug users has subjected these people to a process of stigmatization, marginalization and social exclusion, and prevented many of them from recovery by hindering their re-integration into the wider social and economic community.

Instead, growing numbers of problematic drug users remain locked into a cycle of chronic drug relapse". As "criminal justice systems internationally are overloaded" (McKenna, 2011:75), illicit drug users are arriving in overcrowded prisons in an escalating fashion, further leading to the impression that addicts are dangerous, unable to care for themselves and a threat to others (Buchanan, 2004; Link et al., 1997). As Buchanan (2006: 390) reiterates, "this war on drug users gives problem drug users an enemy status, and creates additional barriers that make reintegration and recovery less likely". While there is debate about reducing illegal drug abuse through prevention and enforcement policies over harm reduction priorities (McKeganey, 2006, 2007), it is suggested that the public may be ignorant of the substantial drug-related harm associated with stigma on persons addicted to heroin.

Legal coercion into treatment and drug testing raise individual ethical issues and their effectiveness in reducing serious drug problems (Hough, 1996). Buchanan (2004a: 394) remarks: "this othering of illicit drug users is reinforced and institutionalized as the government portrays problem drug users as a menace to society, and seeks to protect 'us' from the dangers 'they' pose". Given the inconsistent and mixed results of legal coercion for substance abusers (Klag et al., 2005), it is evident that offender recidivism, post-release relapse and ineffective access to treatment, within custody or in the community, impugn the drug abusers' ability for reintegration into society (Belenko and Peugh, 2005; Cornish et al., 1997; Hammersley and Reid, 2002), requiring aftercare services following prison-based treatment (Vanderplasschen et al., 2010). The personal consequences of transition outcomes are problematic on employment, family functioning, education, personality disorders and social achievement (Belenko, 2006).

Public stigma leads to the addict's alienation from society and segregation into illicit drug subcultures (Anderson, 1993; Anitha, 2007; Burr, 1987; Koo et al., 2008), reinforcing spoiled identity of the addict as inherently criminal types (McIntosh and McKeganey, 2001; McKeganey et al., 2004; Rossi et al., 1974; Stylianou, 2002), and the internalization of views that drug users are marginal members of society (Ahern et al., 2007; Anderson and Levy, 2003). Illicit drug users also experience discrimination from family and

friends, leading to feelings of anger and more depressive symptoms (Ahern et al, 2007). Rejection leads to negative consequences, resulting in coping strategies of withdrawal and isolation (Link et al., 1997).

Public stigma has a negative impact on the addict's mental and physical health, owing to pervasive stress and experiences of discrimination (Minior et al., 2003; Young et al., 2005). Evidence is reported for discrimination in housing (Page, 1983), employment (Link, 1987; Penn and Martin, 1998) and social relationships (Luoma et al., 2007). Discrimination is significantly associated with poor mental health, depression and self-reported chronic physical health conditions (Young et al., 2005).

Link et al. (1997: 179) note that the negative labeling of drug addicts leads to "powerful expectations of rejection that in turn erode confidence, disrupt social interaction, and impair social and occupational functioning". Stigma exacerbates mental health problems, increasing risk of relapse and continued low self-esteem, even during treatment (Van Olphen et al., 2009).

Addicts are heavily stigmatized largely owing to the war on drugs and a deterrence and crime control policy involving imprisonment for drug offenders (Reuter and Stevens, 2007; Stevens, 2008; Van Olphen et al., 2009). The war on drugs continues unabated, despite its modest impact on illicit drug markets (Barnett, 2009; Buchanan, 2010; Lock et al., 2002; Speckart et al., 1989).

APPENDIX B: QUESTIONNAIRE

Student Perceptions of Persons Addicted to Heroin

QUESTIONNAIRE

UNIVERSITY OF
STIRLING

The purpose of the enclosed questionnaire is to obtain your perceptions of persons currently addicted to heroin, in fulfillment of a dissertation study.

The research is being supervised by Rowdy Yates (Telephone*: +44 (0) 1786-467737; Email: p.r.yates@stir.ac.uk*), Senior Research Fellow, Scottish Addiction Studies, School of Applied Social Science, University of Stirling and by the Department of Sociology, University of Toronto.

Your participation is on a voluntary basis. Your participation will not affect your grade in the course.

You can withdraw from the survey or opt out of any section. There are no consequences on yourself.

The questionnaire involves some questions about your knowledge of persons currently addicted to heroin. If any of the questionnaire items cause you distress, then do not complete them.

If you wish to take part in the study, please read and complete the questions which follow. Completion of all or part of the following questionnaire will be taken as evidence that you consent to participation in the study.

The survey will take approximately 20 minutes to complete.

Please be assured that your views and the information you provide will be treated in strict confidence. Your name is not to be entered on the questionnaire.

Your answers will be compiled for statistical purposes only, with no identification of any individual responses.

All electronic data is anonymised and destroyed once the project is completed.

Q1.

A. What is your age? _____

B. What is your Ethnic origin? **(circle one)**

White　　　**Black**　　　**Asian**　　　**Canadian**　　**Aboriginal**　　**Other**

C. What is your Marital Status? **(circle one)**

Single　　　**Married/Common Law**　　　**Separated**　　**Divorced**　　**Widowed**

D. What is your Gender? **(circle one)**

Male　　　**Female**

E. Are you working outside the home? **(circle one)**

Yes, Full Time　　　**Yes, Part-Time**　　　**Yes, Self-Employed**　　　**No**

F. Living Arrangements?

Where? **(circle best answer)**

House/Apartment/etc　　　　　**Residence Hall**　　　　　**Fraternity/Sorority**

Other: _____

With Whom? **(circle best answer)**

With roommate(s)　　**Alone**　　　**With Parent(s)**　　　　**With spouse/partner**

With Children　　　**Other:** _____

G. Approximate cumulative grade point average last year? **(circle one)**

A+　　**A**　　**A-**　　**B+**　　**B**　　**B-**　　**C+**　　**C**　　**C-**　　**D or less**

Q.2 ---

Please indicate to what degree you would accept a person addicted to heroin in each of the situations described in the seven items below :

1. **How would you feel about renting a room in your home to a person addicted to heroin?**

0	**1**	**2**	**3**
definitely willing	probably willing	probably unwilling	definitely unwilling

2. **How about being a worker on the same job as a person addicted to heroin?**

0	**1**	**2**	**3**
definitely willing	probably willing	probably unwilling	definitely unwilling

3. **How would you feel about having a person addicted to heroin as a neighbor?**

0	**1**	**2**	**3**
definitely willing	probably willing	probably unwilling	definitely unwilling

4. **How about as the caretaker of your children for a couple of hours?**

0	**1**	**2**	**3**
definitely willing	probably willing	probably unwilling	definitely unwilling

5. **How about having one of your children marry a person addicted to heroin?**

0	**1**	**2**	**3**
definitely willing	probably willing	probably unwilling	definitely unwilling

6. **How would you feel about introducing a person addicted to heroin to a young woman or man you are friendly with?**

0	**1**	**2**	**3**
definitely willing	probably willing	probably unwilling	definitely unwilling

7. **How would you feel about recommending a person addicted to heroin for a job working for a friend of yours?**

0	1	2	3
definitely willing	probably willing	probably unwilling	definitely unwilling

Q3. --

Using a scale of 0 to 5, where 0 means strongly disagree and 5 means strongly agree, please indicate to what extent you agree with the following statements:

(a) To label a person addicted to heroin as a criminal, reinforces his/her deviant self-image.

0	1	2	3	4	5
strongly disagree	disagree	not sure but probably disagree	not sure but probably agree	agree	strongly agree

(b) To label a person addicted to heroin as a criminal, makes him/her more alienated from society.

0	1	2	3	4	5
strongly disagree	disagree	not sure but probably disagree	not sure but probably agree	agree	strongly agree

(c) To label a person addicted to heroin as a criminal, leads him/her into heavy-using deviant sub-cultures, often organized around procuring and using illegal drugs.

0	1	2	3	4	5
strongly disagree	disagree	not sure but probably disagree	not sure but probably agree	agree	strongly agree

(d) To label a person addicted to heroin as a criminal, makes it difficult for him/her to access health services and treatment.

0	1	2	3	4	5
strongly disagree	disagree	not sure but probably disagree	not sure but probably agree	agree	strongly agree

Q4. --

Please circle the number of the best answer to each of the following:

1. **I would feel aggravated by persons addicted to heroin.**

1	2	3	4	5	6	7	8	9
no,								yes,
not at all								very much

2. **I would feel unsafe around persons addicted to heroin.**

1	2	3	4	5	6	7	8	9
no,								yes,
not at all								very much

3. **Persons addicted to heroin terrify me.**

1	2	3	4	5	6	7	8	9
not at all								very much

4. **How angry do persons addicted to heroin make you feel?**

1	2	3	4	5	6	7	8	9
not at all								very much

5. **I think persons addicted to heroin pose a risk to other people unless they are imprisoned.**

1	2	3	4	5	6	7	8	9
not at all								very much

6.   **I feel pity for persons addicted to heroin.**

   1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

7.   **How controllable do you think persons addicted to heroin are?**

   1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all under   completely under
personal control   personal control

8.   **How irritated would you feel by a person addicted to heroin?**

   1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

9.   **How dangerous do you feel a person addicted to heroin is?**

   1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

10.   **I would feel threatened by a person addicted to heroin.**

   1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
no, not at all   yes, absolutely

11.   **How scared of a person addicted to heroin would you feel?**

   1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
none at all   very much

12. **How likely is it that you would help a person addicted to heroin?**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
definitely not help								definitely would help

13. **How certain would you feel that you would help a person addicted to heroin.**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
not at all certain								absolutely certain

14. **How much sympathy would you feel for a person addicted to heroin?**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
not at all								very much

15. **How responsible do you think a person addicted to heroin is for their present condition?**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
not at all responsible								very much responsible

16. **How frightened of a person addicted to heroin would you feel?**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
none at all								very much

17. **How sorry do you feel for persons addicted to heroin?**

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
none at all								very much

18.   **I would try to avoid a person addicted to heroin.**

1	2	3	4	5	6	7	8	9

definitely   definitely not

19.   **How much concern do you feel for person addicted to heroin?**

1	2	3	4	5	6	7	8	9

not at all   very much

20.   **If I were a landlord, I probably would rent an apartment to a person addicted to heroin.**

1	2	3	4	5	6	7	8	9

definitely   definitely not

21.   **I would think that it was a person addicted to heroin's own fault that he/she is in their present condition.**

1	2	3	4	5	6	7	8	9

no, not at all   yes, absolutely so

22.   **I would be willing to talk to a person addicted to heroin about their problems?**

1	2	3	4	5	6	7	8	9

not at all   very much

Q.5. ---

Please read each of the following statements carefully. After you have read all of the statements below, place a checkmark by EVERY statement that represents your experience with persons addicted to heroin during your lifetime.

_____ **I have watched a movie or television show in which a character depicted a person addicted to heroin.**

_____ **I have observed, in passing on the street, a person addicted to heroin.**

_____ **I have observed persons addicted to heroin many times.**

_____ **I have an addiction to heroin.**

____ **I have worked with a person addicted to heroin at my place of employment.**

_____ **I have never observed a person that I was aware was addicted to heroin.**

_____ **A friend of the family has an addiction to heroin.**

_____ **I have a relative who has an addiction to heroin.**

_____ **I have watched a documentary on the television about addiction to heroin.**

_____ **I live with a person addicted to heroin.**

Q.6. --

We want to understand if the SOC313: Social Control course was useful in answering the questions in the survey.

   (a) Overall, to what degree was the SOC313 course useful in responding to the questions in the survey?

      1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
     no,   **yes,**
not at all   very much

   (b) Which part of the SOC313: Social Control course was influential in providing your answers to the questions in the survey?

   1. **Information from the SOC313 lectures?**

      1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

   2. **Interaction with the instructor?**

      1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

   3. **Interaction with fellow students?**

      1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

   4. **Reading material from the SOC313 course content?**

      1   **2**   **3**   **4**   **5**   **6**   **7**   **8**   **9**
not at all   very much

5. My own previous independent research?

1	2	3	4	5	6	7	8	9
not at all								very much

6. My own personal experience and knowledge?

1	2	3	4	5	6	7	8	9
not at all								very much

If any part of the questionnaire caused you distress and you wish to contact a local drug assistance agency, please call for information or support for an addiction concern, (416) 595-6111 (within Toronto) or 1-800-463-6273 (toll free).

Please be assured that your views and the information you provided will be treated in strict confidence.

Your answers will be compiled for statistical purposes only.

Statistical analysis and reported results will be compiled according to groups rather than individual persons to retain your anonymity and confidentiality.

No personal information will be collected or retained for the purpose of this study.

All electronic data is anonymised and destroyed once the project is completed.

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

APPENDIX C: FACTOR LOADINGS- PILOT-TEST, STAGE 3 and STAGE 4

	Pilot-Test Attribution Model EFA						
	(see Table 3.1)						
			GEOMIN ROTATED LOADINGS				
	1	**2**	**3**	**4**	**5**	**6**	**7**
	_____	_____	_____	_____	_____	_____	_____
RENTROOM	0.652	0.029	0.086	0.111	0.069	0.030	-0.007
WORKSJOB	-0.023	0.391	0.070	0.306	0.018	-0.087	0.000
ANEIGHBR	0.025	1.081	-0.005	-0.011	-0.005	0.018	0.000
CARETAKR	0.276	0.046	-0.114	0.140	0.046	0.031	0.013
CHILDMRY	0.437	0.022	0.037	0.270	-0.034	0.004	0.009
INTROFRD	0.024	-0.011	0.100	0.778	0.045	-0.046	0.015
RECMDJOB	0.267	0.001	-0.033	0.630	-0.048	0.012	-0.072
AGRAVTIN	0.036	0.003	0.766	0.060	0.073	0.040	0.039
UNSAFE	0.132	0.089	0.385	0.030	0.420	-0.013	-0.021
TERRIFY	0.059	0.034	0.240	-0.118	0.688	-0.042	0.009
ANGRY	-0.205	0.049	0.667	0.028	0.181	0.027	0.017
RISK	-0.222	0.038	0.453	0.088	0.228	-0.083	-0.084
PITTY	0.312	-0.116	0.019	-0.014	-0.034	0.696	-0.011
CONTROLL	-0.167	-0.066	0.223	-0.116	-0.117	0.015	-0.116
IRITATED	0.026	-0.036	0.826	-0.022	-0.042	-0.033	-0.043
DANGROUS	0.015	0.015	0.202	0.028	0.634	0.027	-0.019
SCARED	-0.018	-0.017	0.015	-0.036	0.959	0.010	-0.015
HELP	0.020	-0.004	-0.046	-0.054	0.013	-0.012	1.171
CERTHELP	-0.193	0.018	0.071	0.117	-0.100	0.185	0.547
SYMPATHY	-0.029	-0.021	-0.096	0.065	0.089	0.851	0.072
RESPCBLE	0.108	-0.067	0.405	-0.031	0.007	-0.161	0.170
FRGHTEND	-0.025	-0.070	-0.023	0.034	1.004	0.028	0.008
SORRY	0.180	0.058	-0.007	-0.044	-0.033	0.920	-0.051
AVOID	-0.266	-0.066	-0.106	0.001	-0.206	0.045	0.153
CONCERN	-0.125	-0.001	0.016	-0.063	0.037	0.674	0.098
RENTAPRT	0.485	0.061	0.030	0.166	0.117	-0.094	0.010

		Pilot-Test EFA Attribution Model CrimStig							
		(see Table 3.2)							
			GEOMIN	ROTATED	LOADINGS				
		1	2	3	4	5	6	7	8
RENTROOM		0.582	0.047	0.164	0.103	0.126	0.061	0.032	-0.011
WORKSJOB		-0.044	0.436	0.312	-0.049	0.030	0.015	-0.079	0.003
ANEIGHBR		0.051	0.992	-0.010	0.005	0.003	-0.001	0.017	0.002
CARETAKR		0.279	0.039	0.138	0.055	-0.080	0.033	0.029	0.010
CHILDMRY		0.414	0.023	0.303	-0.003	0.048	-0.044	0.013	0.007
INTROFRD		0.010	-0.009	0.771	-0.049	0.075	0.050	-0.044	0.019
RECMDJOB		0.222	-0.005	0.673	0.085	-0.020	-0.046	0.005	-0.066
REINIMAG		0.069	0.002	-0.031	0.675	0.033	-0.020	-0.009	0.010
ALIENATD		0.002	0.000	0.027	0.850	-0.086	0.024	-0.051	-0.015
DVSUBCLT		-0.188	0.013	0.036	0.422	0.049	0.000	0.193	0.000
DIFSRVTR		-0.128	-0.031	-0.072	0.275	-0.040	-0.049	0.066	0.040
AGRAVTIN		0.015	0.016	0.072	0.052	0.773	0.080	0.032	0.040
UNSAFE		0.078	0.106	0.046	0.101	0.410	0.425	-0.022	-0.021
TERRIFY		0.034	0.046	-0.120	0.020	0.257	0.685	-0.039	0.007
ANGRY		-0.170	0.048	0.015	-0.079	0.618	0.197	0.025	0.016
RISK		-0.183	0.043	0.095	-0.230	0.361	0.242	-0.064	-0.080
PITTY		0.351	-0.141	0.002	-0.033	0.014	-0.032	0.695	-0.007
CONTROLL		-0.201	-0.066	-0.124	0.145	0.258	-0.105	-0.002	-0.114
IRITATED		0.040	-0.044	-0.012	-0.024	0.809	-0.031	-0.038	-0.046
DANGROUS		0.041	0.011	0.027	-0.091	0.175	0.635	0.036	-0.019
SCARED		-0.010	-0.017	-0.053	0.015	0.023	0.957	0.005	-0.016
HELP		0.020	-0.005	-0.051	0.015	-0.037	0.009	-0.012	1.160
CERTHELP		-0.200	0.026	0.116	-0.015	0.051	-0.092	0.185	0.555
SYMPATHY		-0.016	-0.032	0.050	0.089	-0.079	0.097	0.834	0.082
RESPCBLE		0.161	-0.094	-0.018	-0.131	0.359	0.017	-0.157	0.167
FRGHTEND		-0.026	-0.078	0.033	-0.018	-0.035	1.017	0.027	0.011
SORRY		0.239	0.051	-0.054	-0.058	-0.020	-0.035	0.935	-0.047
AVOID		-0.281	-0.067	-0.003	0.029	-0.102	-0.199	0.040	0.161
CONCERN		-0.107	-0.006	-0.085	0.044	0.025	0.043	0.664	0.105
RENTAPRT		0.462	0.067	0.204	-0.010	0.025	0.114	-0.088	0.007

	1	2	GEOMIN 3	ROTATED 4	LOADINGS 5	6	7
Pilot-Test EFA Attribution Model December Respondents Added							
(see Table 3.4)							
RENTROOM	0.052	0.582	0.162	0.133	0.017	0.037	0.061
WORKSJOB	0.340	0.023	0.356	0.073	-0.005	0.017	-0.056
ANEIGHBR	1.164	-0.004	-0.003	-0.008	0.002	-0.002	0.012
CARETAKR	-0.025	0.383	0.211	-0.013	0.024	0.013	0.079
CHILDMRY	0.003	0.476	0.327	0.016	-0.005	-0.018	0.013
INTROFRD	0.030	-0.007	0.802	0.042	-0.008	0.038	-0.021
RECMDJOB	-0.024	0.265	0.578	-0.021	-0.033	-0.030	-0.017
AGRAVTIN	0.030	0.047	0.021	0.721	0.021	0.067	0.018
UNSAFE	0.064	0.127	0.036	0.386	-0.022	0.419	-0.030
TERRIFY	0.036	0.031	-0.078	0.216	0.014	0.726	-0.030
ANGRY	0.011	-0.213	0.033	0.688	0.004	0.185	0.037
RISK	0.012	-0.176	0.095	0.468	-0.044	0.262	-0.063
PITTY	-0.058	0.329	-0.022	0.062	-0.009	-0.062	0.646
CONTROLL	-0.017	-0.204	-0.207	0.115	-0.080	-0.024	0.004
IRITATED	-0.042	0.034	-0.044	0.822	-0.034	-0.012	-0.037
DANGROUS	-0.003	0.029	0.048	0.220	0.001	0.608	0.038
SCARED	-0.035	0.005	0.006	-0.006	0.018	0.972	0.014
HELP	-0.008	0.010	-0.018	-0.019	1.712	0.009	-0.006
CERTHELP	0.031	-0.266	0.076	0.106	0.310	-0.178	0.329
SYMPATHY	-0.028	-0.015	0.061	-0.117	0.022	0.076	0.877
RESPCBLE	-0.027	0.038	-0.025	0.416	0.054	-0.028	-0.175
FRGHTEND	-0.007	-0.088	-0.004	0.013	-0.005	0.943	0.023
SORRY	0.080	0.149	-0.072	-0.076	-0.049	0.004	0.843
AVOID	-0.057	-0.304	-0.043	-0.007	0.042	-0.298	0.170
CONCERN	-0.021	-0.050	-0.058	0.017	0.067	0.000	0.689
RENTAPRT	0.065	0.462	0.185	0.123	0.013	0.034	-0.046

Pilot-Test ESEM Attribution Model December 2011 Added Complete

STDYX Standardization

	Estimate	Two-Tailed P-Value
DEMOGRPH		
BY		
AGE	0.617	0.000
ETHNIC	0.009	0.880
MARITALS	0.968	0.000
GENDER	0.030	0.638
WKOUTHME	-0.161	0.031
LIVARGMT	0.059	0.251
LIVWHOM	0.542	0.000
GPA	0.018	0.747
CONTROLL	-0.012	0.839
RESPCBLE	-0.005	0.921
CONCERN	-0.105	0.035
PITTY	0.006	0.857
SYMPATHY	-0.033	0.286
SORRY	0.045	0.154
HELP	-0.004	0.798
CERTHELP	0.016	0.689
RENTAPRT	-0.136	0.016
AGRAVTIN	0.034	0.366
ANGRY	0.018	0.590
IRITATED	-0.020	0.560
UNSAFE	-0.009	0.785
RISK	-0.049	0.195
DANGROUS	-0.035	0.310
TERRIFY	-0.003	0.916
SCARED	-0.017	0.369
FRGHTEND	0.086	0.004
THREATND	-0.015	0.543
AVOID	-0.087	0.129
RENTROOM	-0.009	0.821
WORKSJOB	-0.064	0.149
ANEIGHBR	0.097	0.098
CARETAKR	-0.075	0.222
CHILDMRY	-0.040	0.424
INTROFRD	0.007	0.849

RECMDJOB	0.008	0.843
REINIMAG	0.033	0.416
ALIENATD	-0.049	0.199
DVSUBCLT	0.036	0.471
DIFSRVTR	-0.046	0.435
FAMILRTY	0.186	0.008
PERSRESP		
BY		
AGE	-0.055	0.311
ETHNIC	0.108	0.256
MARITALS	0.019	0.481
GENDER	-0.043	0.552
WKOUTHME	-0.011	0.824
LIVARGMT	-0.036	0.508
LIVWHOM	0.000	0.988
GPA	-0.010	0.906
CONTROLL	-0.360	0.000
RESPCBLE	0.080	0.261
CONCERN	-0.123	0.166
PITTY	0.248	0.010
SYMPATHY	-0.034	0.481
SORRY	0.118	0.143
HELP	0.016	0.206
CERTHELP	-0.121	0.214
RENTAPRT	0.636	0.000
AGRAVTIN	0.148	0.042
ANGRY	-0.108	0.115
IRITATED	0.021	0.524
UNSAFE	0.241	0.000
RISK	-0.005	0.910
DANGROUS	0.106	0.077
TERRIFY	0.025	0.289
SCARED	-0.041	0.248
FRGHTEND	-0.045	0.226
THREATND	0.085	0.147
AVOID	-0.377	0.000
RENTROOM	0.702	0.000
WORKSJOB	0.523	0.000
ANEIGHBR	0.539	0.000
CARETAKR	0.433	0.000
CHILDMRY	0.657	0.000
INTROFRD	0.550	0.000
RECMDJOB	0.598	0.000
REINIMAG	0.007	0.879

ALIENATD	0.026	0.469
DVSUBCLT	-0.068	0.399
DIFSRVTR	-0.148	0.057
FAMILRTY	-0.055	0.456

PITY
BY

AGE	-0.041	0.349
ETHNIC	0.123	0.137
MARITALS	0.048	0.214
GENDER	0.029	0.690
WKOUTHME	0.351	0.000
LIVARGMT	0.624	0.000
LIVWHOM	-0.556	0.000
GPA	0.133	0.133
CONTROLL	-0.006	0.922
RESPCBLE	0.080	0.293
CONCERN	0.019	0.654
PITTY	-0.035	0.463
SYMPATHY	-0.051	0.233
SORRY	0.117	0.034
HELP	-0.029	0.232
CERTHELP	0.058	0.307
RENTAPRT	0.081	0.209
AGRAVTIN	-0.009	0.800
ANGRY	-0.076	0.170
IRITATED	0.052	0.270
UNSAFE	-0.020	0.583
RISK	-0.089	0.227
DANGROUS	-0.054	0.274
TERRIFY	0.001	0.973
SCARED	0.016	0.675
FRGHTEND	0.106	0.015
THREATND	-0.032	0.315
AVOID	-0.055	0.403
RENTROOM	0.004	0.932
WORKSJOB	-0.021	0.498
ANEIGHBR	0.046	0.339
CARETAKR	-0.184	0.020
CHILDMRY	-0.010	0.853
INTROFRD	-0.132	0.061
RECMDJOB	-0.182	0.011
REINIMAG	-0.040	0.429
ALIENATD	0.047	0.222
DVSUBCLT	-0.078	0.278

DIFSRVTR	-0.170	0.045
FAMILRTY	0.085	0.270
HELPBEH		
BY		
AGE	-0.062	0.279
ETHNIC	0.004	0.959
MARITALS	0.015	0.576
GENDER	-0.221	0.008
WKOUTHME	0.051	0.501
LIVARGMT	-0.036	0.492
LIVWHOM	0.028	0.457
GPA	0.137	0.245
CONTROLL	-0.024	0.733
RESPCBLE	0.006	0.919
CONCERN	0.004	0.936
PITTY	-0.078	0.184
SYMPATHY	0.070	0.160
SORRY	-0.010	0.767
HELP	0.008	0.394
CERTHELP	-0.140	0.121
RENTAPRT	0.035	0.685
AGRAVTIN	0.088	0.252
ANGRY	0.231	0.002
IRITATED	-0.008	0.829
UNSAFE	0.437	0.000
RISK	0.313	0.030
DANGROUS	0.688	0.000
TERRIFY	0.697	0.000
SCARED	1.077	0.000
FRGHTEND	0.939	0.000
THREATND	0.848	0.000
AVOID	-0.315	0.000
RENTROOM	0.001	0.978
WORKSJOB	0.004	0.873
ANEIGHBR	0.104	0.251
CARETAKR	-0.002	0.980
CHILDMRY	-0.045	0.451
INTROFRD	0.032	0.563
RECMDJOB	-0.031	0.589
REINIMAG	0.013	0.806
ALIENATD	-0.018	0.632
DVSUBCLT	0.023	0.772
DIFSRVTR	-0.049	0.497
FAMILRTY	-0.085	0.284

ANGER
BY

AGE	0.138	0.164
ETHNIC	-0.016	0.875
MARITALS	-0.015	0.660
GENDER	0.164	0.133
WKOUTHME	-0.153	0.222
LIVARGMT	0.009	0.836
LIVWHOM	-0.219	0.018
GPA	-0.089	0.417
CONTROLL	-0.029	0.674
RESPCBLE	-0.068	0.342
CONCERN	-0.006	0.895
PITTY	-0.137	0.051
SYMPATHY	0.014	0.668
SORRY	-0.014	0.684
HELP	-0.021	0.195
CERTHELP	0.096	0.283
RENTAPRT	-0.003	0.955
AGRAVTIN	0.059	0.296
ANGRY	0.098	0.159
IRITATED	-0.094	0.370
UNSAFE	-0.004	0.953
RISK	0.041	0.436
DANGROUS	-0.039	0.383
TERRIFY	-0.009	0.758
SCARED	0.026	0.472
FRGHTEND	0.019	0.521
THREATND	0.019	0.692
AVOID	0.060	0.437
RENTROOM	0.005	0.911
WORKSJOB	0.652	0.000
ANEIGHBR	0.474	0.000
CARETAKR	-0.071	0.476
CHILDMRY	-0.053	0.412
INTROFRD	0.235	0.004
RECMDJOB	0.051	0.424
REINIMAG	-0.120	0.123
ALIENATD	0.008	0.787
DVSUBCLT	0.043	0.592
DIFSRVTR	0.005	0.936
FAMILRTY	0.179	0.026

DANGERES

BY

AGE	-0.047	0.302
ETHNIC	-0.097	0.155
MARITALS	0.036	0.204
GENDER	-0.008	0.911
WKOUTHME	0.024	0.671
LIVARGMT	-0.017	0.726
LIVWHOM	-0.014	0.656
GPA	-0.059	0.423
CONTROLL	0.078	0.281
RESPCBLE	-0.024	0.655
CONCERN	0.016	0.711
PITTY	-0.006	0.880
SYMPATHY	0.050	0.215
SORRY	-0.049	0.175
HELP	-0.010	0.486
CERTHELP	0.036	0.481
RENTAPRT	0.020	0.661
AGRAVTIN	0.053	0.339
ANGRY	-0.087	0.068
IRITATED	-0.014	0.611
UNSAFE	0.074	0.317
RISK	-0.152	0.013
DANGROUS	-0.022	0.529
TERRIFY	-0.040	0.299
SCARED	0.006	0.809
FRGHTEND	0.028	0.384
THREATND	-0.003	0.908
AVOID	-0.001	0.981
RENTROOM	0.004	0.943
WORKSJOB	-0.008	0.796
ANEIGHBR	-0.009	0.843
CARETAKR	0.005	0.928
CHILDMRY	-0.020	0.671
INTROFRD	-0.021	0.718
RECMDJOB	0.052	0.500
REINIMAG	0.605	0.000
ALIENATD	0.929	0.000
DVSUBCLT	0.402	0.000
DIFSRVTR	0.123	0.152
FAMILRTY	0.048	0.506

FEAR
BY

AGE	0.023	0.598

ETHNIC	0.096	0.183
MARITALS	-0.029	0.370
GENDER	-0.086	0.229
WKOUTHME	0.147	0.039
LIVARGMT	-0.016	0.725
LIVWHOM	-0.005	0.876
GPA	-0.070	0.384
CONTROLL	-0.018	0.775
RESPCBLE	-0.151	0.032
CONCERN	0.664	0.000
PITTY	0.677	0.000
SYMPATHY	0.847	0.000
SORRY	0.908	0.000
HELP	-0.008	0.385
CERTHELP	0.274	0.001
RENTAPRT	-0.022	0.618
AGRAVTIN	0.013	0.773
ANGRY	0.030	0.445
IRITATED	-0.027	0.445
UNSAFE	-0.036	0.406
RISK	-0.040	0.510
DANGROUS	0.050	0.234
TERRIFY	-0.047	0.408
SCARED	-0.031	0.205
FRGHTEND	0.024	0.411
THREATND	0.048	0.108
AVOID	0.109	0.089
RENTROOM	0.106	0.138
WORKSJOB	-0.045	0.209
ANEIGHBR	0.046	0.284
CARETAKR	0.060	0.356
CHILDMRY	0.019	0.708
INTROFRD	-0.065	0.240
RECMDJOB	-0.041	0.450
REINIMAG	0.039	0.428
ALIENATD	-0.043	0.215
DVSUBCLT	0.156	0.033
DIFSRVTR	0.065	0.391
FAMILRTY	0.027	0.675
AVVOID		
BY		
AGE	0.002	0.910
ETHNIC	0.008	0.819
MARITALS	0.014	0.349

GENDER	-0.001	0.969
WKOUTHME	-0.036	0.289
LIVARGMT	-0.101	0.054
LIVWHOM	-0.026	0.171
GPA	0.049	0.177
CONTROLL	-0.114	0.030
RESPCBLE	0.081	0.084
CONCERN	0.090	0.069
PITTY	-0.004	0.850
SYMPATHY	0.038	0.224
SORRY	-0.041	0.024
HELP	1.425	0.000
CERTHELP	0.403	0.001
RENTAPRT	0.021	0.392
AGRAVTIN	0.034	0.144
ANGRY	-0.006	0.714
IRITATED	-0.030	0.144
UNSAFE	-0.026	0.224
RISK	-0.054	0.025
DANGROUS	0.002	0.927
TERRIFY	0.000	0.973
SCARED	0.014	0.222
FRGHTEND	-0.001	0.958
THREATND	-0.002	0.908
AVOID	0.050	0.227
RENTROOM	0.023	0.326
WORKSJOB	0.000	0.980
ANEIGHBR	-0.009	0.672
CARETAKR	0.016	0.555
CHILDMRY	0.002	0.928
INTROFRD	-0.030	0.232
RECMDJOB	-0.056	0.082
REINIMAG	0.012	0.631
ALIENATD	-0.013	0.440
DVSUBCLT	0.010	0.722
DIFSRVTR	0.017	0.571
FAMILRTY	0.024	0.517
CRIMSTIG		
BY		
AGE	-0.069	0.385
ETHNIC	-0.088	0.529
MARITALS	0.021	0.515
GENDER	-0.040	0.687
WKOUTHME	0.028	0.722

LIVARGMT	0.022	0.706
LIVWHOM	0.039	0.455
GPA	-0.023	0.806
CONTROLL	0.118	0.287
RESPCBLE	0.362	0.001
CONCERN	-0.005	0.929
PITTY	0.014	0.815
SYMPATHY	-0.050	0.345
SORRY	-0.026	0.558
HELP	-0.018	0.172
CERTHELP	0.104	0.224
RENTAPRT	-0.018	0.774
AGRAVTIN	0.652	0.000
ANGRY	0.622	0.000
IRITATED	0.859	0.000
UNSAFE	0.212	0.007
RISK	0.258	0.006
DANGROUS	0.043	0.487
TERRIFY	0.056	0.762
SCARED	-0.020	0.715
FRGHTEND	-0.001	0.982
THREATND	0.042	0.440
AVOID	0.045	0.648
RENTROOM	0.061	0.417
WORKSJOB	0.076	0.315
ANEIGHBR	-0.014	0.728
CARETAKR	-0.003	0.968
CHILDMRY	-0.006	0.937
INTROFRD	0.080	0.362
RECMDJOB	0.031	0.662
REINIMAG	0.040	0.656
ALIENATD	-0.019	0.661
DVSUBCLT	-0.057	0.510
DIFSRVTR	-0.087	0.386
FAMILRTY	-0.125	0.274

AVOIDD BY

AGE	0.030	0.515
ETHNIC	0.054	0.794
MARITALS	0.000	0.993
GENDER	0.004	0.952
WKOUTHME	-0.052	0.584
LIVARGMT	-0.023	0.671
LIVWHOM	-0.025	0.419
GPA	-0.027	0.687

CONTROLL	0.128	0.519
RESPCBLE	-0.133	0.158
CONCERN	0.050	0.646
PITTY	0.025	0.514
SYMPATHY	-0.058	0.149
SORRY	-0.024	0.379
HELP	0.012	0.445
CERTHELP	-0.041	0.400
RENTAPRT	0.031	0.788
AGRAVTIN	0.115	0.511
ANGRY	0.014	0.666
IRITATED	-0.011	0.784
UNSAFE	0.197	0.540
RISK	0.015	0.651
DANGROUS	-0.069	0.460
TERRIFY	0.521	0.390
SCARED	-0.013	0.849
FRGHTEND	0.096	0.085
THREATND	-0.024	0.829
AVOID	0.041	0.742
RENTROOM	0.088	0.491
WORKSJOB	-0.042	0.183
ANEIGHBR	0.109	0.620
CARETAKR	0.007	0.959
CHILDMRY	0.046	0.473
INTROFRD	-0.045	0.588
RECMDJOB	-0.112	0.565
REINIMAG	-0.041	0.836
ALIENATD	0.003	0.966
DVSUBCLT	0.048	0.842
DIFSRVTR	0.173	0.394
FAMILRTY	-0.049	0.628

FAMILRNK

BY

AGE	-0.035	0.525
ETHNIC	-0.017	0.934
MARITALS	-0.011	0.745
GENDER	0.095	0.434
WKOUTHME	-0.034	0.751
LIVARGMT	0.012	0.853
LIVWHOM	0.027	0.491
GPA	0.268	0.346
CONTROLL	-0.028	0.807
RESPCBLE	0.114	0.185

CONCERN	0.060	0.355
PITTY	0.007	0.913
SYMPATHY	-0.033	0.459
SORRY	-0.039	0.306
HELP	-0.027	0.235
CERTHELP	0.175	0.346
RENTAPRT	0.134	0.103
AGRAVTIN	-0.001	0.984
ANGRY	0.024	0.806
IRITATED	-0.034	0.472
UNSAFE	0.143	0.159
RISK	0.342	0.068
DANGROUS	0.204	0.056
TERRIFY	-0.005	0.965
SCARED	-0.272	0.438
FRGHTEND	-0.017	0.903
THREATND	0.027	0.622
AVOID	-0.029	0.755
RENTROOM	-0.065	0.620
WORKSJOB	-0.059	0.242
ANEIGHBR	0.058	0.503
CARETAKR	-0.153	0.250
CHILDMRY	-0.050	0.464
INTROFRD	0.096	0.502
RECMDJOB	-0.026	0.763
REINIMAG	-0.034	0.565
ALIENATD	-0.010	0.794
DVSUBCLT	0.166	0.142
DIFSRVTR	-0.066	0.505
FAMILRTY	0.020	0.848

Stage 3   ESEM Attribution Model (no ownfault)

STDYX Standardization		Two-Tailed
	Estimate	P-Value
PERSRESP BY		
CONTROLL	0.005	0.938
RESPCBLE	-0.024	0.809
CONCERN	-0.037	0.532
PITTY	0.061	0.430
SYMPATHY	-0.046	0.456
SORRY	0.083	0.420
HELP	-0.002	0.971
CERTHELP	0.039	0.451
WILLTALK	-0.132	0.377
AGRAVTIN	0.793	0.000
ANGRY	0.852	0.000
IRITATED	0.823	0.000
UNSAFE	0.436	0.135
RISK	0.455	0.002
DANGROUS	0.099	0.296
TERRIFY	0.381	0.288
SCARED	0.025	0.834
FRGHTEND	0.160	0.351
THREATND	-0.070	0.340
AVOID	-0.017	0.809
RENTAPRT	-0.007	0.927
PITY BY		
CONTROLL	0.009	0.887
RESPCBLE	0.212	0.238
CONCERN	0.008	0.914
PITTY	-0.018	0.813
SYMPATHY	0.026	0.667
SORRY	0.029	0.803
HELP	0.048	0.634
CERTHELP	-0.021	0.612
WILLTALK	-0.080	0.678
AGRAVTIN	-0.024	0.759
ANGRY	-0.010	0.937
IRITATED	0.049	0.629
UNSAFE	0.185	0.745

RISK	0.229	0.229
DANGROUS	0.792	0.000
TERRIFY	0.276	0.713
SCARED	0.878	0.002
FRGHTEND	0.690	0.039
THREATND	0.996	0.000
AVOID	-0.477	0.075
RENTAPRT	0.422	0.000
HELPBEH BY		
CONTROLL	-0.129	0.482
RESPCBLE	0.044	0.675
CONCERN	0.094	0.370
PITTY	0.043	0.406
SYMPATHY	0.017	0.675
SORRY	-0.089	0.196
HELP	-0.055	0.257
CERTHELP	0.048	0.223
WILLTALK	-0.107	0.370
AGRAVTIN	-0.009	0.893
ANGRY	0.025	0.583
IRITATED	-0.124	0.158
UNSAFE	0.362	0.063
RISK	0.064	0.529
DANGROUS	-0.028	0.805
TERRIFY	0.500	0.050
SCARED	0.142	0.465
FRGHTEND	0.179	0.330
THREATND	-0.009	0.954
AVOID	0.220	0.068
RENTAPRT	-0.008	0.884
ANGER BY		
CONTROLL	-0.041	0.509
RESPCBLE	-0.011	0.870
CONCERN	0.423	0.002
PITTY	0.818	0.000
SYMPATHY	0.698	0.000
SORRY	0.804	0.000
HELP	0.077	0.337
CERTHELP	-0.081	0.156
WILLTALK	0.190	0.059
AGRAVTIN	0.031	0.551
ANGRY	-0.006	0.860
IRITATED	0.054	0.311

UNSAFE	0.011	0.788
RISK	-0.133	0.087
DANGROUS	0.003	0.933
TERRIFY	-0.005	0.874
SCARED	0.058	0.129
FRGHTEND	-0.011	0.763
THREATND	0.049	0.223
AVOID	0.168	0.087
RENTAPRT	-0.005	0.904
DANGERES　BY		
CONTROLL	-0.050	0.370
RESPCBLE	-0.147	0.188
CONCERN	0.075	0.493
PITTY	-0.049	0.448
SYMPATHY	0.237	0.003
SORRY	-0.027	0.402
HELP	0.849	0.000
CERTHELP	0.934	0.000
WILLTALK	0.293	0.005
AGRAVTIN	-0.024	0.613
ANGRY	0.066	0.278
IRITATED	0.054	0.314
UNSAFE	-0.100	0.171
RISK	-0.076	0.326
DANGROUS	-0.047	0.253
TERRIFY	-0.021	0.640
SCARED	0.075	0.084
FRGHTEND	0.063	0.212
THREATND	0.034	0.346
AVOID	0.132	0.241
RENTAPRT	-0.047	0.495
FEAR　BY		
CONTROLL	0.601	0.000
RESPCBLE	0.253	0.017
CONCERN	0.018	0.627
PITTY	0.017	0.760
SYMPATHY	-0.060	0.351
SORRY	-0.015	0.752
HELP	0.042	0.394
CERTHELP	-0.044	0.377
WILLTALK	0.123	0.267
AGRAVTIN	-0.105	0.289
ANGRY	0.216	0.034

IRITATED	0.018	0.743
UNSAFE	-0.059	0.384
RISK	-0.018	0.814
DANGROUS	-0.001	0.974
TERRIFY	0.007	0.867
SCARED	0.028	0.433
FRGHTEND	0.021	0.659
THREATND	0.002	0.946
AVOID	0.241	0.047
RENTAPRT	-0.185	0.100
AVVOID BY		
CONTROLL	0.057	0.505
RESPCBLE	-0.171	0.167
CONCERN	0.541	0.004
PITTY	-0.086	0.424
SYMPATHY	0.003	0.935
SORRY	0.171	0.138
HELP	0.047	0.396
CERTHELP	-0.009	0.787
WILLTALK	0.084	0.493
AGRAVTIN	0.034	0.613
ANGRY	-0.128	0.147
IRITATED	-0.014	0.781
UNSAFE	0.043	0.515
RISK	0.029	0.804
DANGROUS	0.205	0.027
TERRIFY	-0.006	0.874
SCARED	-0.089	0.089
FRGHTEND	0.039	0.432
THREATND	0.012	0.797
AVOID	0.016	0.742
RENTAPRT	-0.315	0.002

Stage 3 CFA for Attribution Measurement Model (no ownfault)

STDYX Standardization

	Estimate	S.E.	Est./S.E.	Two-Tailed P-Value
PERSRESP BY				
CONTROLL	0.057	0.073	0.790	0.430
RESPCBLE	-0.142	0.082	-1.720	0.085
CONCERN	0.983	0.301	3.265	0.001
PITY BY				
PITTY	0.740	0.039	19.208	0.000
SYMPATHY	0.799	0.035	22.765	0.000
SORRY	0.867	0.030	29.290	0.000
ANGER BY				
AGRAVTIN	0.783	0.034	23.007	0.000
ANGRY	0.812	0.031	25.802	0.000
IRITATED	0.825	0.030	27.188	0.000
HELPBEH BY				
HELP	0.984	0.029	33.398	0.000
CERTHELP	0.801	0.034	23.789	0.000
WILLTALK	0.485	0.057	8.567	0.000
DANGERES BY				
UNSAFE	0.754	0.033	23.031	0.000
RISK	0.615	0.048	12.796	0.000
DANGROUS	0.835	0.026	31.810	0.000
FEAR BY				
TERRIFY	0.825	0.024	34.153	0.000
SCARED	0.964	0.008	114.851	0.000
FRGHTEND	0.892	0.016	55.347	0.000
AVVOID BY				
THREATND	0.943	0.028	33.199	0.000
AVOID	-0.365	0.064	-5.740	0.000
RENTAPRT	0.427	0.060	7.074	0.000

Stage 3   ESEM Attribution Model DEMOGRPH
(see Table 3.17)
STDYX Standardization

	Estimate	Two-Tailed P-Value
DEMOGRPH BY		
AGE	0.726	0.000
ETHNIC	-0.055	0.560
MARITALS	0.508	0.028
GENDER	0.073	0.460
WKOUTHME	-0.125	0.200
LIVARGMT	-0.137	0.405
LIVWHOM	0.376	0.003
GPA	-0.122	0.251
CONTROLL	-0.138	0.183
RESPCBLE	-0.205	0.089
CONCERN	-0.147	0.294
PITTY	0.088	0.231
SYMPATHY	-0.029	0.547
SORRY	0.043	0.423
HELP	0.072	0.478
CERTHELP	0.123	0.336
WILLTALK	-0.047	0.506
AGRAVTIN	0.023	0.659
ANGRY	-0.023	0.653
IRITATED	-0.058	0.421
UNSAFE	-0.076	0.316
RISK	-0.045	0.548
DANGROUS	-0.012	0.773
TERRIFY	0.040	0.447
SCARED	0.015	0.676
FRGHTEND	0.050	0.395
THREATND	-0.024	0.480
AVOID	-0.082	0.389
RENTAPRT	0.106	0.369
PERSRESP BY		
AGE	-0.026	0.575
ETHNIC	0.016	0.781
MARITALS	0.018	0.522
GENDER	-0.063	0.479
WKOUTHME	0.015	0.852
LIVARGMT	0.039	0.528

LIVWHOM	0.024	0.669
GPA	0.022	0.792
CONTROLL	-0.034	0.673
RESPCBLE	0.259	0.005
CONCERN	-0.008	0.836
PITTY	0.049	0.364
SYMPATHY	0.019	0.674
SORRY	0.000	0.998
HELP	0.022	0.516
CERTHELP	-0.006	0.867
WILLTALK	-0.210	0.025
AGRAVTIN	0.380	0.164
ANGRY	0.496	0.014
IRITATED	0.463	0.029
UNSAFE	0.602	0.000
RISK	0.501	0.000
DANGROUS	0.828	0.000
TERRIFY	0.721	0.000
SCARED	0.995	0.000
FRGHTEND	0.862	0.000
THREATND	0.987	0.000
AVOID	-0.392	0.000
RENTAPRT	0.448	0.000
PITY BY		
AGE	-0.018	0.842
ETHNIC	0.002	0.975
MARITALS	0.698	0.000
GENDER	0.117	0.205
WKOUTHME	-0.074	0.430
LIVARGMT	0.239	0.019
LIVWHOM	-0.004	0.950
GPA	0.003	0.976
CONTROLL	0.114	0.277
RESPCBLE	-0.079	0.411
CONCERN	0.212	0.086
PITTY	-0.163	0.061
SYMPATHY	-0.217	0.016
SORRY	0.016	0.669
HELP	-0.017	0.639
CERTHELP	0.018	0.665
WILLTALK	0.013	0.844
AGRAVTIN	0.086	0.441
ANGRY	-0.105	0.327
IRITATED	-0.127	0.276

UNSAFE	-0.026	0.580
RISK	0.016	0.773
DANGROUS	0.202	0.002
TERRIFY	0.009	0.819
SCARED	-0.033	0.353
FRGHTEND	0.126	0.012
THREATND	0.032	0.414
AVOID	-0.001	0.982
RENTAPRT	-0.171	0.110

HELPBEH   BY

AGE	0.001	0.989
ETHNIC	-0.051	0.529
MARITALS	-0.031	0.420
GENDER	-0.009	0.921
WKOUTHME	0.055	0.538
LIVARGMT	-0.051	0.488
LIVWHOM	0.024	0.678
GPA	0.062	0.507
CONTROLL	-0.047	0.592
RESPCBLE	-0.089	0.330
CONCERN	0.581	0.000
PITTY	0.755	0.000
SYMPATHY	0.670	0.000
SORRY	0.878	0.000
HELP	0.052	0.291
CERTHELP	-0.063	0.234
WILLTALK	0.177	0.043
AGRAVTIN	0.029	0.496
ANGRY	-0.064	0.261
IRITATED	0.013	0.729
UNSAFE	-0.002	0.959
RISK	-0.060	0.385
DANGROUS	0.130	0.023
TERRIFY	0.008	0.811
SCARED	0.028	0.362
FRGHTEND	0.035	0.367
THREATND	0.058	0.155
AVOID	0.143	0.122
RENTAPRT	-0.130	0.166

ANGER   BY

AGE	-0.020	0.802
ETHNIC	0.294	0.038
MARITALS	-0.011	0.768

GENDER	0.107	0.411
WKOUTHME	-0.095	0.436
LIVARGMT	-0.371	0.011
LIVWHOM	0.428	0.004
GPA	0.143	0.261
CONTROLL	0.112	0.410
RESPCBLE	0.144	0.328
CONCERN	-0.052	0.582
PITTY	0.030	0.609
SYMPATHY	-0.031	0.609
SORRY	0.031	0.581
HELP	0.021	0.624
CERTHELP	-0.005	0.923
WILLTALK	-0.038	0.712
AGRAVTIN	-0.046	0.487
ANGRY	0.157	0.163
IRITATED	0.076	0.516
UNSAFE	-0.070	0.354
RISK	0.323	0.017
DANGROUS	0.147	0.148
TERRIFY	0.047	0.430
SCARED	-0.067	0.290
FRGHTEND	0.009	0.833
THREATND	-0.049	0.467
AVOID	0.004	0.952
RENTAPRT	-0.126	0.297
DANGERES BY		
AGE	0.014	0.799
ETHNIC	0.180	0.067
MARITALS	0.015	0.607
GENDER	-0.050	0.558
WKOUTHME	0.198	0.020
LIVARGMT	-0.011	0.851
LIVWHOM	-0.010	0.856
GPA	0.011	0.896
CONTROLL	0.147	0.114
RESPCBLE	-0.093	0.293
CONCERN	0.243	0.007
PITTY	-0.047	0.345
SYMPATHY	0.242	0.000
SORRY	-0.001	0.980
HELP	0.920	0.000
CERTHELP	0.866	0.000
WILLTALK	0.373	0.000

AGRAVTIN	-0.048	0.243
ANGRY	0.104	0.085
IRITATED	0.071	0.188
UNSAFE	-0.057	0.210
RISK	-0.097	0.183
DANGROUS	-0.035	0.344
TERRIFY	0.011	0.720
SCARED	0.048	0.149
FRGHTEND	0.051	0.177
THREATND	0.013	0.688
AVOID	0.237	0.011
RENTAPRT	-0.190	0.064
FEAR BY		
AGE	-0.059	0.475
ETHNIC	-0.237	0.029
MARITALS	-0.019	0.616
GENDER	-0.023	0.823
WKOUTHME	-0.003	0.976
LIVARGMT	-0.051	0.555
LIVWHOM	0.004	0.946
GPA	-0.021	0.830
CONTROLL	-0.098	0.355
RESPCBLE	-0.170	0.101
CONCERN	0.018	0.716
PITTY	-0.002	0.962
SYMPATHY	-0.049	0.416
SORRY	0.123	0.084
HELP	0.017	0.618
CERTHELP	0.047	0.348
WILLTALK	-0.004	0.954
AGRAVTIN	0.618	0.000
ANGRY	0.376	0.002
IRITATED	0.502	0.000
UNSAFE	0.162	0.081
RISK	0.139	0.220
DANGROUS	-0.001	0.990
TERRIFY	0.018	0.661
SCARED	-0.092	0.189
FRGHTEND	0.016	0.775
THREATND	-0.095	0.209
AVOID	-0.088	0.356
RENTAPRT	0.041	0.615
AVVOID BY		

AGE	0.085	0.451
ETHNIC	0.045	0.583
MARITALS	-0.036	0.343
GENDER	-0.050	0.601
WKOUTHME	0.063	0.511
LIVARGMT	0.061	0.489
LIVWHOM	-0.024	0.657
GPA	0.063	0.543
CONTROLL	-0.126	0.253
RESPCBLE	-0.009	0.893
CONCERN	0.043	0.469
PITTY	0.040	0.463
SYMPATHY	-0.009	0.816
SORRY	-0.073	0.229
HELP	-0.080	0.165
CERTHELP	0.023	0.476
WILLTALK	-0.139	0.152
AGRAVTIN	0.050	0.382
ANGRY	0.085	0.289
IRITATED	-0.069	0.329
UNSAFE	0.324	0.000
RISK	0.096	0.383
DANGROUS	-0.071	0.389
TERRIFY	0.463	0.000
SCARED	0.032	0.615
FRGHTEND	0.110	0.141
THREATND	-0.119	0.130
AVOID	0.193	0.048
RENTAPRT	-0.054	0.520

Stage 3 ESEM Attribution Model DEMOGRPH
(age, maritals,livwhom) no ownfault (see Table 3.19)

STDYX Standardization

	Estimate	Two-Tailed P-Value
DEMOGRPH BY		
AGE	0.477	0.000
MARITALS	0.842	0.000
LIVWHOM	0.244	0.022
CONTROLL	0.036	0.555
RESPCBLE	-0.166	0.095
CONCERN	0.005	0.837
PITTY	-0.023	0.538
SYMPATHY	-0.186	0.007
SORRY	0.061	0.222
HELP	-0.010	0.739
CERTHELP	0.054	0.253
WILLTALK	-0.023	0.735
AGRAVTIN	0.059	0.384
ANGRY	-0.050	0.243
IRITATED	-0.158	0.046
UNSAFE	-0.102	0.116
RISK	-0.068	0.327
DANGROUS	0.084	0.136
TERRIFY	0.024	0.451
SCARED	-0.014	0.598
FRGHTEND	0.117	0.010
THREATND	-0.025	0.529
AVOID	-0.026	0.611
RENTAPRT	-0.045	0.522
PERSRESP BY		
AGE	0.001	0.972
MARITALS	0.106	0.486
LIVWHOM	-0.059	0.584
CONTROLL	-0.010	0.864
RESPCBLE	0.259	0.068
CONCERN	0.024	0.528
PITTY	0.017	0.756
SYMPATHY	0.065	0.284
SORRY	-0.037	0.600
HELP	0.029	0.604

CERTHELP		-0.034	0.488
WILLTALK		-0.119	0.383
AGRAVTIN		0.007	0.885
ANGRY		0.047	0.536
IRITATED		0.106	0.432
UNSAFE		0.356	0.246
RISK		0.290	0.013
DANGROUS		0.752	0.000
TERRIFY		0.460	0.250
SCARED		0.908	0.000
FRGHTEND		0.708	0.000
THREATND		0.979	0.000
AVOID		-0.369	0.065
RENTAPRT		0.418	0.000
PITY	BY		
AGE		-0.055	0.459
MARITALS		-0.034	0.422
LIVWHOM		0.243	0.065
CONTROLL		-0.011	0.858
RESPCBLE		-0.108	0.408
CONCERN		-0.032	0.445
PITTY		0.077	0.461
SYMPATHY		-0.037	0.391
SORRY		0.230	0.020
HELP		0.034	0.452
CERTHELP		0.029	0.482
WILLTALK		-0.043	0.668
AGRAVTIN		0.707	0.000
ANGRY		0.693	0.000
IRITATED		0.727	0.000
UNSAFE		0.125	0.278
RISK		0.338	0.004
DANGROUS		0.151	0.080
TERRIFY		0.043	0.552
SCARED		-0.037	0.340
FRGHTEND		0.080	0.210
THREATND		-0.023	0.692
AVOID		-0.189	0.200
RENTAPRT		0.018	0.828
HELPBEH	BY		
AGE		0.056	0.442
MARITALS		-0.076	0.330
LIVWHOM		0.000	0.996

CONTROLL		-0.019	0.769
RESPCBLE		-0.052	0.524
CONCERN		0.467	0.000
PITTY		0.787	0.000
SYMPATHY		0.651	0.000
SORRY		0.860	0.000
HELP		0.022	0.486
CERTHELP		-0.110	0.168
WILLTALK		0.169	0.070
AGRAVTIN		0.032	0.525
ANGRY		0.002	0.960
IRITATED		0.015	0.723
UNSAFE		-0.027	0.528
RISK		-0.127	0.097
DANGROUS		0.050	0.315
TERRIFY		-0.002	0.955
SCARED		0.047	0.166
FRGHTEND		0.022	0.544
THREATND		0.041	0.273
AVOID		0.138	0.184
RENTAPRT		-0.061	0.500
ANGER	BY		
AGE		0.050	0.439
MARITALS		-0.044	0.456
LIVWHOM		-0.031	0.743
CONTROLL		-0.087	0.610
RESPCBLE		0.046	0.645
CONCERN		0.072	0.390
PITTY		0.061	0.444
SYMPATHY		-0.020	0.577
SORRY		-0.057	0.389
HELP		-0.072	0.331
CERTHELP		0.052	0.329
WILLTALK		-0.144	0.307
AGRAVTIN		0.154	0.392
ANGRY		0.215	0.356
IRITATED		0.000	0.999
UNSAFE		0.454	0.040
RISK		0.133	0.369
DANGROUS		-0.005	0.958
TERRIFY		0.587	0.020
SCARED		0.156	0.368
FRGHTEND		0.250	0.193
THREATND		-0.039	0.728

AVOID			0.225	0.070
RENTAPRT			-0.019	0.823
DANGERES	BY	BY		
AGE			0.060	0.427
MARITALS			-0.012	0.703
LIVWHOM			-0.015	0.831
CONTROLL			0.028	0.699
RESPCBLE			-0.164	0.099
CONCERN			0.247	0.044
PITTY			-0.052	0.395
SYMPATHY			0.288	0.000
SORRY			-0.011	0.725
HELP			0.908	0.000
CERTHELP			0.910	0.000
WILLTALK			0.347	0.000
AGRAVTIN			-0.034	0.511
ANGRY			0.032	0.478
IRITATED			0.096	0.151
UNSAFE			-0.035	0.453
RISK			-0.073	0.313
DANGROUS			-0.021	0.586
TERRIFY			-0.012	0.754
SCARED			0.048	0.208
FRGHTEND			0.035	0.375
THREATND			0.034	0.371
AVOID			0.192	0.106
RENTAPRT			-0.152	0.185
FEAR	BY			
AGE			-0.505	0.000
MARITALS			0.034	0.397
LIVWHOM			-0.151	0.180
CONTROLL			0.245	0.082
RESPCBLE			0.066	0.558
CONCERN			0.420	0.002
PITTY			-0.097	0.414
SYMPATHY			-0.043	0.409
SORRY			0.105	0.395
HELP			0.028	0.551
CERTHELP			-0.027	0.488
WILLTALK			0.128	0.223
AGRAVTIN			0.015	0.797
ANGRY			-0.023	0.718
IRITATED			-0.007	0.894

UNSAFE		0.013	0.788
RISK		0.043	0.591
DANGROUS		0.154	0.023
TERRIFY		-0.032	0.476
SCARED		-0.067	0.068
FRGHTEND		0.035	0.410
THREATND		0.015	0.702
AVOID		0.111	0.389
RENTAPRT		-0.273	0.015
AVVOID	BY		
AGE		-0.034	0.701
MARITALS		-0.012	0.785
LIVWHOM		0.171	0.219
CONTROLL		0.359	0.038
RESPCBLE		0.252	0.083
CONCERN		-0.181	0.238
PITTY		0.060	0.427
SYMPATHY		-0.076	0.358
SORRY		0.013	0.730
HELP		0.018	0.693
CERTHELP		0.001	0.990
WILLTALK		0.058	0.639
AGRAVTIN		-0.097	0.510
ANGRY		0.321	0.024
IRITATED		-0.009	0.884
UNSAFE		-0.190	0.171
RISK		0.013	0.877
DANGROUS		-0.023	0.640
TERRIFY		-0.012	0.897
SCARED		0.057	0.206
FRGHTEND		0.044	0.493
THREATND		0.003	0.944
AVOID		0.093	0.543
RENTAPRT		-0.044	0.699

Stage 3 ESEM Attribution Model DEMOGRPH
(age,maritals,livwhom) CRIMSTIG
(see Table 3.23)

STDYX Standardization

		Estimate	Two-Tailed P-Value
DEMOGRPH	BY		
AGE		0.765	0.000
MARITALS		0.468	0.005
LIVWHOM		0.306	0.001
CONTROLL		-0.140	0.192
RESPCBLE		-0.213	0.016
CONCERN		-0.153	0.125
PITTY		0.097	0.135
SYMPATHY		-0.017	0.603
SORRY		0.033	0.518
HELP		0.020	0.469
CERTHELP		0.064	0.190
WILLTALK		-0.077	0.317
AGRAVTIN		0.011	0.760
ANGRY		0.003	0.919
IRITATED		-0.059	0.387
UNSAFE		-0.042	0.381
RISK		-0.092	0.200
DANGROUS		-0.042	0.355
TERRIFY		0.036	0.367
SCARED		0.023	0.404
FRGHTEND		0.027	0.528
THREATND		-0.032	0.328
AVOID		-0.065	0.404
RENTAPRT		0.076	0.404
REINIMAG		-0.049	0.454
ALIENATD		0.190	0.026
DVSUBCLT		0.017	0.615
DIFSRVTR		-0.073	0.352
PERSRESP	BY		
AGE		-0.001	0.981
MARITALS		0.660	0.000
LIVWHOM		0.099	0.359
CONTROLL		0.145	0.340
RESPCBLE		-0.043	0.636

CONCERN		0.128	0.224
PITTY		-0.203	0.029
SYMPATHY		-0.330	0.000
SORRY		0.003	0.928
HELP		-0.029	0.466
CERTHELP		-0.007	0.844
WILLTALK		0.071	0.428
AGRAVTIN		0.196	0.316
ANGRY		-0.043	0.366
IRITATED		-0.079	0.506
UNSAFE		-0.023	0.732
RISK		0.011	0.886
DANGROUS		0.162	0.016
TERRIFY		0.010	0.822
SCARED		-0.020	0.596
FRGHTEND		0.151	0.006
THREATND		0.010	0.820
AVOID		0.018	0.779
RENTAPRT		-0.090	0.431
REINIMAG		-0.034	0.626
ALIENATD		-0.037	0.571
DVSUBCLT		0.000	0.996
DIFSRVTR		0.041	0.586
PITY	BY		
AGE		0.015	0.725
MARITALS		-0.059	0.268
LIVWHOM		0.074	0.394
CONTROLL		0.034	0.617
RESPCBLE		0.085	0.329
CONCERN		-0.018	0.678
PITTY		0.052	0.346
SYMPATHY		-0.032	0.380
SORRY		0.054	0.261
HELP		0.063	0.183
CERTHELP		-0.028	0.371
WILLTALK		0.139	0.094
AGRAVTIN		0.034	0.434
ANGRY		-0.042	0.457
IRITATED		-0.019	0.669
UNSAFE		0.042	0.369
RISK		-0.036	0.593
DANGROUS		-0.035	0.386
TERRIFY		0.010	0.783
SCARED		0.052	0.123

FRGHTEND		0.012	0.738
THREATND		-0.003	0.935
AVOID		0.155	0.086
RENTAPRT		0.103	0.231
REINIMAG		0.568	0.000
ALIENATD		0.722	0.000
DVSUBCLT		0.730	0.000
DIFSRVTR		0.517	0.000
HELPBEH	BY		
AGE		-0.027	0.645
MARITALS		-0.118	0.661
LIVWHOM		0.109	0.460
CONTROLL		-0.158	0.401
RESPCBLE		-0.022	0.788
CONCERN		0.032	0.578
PITTY		0.029	0.567
SYMPATHY		-0.084	0.439
SORRY		0.017	0.734
HELP		-0.032	0.423
CERTHELP		0.100	0.151
WILLTALK		-0.199	0.087
AGRAVTIN		0.775	0.000
ANGRY		0.764	0.000
IRITATED		0.577	0.000
UNSAFE		0.666	0.000
RISK		0.429	0.002
DANGROUS		0.163	0.381
TERRIFY		0.678	0.005
SCARED		0.212	0.280
FRGHTEND		0.375	0.095
THREATND		0.029	0.846
AVOID		0.044	0.553
RENTAPRT		0.051	0.583
REINIMAG		0.014	0.814
ALIENATD		0.065	0.411
DVSUBCLT		-0.041	0.527
DIFSRVTR		-0.048	0.532
ANGER	BY		
AGE		-0.007	0.894
MARITALS		0.096	0.475
LIVWHOM		-0.024	0.793
CONTROLL		0.020	0.788
RESPCBLE		0.227	0.039

CONCERN	-0.017	0.761
PITTY	0.025	0.650
SYMPATHY	0.070	0.271
SORRY	0.002	0.971
HELP	0.056	0.316
CERTHELP	-0.048	0.327
WILLTALK	-0.090	0.482
AGRAVTIN	-0.017	0.694
ANGRY	0.024	0.746
IRITATED	0.176	0.091
UNSAFE	0.209	0.407
RISK	0.282	0.054
DANGROUS	0.721	0.000
TERRIFY	0.299	0.324
SCARED	0.801	0.000
FRGHTEND	0.604	0.002
THREATND	0.922	0.000
AVOID	-0.435	0.000
RENTAPRT	0.404	0.000
REINIMAG	0.031	0.678
ALIENATD	-0.152	0.134
DVSUBCLT	0.062	0.477
DIFSRVTR	0.006	0.934

DANGERES BY		
AGE	0.003	0.948
MARITALS	-0.010	0.682
LIVWHOM	-0.045	0.595
CONTROLL	-0.017	0.798
RESPCBLE	-0.118	0.212
CONCERN	0.587	0.000
PITTY	0.753	0.000
SYMPATHY	0.679	0.000
SORRY	0.871	0.000
HELP	0.027	0.470
CERTHELP	-0.043	0.420
WILLTALK	0.146	0.096
AGRAVTIN	0.017	0.667
ANGRY	0.006	0.853
IRITATED	0.009	0.847
UNSAFE	-0.020	0.638
RISK	-0.117	0.118
DANGROUS	0.095	0.082
TERRIFY	0.007	0.829
SCARED	0.034	0.251

FRGHTEND		0.041	0.279
THREATND		0.051	0.197
AVOID		0.133	0.186
RENTAPRT		-0.162	0.094
REINIMAG		0.017	0.745
ALIENATD		0.052	0.392
DVSUBCLT		-0.141	0.095
DIFSRVTR		0.018	0.759
FEAR	BY		
AGE		0.021	0.664
MARITALS		0.001	0.978
LIVWHOM		-0.026	0.740
CONTROLL		0.059	0.484
RESPCBLE		-0.132	0.167
CONCERN		0.240	0.021
PITTY		-0.068	0.281
SYMPATHY		0.261	0.001
SORRY		-0.009	0.777
HELP		0.934	0.000
CERTHELP		0.862	0.000
WILLTALK		0.367	0.000
AGRAVTIN		0.004	0.891
ANGRY		0.003	0.926
IRITATED		0.109	0.105
UNSAFE		-0.035	0.418
RISK		-0.065	0.366
DANGROUS		-0.004	0.922
TERRIFY		-0.027	0.449
SCARED		0.028	0.397
FRGHTEND		0.030	0.421
THREATND		0.031	0.437
AVOID		0.164	0.157
RENTAPRT		-0.145	0.186
REINIMAG		-0.153	0.096
ALIENATD		0.027	0.439
DVSUBCLT		0.111	0.187
DIFSRVTR		-0.059	0.407
AVVOID	BY		
AGE		-0.017	0.806
MARITALS		-0.002	0.964
LIVWHOM		-0.009	0.922
CONTROLL		-0.158	0.301
RESPCBLE		-0.113	0.401

CONCERN	-0.058	0.608
PITTY	-0.016	0.731
SYMPATHY	0.006	0.869
SORRY	0.108	0.207
HELP	0.026	0.479
CERTHELP	-0.043	0.450
WILLTALK	0.041	0.646
AGRAVTIN	0.432	0.021
ANGRY	0.014	0.717
IRITATED	0.286	0.003
UNSAFE	-0.010	0.899
RISK	0.043	0.657
DANGROUS	0.043	0.536
TERRIFY	-0.189	0.068
SCARED	-0.063	0.384
FRGHTEND	-0.054	0.366
THREATND	0.026	0.719
AVOID	-0.237	0.055
RENTAPRT	0.170	0.209
REINIMAG	-0.046	0.577
ALIENATD	0.017	0.758
DVSUBCLT	-0.014	0.808
DIFSRVTR	0.191	0.129
CRIMSTIG BY		
AGE	0.000	0.999
MARITALS	-0.015	0.648
LIVWHOM	0.208	0.045
CONTROLL	0.275	0.014
RESPCBLE	0.112	0.292
CONCERN	-0.112	0.235
PITTY	0.046	0.304
SYMPATHY	-0.059	0.265
SORRY	0.056	0.302
HELP	0.025	0.523
CERTHELP	0.011	0.783
WILLTALK	0.028	0.723
AGRAVTIN	-0.019	0.611
ANGRY	0.522	0.001
IRITATED	0.131	0.251
UNSAFE	-0.203	0.065
RISK	0.056	0.572
DANGROUS	0.008	0.876
TERRIFY	-0.060	0.562
SCARED	0.023	0.572

FRGHTEND	0.010	0.845
THREATND	0.005	0.899
AVOID	0.008	0.884
RENTAPRT	-0.074	0.404
REINIMAG	-0.186	0.079
ALIENATD	0.028	0.418
DVSUBCLT	-0.116	0.266
DIFSRVTR	0.109	0.345

Stage 3 ESEM Attribution Model DEMOGRPH (age,maritals,livwhom) CRIMSTIG   AVOIDD
(see Table 3.27)

STDYX Standardization

		Estimate	Two-Tailed P-Value
DEMOGRPH	BY		
AGE		0.887	0.000
MARITALS		0.331	0.008
LIVWHOM		0.289	0.001
CONTROLL		-0.125	0.189
RESPCBLE		-0.170	0.061
CONCERN		-0.160	0.013
PITTY		0.096	0.102
SYMPATHY		0.000	0.999
SORRY		-0.007	0.838
HELP		0.019	0.465
CERTHELP		0.025	0.547
WILLTALK		-0.068	0.299
AGRAVTIN		0.008	0.861
ANGRY		-0.009	0.818
IRITATED		-0.015	0.734
UNSAFE		-0.001	0.977
RISK		-0.088	0.156
DANGROUS		-0.029	0.491
TERRIFY		0.034	0.434
SCARED		0.043	0.167
FRGHTEND		0.008	0.809
REINIMAG		-0.057	0.439
ALIENATD		0.182	0.113
DVSUBCLT		0.006	0.822
DIFSRVTR		-0.095	0.235
RENTROOM		0.108	0.149
WORKSJOB		0.034	0.357
ANEIGHBR		-0.042	0.468
CARETAKR		0.021	0.774
CHILDMRY		0.007	0.777
INTROFRD		-0.056	0.341
RECMDJOB		0.057	0.434

PERSRESP   BY

AGE	0.000	0.999
MARITALS	0.627	0.000
LIVWHOM	0.130	0.214
CONTROLL	0.175	0.078
RESPCBLE	-0.007	0.899
CONCERN	0.050	0.446
PITTY	-0.195	0.024
SYMPATHY	-0.338	0.000
SORRY	0.019	0.615
HELP	0.000	0.987
CERTHELP	-0.048	0.277
WILLTALK	0.090	0.288
AGRAVTIN	0.084	0.291
ANGRY	-0.050	0.382
IRITATED	-0.073	0.342
UNSAFE	-0.110	0.185
RISK	-0.034	0.571
DANGROUS	0.247	0.032
TERRIFY	-0.042	0.597
SCARED	0.108	0.367
FRGHTEND	0.220	0.051
REINIMAG	-0.095	0.330
ALIENATD	-0.011	0.830
DVSUBCLT	-0.014	0.772
DIFSRVTR	0.042	0.595
RENTROOM	0.003	0.960
WORKSJOB	0.038	0.461
ANEIGHBR	-0.164	0.053
CARETAKR	-0.005	0.948
CHILDMRY	-0.389	0.000
INTROFRD	0.055	0.457
RECMDJOB	0.098	0.281

PITY   BY

AGE	0.039	0.425
MARITALS	0.030	0.457
LIVWHOM	-0.024	0.745
CONTROLL	-0.067	0.485
RESPCBLE	0.033	0.580
CONCERN	0.035	0.545
PITTY	-0.004	0.930
SYMPATHY	-0.032	0.477
SORRY	-0.010	0.812

HELP	-0.021	0.569
CERTHELP	0.030	0.510
WILLTALK	-0.005	0.929
AGRAVTIN	0.118	0.137
ANGRY	-0.050	0.297
IRITATED	0.047	0.376
UNSAFE	0.167	0.015
RISK	0.191	0.015
DANGROUS	0.018	0.677
TERRIFY	0.027	0.592
SCARED	-0.035	0.357
FRGHTEND	-0.010	0.786
REINIMAG	0.089	0.326
ALIENATD	-0.271	0.008
DVSUBCLT	-0.015	0.633
DIFSRVTR	0.044	0.543
RENTROOM	0.668	0.000
WORKSJOB	0.610	0.000
ANEIGHBR	0.488	0.000
CARETAKR	0.401	0.000
CHILDMRY	0.648	0.000
INTROFRD	0.525	0.000
RECMDJOB	0.527	0.000
HELPBEH BY		
AGE	-0.040	0.406
MARITALS	0.018	0.628
LIVWHOM	0.086	0.359
CONTROLL	-0.035	0.682
RESPCBLE	0.286	0.003
CONCERN	-0.003	0.949
PITTY	0.073	0.262
SYMPATHY	0.019	0.634
SORRY	-0.001	0.981
HELP	0.018	0.598
CERTHELP	-0.011	0.759
WILLTALK	-0.255	0.004
AGRAVTIN	0.435	0.001
ANGRY	0.607	0.000
IRITATED	0.479	0.000
UNSAFE	0.647	0.000
RISK	0.498	0.000
DANGROUS	0.826	0.000
TERRIFY	0.840	0.000

SCARED		0.961	0.000
FRGHTEND		0.917	0.000
REINIMAG		0.040	0.513
ALIENATD		0.002	0.967
DVSUBCLT		0.021	0.659
DIFSRVTR		-0.125	0.164
RENTROOM		-0.058	0.419
WORKSJOB		0.079	0.433
ANEIGHBR		0.270	0.005
CARETAKR		-0.103	0.270
CHILDMRY		0.016	0.570
INTROFRD		0.150	0.143
RECMDJOB		0.006	0.920
ANGER	BY		
AGE		-0.009	0.801
MARITALS		-0.087	0.240
LIVWHOM		0.026	0.719
CONTROLL		-0.030	0.721
RESPCBLE		-0.017	0.751
CONCERN		-0.002	0.972
PITTY		0.015	0.744
SYMPATHY		-0.038	0.365
SORRY		0.034	0.427
HELP		0.028	0.335
CERTHELP		-0.043	0.292
WILLTALK		0.079	0.284
AGRAVTIN		0.049	0.354
ANGRY		-0.068	0.218
IRITATED		0.015	0.692
UNSAFE		0.074	0.198
RISK		-0.036	0.564
DANGROUS		-0.031	0.462
TERRIFY		0.026	0.553
SCARED		0.055	0.132
FRGHTEND		0.023	0.498
REINIMAG		0.566	0.000
ALIENATD		0.756	0.000
DVSUBCLT		0.731	0.000
DIFSRVTR		0.500	0.000
RENTROOM		0.004	0.942
WORKSJOB		0.047	0.366
ANEIGHBR		-0.098	0.157
CARETAKR		-0.056	0.482

CHILDMRY		0.065	0.284
INTROFRD		-0.061	0.369
RECMDJOB		0.037	0.602
DANGERES	BY		
AGE		0.005	0.871
MARITALS		-0.003	0.931
LIVWHOM		-0.068	0.414
CONTROLL		-0.054	0.515
RESPCBLE		-0.123	0.160
CONCERN		0.569	0.000
PITTY		0.718	0.000
SYMPATHY		0.678	0.000
SORRY		0.887	0.000
HELP		0.052	0.294
CERTHELP		-0.019	0.546
WILLTALK		0.182	0.026
AGRAVTIN		0.064	0.253
ANGRY		-0.059	0.223
IRITATED		0.049	0.309
UNSAFE		-0.021	0.637
RISK		-0.089	0.177
DANGROUS		0.137	0.025
TERRIFY		-0.035	0.378
SCARED		0.068	0.132
FRGHTEND		0.047	0.252
REINIMAG		0.033	0.520
ALIENATD		0.009	0.777
DVSUBCLT		-0.105	0.162
DIFSRVTR		0.075	0.337
RENTROOM		0.079	0.267
WORKSJOB		-0.042	0.329
ANEIGHBR		0.035	0.467
CARETAKR		0.057	0.467
CHILDMRY		-0.002	0.935
INTROFRD		-0.114	0.133
RECMDJOB		-0.065	0.389
FEAR	BY		
AGE		-0.013	0.688
MARITALS		0.017	0.613
LIVWHOM		-0.001	0.990
CONTROLL		0.140	0.091
RESPCBLE		-0.045	0.465

CONCERN	0.275	0.000
PITTY	-0.022	0.577
SYMPATHY	0.256	0.000
SORRY	0.010	0.781
HELP	0.948	0.000
CERTHELP	0.832	0.000
WILLTALK	0.377	0.000
AGRAVTIN	-0.056	0.248
ANGRY	0.059	0.204
IRITATED	0.045	0.300
UNSAFE	-0.037	0.431
RISK	-0.045	0.439
DANGROUS	-0.011	0.761
TERRIFY	0.002	0.963
SCARED	0.009	0.736
FRGHTEND	0.034	0.312
REINIMAG	-0.107	0.155
ALIENATD	0.018	0.534
DVSUBCLT	0.122	0.102
DIFSRVTR	-0.046	0.461
RENTROOM	-0.014	0.791
WORKSJOB	0.061	0.252
ANEIGHBR	-0.061	0.277
CARETAKR	0.056	0.461
CHILDMRY	0.024	0.420
INTROFRD	-0.018	0.728
RECMDJOB	-0.040	0.545

CRIMSTIG	BY		
AGE		-0.051	0.399
MARITALS		-0.039	0.409
LIVWHOM		0.156	0.122
CONTROLL		0.106	0.313
RESPCBLE		0.407	0.000
CONCERN		-0.086	0.265
PITTY		0.089	0.201
SYMPATHY		-0.033	0.409
SORRY		0.006	0.871
HELP		0.053	0.218
CERTHELP		-0.090	0.151
WILLTALK		0.153	0.126
AGRAVTIN		-0.038	0.477
ANGRY		0.047	0.359
IRITATED		-0.048	0.347

UNSAFE	-0.004	0.943
RISK	-0.026	0.711
DANGROUS	0.030	0.521
TERRIFY	-0.038	0.463
SCARED	0.050	0.230
FRGHTEND	-0.022	0.574
REINIMAG	0.061	0.416
ALIENATD	0.044	0.347
DVSUBCLT	-0.073	0.314
DIFSRVTR	-0.080	0.375
RENTROOM	0.078	0.519
WORKSJOB	-0.441	0.001
ANEIGHBR	-0.196	0.105
CARETAKR	0.242	0.036
CHILDMRY	0.379	0.007
INTROFRD	-0.032	0.602
RECMDJOB	0.037	0.609

AVOIDD	BY		
AGE		-0.034	0.420
MARITALS		-0.145	0.378
LIVWHOM		0.158	0.112
CONTROLL		0.002	0.978
RESPCBLE		-0.062	0.414
CONCERN		-0.074	0.325
PITTY		0.051	0.286
SYMPATHY		-0.050	0.272
SORRY		0.126	0.129
HELP		0.032	0.362
CERTHELP		0.017	0.636
WILLTALK		0.011	0.854
AGRAVTIN		0.471	0.000
ANGRY		0.504	0.000
IRITATED		0.500	0.000
UNSAFE		0.098	0.240
RISK		0.162	0.055
DANGROUS		-0.015	0.737
TERRIFY		0.045	0.493
SCARED		-0.041	0.267
FRGHTEND		-0.010	0.784
REINIMAG		-0.227	0.021
ALIENATD		0.043	0.369
DVSUBCLT		-0.178	0.091
DIFSRVTR		0.078	0.360

RENTROOM	0.036	0.592
WORKSJOB	-0.013	0.725
ANEIGHBR	-0.013	0.806
CARETAKR	0.011	0.876
CHILDMRY	-0.042	0.424
INTROFRD	0.155	0.062
RECMDJOB	0.052	0.537

Stage 3 ESEM Attribution Model DEMOGRPH CRIMSTIG AVVOID AVOIDD FAMILRNK
(see Table 3.30)

STDYX
Standardization

		Estimate	Two-Tailed P-Value
DEMOGRPH	BY		
AGE		0.824	0.000
MARITALS		0.309	0.017
LIVWHOM		0.321	0.002
CONTROLL		-0.177	0.085
RESPCBLE		-0.195	0.040
CONCERN		-0.207	0.043
PITTY		0.103	0.122
SYMPATHY		0.031	0.380
SORRY		-0.018	0.659
HELP		0.015	0.648
CERTHELP		0.036	0.369
WILLTALK		-0.122	0.176
AGRAVTIN		0.019	0.751
ANGRY		-0.004	0.954
IRITATED		0.009	0.878
UNSAFE		-0.004	0.923
RISK		-0.032	0.630
DANGROUS		-0.020	0.667
TERRIFY		0.024	0.537
SCARED		0.016	0.617
FRGHTEND		-0.013	0.737
THREATND		-0.012	0.738
AVOID		-0.089	0.312
RENTAPRT		0.077	0.397
REINIMAG		-0.066	0.381
ALIENATD		0.162	0.137
DVSUBCLT		0.031	0.376
DIFSRVTR		-0.127	0.261
RENTROOM		0.042	0.475
WORKSJOB		0.051	0.383
ANEIGHBR		-0.036	0.493
CARETAKR		0.005	0.951
CHILDMRY		-0.009	0.814

INTROFRD		-0.016	0.744
RECMDJOB		0.057	0.483
FAMILRTY		0.124	0.217
PERSRESP	BY		
AGE		-0.002	0.970
MARITALS		0.621	0.000
LIVWHOM		0.116	0.306
CONTROLL		0.159	0.131
RESPCBLE		-0.041	0.570
CONCERN		0.106	0.256
PITTY		-0.193	0.032
SYMPATHY		-0.389	0.000
SORRY		-0.005	0.881
HELP		-0.014	0.687
CERTHELP		-0.035	0.416
WILLTALK		0.089	0.339
AGRAVTIN		0.131	0.130
ANGRY		-0.010	0.808
IRITATED		-0.066	0.362
UNSAFE		-0.050	0.412
RISK		-0.073	0.388
DANGROUS		0.142	0.060
TERRIFY		0.014	0.717
SCARED		-0.005	0.874
FRGHTEND		0.146	0.004
THREATND		0.009	0.799
AVOID		-0.017	0.813
RENTAPRT		-0.075	0.402
REINIMAG		-0.051	0.480
ALIENATD		0.048	0.457
DVSUBCLT		-0.040	0.436
DIFSRVTR		-0.004	0.931
RENTROOM		0.070	0.461
WORKSJOB		0.015	0.754
ANEIGHBR		-0.201	0.019
CARETAKR		0.014	0.848
CHILDMRY		-0.335	0.001
INTROFRD		0.029	0.594
RECMDJOB		0.048	0.531
FAMILRTY		0.269	0.006
PITY	BY		
AGE		0.018	0.638

MARITALS		0.007	0.838
LIVWHOM		-0.020	0.784
CONTROLL		-0.077	0.405
RESPCBLE		-0.133	0.161
CONCERN		0.600	0.000
PITTY		0.733	0.000
SYMPATHY		0.706	0.000
SORRY		0.848	0.000
HELP		0.067	0.263
CERTHELP		-0.037	0.292
WILLTALK		0.121	0.188
AGRAVTIN		0.082	0.262
ANGRY		-0.072	0.221
IRITATED		0.061	0.320
UNSAFE		0.020	0.692
RISK		-0.009	0.881
DANGROUS		0.201	0.005
TERRIFY		-0.031	0.434
SCARED		-0.004	0.914
FRGHTEND		0.040	0.324
THREATND		0.105	0.055
AVOID		0.058	0.473
RENTAPRT		-0.125	0.158
REINIMAG		0.051	0.440
ALIENATD		0.009	0.836
DVSUBCLT		-0.063	0.310
DIFSRVTR		0.026	0.616
RENTROOM		0.013	0.790
WORKSJOB		-0.035	0.509
ANEIGHBR		0.011	0.824
CARETAKR		0.028	0.732
CHILDMRY		0.008	0.849
INTROFRD		-0.039	0.548
RECMDJOB		-0.036	0.640
FAMILRTY		0.013	0.855
HELPBEH	BY		
AGE		-0.028	0.573
MARITALS		0.063	0.530
LIVWHOM		-0.013	0.852
CONTROLL		0.012	0.894
RESPCBLE		0.261	0.020
CONCERN		-0.021	0.608
PITTY		0.034	0.576
SYMPATHY		0.021	0.671

SORRY		0.013	0.794
HELP		0.041	0.413
CERTHELP		0.000	0.992
WILLTALK		-0.124	0.377
AGRAVTIN		0.254	0.457
ANGRY		0.426	0.211
IRITATED		0.336	0.265
UNSAFE		0.461	0.082
RISK		0.308	0.132
DANGROUS		0.735	0.000
TERRIFY		0.664	0.021
SCARED		1.042	0.000
FRGHTEND		0.824	0.000
THREATND		0.944	0.000
AVOID		-0.326	0.001
RENTAPRT		0.398	0.000
REINIMAG		0.047	0.520
ALIENATD		0.011	0.870
DVSUBCLT		-0.004	0.934
DIFSRVTR		-0.029	0.592
RENTROOM		0.001	0.987
WORKSJOB		0.094	0.484
ANEIGHBR		0.272	0.025
CARETAKR		-0.049	0.618
CHILDMRY		0.003	0.930
INTROFRD		0.026	0.790
RECMDJOB		0.025	0.721
FAMILRTY		-0.244	0.017
ANGER	BY		
AGE		-0.003	0.943
MARITALS		0.003	0.903
LIVWHOM		0.010	0.871
CONTROLL		0.152	0.087
RESPCBLE		-0.031	0.606
CONCERN		0.250	0.004
PITTY		-0.027	0.519
SYMPATHY		0.256	0.000
SORRY		0.009	0.822
HELP		0.918	0.000
CERTHELP		0.879	0.000
WILLTALK		0.399	0.000
AGRAVTIN		-0.068	0.230
ANGRY		0.080	0.189
IRITATED		0.057	0.285

UNSAFE		-0.053	0.278
RISK		-0.052	0.389
DANGROUS		-0.023	0.520
TERRIFY		-0.013	0.670
SCARED		0.048	0.179
FRGHTEND		0.036	0.332
THREATND		0.022	0.502
AVOID		0.240	0.008
RENTAPRT		-0.157	0.080
REINIMAG		-0.116	0.191
ALIENATD		0.018	0.582
DVSUBCLT		0.112	0.220
DIFSRVTR		-0.042	0.435
RENTROOM		-0.006	0.885
WORKSJOB		0.049	0.373
ANEIGHBR		-0.057	0.335
CARETAKR		0.053	0.516
CHILDMRY		0.036	0.432
INTROFRD		-0.031	0.561
RECMDJOB		-0.024	0.700
FAMILRTY		0.150	0.090
DANGERES	BY		
AGE		-0.172	0.573
MARITALS		-0.296	0.108
LIVWHOM		0.120	0.535
CONTROLL		-0.021	0.838
RESPCBLE		-0.016	0.788
CONCERN		-0.054	0.438
PITTY		0.061	0.393
SYMPATHY		-0.036	0.503
SORRY		0.109	0.212
HELP		0.040	0.330
CERTHELP		0.034	0.537
WILLTALK		-0.041	0.744
AGRAVTIN		0.562	0.008
ANGRY		0.611	0.004
IRITATED		0.579	0.000
UNSAFE		0.236	0.415
RISK		0.247	0.182
DANGROUS		0.009	0.924
TERRIFY		0.195	0.575
SCARED		-0.028	0.786
FRGHTEND		0.073	0.671
THREATND		-0.079	0.134

AVOID	-0.033	0.673
RENTAPRT	0.015	0.812
REINIMAG	-0.104	0.330
ALIENATD	0.141	0.332
DVSUBCLT	-0.054	0.317
DIFSRVTR	0.136	0.558
RENTROOM	0.023	0.674
WORKSJOB	-0.001	0.988
ANEIGHBR	0.025	0.698
CARETAKR	-0.016	0.843
CHILDMRY	0.012	0.849
INTROFRD	0.182	0.143
RECMDJOB	-0.008	0.890
FAMILRTY	0.026	0.742
FEAR BY		
AGE	0.010	0.809
MARITALS	-0.064	0.279
LIVWHOM	0.027	0.687
CONTROLL	-0.011	0.884
RESPCBLE	-0.022	0.699
CONCERN	0.001	0.978
PITTY	0.015	0.727
SYMPATHY	-0.037	0.355
SORRY	0.046	0.347
HELP	0.036	0.311
CERTHELP	-0.036	0.330
WILLTALK	0.087	0.275
AGRAVTIN	0.024	0.612
ANGRY	-0.089	0.161
IRITATED	-0.005	0.897
UNSAFE	0.049	0.321
RISK	-0.037	0.522
DANGROUS	-0.024	0.548
TERRIFY	0.009	0.766
SCARED	0.033	0.306
FRGHTEND	0.014	0.703
THREATND	-0.005	0.860
AVOID	0.130	0.123
RENTAPRT	0.063	0.397
REINIMAG	0.528	0.000
ALIENATD	0.699	0.000
DVSUBCLT	0.816	0.000
DIFSRVTR	0.534	0.000
RENTROOM	-0.034	0.544

WORKSJOB		0.049	0.482
ANEIGHBR		-0.114	0.157
CARETAKR		-0.079	0.345
CHILDMRY		0.042	0.399
INTROFRD		-0.072	0.319
RECMDJOB		0.035	0.578
FAMILRTY		-0.051	0.502
AVVOID	BY		
AGE		0.004	0.921
MARITALS		-0.015	0.657
LIVWHOM		0.053	0.558
CONTROLL		0.018	0.835
RESPCBLE		0.291	0.002
CONCERN		-0.021	0.660
PITTY		0.093	0.189
SYMPATHY		-0.043	0.359
SORRY		0.008	0.862
HELP		0.012	0.722
CERTHELP		-0.044	0.311
WILLTALK		0.131	0.165
AGRAVTIN		0.035	0.553
ANGRY		-0.022	0.626
IRITATED		-0.026	0.605
UNSAFE		0.118	0.126
RISK		0.027	0.751
DANGROUS		-0.031	0.597
TERRIFY		0.001	0.974
SCARED		0.032	0.472
FRGHTEND		-0.026	0.510
THREATND		0.013	0.705
AVOID		0.007	0.924
RENTAPRT		0.241	0.012
REINIMAG		0.231	0.010
ALIENATD		0.010	0.859
DVSUBCLT		-0.037	0.567
DIFSRVTR		-0.003	0.954
RENTROOM		0.562	0.000
WORKSJOB		0.031	0.662
ANEIGHBR		0.157	0.100
CARETAKR		0.434	0.000
CHILDMRY		0.643	0.000
INTROFRD		0.226	0.111
RECMDJOB		0.342	0.009
FAMILRTY		0.138	0.143

CRIMSTIG   BY

AGE	0.039	0.538
MARITALS	0.032	0.743
LIVWHOM	-0.227	0.045
CONTROLL	-0.068	0.526
RESPCBLE	-0.296	0.004
CONCERN	0.092	0.333
PITTY	-0.097	0.262
SYMPATHY	-0.001	0.974
SORRY	0.022	0.734
HELP	-0.023	0.536
CERTHELP	0.110	0.149
WILLTALK	-0.058	0.619
AGRAVTIN	0.070	0.436
ANGRY	-0.053	0.590
IRITATED	0.037	0.522
UNSAFE	0.041	0.625
RISK	0.006	0.973
DANGROUS	-0.088	0.598
TERRIFY	0.039	0.656
SCARED	-0.002	0.982
FRGHTEND	0.051	0.300
THREATND	-0.019	0.824
AVOID	-0.075	0.501
RENTAPRT	0.029	0.751
REINIMAG	-0.015	0.878
ALIENATD	-0.143	0.620
DVSUBCLT	0.019	0.720
DIFSRVTR	0.206	0.134
RENTROOM	0.388	0.001
WORKSJOB	0.676	0.012
ANEIGHBR	0.452	0.003
CARETAKR	0.029	0.734
CHILDMRY	-0.001	0.993
INTROFRD	0.207	0.562
RECMDJOB	0.168	0.616
FAMILRTY	-0.042	0.662

AVOIDD   BY

AGE	-0.019	0.723
MARITALS	0.061	0.454
LIVWHOM	0.185	0.340
CONTROLL	-0.027	0.804
RESPCBLE	0.027	0.810

CONCERN		0.018	0.802
PITTY		-0.024	0.744
SYMPATHY		-0.002	0.973
SORRY		-0.054	0.474
HELP		0.015	0.824
CERTHELP		0.000	0.995
WILLTALK		-0.111	0.413
AGRAVTIN		0.071	0.652
ANGRY		-0.040	0.594
IRITATED		0.088	0.385
UNSAFE		0.073	0.650
RISK		0.343	0.004
DANGROUS		0.270	0.031
TERRIFY		-0.065	0.407
SCARED		-0.136	0.256
FRGHTEND		-0.005	0.901
THREATND		0.066	0.510
AVOID		-0.046	0.650
RENTAPRT		-0.061	0.584
REINIMAG		0.025	0.725
ALIENATD		-0.130	0.597
DVSUBCLT		0.274	0.082
DIFSRVTR		-0.013	0.834
RENTROOM		-0.081	0.805
WORKSJOB		0.202	0.665
ANEIGHBR		0.053	0.851
CARETAKR		-0.003	0.986
CHILDMRY		0.161	0.528
INTROFRD		0.404	0.282
RECMDJOB		0.317	0.416
FAMILRTY		-0.049	0.620
FAMILRNK	BY		
AGE		0.006	0.910
MARITALS		0.017	0.724
LIVWHOM		-0.009	0.905
CONTROLL		-0.103	0.318
RESPCBLE		0.012	0.846
CONCERN		0.135	0.217
PITTY		0.017	0.714
SYMPATHY		-0.008	0.837
SORRY		-0.074	0.393
HELP		-0.039	0.382
CERTHELP		0.053	0.274
WILLTALK		-0.107	0.305

AGRAVTIN	0.033	0.689
ANGRY	0.028	0.760
IRITATED	-0.086	0.364
UNSAFE	0.310	0.001
RISK	0.089	0.319
DANGROUS	-0.009	0.867
TERRIFY	0.404	0.000
SCARED	0.006	0.923
FRGHTEND	0.112	0.057
THREATND	-0.097	0.183
AVOID	0.202	0.035
RENTAPRT	-0.128	0.216
REINIMAG	0.109	0.278
ALIENATD	0.006	0.904
DVSUBCLT	0.002	0.953
DIFSRVTR	-0.275	0.022
RENTROOM	0.002	0.964
WORKSJOB	0.020	0.709
ANEIGHBR	0.031	0.613
CARETAKR	-0.031	0.712
CHILDMRY	0.102	0.360
INTROFRD	-0.010	0.874
RECMDJOB	-0.101	0.407
FAMILRTY	-0.016	0.844

Stage 4   ESEM Attribution Model no ownfault angry
(see Table 3.35)

STDYX Standardization

		Estimate	Two-Tailed P-Value
PERSRESP	**BY**		
CONTROLL		0.017	0.646
RESPCBLE		-0.086	0.410
CONCERN		0.010	0.879
PITTY		0.051	0.382
SYMPATHY		-0.016	0.690
SORRY		-0.036	0.465
HELP		-0.049	0.389
CERTHELP		-0.001	0.983
WILLTALK		0.134	0.141
AGRAVTIN		0.764	0.000
IRITATED		0.575	0.000
UNSAFE		0.230	0.024
RISK		0.118	0.317
DANGROUS		0.054	0.461
TERRIFY		-0.011	0.748
SCARED		-0.086	0.075
FRGHTEND		0.035	0.516
THREATND		0.028	0.440
AVOID		-0.013	0.806
RENTAPRT		0.179	0.096
PITY	**BY**		
CONTROLL		-0.029	0.598
RESPCBLE		0.366	0.005
CONCERN		0.195	0.157
PITTY		0.041	0.700
SYMPATHY		-0.036	0.609
SORRY		0.010	0.888
HELP		0.050	0.495
CERTHELP		-0.064	0.319
WILLTALK		-0.019	0.716
AGRAVTIN		0.024	0.346
IRITATED		0.455	0.001

UNSAFE		0.466	0.025
RISK		0.410	0.011
DANGROUS		0.733	0.000
TERRIFY		0.614	0.053
SCARED		0.909	0.000
FRGHTEND		0.785	0.000
THREATND		0.970	0.000
AVOID		-0.038	0.617
RENTAPRT		-0.001	0.994
HELPBEH	BY		
CONTROLL		0.043	0.432
RESPCBLE		0.017	0.758
CONCERN		-0.036	0.630
PITTY		0.091	0.380
SYMPATHY		0.008	0.832
SORRY		-0.024	0.581
HELP		0.007	0.867
CERTHELP		0.136	0.093
WILLTALK		-0.108	0.193
AGRAVTIN		0.219	0.357
IRITATED		-0.032	0.595
UNSAFE		0.319	0.124
RISK		0.221	0.056
DANGROUS		0.004	0.963
TERRIFY		0.588	0.000
SCARED		0.020	0.594
FRGHTEND		0.062	0.294
THREATND		-0.114	0.201
AVOID		-0.192	0.257
RENTAPRT		0.010	0.921
ANGER	BY		
CONTROLL		-0.086	0.320
RESPCBLE		0.063	0.379
CONCERN		0.428	0.000
PITTY		-0.046	0.277
SYMPATHY		0.276	0.000
SORRY		0.048	0.295
HELP		0.935	0.000
CERTHELP		0.876	0.000
WILLTALK		0.581	0.000
AGRAVTIN		-0.014	0.643
IRITATED		0.036	0.469
UNSAFE		-0.037	0.463

RISK	0.011	0.867
DANGROUS	0.025	0.577
TERRIFY	0.013	0.643
SCARED	-0.052	0.150
FRGHTEND	-0.011	0.745
THREATND	-0.025	0.413
AVOID	0.214	0.071
RENTAPRT	-0.051	0.489
DANGERES BY		
CONTROLL	-0.031	0.528
RESPCBLE	-0.245	0.017
CONCERN	0.339	0.000
PITTY	0.839	0.000
SYMPATHY	0.701	0.000
SORRY	0.840	0.000
HELP	0.010	0.777
CERTHELP	-0.036	0.378
WILLTALK	0.122	0.143
AGRAVTIN	0.023	0.557
IRITATED	-0.025	0.513
UNSAFE	0.021	0.684
RISK	-0.125	0.128
DANGROUS	0.012	0.800
TERRIFY	0.008	0.766
SCARED	0.000	0.989
FRGHTEND	0.018	0.661
THREATND	0.027	0.475
AVOID	-0.004	0.936
RENTAPRT	-0.195	0.045
FEAR BY		
CONTROLL	0.536	0.030
RESPCBLE	-0.012	0.942
CONCERN	0.035	0.805
PITTY	-0.008	0.907
SYMPATHY	0.029	0.780
SORRY	-0.119	0.498
HELP	0.020	0.811
CERTHELP	-0.041	0.550
WILLTALK	-0.001	0.994
AGRAVTIN	-0.068	0.442
IRITATED	0.062	0.603
UNSAFE	-0.053	0.596
RISK	-0.048	0.740

DANGROUS	-0.129	0.217
TERRIFY	0.052	0.358
SCARED	-0.057	0.328
FRGHTEND	0.020	0.768
THREATND	-0.026	0.814
AVOID	0.456	0.064
RENTAPRT	-0.477	0.001
AVVOID BY		
CONTROLL	0.436	0.016
RESPCBLE	0.262	0.093
CONCERN	0.015	0.841
PITTY	0.034	0.475
SYMPATHY	-0.104	0.130
SORRY	-0.016	0.748
HELP	0.007	0.871
CERTHELP	-0.036	0.437
WILLTALK	0.167	0.075
AGRAVTIN	0.036	0.400
IRITATED	-0.046	0.463
UNSAFE	-0.020	0.734
RISK	0.006	0.949
DANGROUS	0.066	0.469
TERRIFY	-0.002	0.950
SCARED	-0.146	0.156
FRGHTEND	-0.362	0.002
THREATND	0.057	0.448
AVOID	-0.146	0.315
RENTAPRT	-0.028	0.599

Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd (9 Factors)
(see also Tables 3.41, 3.44 and 3.47)

STDYX Standardization

	Estimate	Two-Tailed P-Value
DEMOGRPH BY		
AGE	0.466	0.000
MARITALS	0.655	0.000
LIVWHOM	0.528	0.000
CONTROLL	-0.064	0.508
RESPCBLE	-0.050	0.562
CONCERN	0.004	0.959
PITTY	-0.048	0.410
SYMPATHY	0.027	0.529
SORRY	0.030	0.525
AGRAVTIN	0.014	0.673
IRITATED	-0.010	0.843
HELP	0.015	0.726
CERTHELP	-0.019	0.694
WILLTALK	-0.027	0.626
UNSAFE	-0.006	0.925
RISK	0.006	0.938
DANGROUS	0.007	0.882
TERRIFY	0.036	0.522
SCARED	-0.032	0.479
FRGHTEND	-0.016	0.727
REINIMAG	0.001	0.986
ALIENATD	0.002	0.961
DVSUBCLT	0.037	0.612
DIFSRVTR	0.010	0.885
RENTROOM	-0.008	0.914
WORKSJOB	-0.041	0.586
ANEIGHBR	-0.006	0.881
CARETAKR	-0.155	0.235
CHILDMRY	0.089	0.439
INTROFRD	0.133	0.204
RECMDJOB	0.015	0.776

PERSRESP   BY

AGE	0.051	0.479
MARITALS	0.039	0.503
LIVWHOM	-0.042	0.426
CONTROLL	0.049	0.539
RESPCBLE	-0.050	0.459
CONCERN	0.021	0.730
PITTY	0.054	0.281
SYMPATHY	-0.049	0.262
SORRY	0.013	0.688
AGRAVTIN	-0.030	0.365
IRITATED	0.012	0.766
HELP	-0.036	0.347
CERTHELP	0.016	0.645
WILLTALK	0.230	0.005
UNSAFE	0.055	0.288
RISK	-0.102	0.178
DANGROUS	0.048	0.317
TERRIFY	-0.017	0.677
SCARED	0.036	0.327
FRGHTEND	-0.038	0.326
REINIMAG	0.687	0.000
ALIENATD	0.908	0.000
DVSUBCLT	0.481	0.000
DIFSRVTR	0.294	0.002
RENTROOM	0.028	0.668
WORKSJOB	-0.134	0.086
ANEIGHBR	-0.001	0.979
CARETAKR	-0.016	0.703
CHILDMRY	0.019	0.721
INTROFRD	-0.054	0.433
RECMDJOB	0.031	0.614

PITY   BY

AGE	-0.101	0.379
MARITALS	-0.018	0.601
LIVWHOM	0.441	0.002
CONTROLL	0.061	0.565
RESPCBLE	0.317	0.006
CONCERN	-0.036	0.616
PITTY	0.061	0.466
SYMPATHY	-0.063	0.439
SORRY	0.154	0.177
AGRAVTIN	-0.006	0.857
IRITATED	0.198	0.035

HELP		0.073	0.282
CERTHELP		-0.046	0.415
WILLTALK		0.309	0.003
UNSAFE		-0.024	0.673
RISK		0.191	0.099
DANGROUS		0.231	0.008
TERRIFY		-0.015	0.784
SCARED		-0.020	0.684
FRGHTEND		-0.036	0.503
REINIMAG		-0.043	0.485
ALIENATD		0.041	0.521
DVSUBCLT		-0.229	0.052
DIFSRVTR		-0.274	0.036
RENTROOM		0.042	0.617
WORKSJOB		-0.089	0.362
ANEIGHBR		0.000	0.997
CARETAKR		-0.069	0.396
CHILDMRY		0.034	0.613
INTROFRD		0.020	0.797
RECMDJOB		0.013	0.859
ANGER	BY		
AGE		0.055	0.486
MARITALS		-0.058	0.456
LIVWHOM		-0.013	0.717
CONTROLL		-0.353	0.000
RESPCBLE		0.269	0.012
CONCERN		0.132	0.131
PITTY		0.061	0.298
SYMPATHY		-0.043	0.360
SORRY		0.031	0.439
AGRAVTIN		0.052	0.350
IRITATED		0.461	0.000
HELP		-0.011	0.757
CERTHELP		0.021	0.621
WILLTALK		-0.096	0.276
UNSAFE		0.591	0.000
RISK		0.541	0.000
DANGROUS		0.686	0.000
TERRIFY		0.755	0.000
SCARED		0.904	0.000
FRGHTEND		0.901	0.000
REINIMAG		0.116	0.235
ALIENATD		-0.080	0.374
DVSUBCLT		0.060	0.416

DIFSRVTR		-0.041	0.535
RENTROOM		0.140	0.136
WORKSJOB		0.005	0.929
ANEIGHBR		0.051	0.520
CARETAKR		-0.083	0.312
CHILDMRY		0.018	0.746
INTROFRD		0.168	0.072
RECMDJOB		-0.004	0.952
HELPBEH	BY		
AGE		0.095	0.353
MARITALS		0.029	0.536
LIVWHOM		-0.066	0.376
CONTROLL		-0.107	0.279
RESPCBLE		0.118	0.257
CONCERN		0.020	0.782
PITTY		0.085	0.232
SYMPATHY		-0.031	0.483
SORRY		0.000	0.999
AGRAVTIN		0.056	0.335
IRITATED		-0.023	0.614
HELP		-0.034	0.452
CERTHELP		0.009	0.848
WILLTALK		-0.019	0.702
UNSAFE		0.051	0.412
RISK		0.043	0.583
DANGROUS		-0.001	0.985
TERRIFY		-0.067	0.255
SCARED		0.005	0.894
FRGHTEND		-0.024	0.602
REINIMAG		0.089	0.265
ALIENATD		0.000	0.990
DVSUBCLT		-0.045	0.517
DIFSRVTR		-0.208	0.053
RENTROOM		0.244	0.008
WORKSJOB		0.037	0.643
ANEIGHBR		0.021	0.657
CARETAKR		0.720	0.000
CHILDMRY		0.724	0.000
INTROFRD		0.374	0.000
RECMDJOB		0.522	0.000
DANGERES	BY		
AGE		-0.026	0.756
MARITALS		-0.006	0.932

LIVWHOM	0.002	0.968
CONTROLL	0.025	0.804
RESPCBLE	0.017	0.835
CONCERN	-0.023	0.790
PITTY	-0.030	0.620
SYMPATHY	0.018	0.713
SORRY	0.041	0.453
AGRAVTIN	0.041	0.394
IRITATED	-0.049	0.397
HELP	0.039	0.487
CERTHELP	-0.024	0.662
WILLTALK	-0.035	0.567
UNSAFE	0.099	0.249
RISK	0.029	0.741
DANGROUS	0.209	0.022
TERRIFY	0.115	0.181
SCARED	0.034	0.582
FRGHTEND	-0.086	0.287
REINIMAG	-0.102	0.326
ALIENATD	0.059	0.429
DVSUBCLT	-0.017	0.780
DIFSRVTR	0.151	0.216
RENTROOM	0.340	0.005
WORKSJOB	0.485	0.000
ANEIGHBR	0.837	0.000
CARETAKR	0.004	0.931
CHILDMRY	0.013	0.861
INTROFRD	0.188	0.133
RECMDJOB	0.166	0.181
FEAR BY		
AGE	0.083	0.352
MARITALS	-0.003	0.930
LIVWHOM	-0.080	0.354
CONTROLL	-0.084	0.342
RESPCBLE	-0.001	0.990
CONCERN	0.446	0.000
PITTY	-0.032	0.416
SYMPATHY	0.324	0.000
SORRY	0.061	0.272
AGRAVTIN	0.018	0.569
IRITATED	0.014	0.757
HELP	0.914	0.000
CERTHELP	0.869	0.000
WILLTALK	0.538	0.000

UNSAFE	-0.017	0.740
RISK	-0.026	0.705
DANGROUS	0.014	0.756
TERRIFY	-0.004	0.923
SCARED	-0.048	0.253
FRGHTEND	-0.006	0.874
REINIMAG	0.097	0.204
ALIENATD	-0.005	0.847
DVSUBCLT	-0.167	0.057
DIFSRVTR	-0.041	0.566
RENTROOM	-0.020	0.761
WORKSJOB	-0.106	0.225
ANEIGHBR	0.051	0.320
CARETAKR	-0.016	0.713
CHILDMRY	0.027	0.641
INTROFRD	-0.038	0.589
RECMDJOB	-0.062	0.389
CRIMSTIG BY		
AGE	0.058	0.538
MARITALS	-0.120	0.325
LIVWHOM	0.048	0.387
CONTROLL	-0.130	0.196
RESPCBLE	-0.253	0.025
CONCERN	0.331	0.000
PITTY	0.810	0.000
SYMPATHY	0.718	0.000
SORRY	0.836	0.000
AGRAVTIN	0.011	0.732
IRITATED	0.024	0.603
HELP	0.032	0.420
CERTHELP	-0.066	0.258
WILLTALK	0.052	0.381
UNSAFE	-0.023	0.641
RISK	-0.115	0.167
DANGROUS	0.029	0.519
TERRIFY	-0.050	0.306
SCARED	0.053	0.287
FRGHTEND	0.112	0.081
REINIMAG	-0.083	0.270
ALIENATD	-0.006	0.817
DVSUBCLT	0.117	0.241
DIFSRVTR	0.066	0.457
RENTROOM	0.017	0.794
WORKSJOB	-0.028	0.643

ANEIGHBR		0.023	0.621
CARETAKR		0.229	0.031
CHILDMRY		0.051	0.440
INTROFRD		-0.054	0.441
RECMDJOB		-0.097	0.258
AVOIDD	BY		
AGE		0.014	0.827
MARITALS		-0.026	0.652
LIVWHOM		0.020	0.614
CONTROLL		0.065	0.451
RESPCBLE		-0.084	0.309
CONCERN		0.009	0.884
PITTY		0.067	0.239
SYMPATHY		-0.016	0.660
SORRY		-0.037	0.384
AGRAVTIN		0.924	0.000
IRITATED		0.478	0.000
HELP		-0.062	0.251
CERTHELP		0.012	0.743
WILLTALK		0.108	0.168
UNSAFE		0.264	0.000
RISK		0.074	0.387
DANGROUS		0.020	0.628
TERRIFY		0.140	0.028
SCARED		-0.044	0.296
FRGHTEND		0.013	0.696
REINIMAG		0.004	0.941
ALIENATD		-0.037	0.486
DVSUBCLT		-0.012	0.835
DIFSRVTR		0.101	0.281
RENTROOM		0.079	0.338
WORKSJOB		0.174	0.096
ANEIGHBR		-0.065	0.385
CARETAKR		0.018	0.672
CHILDMRY		-0.030	0.620
INTROFRD		0.046	0.499
RECMDJOB		0.119	0.209

Stage 4 ESEM Attribution Model Demogrph CrimStig
Avoidd Familrnk (10 Factors)   (See Table 3.50)

STDYX Standardization

	Estimate	Two-Tailed P-Value
DEMOGRPH BY		
AGE	0.464	0.000
MARITALS	0.602	0.000
LIVWHOM	0.570	0.000
CONTROLL	-0.074	0.448
RESPCBLE	-0.068	0.458
CONCERN	0.011	0.872
PITTY	-0.054	0.291
SYMPATHY	0.042	0.373
SORRY	0.050	0.383
AGRAVTIN	0.006	0.877
IRITATED	-0.004	0.913
HELP	0.008	0.844
CERTHELP	-0.032	0.525
WILLTALK	-0.026	0.647
UNSAFE	-0.015	0.754
RISK	0.020	0.797
DANGROUS	0.014	0.763
TERRIFY	0.055	0.227
SCARED	-0.046	0.329
FRGHTEND	-0.026	0.588
REINIMAG	0.005	0.925
ALIENATD	0.008	0.863
DVSUBCLT	0.037	0.614
DIFSRVTR	-0.007	0.933
RENTROOM	-0.017	0.808
WORKSJOB	-0.022	0.715
ANEIGHBR	-0.010	0.851
CARETAKR	-0.159	0.184
CHILDMRY	0.077	0.449
INTROFRD	0.139	0.156
RECMDJOB	0.024	0.667
FAMILRTY	0.034	0.725

PERSRESP BY

AGE	0.065	0.430
MARITALS	0.063	0.417
LIVWHOM	-0.048	0.367
CONTROLL	0.046	0.500
RESPCBLE	-0.055	0.438
CONCERN	0.019	0.751
PITTY	0.046	0.309
SYMPATHY	-0.044	0.316
SORRY	0.012	0.735
AGRAVTIN	-0.019	0.569
IRITATED	0.009	0.791
HELP	-0.031	0.410
CERTHELP	0.018	0.597
WILLTALK	0.220	0.007
UNSAFE	0.054	0.242
RISK	-0.118	0.129
DANGROUS	0.045	0.347
TERRIFY	-0.023	0.407
SCARED	0.049	0.215
FRGHTEND	-0.031	0.410
REINIMAG	0.693	0.000
ALIENATD	0.904	0.000
DVSUBCLT	0.501	0.000
DIFSRVTR	0.319	0.001
RENTROOM	0.030	0.622
WORKSJOB	-0.145	0.082
ANEIGHBR	-0.004	0.922
CARETAKR	-0.020	0.653
CHILDMRY	0.021	0.687
INTROFRD	-0.051	0.454
RECMDJOB	0.024	0.676
FAMILRTY	-0.033	0.687

PITY BY

AGE	0.081	0.417
MARITALS	0.031	0.570
LIVWHOM	-0.050	0.393
CONTROLL	-0.097	0.330
RESPCBLE	0.145	0.192
CONCERN	-0.010	0.885
PITTY	0.125	0.118
SYMPATHY	-0.037	0.438
SORRY	0.007	0.837

AGRAVTIN	0.089	0.344
IRITATED	-0.065	0.284
HELP	-0.029	0.511
CERTHELP	0.019	0.675
WILLTALK	-0.018	0.721
UNSAFE	0.089	0.175
RISK	0.028	0.711
DANGROUS	-0.014	0.753
TERRIFY	-0.033	0.343
SCARED	0.014	0.717
FRGHTEND	-0.020	0.638
REINIMAG	0.065	0.355
ALIENATD	0.001	0.978
DVSUBCLT	-0.052	0.487
DIFSRVTR	-0.178	0.104
RENTROOM	0.239	0.013
WORKSJOB	0.004	0.915
ANEIGHBR	0.067	0.456
CARETAKR	0.718	0.000
CHILDMRY	0.733	0.000
INTROFRD	0.381	0.000
RECMDJOB	0.491	0.000
FAMILRTY	0.026	0.772
ANGER BY		
AGE	0.043	0.571
MARITALS	-0.050	0.531
LIVWHOM	-0.015	0.696
CONTROLL	-0.419	0.000
RESPCBLE	0.266	0.035
CONCERN	0.101	0.258
PITTY	0.022	0.574
SYMPATHY	-0.026	0.567
SORRY	0.058	0.328
AGRAVTIN	0.077	0.440
IRITATED	0.445	0.000
HELP	0.003	0.936
CERTHELP	-0.005	0.906
WILLTALK	-0.083	0.382
UNSAFE	0.503	0.000
RISK	0.468	0.000
DANGROUS	0.667	0.000
TERRIFY	0.652	0.000
SCARED	0.904	0.000
FRGHTEND	0.904	0.000

REINIMAG	0.100	0.369
ALIENATD	-0.101	0.403
DVSUBCLT	0.057	0.433
DIFSRVTR	-0.043	0.564
RENTROOM	0.150	0.161
WORKSJOB	-0.021	0.650
ANEIGHBR	0.054	0.511
CARETAKR	-0.090	0.298
CHILDMRY	0.036	0.539
INTROFRD	0.156	0.129
RECMDJOB	-0.020	0.711
FAMILRTY	-0.143	0.221
HELPBEH BY		
AGE	-0.045	0.643
MARITALS	-0.001	0.988
LIVWHOM	-0.003	0.962
CONTROLL	-0.004	0.958
RESPCBLE	-0.001	0.992
CONCERN	0.018	0.832
PITTY	-0.094	0.272
SYMPATHY	0.010	0.824
SORRY	0.046	0.430
AGRAVTIN	0.039	0.488
IRITATED	-0.018	0.683
HELP	0.020	0.707
CERTHELP	-0.058	0.391
WILLTALK	-0.021	0.726
UNSAFE	0.043	0.503
RISK	0.046	0.652
DANGROUS	0.259	0.006
TERRIFY	0.014	0.659
SCARED	0.045	0.519
FRGHTEND	-0.087	0.245
REINIMAG	-0.116	0.275
ALIENATD	0.041	0.536
DVSUBCLT	-0.009	0.898
DIFSRVTR	0.121	0.338
RENTROOM	0.384	0.000
WORKSJOB	0.540	0.000
ANEIGHBR	0.734	0.000
CARETAKR	-0.005	0.917
CHILDMRY	0.025	0.750
INTROFRD	0.202	0.085
RECMDJOB	0.202	0.076

FAMILRTY		-0.229	0.068
DANGERES	BY		
AGE		0.081	0.359
MARITALS		-0.019	0.705
LIVWHOM		-0.060	0.395
CONTROLL		-0.077	0.359
RESPCBLE		-0.010	0.840
CONCERN		0.467	0.000
PITTY		-0.022	0.477
SYMPATHY		0.351	0.000
SORRY		0.099	0.184
AGRAVTIN		0.006	0.856
IRITATED		0.004	0.915
HELP		0.910	0.000
CERTHELP		0.875	0.000
WILLTALK		0.545	0.000
UNSAFE		-0.018	0.678
RISK		-0.012	0.859
DANGROUS		0.024	0.585
TERRIFY		0.020	0.491
SCARED		-0.067	0.138
FRGHTEND		-0.027	0.482
REINIMAG		0.093	0.213
ALIENATD		-0.002	0.937
DVSUBCLT		-0.172	0.050
DIFSRVTR		-0.054	0.514
RENTROOM		-0.013	0.825
WORKSJOB		-0.073	0.327
ANEIGHBR		0.062	0.329
CARETAKR		-0.017	0.701
CHILDMRY		0.023	0.681
INTROFRD		-0.030	0.658
RECMDJOB		-0.050	0.455
FAMILRTY		0.068	0.448
FEAR	BY		
AGE		0.027	0.628
MARITALS		-0.132	0.286
LIVWHOM		0.080	0.485
CONTROLL		-0.051	0.543
RESPCBLE		-0.202	0.134
CONCERN		0.308	0.001
PITTY		0.858	0.000
SYMPATHY		0.676	0.000

SORRY	0.804	0.000
AGRAVTIN	0.035	0.410
IRITATED	0.011	0.745
HELP	0.031	0.380
CERTHELP	-0.061	0.248
WILLTALK	0.075	0.310
UNSAFE	0.010	0.812
RISK	-0.090	0.277
DANGROUS	0.013	0.771
TERRIFY	-0.009	0.786
SCARED	0.013	0.733
FRGHTEND	0.063	0.245
REINIMAG	-0.120	0.158
ALIENATD	-0.006	0.808
DVSUBCLT	0.076	0.398
DIFSRVTR	0.059	0.503
RENTROOM	0.001	0.983
WORKSJOB	-0.048	0.476
ANEIGHBR	0.031	0.569
CARETAKR	0.250	0.035
CHILDMRY	0.056	0.463
INTROFRD	-0.056	0.452
RECMDJOB	-0.105	0.237
FAMILRTY	-0.097	0.313
CRIMSTIG BY		
AGE	0.042	0.597
MARITALS	-0.035	0.606
LIVWHOM	0.002	0.956
CONTROLL	0.011	0.862
RESPCBLE	-0.100	0.323
CONCERN	0.039	0.569
PITTY	0.029	0.517
SYMPATHY	-0.010	0.812
SORRY	-0.025	0.575
AGRAVTIN	0.709	0.000
IRITATED	0.601	0.000
HELP	-0.077	0.195
CERTHELP	-0.028	0.450
WILLTALK	0.116	0.229
UNSAFE	0.191	0.015
RISK	0.105	0.286
DANGROUS	0.078	0.349
TERRIFY	-0.011	0.695
SCARED	-0.052	0.304

FRGHTEND	0.031	0.497
REINIMAG	0.059	0.439
ALIENATD	-0.029	0.570
DVSUBCLT	-0.037	0.591
DIFSRVTR	-0.007	0.933
RENTROOM	0.135	0.183
WORKSJOB	0.231	0.029
ANEIGHBR	-0.042	0.516
CARETAKR	0.009	0.826
CHILDMRY	-0.049	0.499
INTROFRD	0.028	0.691
RECMDJOB	0.200	0.028
FAMILRTY	0.137	0.165
AVOIDD BY		
AGE	-0.126	0.378
MARITALS	-0.031	0.601
LIVWHOM	0.441	0.004
CONTROLL	0.134	0.407
RESPCBLE	0.381	0.003
CONCERN	-0.107	0.447
PITTY	0.026	0.595
SYMPATHY	-0.135	0.324
SORRY	0.070	0.584
AGRAVTIN	-0.018	0.727
IRITATED	0.147	0.355
HELP	0.078	0.406
CERTHELP	-0.042	0.350
WILLTALK	0.281	0.018
UNSAFE	-0.019	0.677
RISK	0.169	0.187
DANGROUS	0.190	0.172
TERRIFY	0.015	0.733
SCARED	-0.032	0.683
FRGHTEND	-0.079	0.478
REINIMAG	-0.048	0.408
ALIENATD	0.063	0.523
DVSUBCLT	-0.214	0.081
DIFSRVTR	-0.224	0.123
RENTROOM	0.015	0.823
WORKSJOB	-0.156	0.169
ANEIGHBR	0.005	0.915
CARETAKR	-0.046	0.525
CHILDMRY	0.046	0.534
INTROFRD	0.026	0.746

RECMDJOB	-0.011	0.869
FAMILRTY	0.011	0.914
FAMILRNK BY		
AGE	0.030	0.672
MARITALS	-0.038	0.566
LIVWHOM	0.036	0.496
CONTROLL	0.202	0.042
RESPCBLE	0.037	0.617
CONCERN	0.004	0.944
PITTY	0.138	0.141
SYMPATHY	-0.031	0.453
SORRY	-0.071	0.291
AGRAVTIN	0.261	0.044
IRITATED	-0.002	0.968
HELP	-0.015	0.699
CERTHELP	0.108	0.129
WILLTALK	-0.045	0.452
UNSAFE	0.335	0.003
RISK	0.157	0.079
DANGROUS	-0.023	0.646
TERRIFY	0.558	0.000
SCARED	0.017	0.703
FRGHTEND	0.005	0.918
REINIMAG	-0.008	0.882
ALIENATD	0.010	0.826
DVSUBCLT	-0.003	0.963
DIFSRVTR	0.108	0.284
RENTROOM	-0.084	0.300
WORKSJOB	0.024	0.608
ANEIGHBR	0.068	0.371
CARETAKR	0.044	0.412
CHILDMRY	-0.027	0.638
INTROFRD	0.047	0.561
RECMDJOB	-0.015	0.788
FAMILRTY	-0.063	0.550

Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd Familrnk Course (11 Factors)
(see Table 3.54)

STDYX Standardization

		Estimate	Two-Tailed P-Value
DEMOGRPH	BY		
AGE		0.454	0.001
MARITALS		0.486	0.000
LIVWHOM		0.593	0.000
CONTROLL		-0.076	0.513
RESPCBLE		-0.051	0.639
CONCERN		0.018	0.817
PITTY		-0.050	0.402
SYMPATHY		0.021	0.730
SORRY		0.057	0.347
AGRAVTIN		0.009	0.792
IRITATED		0.007	0.876
HELP		0.001	0.973
CERTHELP		-0.062	0.400
WILLTALK		-0.007	0.932
UNSAFE		-0.011	0.806
RISK		0.053	0.552
DANGROUS		0.015	0.782
TERRIFY		0.033	0.429
SCARED		-0.071	0.273
FRGHTEND		-0.044	0.525
REINIMAG		0.005	0.930
ALIENATD		0.012	0.857
DVSUBCLT		0.005	0.944
DIFSRVTR		-0.021	0.794
RENTROOM		-0.030	0.678
WORKSJOB		-0.040	0.588
ANEIGHBR		-0.003	0.944
CARETAKR		-0.138	0.227
CHILDMRY		0.074	0.445
INTROFRD		0.127	0.219
RECMDJOB		0.029	0.627
FAMILRTY		0.023	0.797
OVALCRSE		0.017	0.605

INFOLECT		0.082	0.164
INTRPROF		-0.146	0.273
INTRSTUD		-0.348	0.005
READMAT		-0.068	0.294
PERSRESP	BY		
AGE		0.040	0.566
MARITALS		0.033	0.633
LIVWHOM		-0.105	0.511
CONTROLL		0.016	0.808
RESPCBLE		-0.066	0.468
CONCERN		0.035	0.594
PITTY		0.036	0.419
SYMPATHY		-0.036	0.410
SORRY		0.020	0.637
AGRAVTIN		-0.015	0.642
IRITATED		0.034	0.458
HELP		-0.033	0.459
CERTHELP		0.007	0.818
WILLTALK		0.234	0.018
UNSAFE		0.024	0.573
RISK		-0.138	0.119
DANGROUS		0.039	0.464
TERRIFY		-0.078	0.148
SCARED		0.045	0.316
FRGHTEND		-0.015	0.712
REINIMAG		0.718	0.000
ALIENATD		0.857	0.000
DVSUBCLT		0.508	0.000
DIFSRVTR		0.315	0.003
RENTROOM		0.039	0.561
WORKSJOB		-0.129	0.188
ANEIGHBR		-0.016	0.684
CARETAKR		-0.006	0.886
CHILDMRY		0.009	0.874
INTROFRD		-0.080	0.290
RECMDJOB		0.039	0.523
FAMILRTY		-0.027	0.741
OVALCRSE		0.038	0.287
INFOLECT		0.067	0.190
INTRPROF		-0.104	0.303
INTRSTUD		-0.265	0.017
READMAT		-0.048	0.353

PITY BY

AGE	0.052	0.510
MARITALS	-0.048	0.567
LIVWHOM	-0.003	0.948
CONTROLL	-0.413	0.000
RESPCBLE	0.250	0.031
CONCERN	0.111	0.220
PITTY	0.036	0.403
SYMPATHY	-0.039	0.395
SORRY	0.060	0.313
AGRAVTIN	0.070	0.400
IRITATED	0.421	0.000
HELP	-0.003	0.940
CERTHELP	0.010	0.804
WILLTALK	-0.102	0.310
UNSAFE	0.565	0.000
RISK	0.478	0.000
DANGROUS	0.670	0.000
TERRIFY	0.732	0.000
SCARED	0.920	0.000
FRGHTEND	0.911	0.000
REINIMAG	0.105	0.301
ALIENATD	-0.074	0.382
DVSUBCLT	0.098	0.316
DIFSRVTR	-0.038	0.602
RENTROOM	0.134	0.175
WORKSJOB	0.005	0.920
ANEIGHBR	0.038	0.581
CARETAKR	-0.077	0.340
CHILDMRY	0.042	0.532
INTROFRD	0.180	0.067
RECMDJOB	-0.019	0.715
FAMILRTY	-0.189	0.087
OVALCRSE	0.035	0.470
INFOLECT	-0.022	0.577
INTRPROF	-0.004	0.946
INTRSTUD	0.032	0.669
READMAT	0.002	0.972

ANGER BY

AGE	0.095	0.363
MARITALS	0.035	0.635
LIVWHOM	-0.055	0.411
CONTROLL	-0.082	0.391
RESPCBLE	0.158	0.145

CONCERN		-0.009	0.889
PITTY		0.112	0.158
SYMPATHY		-0.040	0.411
SORRY		0.002	0.967
AGRAVTIN		0.070	0.311
IRITATED		-0.063	0.297
HELP		-0.025	0.553
CERTHELP		0.022	0.629
WILLTALK		-0.022	0.645
UNSAFE		0.076	0.207
RISK		0.030	0.687
DANGROUS		-0.005	0.906
TERRIFY		-0.032	0.435
SCARED		0.021	0.601
FRGHTEND		-0.034	0.465
REINIMAG		0.072	0.316
ALIENATD		0.002	0.951
DVSUBCLT		-0.054	0.452
DIFSRVTR		-0.179	0.096
RENTROOM		0.245	0.008
WORKSJOB		0.015	0.742
ANEIGHBR		0.066	0.470
CARETAKR		0.717	0.000
CHILDMRY		0.711	0.000
INTROFRD		0.394	0.000
RECMDJOB		0.516	0.000
FAMILRTY		0.022	0.791
OVALCRSE		-0.052	0.264
INFOLECT		-0.013	0.682
INTRPROF		0.045	0.494
INTRSTUD		-0.033	0.647
READMAT		0.041	0.473
HELPBEH	BY		
AGE		-0.062	0.537
MARITALS		-0.011	0.898
LIVWHOM		-0.002	0.969
CONTROLL		-0.037	0.666
RESPCBLE		-0.018	0.799
CONCERN		0.006	0.947
PITTY		-0.083	0.318
SYMPATHY		0.008	0.851
SORRY		0.047	0.411
AGRAVTIN		0.031	0.516
IRITATED		-0.013	0.773

HELP	0.021	0.701
CERTHELP	-0.069	0.332
WILLTALK	-0.012	0.819
UNSAFE	0.034	0.558
RISK	0.034	0.724
DANGROUS	0.230	0.006
TERRIFY	0.016	0.719
SCARED	0.025	0.642
FRGHTEND	-0.068	0.279
REINIMAG	-0.102	0.296
ALIENATD	0.044	0.529
DVSUBCLT	-0.019	0.774
DIFSRVTR	0.110	0.370
RENTROOM	0.358	0.001
WORKSJOB	0.532	0.000
ANEIGHBR	0.775	0.000
CARETAKR	-0.003	0.952
CHILDMRY	0.020	0.799
INTROFRD	0.150	0.196
RECMDJOB	0.169	0.153
FAMILRTY	-0.220	0.066
OVALCRSE	-0.016	0.704
INFOLECT	0.032	0.490
INTRPROF	-0.162	0.183
INTRSTUD	0.011	0.898
READMAT	0.050	0.475
DANGERES BY		
AGE	0.061	0.431
MARITALS	-0.056	0.467
LIVWHOM	-0.073	0.352
CONTROLL	-0.100	0.253
RESPCBLE	-0.023	0.661
CONCERN	0.469	0.000
PITTY	-0.013	0.638
SYMPATHY	0.352	0.000
SORRY	0.111	0.145
AGRAVTIN	0.008	0.791
IRITATED	0.005	0.891
HELP	0.907	0.000
CERTHELP	0.868	0.000
WILLTALK	0.539	0.000
UNSAFE	-0.006	0.877
RISK	-0.018	0.781
DANGROUS	0.023	0.607

TERRIFY		0.006	0.866
SCARED		-0.061	0.166
FRGHTEND		-0.008	0.839
REINIMAG		0.075	0.263
ALIENATD		-0.016	0.642
DVSUBCLT		-0.178	0.045
DIFSRVTR		-0.062	0.449
RENTROOM		-0.014	0.813
WORKSJOB		-0.067	0.356
ANEIGHBR		0.073	0.291
CARETAKR		-0.005	0.918
CHILDMRY		0.021	0.713
INTROFRD		-0.041	0.549
RECMDJOB		-0.063	0.351
FAMILRTY		0.050	0.553
OVALCRSE		0.033	0.398
INFOLECT		0.002	0.940
INTRPROF		0.018	0.725
INTRSTUD		-0.038	0.538
READMAT		-0.071	0.247
FEAR	BY		
AGE		0.079	0.460
MARITALS		-0.042	0.573
LIVWHOM		0.159	0.363
CONTROLL		-0.030	0.696
RESPCBLE		-0.157	0.311
CONCERN		0.295	0.002
PITTY		0.867	0.000
SYMPATHY		0.674	0.000
SORRY		0.797	0.000
AGRAVTIN		0.017	0.662
IRITATED		0.017	0.684
HELP		0.032	0.384
CERTHELP		-0.069	0.257
WILLTALK		0.093	0.320
UNSAFE		-0.009	0.841
RISK		-0.064	0.447
DANGROUS		0.031	0.567
TERRIFY		-0.007	0.848
SCARED		0.018	0.673
FRGHTEND		0.055	0.299
REINIMAG		-0.097	0.224
ALIENATD		0.024	0.568
DVSUBCLT		0.058	0.498

DIFSRVTR		0.060	0.530
RENTROOM		0.002	0.972
WORKSJOB		-0.106	0.314
ANEIGHBR		0.033	0.552
CARETAKR		0.226	0.118
CHILDMRY		0.070	0.502
INTROFRD		-0.046	0.512
RECMDJOB		-0.108	0.275
FAMILRTY		-0.073	0.433
OVALCRSE		-0.069	0.185
INFOLECT		-0.025	0.517
INTRPROF		0.035	0.570
INTRSTUD		0.119	0.290
READMAT		0.102	0.166
CRIMSTIG	BY		
AGE		0.044	0.587
MARITALS		-0.025	0.726
LIVWHOM		0.010	0.838
CONTROLL		-0.001	0.985
RESPCBLE		-0.117	0.277
CONCERN		0.030	0.664
PITTY		0.007	0.860
SYMPATHY		0.005	0.907
SORRY		-0.014	0.768
AGRAVTIN		0.729	0.000
IRITATED		0.572	0.000
HELP		-0.070	0.268
CERTHELP		-0.027	0.506
WILLTALK		0.121	0.256
UNSAFE		0.175	0.024
RISK		0.069	0.435
DANGROUS		0.083	0.308
TERRIFY		-0.002	0.963
SCARED		-0.051	0.333
FRGHTEND		0.018	0.692
REINIMAG		0.042	0.523
ALIENATD		-0.018	0.733
DVSUBCLT		-0.013	0.836
DIFSRVTR		0.001	0.991
RENTROOM		0.154	0.122
WORKSJOB		0.278	0.007
ANEIGHBR		-0.030	0.587
CARETAKR		-0.002	0.971
CHILDMRY		-0.033	0.631

INTROFRD		0.060	0.476
RECMDJOB		0.219	0.016
FAMILRTY		0.154	0.123
OVALCRSE		-0.010	0.809
INFOLECT		-0.022	0.568
INTRPROF		0.216	0.043
INTRSTUD		0.155	0.159
READMAT		-0.013	0.801
AVOIDD	BY		
AGE		0.050	0.439
MARITALS		0.015	0.787
LIVWHOM		-0.041	0.381
CONTROLL		0.126	0.109
RESPCBLE		0.096	0.225
CONCERN		0.038	0.494
PITTY		-0.032	0.356
SYMPATHY		0.069	0.130
SORRY		0.003	0.929
AGRAVTIN		-0.005	0.873
IRITATED		0.011	0.734
HELP		-0.036	0.299
CERTHELP		0.004	0.909
WILLTALK		-0.028	0.511
UNSAFE		-0.046	0.267
RISK		0.103	0.113
DANGROUS		0.045	0.292
TERRIFY		0.001	0.980
SCARED		0.007	0.818
FRGHTEND		-0.032	0.361
REINIMAG		0.090	0.185
ALIENATD		-0.036	0.391
DVSUBCLT		-0.030	0.523
DIFSRVTR		0.082	0.269
RENTROOM		0.015	0.774
WORKSJOB		-0.100	0.169
ANEIGHBR		0.049	0.343
CARETAKR		-0.062	0.287
CHILDMRY		-0.007	0.855
INTROFRD		0.039	0.505
RECMDJOB		0.063	0.297
FAMILRTY		0.126	0.112
OVALCRSE		0.905	0.000
INFOLECT		0.903	0.000
INTRPROF		0.530	0.000

INTRSTUD		0.226	0.006
READMAT		0.762	0.000
FAMILRNK	BY		
AGE		0.009	0.898
MARITALS		-0.060	0.517
LIVWHOM		0.000	0.994
CONTROLL		0.215	0.040
RESPCBLE		0.020	0.781
CONCERN		0.009	0.892
PITTY		0.204	0.046
SYMPATHY		-0.029	0.496
SORRY		-0.063	0.346
AGRAVTIN		0.360	0.006
IRITATED		0.057	0.486
HELP		-0.039	0.449
CERTHELP		0.076	0.312
WILLTALK		-0.034	0.560
UNSAFE		0.354	0.000
RISK		0.146	0.149
DANGROUS		-0.034	0.573
TERRIFY		0.425	0.000
SCARED		-0.009	0.836
FRGHTEND		-0.008	0.875
REINIMAG		-0.016	0.771
ALIENATD		0.013	0.818
DVSUBCLT		-0.027	0.718
DIFSRVTR		0.148	0.217
RENTROOM		-0.037	0.664
WORKSJOB		-0.006	0.887
ANEIGHBR		0.089	0.488
CARETAKR		0.093	0.339
CHILDMRY		-0.017	0.775
INTROFRD		0.022	0.776
RECMDJOB		-0.026	0.666
FAMILRTY		-0.089	0.455
OVALCRSE		0.012	0.799
INFOLECT		0.186	0.017
INTRPROF		-0.134	0.319
INTRSTUD		-0.058	0.611
READMAT		-0.015	0.745
C	BY		
AGE		-0.226	0.466
MARITALS		-0.139	0.653

LIVWHOM	0.289	0.457
CONTROLL	0.092	0.560
RESPCBLE	0.395	0.002
CONCERN	-0.101	0.440
PITTY	0.010	0.822
SYMPATHY	-0.175	0.212
SORRY	0.025	0.850
AGRAVTIN	0.008	0.887
IRITATED	0.206	0.133
HELP	0.083	0.386
CERTHELP	-0.036	0.417
WILLTALK	0.313	0.008
UNSAFE	-0.022	0.667
RISK	0.180	0.145
DANGROUS	0.203	0.077
TERRIFY	-0.020	0.695
SCARED	0.000	0.997
FRGHTEND	-0.026	0.675
REINIMAG	-0.040	0.552
ALIENATD	0.024	0.752
DVSUBCLT	-0.263	0.020
DIFSRVTR	-0.248	0.075
RENTROOM	0.044	0.586
WORKSJOB	-0.129	0.250
ANEIGHBR	0.003	0.946
CARETAKR	-0.008	0.926
CHILDMRY	0.025	0.764
INTROFRD	-0.039	0.740
RECMDJOB	-0.003	0.960
FAMILRTY	0.012	0.906
OVALCRSE	-0.019	0.675
INFOLECT	0.032	0.492
INTRPROF	-0.071	0.444
INTRSTUD	-0.008	0.925
READMAT	0.025	0.667

Stage 4 ESEM Attribution Model Demogrph CrimStig Avoidd ME MR
No Risk

STDYX Standardization

		Estimate	Two-Tailed P-Value
DEMOGRPH	BY		
AGE		0.405	0.001
MARITALS		0.543	0.000
LIVWHOM		0.654	0.000
CONTROLL		-0.024	0.737
RESPCBLE		0.016	0.764
CONCERN		-0.026	0.695
PITTY		-0.027	0.498
SYMPATHY		0.012	0.773
SORRY		0.080	0.260
AGRAVTIN		0.003	0.927
IRITATED		0.019	0.655
HELP		0.015	0.672
CERTHELP		-0.068	0.289
WILLTALK		0.030	0.606
UNSAFE		-0.018	0.684
DANGROUS		0.042	0.446
TERRIFY		0.056	0.190
SCARED		-0.060	0.228
FRGHTEND		-0.057	0.267
REINIMAG		-0.022	0.634
ALIENATD		0.029	0.622
DVSUBCLT		0.010	0.883
DIFSRVTR		-0.018	0.738
RENTROOM		-0.021	0.753
WORKSJOB		-0.064	0.380
ANEIGHBR		0.003	0.946
CARETAKR		-0.175	0.118
CHILDMRY		0.058	0.495
INTROFRD		0.126	0.184
RECMDJOB		0.004	0.946
MYOWNRES		-0.111	0.323
MYOWNEXP		0.068	0.457

PERSRESP	BY		
AGE		0.048	0.486
MARITALS		0.049	0.419
LIVWHOM		-0.089	0.369
CONTROLL		0.056	0.445
RESPCBLE		-0.041	0.453
CONCERN		0.024	0.689
PITTY		0.039	0.355
SYMPATHY		-0.035	0.416
SORRY		0.016	0.641
AGRAVTIN		-0.027	0.411
IRITATED		-0.002	0.959
HELP		-0.051	0.270
CERTHELP		0.022	0.481
WILLTALK		0.203	0.023
UNSAFE		0.044	0.322
DANGROUS		0.036	0.428
TERRIFY		-0.030	0.288
SCARED		0.038	0.324
FRGHTEND		-0.035	0.367
REINIMAG		0.726	0.000
ALIENATD		0.867	0.000
DVSUBCLT		0.508	0.000
DIFSRVTR		0.310	0.001
RENTROOM		0.031	0.613
WORKSJOB		-0.123	0.140
ANEIGHBR		0.009	0.812
CARETAKR		-0.017	0.686
CHILDMRY		0.008	0.885
INTROFRD		-0.049	0.473
RECMDJOB		0.043	0.486
MYOWNRES		0.010	0.837
MYOWNEXP		0.012	0.803
PITY	BY		
AGE		0.077	0.439
MARITALS		0.037	0.492
LIVWHOM		-0.059	0.462
CONTROLL		-0.075	0.445
RESPCBLE		0.199	0.123
CONCERN		0.003	0.967
PITTY		0.094	0.218
SYMPATHY		-0.049	0.381
SORRY		-0.003	0.936
AGRAVTIN		0.058	0.334

IRITATED	-0.047	0.363
HELP	-0.054	0.290
CERTHELP	0.050	0.362
WILLTALK	-0.025	0.613
UNSAFE	0.083	0.174
DANGROUS	0.000	0.993
TERRIFY	-0.036	0.396
SCARED	-0.008	0.824
FRGHTEND	-0.020	0.656
REINIMAG	0.111	0.226
ALIENATD	-0.015	0.605
DVSUBCLT	-0.077	0.390
DIFSRVTR	-0.270	0.028
RENTROOM	0.230	0.018
WORKSJOB	0.009	0.835
ANEIGHBR	0.045	0.518
CARETAKR	0.704	0.000
CHILDMRY	0.689	0.000
INTROFRD	0.371	0.000
RECMDJOB	0.511	0.000
MYOWNRES	-0.156	0.207
MYOWNEXP	-0.054	0.474
ANGER BY		
AGE	0.047	0.531
MARITALS	-0.041	0.520
LIVWHOM	-0.018	0.643
CONTROLL	-0.375	0.001
RESPCBLE	0.279	0.024
CONCERN	0.117	0.181
PITTY	0.024	0.559
SYMPATHY	-0.011	0.771
SORRY	0.073	0.254
AGRAVTIN	0.046	0.302
IRITATED	0.424	0.000
HELP	-0.018	0.618
CERTHELP	0.016	0.669
WILLTALK	-0.099	0.377
UNSAFE	0.504	0.000
DANGROUS	0.646	0.000
TERRIFY	0.674	0.000
SCARED	0.869	0.000
FRGHTEND	0.874	0.000
REINIMAG	0.138	0.283
ALIENATD	-0.086	0.468

DVSUBCLT	0.061	0.356
DIFSRVTR	-0.076	0.315
RENTROOM	0.134	0.198
WORKSJOB	0.000	0.994
ANEIGHBR	0.065	0.487
CARETAKR	-0.119	0.210
CHILDMRY	-0.006	0.912
INTROFRD	0.145	0.155
RECMDJOB	-0.016	0.778
MYOWNRES	-0.139	0.225
MYOWNEXP	-0.071	0.440
HELPBEH BY		
AGE	-0.047	0.622
MARITALS	-0.012	0.856
LIVWHOM	0.014	0.819
CONTROLL	-0.047	0.605
RESPCBLE	0.004	0.950
CONCERN	-0.001	0.992
PITTY	-0.105	0.232
SYMPATHY	-0.007	0.888
SORRY	0.043	0.433
AGRAVTIN	0.042	0.455
IRITATED	-0.011	0.823
HELP	0.049	0.437
CERTHELP	-0.061	0.376
WILLTALK	-0.025	0.666
UNSAFE	0.041	0.518
DANGROUS	0.264	0.010
TERRIFY	0.032	0.423
SCARED	0.076	0.302
FRGHTEND	-0.066	0.322
REINIMAG	-0.118	0.303
ALIENATD	0.049	0.526
DVSUBCLT	-0.009	0.888
DIFSRVTR	0.119	0.346
RENTROOM	0.394	0.002
WORKSJOB	0.572	0.000
ANEIGHBR	0.744	0.000
CARETAKR	0.012	0.735
CHILDMRY	0.072	0.510
INTROFRD	0.234	0.063
RECMDJOB	0.226	0.080
MYOWNRES	0.060	0.526
MYOWNEXP	-0.003	0.955

DANGERES BY

AGE	0.076	0.363
MARITALS	-0.029	0.579
LIVWHOM	-0.034	0.510
CONTROLL	-0.069	0.383
RESPCBLE	-0.009	0.857
CONCERN	0.438	0.000
PITTY	-0.038	0.306
SYMPATHY	0.326	0.000
SORRY	0.073	0.216
AGRAVTIN	0.008	0.796
IRITATED	0.014	0.716
HELP	0.962	0.000
CERTHELP	0.850	0.000
WILLTALK	0.549	0.000
UNSAFE	-0.027	0.551
DANGROUS	0.018	0.681
TERRIFY	0.012	0.634
SCARED	-0.055	0.167
FRGHTEND	-0.031	0.391
REINIMAG	0.066	0.271
ALIENATD	-0.006	0.862
DVSUBCLT	-0.168	0.045
DIFSRVTR	-0.025	0.664
RENTROOM	-0.024	0.679
WORKSJOB	-0.096	0.246
ANEIGHBR	0.056	0.337
CARETAKR	-0.013	0.752
CHILDMRY	0.026	0.659
INTROFRD	-0.034	0.612
RECMDJOB	-0.070	0.318
MYOWNRES	0.003	0.957
MYOWNEXP	-0.015	0.785

FEAR BY

AGE	0.017	0.692
MARITALS	-0.137	0.262
LIVWHOM	0.084	0.469
CONTROLL	-0.056	0.515
RESPCBLE	-0.154	0.244
CONCERN	0.295	0.001
PITTY	0.871	0.000
SYMPATHY	0.653	0.000
SORRY	0.810	0.000

AGRAVTIN	0.014	0.685
IRITATED	-0.008	0.826
HELP	0.012	0.664
CERTHELP	-0.050	0.281
WILLTALK	0.090	0.265
UNSAFE	0.015	0.727
DANGROUS	0.023	0.614
TERRIFY	-0.006	0.851
SCARED	0.014	0.679
FRGHTEND	0.061	0.235
REINIMAG	-0.100	0.222
ALIENATD	0.024	0.541
DVSUBCLT	0.060	0.439
DIFSRVTR	0.018	0.695
RENTROOM	0.019	0.763
WORKSJOB	-0.071	0.360
ANEIGHBR	0.028	0.554
CARETAKR	0.305	0.019
CHILDMRY	0.116	0.311
INTROFRD	-0.031	0.642
RECMDJOB	-0.069	0.412
MYOWNRES	0.112	0.290
MYOWNEXP	0.040	0.444
CRIMSTIG BY		
AGE	0.017	0.784
MARITALS	-0.039	0.585
LIVWHOM	0.049	0.467
CONTROLL	0.007	0.910
RESPCBLE	-0.068	0.405
CONCERN	0.033	0.636
PITTY	0.034	0.493
SYMPATHY	-0.025	0.567
SORRY	-0.025	0.546
AGRAVTIN	0.762	0.000
IRITATED	0.607	0.000
HELP	-0.033	0.463
CERTHELP	-0.018	0.698
WILLTALK	0.182	0.055
UNSAFE	0.207	0.014
DANGROUS	0.098	0.371
TERRIFY	-0.005	0.843
SCARED	-0.024	0.578
FRGHTEND	0.053	0.298
REINIMAG	0.033	0.523

ALIENATD		-0.025	0.654
DVSUBCLT		-0.056	0.478
DIFSRVTR		0.014	0.836
RENTROOM		0.128	0.349
WORKSJOB		0.158	0.370
ANEIGHBR		-0.087	0.611
CARETAKR		0.009	0.828
CHILDMRY		-0.021	0.744
INTROFRD		0.022	0.748
RECMDJOB		0.165	0.156
MYOWNRES		0.007	0.903
MYOWNEXP		-0.029	0.656
AVOIDD	BY		
AGE		0.031	0.667
MARITALS		-0.024	0.671
LIVWHOM		0.038	0.525
CONTROLL		0.195	0.034
RESPCBLE		0.041	0.565
CONCERN		0.007	0.912
PITTY		0.131	0.156
SYMPATHY		-0.037	0.382
SORRY		-0.074	0.239
AGRAVTIN		0.254	0.115
IRITATED		-0.003	0.938
HELP		-0.021	0.573
CERTHELP		0.116	0.151
WILLTALK		-0.057	0.371
UNSAFE		0.338	0.007
DANGROUS		-0.006	0.893
TERRIFY		0.553	0.000
SCARED		0.017	0.697
FRGHTEND		0.015	0.760
REINIMAG		-0.007	0.868
ALIENATD		0.005	0.921
DVSUBCLT		-0.006	0.923
DIFSRVTR		0.090	0.341
RENTROOM		-0.082	0.361
WORKSJOB		0.022	0.595
ANEIGHBR		0.070	0.359
CARETAKR		0.049	0.388
CHILDMRY		-0.013	0.815
INTROFRD		0.055	0.516
RECMDJOB		-0.015	0.784
MYOWNRES		0.045	0.484

MYOWNEXP		-0.030	0.588
MR	BY		
AGE		-0.038	0.601
MARITALS		0.041	0.523
LIVWHOM		-0.033	0.582
CONTROLL		0.002	0.980
RESPCBLE		0.039	0.552
CONCERN		0.117	0.214
PITTY		-0.036	0.356
SYMPATHY		0.055	0.343
SORRY		0.111	0.118
AGRAVTIN		-0.006	0.863
IRITATED		0.001	0.986
HELP		-0.089	0.409
CERTHELP		0.158	0.217
WILLTALK		-0.052	0.291
UNSAFE		-0.025	0.609
DANGROUS		0.009	0.854
TERRIFY		0.006	0.825
SCARED		-0.116	0.034
FRGHTEND		-0.008	0.850
REINIMAG		0.145	0.135
ALIENATD		0.009	0.794
DVSUBCLT		-0.048	0.509
DIFSRVTR		-0.297	0.005
RENTROOM		-0.041	0.556
WORKSJOB		0.146	0.183
ANEIGHBR		-0.055	0.440
CARETAKR		-0.085	0.333
CHILDMRY		-0.040	0.507
INTROFRD		0.005	0.936
RECMDJOB		0.062	0.410
MYOWNRES		0.546	0.000
MYOWNEXP		0.669	0.000
ME	BY		
AGE		0.372	0.020
MARITALS		0.342	0.065
LIVWHOM		-0.083	0.616
CONTROLL		-0.205	0.124
RESPCBLE		-0.470	0.000
CONCERN		0.147	0.182
PITTY		-0.016	0.729

SYMPATHY	0.182	0.026
SORRY	-0.005	0.923
AGRAVTIN	0.057	0.367
IRITATED	-0.087	0.433
HELP	-0.025	0.609
CERTHELP	0.021	0.581
WILLTALK	-0.239	0.043
UNSAFE	0.005	0.921
DANGROUS	-0.135	0.147
TERRIFY	-0.019	0.653
SCARED	0.017	0.680
FRGHTEND	0.067	0.363
REINIMAG	0.026	0.619
ALIENATD	-0.031	0.639
DVSUBCLT	0.227	0.064
DIFSRVTR	0.237	0.122
RENTROOM	-0.034	0.650
WORKSJOB	0.124	0.261
ANEIGHBR	-0.032	0.561
CARETAKR	-0.019	0.665
CHILDMRY	0.036	0.664
INTROFRD	0.056	0.534
RECMDJOB	0.005	0.939
MYOWNRES	0.025	0.656
MYOWNEXP	-0.055	0.523

Stage 4 ESEM Attribution Demogrph CrimStig Avoidd Familrnk Course ME (12 Factors) No Risk

STDYX Standardization

	Estimate	Two-Tailed P-Value
DEMOGRPH BY		
AGE	0.035	0.606
MARITALS	0.035	0.624
LIVWHOM	-0.114	0.456
CONTROLL	0.020	0.771
RESPCBLE	-0.053	0.448
CONCERN	0.033	0.616
PITTY	0.025	0.534
SYMPATHY	-0.032	0.454
SORRY	0.023	0.590
AGRAVTIN	-0.017	0.582
IRITATED	0.034	0.475
HELP	-0.038	0.431
CERTHELP	0.012	0.708
WILLTALK	0.228	0.016
UNSAFE	0.009	0.824
DANGROUS	0.034	0.489
TERRIFY	-0.081	0.125
SCARED	0.041	0.362
FRGHTEND	-0.023	0.571
REINIMAG	0.749	0.000
ALIENATD	0.839	0.000
DVSUBCLT	0.508	0.000
DIFSRVTR	0.303	0.002
RENTROOM	0.033	0.623
WORKSJOB	-0.110	0.222
ANEIGHBR	-0.009	0.801
CARETAKR	-0.009	0.847
CHILDMRY	0.001	0.983
INTROFRD	-0.071	0.349
RECMDJOB	0.054	0.405
FAMILRTY	-0.011	0.869
OVALCRSE	0.031	0.369
INFOLECT	0.057	0.199

INTRPROF		-0.103	0.334
INTRSTUD		-0.263	0.021
READMAT		-0.049	0.364
MYOWNEXP		0.013	0.748
PERSRESP	BY	BY	
AGE		0.446	0.001
MARITALS		0.475	0.000
LIVWHOM		0.632	0.000
CONTROLL		-0.082	0.462
RESPCBLE		-0.037	0.697
CONCERN		0.002	0.981
PITTY		-0.039	0.520
SYMPATHY		0.022	0.663
SORRY		0.072	0.279
AGRAVTIN		0.011	0.753
IRITATED		0.019	0.687
HELP		0.021	0.632
CERTHELP		-0.090	0.273
WILLTALK		0.001	0.989
UNSAFE		-0.014	0.744
DANGROUS		0.026	0.632
TERRIFY		0.029	0.484
SCARED		-0.038	0.416
FRGHTEND		-0.026	0.589
REINIMAG		-0.020	0.708
ALIENATD		0.009	0.880
DVSUBCLT		0.009	0.905
DIFSRVTR		0.003	0.965
RENTROOM		-0.018	0.788
WORKSJOB		-0.069	0.433
ANEIGHBR		-0.010	0.805
CARETAKR		-0.120	0.288
CHILDMRY		0.095	0.385
INTROFRD		0.141	0.204
RECMDJOB		0.032	0.625
FAMILRTY		0.017	0.828
OVALCRSE		0.019	0.565
INFOLECT		0.089	0.143
INTRPROF		-0.113	0.357
INTRSTUD		-0.330	0.006
READMAT		-0.054	0.356
MYOWNEXP		0.003	0.941

PITY   BY

AGE	0.127	0.268
MARITALS	0.041	0.592
LIVWHOM	-0.067	0.385
CONTROLL	-0.086	0.366
RESPCBLE	0.109	0.354
CONCERN	-0.008	0.905
PITTY	0.115	0.153
SYMPATHY	-0.022	0.605
SORRY	-0.014	0.729
AGRAVTIN	0.094	0.325
IRITATED	-0.039	0.409
HELP	-0.012	0.765
CERTHELP	0.010	0.822
WILLTALK	-0.021	0.663
UNSAFE	0.077	0.209
DANGROUS	-0.017	0.720
TERRIFY	-0.042	0.323
SCARED	0.028	0.479
FRGHTEND	-0.031	0.472
REINIMAG	0.063	0.343
ALIENATD	-0.006	0.879
DVSUBCLT	-0.049	0.476
DIFSRVTR	-0.147	0.284
RENTROOM	0.250	0.004
WORKSJOB	0.013	0.760
ANEIGHBR	0.056	0.444
CARETAKR	0.735	0.000
CHILDMRY	0.690	0.000
INTROFRD	0.381	0.000
RECMDJOB	0.509	0.000
FAMILRTY	-0.014	0.808
OVALCRSE	-0.057	0.241
INFOLECT	-0.007	0.840
INTRPROF	0.067	0.356
INTRSTUD	-0.040	0.573
READMAT	0.031	0.561
MYOWNEXP	-0.240	0.113

ANGER   BY

AGE	0.053	0.495
MARITALS	-0.046	0.562
LIVWHOM	0.005	0.894
CONTROLL	-0.390	0.000
RESPCBLE	0.274	0.015

CONCERN	0.096	0.259
PITTY	0.027	0.476
SYMPATHY	-0.044	0.352
SORRY	0.058	0.324
AGRAVTIN	0.056	0.320
IRITATED	0.420	0.000
HELP	0.004	0.902
CERTHELP	0.004	0.907
WILLTALK	-0.092	0.308
UNSAFE	0.543	0.000
DANGROUS	0.650	0.000
TERRIFY	0.705	0.000
SCARED	0.930	0.000
FRGHTEND	0.881	0.000
REINIMAG	0.113	0.275
ALIENATD	-0.064	0.359
DVSUBCLT	0.084	0.333
DIFSRVTR	-0.054	0.412
RENTROOM	0.135	0.150
WORKSJOB	0.003	0.938
ANEIGHBR	0.036	0.528
CARETAKR	-0.094	0.309
CHILDMRY	0.018	0.751
INTROFRD	0.183	0.051
RECMDJOB	-0.011	0.828
FAMILRTY	-0.155	0.224
OVALCRSE	0.022	0.609
INFOLECT	-0.027	0.490
INTRPROF	0.011	0.802
INTRSTUD	0.033	0.640
READMAT	0.004	0.944
MYOWNEXP	-0.133	0.396
HELPBEH BY		
AGE	-0.070	0.482
MARITALS	-0.001	0.987
LIVWHOM	-0.001	0.991
CONTROLL	-0.045	0.630
RESPCBLE	0.016	0.814
CONCERN	0.021	0.787
PITTY	-0.104	0.252
SYMPATHY	-0.005	0.905
SORRY	0.057	0.363
AGRAVTIN	0.035	0.471
IRITATED	-0.002	0.968

HELP	0.015	0.743
CERTHELP	-0.029	0.588
WILLTALK	-0.032	0.607
UNSAFE	0.038	0.482
DANGROUS	0.232	0.002
TERRIFY	0.032	0.497
SCARED	0.003	0.952
FRGHTEND	-0.061	0.265
REINIMAG	-0.053	0.482
ALIENATD	0.046	0.491
DVSUBCLT	-0.009	0.891
DIFSRVTR	0.038	0.572
RENTROOM	0.340	0.001
WORKSJOB	0.568	0.000
ANEIGHBR	0.756	0.000
CARETAKR	-0.003	0.941
CHILDMRY	0.052	0.569
INTROFRD	0.184	0.120
RECMDJOB	0.214	0.081
FAMILRTY	-0.138	0.341
OVALCRSE	-0.002	0.957
INFOLECT	0.017	0.668
INTRPROF	-0.157	0.196
INTRSTUD	0.024	0.773
READMAT	0.063	0.380
MYOWNEXP	0.149	0.376
DANGERES BY		
AGE	0.056	0.448
MARITALS	-0.061	0.443
LIVWHOM	-0.049	0.369
CONTROLL	-0.085	0.325
RESPCBLE	-0.019	0.693
CONCERN	0.434	0.000
PITTY	-0.033	0.334
SYMPATHY	0.322	0.000
SORRY	0.086	0.195
AGRAVTIN	0.004	0.882
IRITATED	0.019	0.650
HELP	0.969	0.000
CERTHELP	0.828	0.000
WILLTALK	0.532	0.000
UNSAFE	-0.021	0.608
DANGROUS	0.020	0.643
TERRIFY	-0.005	0.891

SCARED		-0.039	0.302
FRGHTEND		-0.012	0.745
REINIMAG		0.047	0.340
ALIENATD		-0.017	0.665
DVSUBCLT		-0.165	0.059
DIFSRVTR		-0.025	0.673
RENTROOM		-0.024	0.687
WORKSJOB		-0.089	0.267
ANEIGHBR		0.071	0.278
CARETAKR		0.000	0.997
CHILDMRY		0.024	0.673
INTROFRD		-0.043	0.516
RECMDJOB		-0.083	0.244
FAMILRTY		0.026	0.715
OVALCRSE		0.014	0.691
INFOLECT		0.007	0.812
INTRPROF		0.026	0.589
INTRSTUD		-0.049	0.454
READMAT		-0.072	0.228
MYOWNEXP		-0.017	0.693
FEAR	BY		
AGE		0.055	0.481
MARITALS		-0.063	0.459
LIVWHOM		0.080	0.390
CONTROLL		-0.053	0.557
RESPCBLE		-0.173	0.195
CONCERN		0.337	0.000
PITTY		0.867	0.000
SYMPATHY		0.694	0.000
SORRY		0.816	0.000
AGRAVTIN		0.008	0.818
IRITATED		-0.003	0.950
HELP		-0.014	0.700
CERTHELP		-0.008	0.841
WILLTALK		0.079	0.342
UNSAFE		0.010	0.806
DANGROUS		0.031	0.539
TERRIFY		-0.004	0.921
SCARED		-0.016	0.662
FRGHTEND		0.073	0.180
REINIMAG		-0.043	0.364
ALIENATD		0.041	0.452
DVSUBCLT		0.069	0.424
DIFSRVTR		0.011	0.813

RENTROOM	0.009	0.879
WORKSJOB	-0.068	0.371
ANEIGHBR	0.038	0.439
CARETAKR	0.217	0.083
CHILDMRY	0.059	0.440
INTROFRD	-0.060	0.431
RECMDJOB	-0.095	0.276
FAMILRTY	-0.031	0.684
OVALCRSE	-0.028	0.508
INFOLECT	-0.033	0.415
INTRPROF	0.018	0.703
INTRSTUD	0.143	0.155
READMAT	0.116	0.118
MYOWNEXP	0.126	0.323
CRIMSTIG BY		
AGE	0.049	0.450
MARITALS	0.016	0.775
LIVWHOM	-0.036	0.400
CONTROLL	0.125	0.114
RESPCBLE	0.107	0.190
CONCERN	0.040	0.468
PITTY	-0.030	0.377
SYMPATHY	0.061	0.173
SORRY	0.000	0.994
AGRAVTIN	-0.002	0.939
IRITATED	0.010	0.784
HELP	-0.053	0.173
CERTHELP	0.015	0.638
WILLTALK	-0.026	0.525
UNSAFE	-0.029	0.486
DANGROUS	0.050	0.273
TERRIFY	0.020	0.554
SCARED	-0.003	0.922
FRGHTEND	-0.026	0.457
REINIMAG	0.092	0.186
ALIENATD	-0.041	0.339
DVSUBCLT	-0.046	0.385
DIFSRVTR	0.062	0.329
RENTROOM	0.016	0.772
WORKSJOB	-0.099	0.173
ANEIGHBR	0.052	0.309
CARETAKR	-0.068	0.261
CHILDMRY	-0.013	0.756
INTROFRD	0.033	0.571

RECMDJOB		0.057	0.332
FAMILRTY		0.135	0.106
OVALCRSE		0.913	0.000
INFOLECT		0.913	0.000
INTRPROF		0.509	0.000
INTRSTUD		0.217	0.015
READMAT		0.758	0.000
MYOWNEXP		-0.050	0.307
AVOIDD	BY		
AGE		0.013	0.825
MARITALS		-0.050	0.538
LIVWHOM		0.047	0.494
CONTROLL		0.012	0.871
RESPCBLE		-0.079	0.385
CONCERN		0.015	0.818
PITTY		0.013	0.761
SYMPATHY		-0.009	0.841
SORRY		-0.014	0.760
AGRAVTIN		0.747	0.000
IRITATED		0.573	0.000
HELP		-0.011	0.798
CERTHELP		-0.029	0.549
WILLTALK		0.177	0.076
UNSAFE		0.167	0.081
DANGROUS		0.109	0.177
TERRIFY		0.018	0.790
SCARED		-0.019	0.659
FRGHTEND		0.021	0.637
REINIMAG		0.012	0.804
ALIENATD		-0.009	0.869
DVSUBCLT		-0.020	0.762
DIFSRVTR		0.046	0.577
RENTROOM		0.138	0.161
WORKSJOB		0.221	0.054
ANEIGHBR		-0.046	0.481
CARETAKR		-0.002	0.966
CHILDMRY		-0.020	0.749
INTROFRD		0.055	0.515
RECMDJOB		0.186	0.050
FAMILRTY		0.124	0.208
OVALCRSE		-0.016	0.702
INFOLECT		-0.008	0.822
INTRPROF		0.234	0.057
INTRSTUD		0.163	0.169

READMAT		-0.011	0.833
MYOWNEXP		-0.008	0.857
FAMILRNK	BY		
AGE		0.008	0.905
MARITALS		-0.031	0.712
LIVWHOM		0.005	0.925
CONTROLL		0.149	0.227
RESPCBLE		0.024	0.756
CONCERN		0.042	0.555
PITTY		0.189	0.118
SYMPATHY		-0.034	0.468
SORRY		-0.053	0.395
AGRAVTIN		0.329	0.061
IRITATED		0.053	0.587
HELP		-0.090	0.468
CERTHELP		0.120	0.333
WILLTALK		-0.053	0.373
UNSAFE		0.390	0.000
DANGROUS		-0.011	0.823
TERRIFY		0.411	0.000
SCARED		-0.050	0.431
FRGHTEND		0.052	0.438
REINIMAG		0.020	0.722
ALIENATD		-0.006	0.907
DVSUBCLT		-0.048	0.569
DIFSRVTR		0.032	0.708
RENTROOM		-0.022	0.789
WORKSJOB		0.012	0.809
ANEIGHBR		0.075	0.507
CARETAKR		0.070	0.409
CHILDMRY		-0.011	0.863
INTROFRD		0.004	0.967
RECMDJOB		-0.028	0.668
FAMILRTY		-0.050	0.614
OVALCRSE		0.016	0.679
INFOLECT		0.135	0.083
INTRPROF		-0.236	0.208
INTRSTUD		-0.098	0.577
READMAT		-0.052	0.462
MYOWNEXP		-0.007	0.885
C	BY		
AGE		-0.219	0.426
MARITALS		-0.133	0.627

LIVWHOM		0.299	0.422
CONTROLL		0.113	0.452
RESPCBLE		0.438	0.001
CONCERN		-0.143	0.235
PITTY		0.021	0.603
SYMPATHY		-0.178	0.123
SORRY		0.023	0.833
AGRAVTIN		-0.025	0.678
IRITATED		0.149	0.246
HELP		0.064	0.499
CERTHELP		-0.048	0.400
WILLTALK		0.279	0.029
UNSAFE		-0.014	0.779
DANGROUS		0.155	0.117
TERRIFY		-0.001	0.985
SCARED		-0.003	0.939
FRGHTEND		-0.023	0.689
REINIMAG		-0.030	0.617
ALIENATD		0.018	0.768
DVSUBCLT		-0.271	0.016
DIFSRVTR		-0.272	0.030
RENTROOM		0.054	0.525
WORKSJOB		-0.156	0.149
ANEIGHBR		0.010	0.810
CARETAKR		0.010	0.899
CHILDMRY		0.023	0.783
INTROFRD		-0.041	0.700
RECMDJOB		-0.005	0.940
FAMILRTY		0.046	0.632
OVALCRSE		-0.027	0.536
INFOLECT		0.040	0.428
INTRPROF		-0.071	0.436
INTRSTUD		-0.003	0.969
READMAT		0.022	0.698
MYOWNEXP		0.010	0.785
ME	BY		
AGE		-0.003	0.959
MARITALS		0.049	0.579
LIVWHOM		-0.017	0.733
CONTROLL		-0.054	0.583
RESPCBLE		0.083	0.435
CONCERN		0.094	0.317
PITTY		-0.049	0.369
SYMPATHY		0.013	0.742

SORRY	0.049	0.365
AGRAVTIN	-0.014	0.696
IRITATED	0.012	0.817
HELP	-0.094	0.495
CERTHELP	0.198	0.151
WILLTALK	-0.011	0.759
UNSAFE	0.000	0.997
DANGROUS	-0.025	0.646
TERRIFY	-0.031	0.617
SCARED	-0.148	0.025
FRGHTEND	0.017	0.776
REINIMAG	0.203	0.033
ALIENATD	-0.002	0.962
DVSUBCLT	-0.035	0.612
DIFSRVTR	-0.373	0.001
RENTROOM	-0.071	0.458
WORKSJOB	0.035	0.554
ANEIGHBR	-0.183	0.267
CARETAKR	-0.064	0.458
CHILDMRY	0.008	0.883
INTROFRD	0.021	0.786
RECMDJOB	0.086	0.344
FAMILRTY	0.361	0.001
OVALCRSE	0.073	0.338
INFOLECT	-0.087	0.294
INTRPROF	-0.034	0.608
INTRSTUD	0.030	0.724
READMAT	0.003	0.951
MYOWNEXP	0.577	0.000

APPENDIX D: <u>**Methodological Check of EFA and CFA Models**</u>

To evaluate the robustness of pilot-test EFA and CFA results, methodological changes were introduced to evaluate model fit for the attribution measurement model. Comparative approaches to test maximum likelihood (ml) and mean- and variance-adjusted weighted least squares estimation (wlsmv) is highly recommended (Sass et al., 2014; Vazsonyi et al., 2015). The item indicators, previously classified as continuous, were changed to categorical, and the ml estimator was changed to wlsmv to test model fit:

> Item indicators in SEM: Mplus 6.12 has the ability to perform analysis and develop models with continuous or categorical indicators of latent variables, or combining continuous and categorical variables. Typical continuous variables are Likert-type scale items.

> Estimation: As opposed to weighted least squares (WLSMV), maximum likelihood (ML) is an estimation method that assumes continuous variables and multivariate normality are continuous and normally distributed (Schmitt, 2011: 307). ML uses standard Pearson product momment correlations, whereas, WLSMV, for ordinal data with two or more categories, uses polychoric correlations (Schmitt, 2011: 308). Based on Mplus modeling techniques, the wlsmv estimator should not be used with continuous variables, but can be employed with a combination of categorical and continuous item indicators.

> Rotation Criteria: "the rotation criterion simply redistributes the variance of each variable across the rotated factors to provide a more easily interpretable solution" and the choice in rotation criterion is "to select the rotation that provides the simplest and most informative solution", (Sass and Schmitt, 2010: 99, 101). Compared to rotation criteria such as Varimax, Equamax and others, Geomin was chosen to minimize variable complexity and to reduce cross-loading magnitudes, giving the impression that each variable/item loads only on a single factor", with an outfall of increased interfactor correlations (Schmitt and Sass, 2011: 105). Reduced cross-loadings also permit more comparable solutions to CFA (Schmitt and Sass, 2011: 109).

> Rotation Method: In EFA correlational analysis. Schmitt (2011: 312) notes: "because oblique rotation methods generally produce accurate and comparable factor structures to orthogonal methods even when interfactor correlations are negligible, it is strongly recommend that researchers only use oblique rotation methods because they generally result in more realistic and more statistically sound factor structures" (Schmitt, 2011: 312).

An important requirement of at least n=200 is recommended to perform any exploratory analysis with categorical variables, involving dichotomous or ordered categories.

An EFA model was fitted to the data, using the wlsmv estimator. Employing Corrigan et al.'s (2002) attribution questionaire (7-item Social Distance scale replaced original 2-item avoidance factor), the wlsmv approach provides a weighted-least-squares with mean and variance adjustment estimator available in Mplus (Muthén et al., 1997). The corresponding categorical item indicators led to an excellent result (CFI= 0.976, TLI=0.965, RMSEA=0.048). The results did not include imputation of data for student demographic characteristics, personal consequences of criminal stigma measure or level of familiarity ranking.

The imputation of the Personal Consequences of Criminal Stigma factor (CRIMSTIG) data to the Attribution measurement model improved the result for the 8-factor model (CFI= 0.983, TLI=0.973, RMSEA=0.042). A CFA for an 8-factor model (excluding Demographic characteristics, Level of Familiarity and original Avoidance factor), with wlsmv estimator and categorical variables, led to unsatisfactory results (CFI= 0.929, TLI=0.918, RMSEA=0.091, WRMR= 1.542). Weighted Root Mean Square Residual (WRMR) is a fit indicator that "uses a variance-weighted approach especially suitable for models whose variables are measured on different scales or have widely unequal variances" (Cook et al., 2009: 449). The WRMR recommended cutoff is 0.08 (Hu and Bentler, 1999). The Mplus output generated a "latent variable covariance matrix (psi) is not positive definite" warning, and did not conform to published fit criteria. Because the model covariance matrix is not positive definite, factor scores were not computed.

Another CFA model (Attribution model, Demographic characteristics of students, Social Distance scale, Criminal Stigma scale) with all item indicators identified as categorical led to more unsatisfactory results (CFI= 0.934, TLI=0.925, RMSEA=0.071, WRMR= 1.627). The poor-fitting CFA results are worse than those computed for the EFA and ESEM datasets, using recommended cutoff criteria for fit indices (Hu and Bentler, 1999). Moreover, the Mplus output generated a number of "residual covariance matrix (theta) is not positive definite" warnings, involving the "maritals" and "pity" item indicators.

APPENDIX E: <u>SUPPLEMENTARY INFORMATION</u>

The enclosed information contains tables and diagrams which complement Chapter 4: Discussion.

|	controll	respcble	concern	pitty	sympathy	sorry	agravtin	angry	iritated	help	certhelp	willtalk	unsafe	risk	dangrous	terrify	scared	frghtend	threatnd	avoid	rentaprt
							Table 4 Stage 3 Attribution Model Inter-Item Correlations														
controll	1																				
respcble	0.105	1																			
concern	0.060	-0.141	1																		
pitty	-0.056	0.019	0.412	1																	
sympathy	-0.005	-0.099	0.536	0.612	1																
sorry	-0.006	-0.091	0.594	0.656	0.671	1															
agravtin	-0.171	0.083	0.025	0.137	0.047	0.185	1														
angry	-0.007	0.161	-0.010	0.152	0.057	0.130	0.619	1													
iritated	-0.085	0.049	0.059	0.201	0.112	0.195	0.653	0.674	1												
help	0.137	-0.151	0.465	0.256	0.492	0.376	-0.063	0.003	0.027	1											
certhelp	0.056	-0.184	0.372	0.159	0.394	0.243	-0.053	0.024	0.011	0.790	1										
willtalk	0.136	-0.083	0.323	0.167	0.217	0.278	-0.171	-0.195	-0.156	0.478	0.341	1									
unsafe	-0.167	0.175	0.069	0.152	0.068	0.088	0.611	0.532	0.571	-0.148	-0.136	-0.262	1								
risk	-0.137	0.147	-0.090	0.036	-0.049	-0.004	0.460	0.525	0.506	-0.181	-0.131	-0.252	0.505	1							
dangrous	-0.069	0.163	0.182	0.217	0.130	0.261	0.512	0.512	0.546	-0.034	-0.084	-0.208	0.575	0.578	1						
terrify	-0.161	0.160	0.072	0.187	0.065	0.131	0.584	0.630	0.554	-0.102	-0.079	-0.271	0.756	0.577	0.660	1					
scared	-0.102	0.200	0.106	0.249	0.161	0.249	0.553	0.605	0.592	-0.043	-0.063	-0.200	0.692	0.530	**0.801**	0.792	1				
frghtend	-0.074	0.172	0.133	0.214	0.110	0.232	0.583	0.591	0.546	-0.027	-0.016	-0.220	0.662	0.509	0.768	0.770	**0.855**	1			
threatnd	-0.082	0.185	0.147	0.261	0.166	0.247	0.519	0.531	0.559	-0.041	-0.086	-0.185	0.620	0.529	**0.818**	0.699	**0.904**	**0.809**	1		
avoid	0.190	-0.088	0.199	0.125	0.159	0.075	-0.278	-0.222	-0.244	0.270	0.297	0.311	-0.234	-0.240	-0.353	-0.238	-0.332	-0.321	-0.357	1	
rentaprt	-0.181	0.153	-0.239	0.028	-0.092	-0.048	0.333	0.239	0.270	-0.249	-0.258	-0.209	0.319	0.317	0.304	0.353	0.422	0.353	0.392	-0.318	1

Table 4.1 Stage 3 and Stage 4 Goodness-of-Fit Statistics for ESEM Models							
Model	**χ²**	**(df)**	**CFI**	**TLI**	**RMSEA**	**90% CI**	**SRMR**
Attribution Model							
Stage 3 (n=201)	101.476	84	0.993	0.983	0.032	0.000 - 0.053	0.016
CFA Stage 3 (n=201)	394.347	168	0.913	0.891	0.082	0.071 - 0.092	0.092
Stage 4 (n=177)	98.947	71	0.987	0.966	0.047	0.021 - 0.068	0.020
Demographics							
Stage 3 (n=201)	267.265	202	0.976	0.953	0.040	0.026 - 0.052	0.029
Stage 4 (n=177)							
without 5 indicators							
Stage 3 (n=201)	134.376	112	0.992	0.980	0.032	0.000 - 0.050	0.021
Stage 4 (n=177)	315.920	222	0.961	0.919	0.049	0.036 - 0.061	0.025
Criminal Stigma							
Stage 3 (n=201)	192.190	162	0.990	0.976	0.030	0.000 - 0.046	0.022
Stage 4 (n=177)	315.920	222	0.961	0.919	0.049	0.036 - 0.061	0.025
Social Distance							
Stage 3 (n=201)	344.208	244	0.966	0.931	0.045	0.034 - 0.056	0.025
Stage 4 (n=177)	315.920	222	0.961	0.919	0.049	0.036 - 0.061	0.025
Familiarity							
Stage 3 (n=201)	371.505	289	0.976	0.948	0.038	0.025 - 0.048	0.025
Stage 4 (n=177)	286.031	221	0.973	0.940	0.041	0.026 - 0.054	0.025
SOC313 Course							
Stage 4 (n=177)	423.358	314	0.962	0.920	0.044	0.033 - 0.055	0.026
ME & MR Factors							
Stage 4 (n=177)	207.770	199	0.996	0.991	0.016	0.000 - 0.037	0.020
ME (Overall Model)							
Stage 4 (n=177)	404.208	313	0.969	0.931	0.041	0.028 - 0.052	0.025
ME (Overall Model) No Risk							
Stage 4 (n=177)	355.939	288	0.976	0.944	0.037	0.022 - 0.049	0.023

Figure 4   ESEM Results Stage Three and Stage Four 7-Factor Attribution Model Focusing on Personal Responsibility and Dangerousness Factors

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

Stage 3 (n=201)
Stage 4 (n=177)
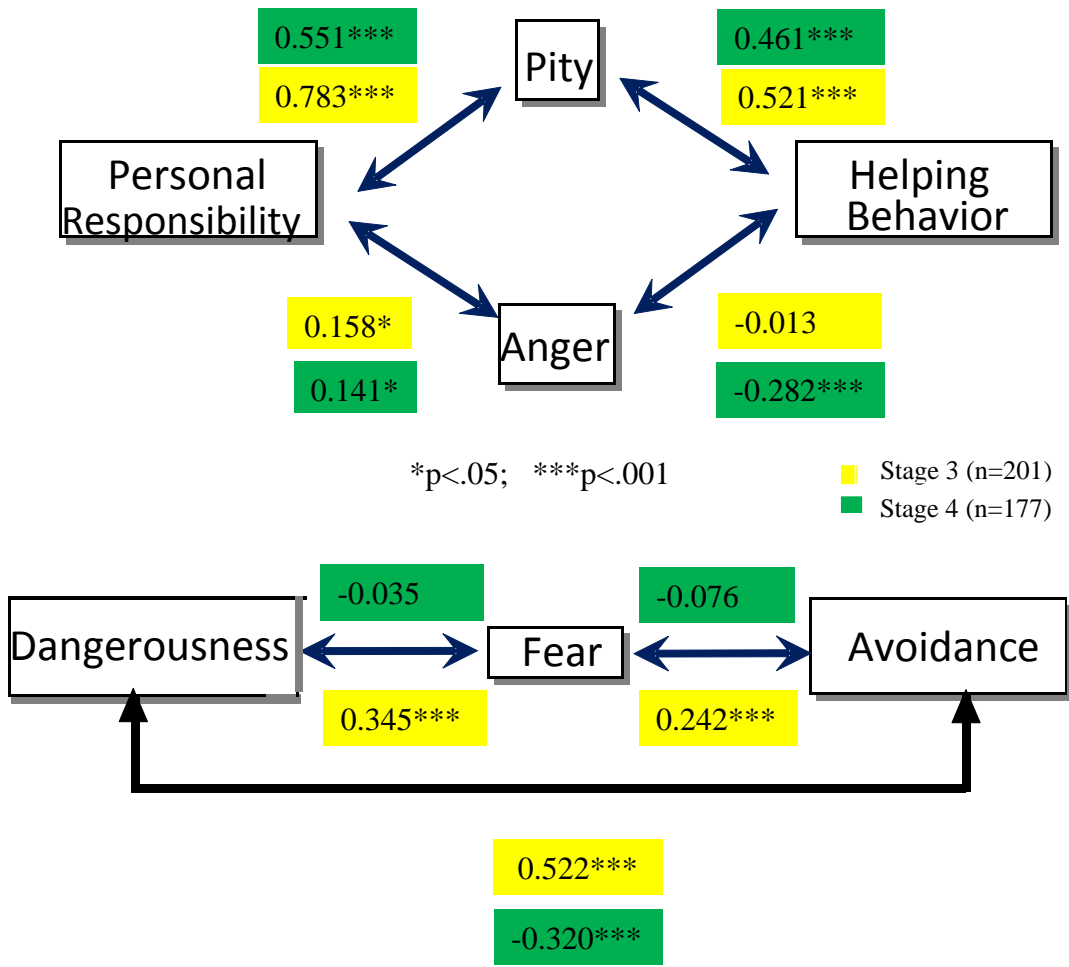
Figure 4.1   Familiarity and Personal Responsibility Factors

** p<.01; ***p<.001
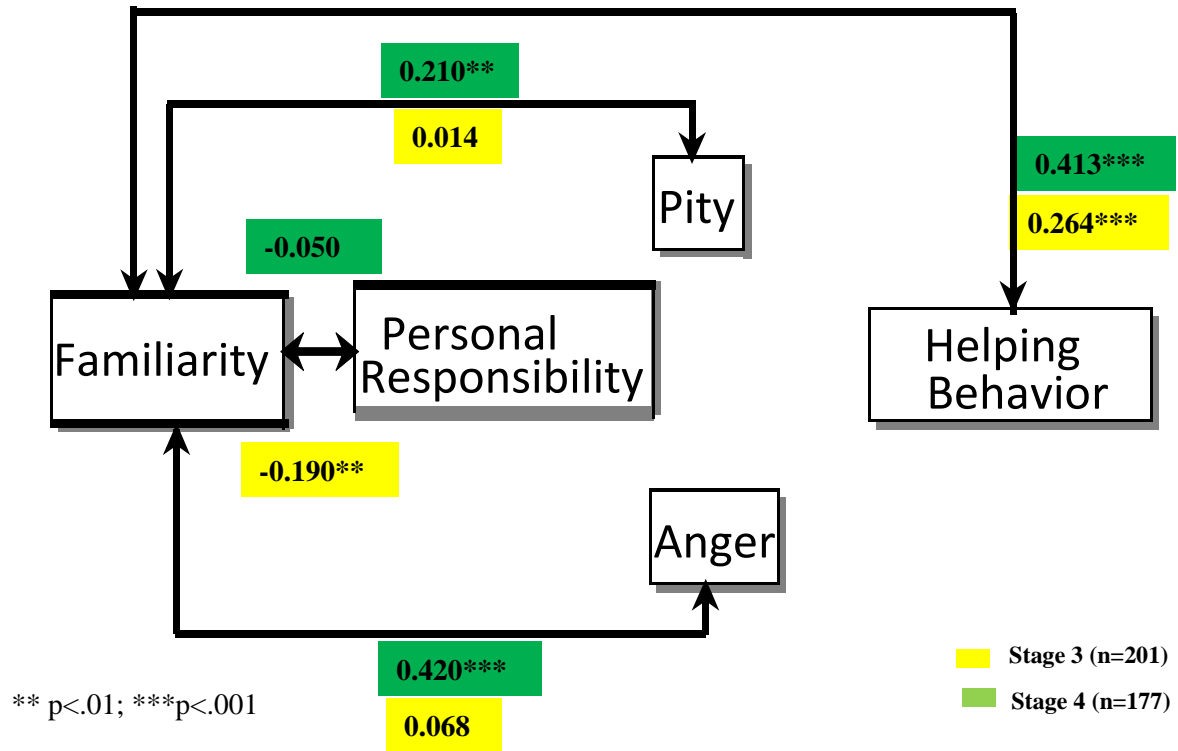
Figure 4.2   Familiarity and Dangerousness Factors
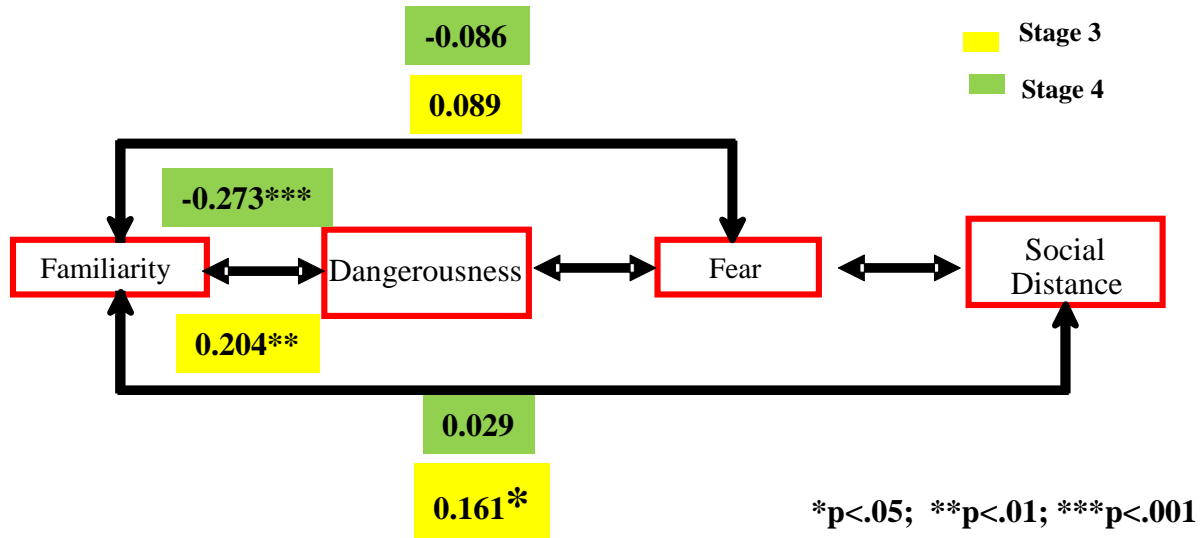
UNIVERSITY OF
STIRLING

References
for
Investigating a Structural Model of
Addiction Stigma related to Student
Perceptions towards Persons Addicted to
Heroin

School of Applied Social Science

John Marecki

Sunday, October 18, 2015

References

Abbey, S., Charbonneau, M., Tranulis, C., Moss, P., Baici, W., Dabby, L., Gautam, M., and Pare, M. (2011) 'Stigma and discrimination', *The Canadian Journal of Psychiatry*, 56(10): 1-9.

Abed, R.T. and Neira-Munoz, E. (1990) 'A survey of general practitioners' opinion and attitude to drug addicts and addiction', *British Journal of Addiction*, 85: 131-136.

Ackers, C.J. (1993) 'Stigma or legitimation? A historical examination of the social potentials of addiction disease models', *Journal of Psychoactive Drugs*, 25(3): 193- 205.

Adams, M.S., Robertson, C.T., Gray-Ray, P. and Ray, M.C. (2003) 'Labeling and delinquency', *Adolescence*, 38(149): 171-186.

Adams, M.W. (2008) 'Comorbidity of mental health and substance misuse problems: A review of workers' reported attitudes and perceptions', *Journal of Psychiatric and Mental Health Nursing*, 15(2): 101-108.

Adlaf, E.M., Hamilton, H.A., Wu, F. and Noh, S. (2009) 'Adolescent stigma towards drug addiction: Effects of age and drug use behaviour', *Addictive Behaviors*, 34(4): 360-364.

Ahern, J., Stuber, J., and Galea, S. (2007) 'Stigma, discrimination and the health of illicit drug users', *Drug and Alcohol Dependence*, 88: 188-196.

Akers, R.L. (1968) 'Problems in the sociology of deviance: Social definitions and behaviour', *Social Forces*, 46(4): 455-465.

Albery, I.P., Heuston, J., Ward, J., Groves, P., Durand, M.A., Gossop, M., and Strang, J. (2003) 'Measuring therapeutic attitude among drug workers', *Addictive Behavior,* 28(5): 995-1005.

Albrecht, G., Walker, V., and Levy, J. (1982) 'Social distance from the stigmatised; A test of two theories', *Social Science & Medicine*, 16(14): 1319-1327.

Alexander, L.A., and Link, B.G. (2003) 'The impact of contact on stigmatizing attitudes toward people with mental illness', *Journal of Mental Health*, 12(3): 271-289.

Allen, R., and Nairn, R.G. (1997) 'Media depictions of mental illness; an analysis of the use of dangerousness', *Australian and New Zealand Journal of Psychiatry*, 3: 375-381.

Alia-Klein, N., O'Rourke, T.M., Goldstein, R.Z., and Malaspina, D. (2007) 'Insight into illness and adherence to psychotropic medications are separately associated with violence severity in a forensic sample', *Aggressive Behavior*, 33: 86-96.

Allman, D., Myers, T., Scellenberg, J.U., Strike, C., Cockerill, R., and Cavalieri, W. (2007) 'Improving health and social care relationships for harm reduction', *International Journal of Drug Policy*, 18(3): 194-203.

Allport, G.W. (1954) *The nature of prejudice*, Cambridge, Mass: Addison-Wesley Publishing Co., Inc.

Al-Tayyib, A.A., and Koester, S. (2011) 'Injection drug users' experience with and attitudes toward methadone clinics in Denver, CO', *Journal of Substance Abuse Treatment*, 41(1): 30-36.

Amaral-Sabadini, M.B., Saitz, R., and Souza-Formigoni, M.L.O. (2010) 'Do attitudes about unhealthy alchol and other drug (AOD) use impact primary care professionals' readiness to implement AOD-related preventative care?', *Drug and Alcohol Review*, 29(6): 655-661.

American Medical Association (2012) DSM-5 development. Available from http://www.dsm5.org/Pages/Default.aspx?nr=0 (accessed March 19, 2013).

Anagnostopoulos, F., and Hantzi, A. (2011) 'Familiarity with and social distance from people with mental illness: Testing the mediating effects of prejudiced attitudes', *Journal of Community and Applied Social Psychology*, 21(5): 451-460.

Anderson, D.B., and Schoen, D.F. (1985) 'Diversion programs: Effect of stigmatization on juvenile/status offenders', *Juvenile and Family Court Journal*, 36: 13-25.

Anderson, T.L. (1993) 'Types of identity transformation in drug using and recovery careers', *Sociological Focus*, 26(2): 133-145.

Anderson, T.L., and Levy, J.A. (2003) 'Marginality among older injectors in today's illicit drug culture: assessing the impact of ageing', *Addiction*, 98: 761-770.

Anderson, T.L, and Ripullo, F. (1996) 'Social setting, stigma management, and recovering drug addicts', *Sociological Abstracts*, 20: 25-43.

Angermeyer, M.C. (2002) 'From intuition to evidence-based anti-stigma interventions', *World Psychiatry*, 1(1): 21-22.

Angermeyer, M.C., Beck, M., and Matschinger, H. (2003) 'Determinants of the public's preference for social distance from people with schizophrenia', *Canadian Journal of Psychiatry*, 48(10): 663-668.

Angermeyer, M.C., and Dietrich, S. (2006) 'Public beliefs about and attitudes towards people with mental illness: A review of population studies', *Acta Psychiatrica Scandinavica*, 113(3): 163-179.

Angermeyer, M.C., Holzinger, A. Carta, M.G., and Schomerus, G. (2011) 'Biogenetic explanations and public acceptance of mental illness: Systematic review of population studies', *British Journal of Psychiatry*, 199(5): 367-372.

Angermeyer, M.C., Holzinger, A., and Matschinger, H. (2009) 'Mental health literacy and attitude towards people with mental illness: A trend analysis based on population surveys in the eastern part of Germany', *European Psychiatry*, 24: 225-232.

Angermeyer, M.C., Holzinger, A., and Matschinger, H. (2010) 'Emotional reactions to people with mental illness', *Epidemiologia e Psichiatria Sociale*, 19(1): 26-32.

Angermeyer, M.C., and Matschinger, H. (1996) 'The effect of violent attacks by schizophrenic persons on the attitude of the public towards the mentally ill', *Social Science & Medicine*, 43: 1721-1728.

Angermeyer, M.C., and Matschinger, H. (1997) 'Social distance towards the mentally ill: Results of representative surveys in the Federal Republic of Germany', *Psychological Medicine*, 27: 131-141.

Angermeyer, M.C., and Matschinger, H. (2003) 'The stigma of mental illness: effects of labelling on public attitudes towards people with mental illness', *Acta Psychiatrica Scandinavica*, 108(4): 304-309.

Angermeyer, M.C., and Matschinger, H. (2005) 'Causal beliefs and attitudes to people with schizophrenia. Trend analysis based on data from two population surveys in Germany', *British Journal of Psychiatry*, 186(4): 331-334.

Angermeyer, M.C., and Matschinger, H. (2005a) 'Labeling–stereotype–discrimination: An investigation of the stigma process', *Social Psychiatry and Psychiatric Epidemiology*, 40(5): 391-395.

Angermeyer, M.C., Matschinger, H., and Corrigan, P.W. (2004) 'Familiarity with mental illness and social distance from people with schizophrenia and major depression: Testing a model using data from a representative population survey', *Schizophrenia Research*, 69(2-3): 175-182.

Angermeyer, M.C., Matschinger, H., Holzinger, A., Carta, M.G., and Schomerus, G. (2013) 'Psychiatric services in the community? The German public's opinion in 1990 and 2011', *Epidemiology and Psychiatric Sciences*, 22(4): 339-344.

Angermeyer, M.C., Matschinger, H., and Schomerus, G. (2013a) 'Attitudes towards psychiatric treatment and people with mental illness: Changes over two decades', *British Journal of Psychiatry*, 203(2): 146-151.

Angermeyer, M.C., and Schulze, B. (2001) 'Reinforcing stereotypes: how the focus on forensic cases in news reporting may influence public attitudes towards the mentally ill', *International Journal of Law and Psychiatry*, 24(4-5): 469-486.

Angermeyer, M.C., and Schulze, B. (2001a) 'Reducing the stigma of schizophrenia: Understanding the process and options for interventions', *Epidemiologia e Psichiatria Sociale*, 10(1): 1-7.

Angermeyer, M.C., Schulze, B., and Dietrich, D. (2003b) 'Courtesy stigma: A focus group study of relatives of schizophrenia patients', *Social Psychiatry and Psychiatric Epidemiology*, 38: 593-602.

Anitha, S. (2007) 'A cultural approach to understanding the stigma of drug use: The experience of prisoners in England and Wales', in Fountain, J., and Korf, D.J. (eds.), *Drugs in Society*, Oxford New York: Radcliffe Publishing, pp. 76-86.

Applegate, B.K., Cullen, F.T., and Fisher, B.S. (2002) 'Public views toward crime and correctional policies: is there a gender gap?', *Journal of Criminal Justice*, 30: 89-100.

Arboleda-Florez, J., and Stuart, H. (2012) 'From sin to science: Fighting the stigmatization of mental illnesses', *Canadian Journal of Psychiatry*, 57(8): 457-463.

Arkar, H., and Eker, D. (1997) 'Influence of a 3-week psychiatric training programme on attitudes toward mental illness in medical students', *Social Psychiatry and Psychiatric Epidemiology*, 32: 171-176.

Arseneault, L., Moffitt, T.E., Caspi, A., Taylor, P.J., and Silva, P.A. (2000) 'Mental disorders and violence in a total birth cohort; results from the Dunedin study', *Archives of General Psychiatry*, 57: 979-986.

Asparouhov, T., and Muthén, B. (2009) 'Exploratory structural equation modeling', *Structural Equation Modeling*, 16(3): 397-438.

Avery, J., Dixon, L., Adler, D., Oslin, D., Hackman, A., First, M., Goldman, B., Koh, S., Nossel, I. and Siris, S. (2013) 'Psychiatrists' attitudes toward individuals with substance use disorders and serious mental illness', *Journal of Dual Diagnosis*, 9(4): 322-326.

Backett-Milburn, K., and Jackson, S. (2012) 'Children's concerns about their parents' health and well-being: researching with ChildLine Scotland', *Children & Society*, 26: 381-393.

Baldwin, J.A., Johnson, R.M., Gotz, N.K., Wayment, H.A., and Elwell, K. (2006) 'Perspectives of college students and their primary health care providers on substance abuse screening and intervention', *Journal of American College Health*, 55(2): 115-119.

Ball, J.C., Shaffer, J.W., and Nurco, D.N. (1983) 'The day-to-day criminality of heroin addicts in Baltimore- a study in the continuity of offence rates', *Drug and Alcohol Dependence*, 12(2): 119-142.

Ballon, B.C., and Skinner, W. (2008) 'Attitude is a little thing that makes a big difference: reflection techniques for addiction psychiatry training', *Academic Psychiatry*, 32(3): 218-224.

Barbosa-Leiker, C., McPherson, S., Mamey, M.R., Burns, G.L., Layton, M.E., Roll, J., and Ling, W. (2015) 'Examining the factor structure of the Clinical Opiate Withdrawal Scale: A secondary data analysis from the National Drug Abuse Treatment Clinical Trials Network (CTN) 0003', *Drug and Alcohol Dependence*, 152: 218-223.

Barnett, R.E. (2009) 'The harmful side effects of drug prohibition', in *Utah Law Review*. Available from http://epubs.utah.edu/index.php/ulr/article/viewFile/142/124 (accessed March 9, 2010)

Barney, L.J., Griffiths, K.M., Jorm, A.F., and Christensen, H. (2006) 'Stigma about depression and its impact on help-seeking intentions', *Australian and New Zealand Journal of Psychiatry*, 40(1): 51-54.

Barrett, D. (2010) 'Security, development and human rights: Normative, legal and policy challenges for the international drug control system', *International Journal of Drug Policy*, 21(2): 140-144.

Barrett, D., Lines, R., Schleifer, R., Elliot, R., and Bewley-Taylor, D. (2008) *Recalibrating the regime: The need for a human rights based approach to international drug policy,* Beckley Foundation Drug Policy Programme, International Harm Reduction Association, Human Rights Watch, Canadian HIV/AIDS Legal Network. Available from http://www.ihra.net/files/2010/06/16/Barrett-RecalibratingtheRegimeExecutiveSummary.pdf (accessed June 27, 2011).

Barrett, E., Teesson, M., and Mills, K.L. (2014) 'Associations between substance use, post-traumatic stress disorder and the perpetration of violence: A longitudinal investigation', *Addictive Behaviors*, 39: 1075-1080.

Barrett, P. (2007) 'Structural equation modeling: adjudging model fit', *Personality and Individual Differences*, 42(5): 815-824.

Barrowclough, C., Ward, J., Wearden, A., and Gregg, L. (2005) 'Expressed emotion and attribution in relatives of schizophrenia patients with and without substance misuse', *Social Psychiatry and Psychiatric Epidemiology*, 40(11): 884-891.

Barry, C.L., McGinty, E.E., Pescosolido, B.A., and Goldman, H.H. (2014) 'Stigma, discrimination, treatment effectiveness, and policy: Public views about drug addiction and mental Illness', *Psychiatric Services*, 65(10): 1269-1272.

Bartusch, D,J., and Matsueda, R.L. (1996) 'Gender, reflected appraisals, and labeling: A cross-group test of an interactionist theory of delinquency', *Social Forces*, 75(1): 145-177.

Bates, L., and Stickley, T. (2013) 'Confronting Goffman: How can mental health nurses effectively challenge stigma? A critical review of the literature', *Journal of Psychiatric and Mental Health Nursing*, 20(7): 569-575.

Bathje, G.J., and Pryor, J.B. (2011) 'The relationships of public and self-stigma to seeking mental health services', *Journal of Mental Health Counseling*, 33(2): 161-176.

Bayer, R. (1977) 'Heroin decriminalization and the ideology of tolerance: A critical view', *Law and Society Review*, 12: 301-318.

Bayer, R. (2008) 'Stigma and the ethics of public health: Not can we but should we', *Social Science & Medicine*, 67(3): 463-472.

Bayer, R., and Fairchild, A.L. (2015) 'Stigma: Time for a hard conversation', *International Journal of Drug Policy*, 26: 613-614.

Beauducel, A., and Wittmann, W.W. (2005) 'Simulation study on fit indexes in CFA based data with slightly distorted simple structure', *Structural Equation Modeling*, 12: 41-75.

Beck, M., Dietrich, S., Matschinger, H., and Angermeyer, M.C. (2003) 'Alcoholism: low standing with the public? Attitudes towards spending financial resources on medical care and research on alcoholism', *Alcohol & Alcoholism*, 38(6): 602-605.

Becker, H.S. (1963) *The outsiders: Studies in the sociology of deviance*, New York: Free Press.

Becker, H.S. (1964) *The other side: Perspectives on deviance*, New York: The Free Press.

Beldie, A., den Boer, J.A., Brain, C., Constant, E., Figueira, M.L., Filipcic, I., Gillain, B., Jakovljevic, M., Jarema, M., Jelenova, D., Karamustafalioglu, O., Plesnicar, B.K., Kovacsova, A., Latalova, K., Marksteiner, J., Palha, F., Pecenak, J., Prasko, J., Prelipceanu, D., Ringen, P.A., Sartorius, N., Seifritz, E., Svestka, J., Tyszkowska, M., and Wancata, J. (2012) 'Fighting stigma of mental illness in midsize European countries', *Social Psychiatry and Psychiatric Epidemiology*, 47(Suppl 1): 1-38.

Belenko, S., (2006) 'Assessing released inmates for substance-abuse-related service needs', *Crime & Delinquency*, 52(1): 94-113

Belenko, S., and Peugh, J. (2005) 'Estimating drug treatment needs among state prison inmates', *Drug and Alcohol Dependence*, 77: 269-281.

Bennett, L., and O'Brien, P. (2007) 'Effects of coordinated services for drug-abusing women who are victims of intimate partner violence', *Violence Against Women,* 13(4): 395-411.

Bennett, L., and Williams, O. (2003) 'Substance misuse and men who batter: Issues in theory and practice', *Violence Against Women*, 9(5): 558-575.

Bennett, T., and Holloway, K. (2005) 'The association between multiple drug use and crime', *International Journal of Offender Therapy and Comparative Criminology*, 49(1): 63-81.

Bennett, T., and Holloway, K. (2009) 'The causal connection between drug misuse and crime', *British Journal of Criminology,* 49: 513-531.

Bennett, T., Holloway, K., and Farrington, D. (2008) 'The statistical association between drug misuse and crime: A meta-analysis', *Aggression and Violent Behavior*, 13(2): 107-118.

Bentler, P.M. (1988) 'Causal modeling via structural equation systems', in Nesselroade, J.R., and Cattell, R.B. (eds.), *Handbook of multivariate experimental psychology: perspectives on individual differences,* New York, NY: Plenum Press, pp. 317-335.

Bentler, P.M. (1990) 'Fit indexes, Lagrange multipliers, constraint changes and incomplete data in structural models', *Multivariate Behavioral Research*, 25: 163-172.

Bentler, P.M. (2007) 'On tests and indices for evaluating structural models', *Personality and Individual Differences*, 42: 825-829.

Bentler, P.M. (2009) 'Alpha, dimension-free, and model-based internal consistency reliability', *Psychometrika*, 74(1): 137-143.

Bentler, P.M., and Bonett, D.G. (1980) 'Significance tests and goodness of fit in the analysis of covariance structures', *Psychological Bulletin*, 88: 588-606.

Berman, B., Larsson, G., Brismar, B., and Klang, M. (1989) 'Battered wives and female alcoholics: A comparative social psychiatric study', *Journal of Advanced Nursing*, 14: 727-734.

Bernburg, J.G. (2009) 'Labeling theory', in Krohn, M.D, Lizotte, A.J., and Penley-Hall, G. (eds.), *Handbook on crime and deviance*, New York: Springer Publishers, pp. 187-207.

Bernburg, J.G., and Krohn, M.D. (2003) 'Labeling, life chances, and adult crime: The direct and indirect effects of official intervention in adolescence on crime in early adulthood', *Criminology*, 41(4): 1287-1318.

Bernburg, J.G., Krohn, M.D., and Rivera, C.J. (2006) 'Official labeling, criminal embeddedness, and subsequent delinquency: A longitudinal test of labeling theory', *Journal of Research in Crime and Delinquency*, 43(1): 67-88.

Berry, C., Gerry, L., Hayward, M., and Chandler, R. (2010) 'Expectations and illusions: A position paper on the relationship between mental health practitioners and social exclusion', *Journal of Psychiatric and Mental Health Nursing*, 17(5): 411-421.

Bertram, G., and Stickley, T. (2005) 'Mental health nurses, promoters of inclusion or perpetuators of exclusion?', *Journal of Psychiatric and Mental Health Nursing*, 12(4): 387-395.

Bewley-Taylor, D.R. (2005) 'Emerging policy contradictions between the United Nations drug control system and the core values of the United Nations', *International Journal of Drug Policy*, 16(6): 423-431.

Biener, L. (1983) 'Perceptions of patients by emergency room staff: Substance abusers versus non-substance abusers', *Journal of Health and Social Behavior*, 24: 264-275.

Bilic, B., and Georgaca, E. (2007) 'Representations of mental illness in Serbian newspapers: A critical discourse analysis', *Qualitative Research in Psychology*, 4: 167-186.

Blank, M., and Nelles, B. (1993) 'Educating and training general practitioners in the management and treatment of drug users', *The International Journal of Drug Policy*, 4(1): 49-54.

Blendon, R.J., and Young, J.T. (1998) 'The public and the war on illicit drugs', *Journal of the American Medical Association*, 279(11): 827-832.

Blum, R.H. (1973) 'Let the punishment eclipse the crime', *American Journal of Orthopsychiatry*, 43: 514-519.

Boden, J.M., Fergusson, D.M., and Horwood, L.J. (2012) 'Alcohol misuse and violent behavior: Findings from a 30-year longitudinal study', *Drug and Alcohol Dependence*, 122: 135-141.

Bogardus, E.S. (1925) 'Measuring social distance', *Journal of Applied Sociology*, 1-2: 216-226.

Bogardus, E.S. (1950) 'Stereotypes versus sociotypes', *Sociology and Social Research*, 43: 286-291.

Boles, S.M., and Miotto, K. (2003) 'Substance abuse and violence: A review of the literature', *Aggression and Violent Behavior*, 8(2): 155-174.

Boland, P. (2008) 'British drugs policy: Problematizing the distinction between legal and illegal drugs and the definition of the drugs problem', *Pobation Journal*, 55(2): 171-187.

Bolton, J. (2000) 'Mental illness and the media: The 13th Royal College christmas lecture for young people', *Psychiatric Bulletin*, 24(9): 345-346.

Booth, T., and Hughes, D.J. (2014) 'Exploratory structural equation modeling of personality data', *Assessment*, 21(3): 260-271.

Boreham, R., Cronberg, A., Dillon, L., and Pudney, S. (2007) *The Arrestee Survey 2003- 2006 Home Office Statistical Bulletin,* London: Home Office.

Boyd, J.E., Katz, E.P., Link, B.G., and Phelan, J.C. (2010) 'The relationship of multiple aspects of stigma and personal contact with someone hospitalized for mental illness, in a nationally representative sample', *Social Psychiatry and Psychiatric Epidemiology*, 45(11): 1063-1070.

Boyd, S. (2002) 'Media constructions of illegal drugs, users, and sellers: A closer look at traffic', *International Journal of Drug Policy*, 13(5): 397-407.

Boysen, G.A., and Vogel, D.L. (2008) 'Education and mental health stigma: The effects of attribution, biased assimilation, and attitude polarization', *Journal of Social and Clinical Psychology*, 27(5): 447-470.

Brady, K.T., Verduin, M.L., and Tolliver, B.K. (2007) 'Treatment of patients comorbid for addiction and other psychiatric disorders', *Current Psychiatry Reports*, 9(5): 374-380.

Breheny, M. (2007) 'Genetic attribution for schizophrenia, depression, and skin cancer: Impact on social distance', *New Zealand Journal of Psychology*, 36: 154-160.

Brener, L., Von Hippel, W., and Kippax, S. (2007) 'Prejudice among health care workers toward injecting drug users with hepatitis C: Does greater contact lead to less prejudice?', *International Journal of Drug Policy*, 18: 381-387.

Brener, L., Von Hippel, W., Kippax, S., and Preacher,K.J. (2010a) 'The role of physician and nurse attitudes in the health care of injecting drug users', *Substance Use and Misuse*, 45(7-8): 1007-1018.

Brener, L., Von Hippell, W., Von Hippell, C., Resnick, I., and Treloar, C. (2010) 'Perceptions of discriminatory treatment by staff as predictors of drug treatment completion: Utility of a mixed methods approach', *Drug and Alcohol Review,* 29: 491-497.

Brennan, P.A., Mednick, S.A., and Hodgins, S. (2000) 'Major mental disorders and criminal violence in a Danish birth cohort', *Archives of General Psychiatry*, 57: 494-500.

Bresnahan, M., and Zhuang, J. (2011) 'Exploration and validation of the dimensions of stigma', *Journal of Health Psychology*, 16(3): 421-429.

Brinn, F. (2000) 'Patients with mental illness: General nurses' attitudes and expectations', *Nursing Standard,* 14: 32-36.

Broadhead, R.S. (1974) 'A theoretical critique of the societal reaction approach to deviance', *Pacific Sociological Review*, 17: 287-312.

Brohan, E., Elgie, R., Sartorius, N., and Thornicroft, G. (2010a) 'Self-stigma, empowerment and perceived discrimination among people with schizophrenia in 14 European countries: The GAMIAN-Europe study', *Schizophrenia Research*, 122: 232-238.

Brohan, E., Henderson, C., Wheat, K., Malcolm, E., Clement, S., Barley, E.A., Slade, M., and Thornicroft, G. (2012) 'Systematic review of beliefs, behaviours and influencing factors associated with disclosure of a mental health problem in the workplace', *BMC Psychiatry*, 12: 1-14.

Brohan, E., Slade, M., Clement, S., and Thornicroft, G. (2010) 'Experiences of mental illness stigma, prejudice and discrimination: A review of measures', *BMC Health Services Research*, 10(80): 1-11.

Brown, S.A. (2008) 'Factors and measurement of mental illness stigma: A psychometric examination of the attribution questionnaire', *Psychiatric Rehabilitation Journal*, 32(2): 89-94.

Brown, S.A. (2011) 'Standardized measures for substance abuse stigma', *Drug and Alcohol Dependence*, 116: 137-141.

Brown, S.A. (2012) 'The contribution of previous contact and personality traits to severe mental illness stigma', *American Journal of Psychiatric Rehabilitation*, 15: 274-289.

Brown, S.A., Evans, Y., Espenschade, K., and O'Connor, M. (2010) 'An examination of two brief stigma reduction strategies: filmed personal contact and hallucination simulations', *Community Mental Health Journal*, 46(3): 494-499.

Browne, M.W., and Cudeck, R. (1993) 'Alternative ways of assessing model fit', *Sociological Methods & Research*, 21(2): 230-258.

Bruneau, J., Brogly, S.B., Tyndall, M.W., Lamothe, F., and Franco, E.L. (2004) 'Intensity of drug injection as a determinant of sustained cessation among chronic drug users: The interface with social factors and service utilization', *Addiction*, 99: 727-737.

Buavirat, A., van Griensven, G.J.P., Mandel, J.S., Evans, J., Chuaratanaphong, J., Chiamwongpat, S., Sacks, R., and Moss, A. (2003) 'Risk of prevalent HIV infection associated with incarceration among injecting drug users in Bangkok, Thailand: case-control study', *British Medical Journal*, 326(7384): 308.

Buchanan, J. (2004) 'Tackling problem drug use: A new conceptual framework', *Social Work in Mental Health*, 2(2-3): 117-138.

Buchanan, J. (2004a) **'**Missing links? Problem drug use and social exclusion', *Probation Journal*, 51(4): 387-397.

Buchanan, J. (2006) 'Understanding problematic drug use: A medical matter or a social issue?', *British Journal of Community Justice*, 4(2): 387-397.

Buchanan, J. (2010) 'Drug policy under new labour 1997-2010: Prolonging the war on drugs', *Probation Journal*, 57(3): 250-262.

Buchanan, J., and Young, L. (2000) 'The war on drugs- a war on drug users?', *Drugs: Education, Prevention and Policy*, 7(4): 409-422.

Budd, T. (2003) *Alcohol-Related assault: findings from British crime survey*, Home Office Research, Development and Statistics Directorate. Available from http://www.dldocs.stir.ac.uk/documents/alcassault.pdf (accessed April 15, 2014).

Bukten, A., Skurtveit, S., Gossop, M., Waal, H., Stangeland, P., Havnes, I., and Clausen, T. (2012) 'Engagement with maintenance treatment and reductions in crime: A longitudinal national cohort study', *Addiction*, 107(2): 393-399.

Burr, A. (1987) 'Chasing the dragon: heroin misuse, delinquency and crime in the context of south London', *British Journal of Criminology*, 27: 333-357.

Burris, S., and Burrows, D. (2009) 'Drug policing, harm reduction and health: directions for advocacy', *International Journal of Drug Policy*, 20: 293-295.

Burris, S., Blankenship, K.M., Donoghoe, M., Sherman, S., Vernick, J.S., Case, P., Lazzarini, Z., and Koester, S. (2004) 'Addressing the 'risk environment' for injection drug users: The mysterious case of the missing cop', *Milbank Quarterly*, 82(1): 125-156.

Butler, T., Indig, D., Allnutt, S., and Mamoon, H. (2011) 'Co-occurring mental illness and substance use disorder among Australian prisoners', *Drug and Alcohol Review*, 30(2): 188-194.

Byrne, B.M. (2005) 'Factor analytic models: viewing the structure of an assessment instrument from three perspectives', *Journal of Personality Assessment*, 85: 17-32.

Byrne, P. (2001) 'Psychiatric stigma', *British Journal of Psychiatry*, 178(3): 281-284.

Califano, J.A.(Jr.) (2009) 'High society: Call to arms', *Utah Law Review*, 2009(1): 195-205.

Cameron, J., Lee, N.K., and Harney, A. (2010) 'Changes in attitude to, and confidence in, working with comorbidity after training in screening and brief intervention', *Mental Health and Substance Use*, 3(2): 124-130.

Campbell, C., and Deacon, H. (2006) 'Unravelling the contexts of stigma: From internalisation to resistance to change', *Journal of Community & Applied Social Psychology*, 16(6): 411-417.

Campbell, D.T. (1967) 'Stereotypes and the perception of group differences', *American Psychologist*, 22: 817-829.

Carlson, J.M., and Williams, T. (1993) 'Perspectives on the seriousness of crime', *Social Science Research*, 22: 190-207.

Cartwright, W.S. (2000) 'Cost-benefit analysis of drug treatment services: review of the literature', *The Journal of Mental Health Policy and Economics*, 3(1): 11-26.

Casavant, L., and Collin, C. (2001) *Illegal Drug Use and Crime: A Complex Relationship*, Parlimanentary Research Branch: Library of Parliament. Available from http://www.parl.gc.ca/37/1/parlbus/commbus/senate/com-e/ille-e/library-e/collin-e.pdf (accessed June 14, 2010).

Caulkins, J.P., and Chandler, S. (2006) 'Long-run trends in incarceration of drug offenders in the United States', *Crime & Delinquency*, 52(4): 619-641.

Caulkins, J.P., and Menefee, R. (2009) 'Is objective risk all that matters when it comes to drugs?', *Journal of Drug Policy Analysis*, 2(1): 1-14.

Caulkins, J.P., Reuter, M., and Iguchi, M.Y. (2005) *How goes the 'war on drugs'? An assessment of US drug problems and policy*, Santa Monica: Rand Corporation.

Cechnicki, A., Angermeyer, M.C., and Bielanska, A. (2011) 'Anticipated and experienced stigma among people with schizophrenia: Its nature and correlates', *Social Psychiatry and Psychiatric Epidemiology*, 46: 643-650.

Cepeda, N.J. (2008) *Effect Size Calculator*, http://www.cognitiveflexibility.org/effectsize/ (accessed November 24, 2012).

Chambliss,W.J. (1966) 'The deterrent influence of punishment', *Crime and Delinquency*, 12: 70-75.

Chan, Y.F., Dennis, M.I., and Funk, R.R. (2008) 'Prevalence and comorbidity of major internalizing and externalizing problems among adolescents and adults presenting to substance abuse treatment', *Journal of Substance Abuse Treatment*, 34(1): 14-24.

Chan, J.Y.N., Mak, W.W.S., and Law, L.S.C. (2009) 'Combining education and video-based contact to reduce stigma of mental illness: The same or not the same anti-stigma program for secondary schools in Hong Kong', *Social Science and Medicine*, 68: 1521-1526.

Chapple, B., Chant, D., Nolan, P., Cardy, S., Whiteford, H., and McGrath, J. (2004) 'Correlates of victimization amongst people with psychosis', *Social Psychiatry and Psychiatric Epidemiology*, 39(10): 836-840.

Chauncey, R.L. (1975) 'Comment on the labelling theory of mental illness', *American Sociological Review*, 40: 248-252.

Chen, F., Curran, P.J., Bollen, K.A., Kirby, J., and Paxton, P. (2008) 'An empirical evaluation of the use of fixed cut-off points in RMSEA test statistic in structural equation models', Sociological Methods & Research, 36(4): 462-494.

Chen, F.F. (2007) 'Sensitivity of goodness of fit indexes to lack of measurement invariance', *Structural Equation Modeling*, 14(3): 464-504.

Chen, K.W., Banducci, A.N., Guller, L., Macatee, R.J., Lavelle, A., Daughters, S.B., and Lejuez, C.W. (2011) 'An examination of psychiatric comorbidities as a function of gender and substance type within an inpatient substance use treatment program', *Drug and Alcohol Dependence*, 118(2-3): 92-99.

Chermack, S.T., and Blow, F.C. (2002) 'Violence among individuals in substance abuse treatment: The role of alcohol and cocaine consumption', *Drug and Alcohol Dependence*, 66: 29-37.

Chikaodiri, A.N. (2010) 'Health professionals' familiarity and attributions to mental illness', *Mental Illness*, 2(1): 1-5.

Chiricos, T.G., and Waldo, G.P. (1970) 'Punishment and crime: An examination of some empirical evidence', *Social Problems*, 18: 200-217.

Cho, K., and Mak, K. (1998) 'Attitudes to mental patients among Hong Kong Chinese: A trend study over two years', *International Journal of Social Psychiatry*, 44: 215-224.

Choi, I., and Nisbett, R.E. (1998) 'Situational salience and cultural differences in the correspondence bias and actor-observer bias', *Personality and Social Psychology Bulletin*, 24(9): 949-960.

Choi, I., Nisbett,R.E., and Norenzayan, A. (1999) 'Causal attribution across cultures: variation and universality', *Psychological Bulletin*, 125: 47-63.

Chorlton, E., Smith, I., and Jones, S.A. (2014) 'Understanding how people who use illicit drugs and alcohol experience relationships with psychiatric inpatient staff', *Social Psychiatry and Psychiatric Epidemiology*, ahead of print, pp. 1-8.

Chung, K.F., Chen, E.Y.H., and Liu, C.S.M. (2001) 'University students' attitudes towards mental patients and psychiatric treatment', *International Journal of Social Psychiatry*, 47: 63-72.

Cleary, M., Hunt, G.E., Malins, G., Matheson, S., and Escott, P. (2009) 'Drug and alcohol education for consumer workers and caregivers: a pilot project assessing attitudes toward persons with mental illness and problematic substance use', *Archives of Psychiatric Nursing*, 23(2): 104-110.

Clement, S., Lassman, F., Barley, E., Evans-Lacko, S., Williams, P., Yamaguchi, S., Slade, M., Rusch, N., and Thornicroft, G. (2013) 'Mass media interventions for reducing mental helath-related stigma (review)', *Cochrane Database of Systematic Reviews,* 7: 1-153.

Clement, S., Schauman, O., Graham, T., Maggioni, F., Evans-Lacko, S., Bezborodovs, N., Morgan, C., Rüsch, N., Brown, J.S.L., and Thornicroft, G. (2014) 'What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies', *Psychological Medicine*, ahead of print, pp. 1-17.

Clement, S., van Nieuwenhuizen, A., Kassam, A., Flach, C., Lazarus, A., de Castro, M., McCrone, P., Norman, I., and Thornicroft, G. (2012) 'Filmed v. live social contact interventions to reduce stigma: randomized controlled trial', *British Journal of Psychiatry*, 201(1): 57-64.

Cobb, M., and deChabert, J.T. (2002) 'HIV/AIDS and care provider attributions: Who's to blame?', *AIDS Care*, 14(4): 545-548.

Coffin, P.O., Galea, S., Ahern, J., Leon, A.C., Vlahov, D., and Tardiff, K. (2003) 'Opiates, cocaine and alcohol combinations in accidental drug overdose deaths in New York City, 1990–98', *Addiction*, 98(6): 739-747.

Coggans, N. (2006) 'Drug Education and prevention: Has progress been made', *Drugs: Education, Prevention and Policy*, 13(5): 417-422.

Cohen, A,K. (1965) 'The sociology of the deviant act: Anomie theory and beyond', *American Sociological Review*, 30(1): 5-14.

Cole, J., Logan, T.K., and Walker, R. (2011) 'Social exclusion, personal control, self-regulation, and stress among substance abuse treatment clients', *Drug and Alcohol Dependence*, 113: 13-20.

Collins, J. (1990) 'Summary Thoughts about drugs and violence', in De La Rosa, M., Lambert, E.Y., and Gropper, B. (eds.), *Drugs and violence: causes, correlates and consequences*, NIDA Research monograph 103, DHHS Publication No. ADM 90-1721, Rockville,MD: US Department of Health and Human services, National Institute on Drug Abuse, pp. 265-275.

Collins, J.J., and Schlenger, W.E. (1988) 'Acute and chronic effects of alcohol use on violence', *Journal of Studies on Alcohol*, 49: 516-521.

Compton, W.M., Cottler, L.B., Jacobs, J.L., Ben Abdallah, A., and Spitznagel, E.L. (2003) 'The role of psychiatric disorders in predicting drug dependence treatment outcomes', *American Journal of Psychiatry*, 160: 890-895.

Cook, J.E., Purdie-Vaughns, V., Meyer, I.H., and Busch, J.T.A. (2014) 'Intervening within and across levels: A multilevel approach to stigma and public health', *Social Science & Medicine*, 103: 101-109.

Cook, K.F., Kallen, M.A., and Amtmann, D. (2009) 'Having a fit: Impact of number of items and distribution of data on traditional criteria for assessing IRT's unidimensionality assumption', *Quality of Life Research*, 18(4): 447-460.

Coomber, R. (1997) 'The adulteration of drugs: What dealers do to illicit drugs, and what they think is done to them', *Addiction Research*, 5(4): 297-306.

Coomber, R., Morris, C., and Dunn, L. (2000) 'How the media do drugs: Quality control and the reporting of drug issues in the UK print media', International Journal of Drug Policy, 11(3): 217-225.

Cooper, A.E., Corrigan, P.W., and Watson, A.C. (2003) 'Mental illness stigma and care seeking', *Journal of Nervous and Mental Disease*, 191(5): 339-341.

Cooper, H. (2004) 'Medical theories of opiate addiction's aetiology and their relationship to addicts' perceived social position in the United States: an historical analysis', *International Journal of Drug Policy*, 15: 435-445.

Cornish, J.W., Metzger, D., Woody, G.E., Wilson, G.E., McLellan, A.T., Vandergrift, B., and O'Brien, C.P. (1997) 'Naltrexone pharmacotherapy for opioid dependent federal probationers', *Journal of Substance Abuse Treatment*, 14(6): 529-534.

Corrigan, P.W. (1998) 'The impact of stigma on severe mental illness', *Cognitive and Behavioral Practice*, 5(2): 201-222.

Corrigan, P.W. (2000) 'Mental health stigma as social attribution: implications for research methods and attitude change', *Clinical Psychology Science and Practice*, 7(1): 48-67.

Corrigan, P.W. (2004a) 'How stigma interferes with mental health care', *American Psychologist*, 59(7): 614-625.

Corrigan, P.W. (2011) 'Strategic stigma change (SSC): five principles for social marketing campaigns to reduce stigma', *Psychiatric Services*, 62(8): 824-826.

Corrigan, P.W., Edwards, A.B., Green, A., Diwan, S.L., and Penn, D.L. (2001a) 'Prejudice, social distance, and familiarity with mental illness', *Schizophrenia Bulletin*, 27(2): 219-226.

Corrigan, P.W., and Fong, M.W.M. (2014) 'Competing perspectives on erasing the stigma of illness: What says the dodo bird?', *Social Science & Medicine*, 103: 110-117.

Corrigan, P.W., and Gelb, B. (2006) 'Three programs that use mass approaches to challenge the stigma of mental illness', *Psychiatric Services*, 57(3): 393-398.

Corrigan, P.W., Green, A., Lundin, R., Kubiak, M.A., and Penn, D.L. (2001) 'Familiarity with and social distance from people who have serious mental illness', *Psychiatric Services*, 52(7): 953-958.

Corrigan, P.W., and Kosyluk, K.A. (2013) 'Erasing the stigma: where science meets advocacy', *Basic and Applied Social Psychology*, 35: 131-140.

Corrigan, P.W., Kuwabara, S.A., and O'Shaughnessy, J. (2009) 'The public stigma of mental illness and drug addiction: findings from a stratified random sample', *Journal of Social Work*, 9(2): 139-147.

Corrigan, P.W., Larson, J.E, and Kuwabara,S.A. (2007a) 'Mental illness stigma and the fundamental components of supported employment', Rehabilitation Psychology, 52(4): 451-457.

Corrigan, P.W., Larson, J.E, and Kuwabara, S.A. (2010a) 'The Social Psychology of the Stigma of Mental Illness', in Maddux, J.E., and Tangney, J.P. (eds.), *The Psychological Foundations of Clinical Psychology* (New York, NY: Guilford Press). Available from http://books.google.ca/books?id=KPxfoCUUolsC&lpg=PA51&ots=qjcZtvviJc&lr&pg=PA67#v=twopage&q&f=false (accessed January 10, 2011).

Corrigan, P.W, Larson, J.E, and Rusch, N. (2009a) 'Self-stigma and the "why try" effect: Impact on life goals and evidence-based practices', *World Psychiatry*, 8(2): 75-81.

Corrigan, P.W., Larson, J.E., Sells, M., Niessen, N., and Watson, A.C. (2007) 'Will filmed presentations of education and contact diminish mental illness stigma', *Community Mental Health Journal*, 43(2): 171-181.

Corrigan, P.W., Lurie, B.D., Goldman, H.H., Slopen, N., Medasani, K., and Phelan, S. (2005) 'How adolescents perceive the stigma of mental illness and alcohol abuse', *Psychiatric Services*, 56(5): 544-550.

Corrigan, P.W., Markowitz, F.E., Watson, A.C., Rowan, D., and Kubiak, M.A. (2003) 'An attribution model of public discrimination towards persons with mental illness', *Journal of Health & Social Behavior*, 44(2): 162-179.

Corrigan, P.W., Markowitz, F.E., and Watson, A.C. (2004) 'Structural levels of mental illness stigma and discrimination', *Schizophrenia Bulletin*, 30(3): 481-491.

Corrigan, P.W., and Miller, F.E. (2004) 'Shame, blame, and contamination: A review of the impact of mental illness stigma on family members', *Journal of Mental Health*, 13(6): 537-548.

Corrigan, P.W., Morris, S., Michaels, P., Rafacz, J., and Rüsch, N. (2012) 'Challenging the public stigma of mental illness: A meta-analysis of outcome studies', *Psychiatric Services*, 63(10): 963-973.

Corrigan, P.W., and O'Shaughnessy, J.R. (2007) 'Changing mental illness stigma as it exists in the real world', *American Psychologist*, 42(2): 90-97.

Corrigan, P.W., and Penn, D.L. (1999) 'Lessons from social psychology on discrediting psychiatric stigma', *American Psychologist*, 54: 765-776.

Corrigan, P.W., and Phelan, S. (2004) 'Social support and recovery in people with serious mental illnesses', *Community Mental Health Journal*, 40(6): 513-523.

Corrigan, P.W., Powell, K.J., and Michaels, P.J. (2014) 'Brief battery for measurement of stigmatizing versus affirming attitudes about mental illness', *Psychiatry Research*, 215(2): 466-470.

Corrigan, P.W., Rafacz, J.D., Hautamaki, J., Walton, J., Rusch, N., Roa, D., Doyle, P., O'Brien, S., Pryor, J., and Reeder, G. (2010) 'Changing stigmatizing perceptions and recollections about mental illness: The effects of NAMI's In our Own Voice', *Community Mental Health Journal*, 46: 517-522.

Corrigan, P.W., and Rao, D. (2012) 'On the self-stigma of mental illness: Stages, disclosure, and strategies for change', *Canadian Journal of Psychiatry*, 57(8): 464-469.

Corrigan, P.W., River, L.P., Lundin, R.K, Penn, D.L. Uphoff-Wasowski, K., Campion, J., Mathisen, J.J., Gagnon, C., Bergman, M., Goldstein, H., and Kubiak, M.A. (2001a) 'Three strategies for changing attributions about severe mental illness', *Schizophrenia Bulletin*, 27(2): 187-195.

Corrigan, P.W., River, L.P., Lundin, P.K., Wasowski, K.U., Campion, J., Mathisen, J., Goldstein, H., Bergman, M., Gagnon, C., and Kubiak, M.A. (2000) 'Stigmatizing attributions about mental illness', *Journal of Community Psychology*, 28(1): 91-102.

Corrigan, P.W., Roe, D., and Tsang, H.W.H. (2011) *Challenging the Stigma of Mental Illness: Lessons for Therapists and Advocates*, West Sussex, UK John Wiley & Sons Ltd, pp. xiii-xx.

Corrigan, P.W., Rowan, D., Green, A., Lundin, R., River, P., Uphoff-Wasowski, K., White, K., and Kubiak, M.A. (2002) 'Challenging two mental illness stigmas: Personal responsibility and dangerousness', *Schizophrenia Bulletin*, 28(2): 293-309.

Corrigan, P.W., and Rusch, N. (2002) 'Mental illness stereotypes and clinical care: Do people avoid treatment because of stigma?', *Psychiatric Rehabilitation Skills*, 6(3): 312-334.

Corrigan, P.W., and Shapiro, J.R. (2010) 'Measuring the impact of programs that challenge the public stigma of mental illness', *Clinical Psychology Review*, 30(8): 907-922.

Corrigan, P.W., Thompson, V., Lambert, D., Sangster, Y., Noel, J.G., and Campbell, J. (2003a) 'Perceptions of discrimination among persons with serious mental illness', *Psychiatric Services*, 54(8): 1105-1110.

Corrigan, P.W., and Wassel, A. (2008) 'Understanding and influencing the stigma of mental illness', *Journal of Psychosocial Nursing and Mental Health Services*, 27: 187-195.

Corrigan, P.W., and Watson, A.C. (2002) 'Understanding the impact of stigma on people with mental illness', World Psychiatry, 1(1): 16-20.

Corrigan, P.W., and Watson, A.C. (2002a) 'The paradox of self-stigma and mental illness', *Clinical Psychology-Science and Practice*, 9: 35-53.

Corrigan, P.W., and Watson, A.C. (2005) 'Findings from the national comorbidity survey on the frequency of violent behavior in individuals with psychiatric disorders', *Psychiatry Research*, 136(2-3): 153-162.

Corrigan, P.W., and Watson, A.C. (2007) 'The stigma of psychiatric disorders and the gender, ethnicity, and education of the perceiver', *Community Mental Health Journal*, 43(5): 439-458.

Corrigan, P.W., Watson, A.C., and Barr, L. (2006a) 'The self-stigma of mental illness: Implications for self-esteem and self-efficacy', *Journal of Social and Clinical Psychology*, 25(8): 875-884.

Corrigan, P.W., Watson, A.C, and Ottati, V. (2003a) 'From whence comes mental illness stigma', *International Journal of Social Psychiatry*, 49(2): 142-157.

Corrigan, P.W., Watson, A.C., Warpinski, A.C., and Gracia, G. (2004a) 'Implications of educating the public on mental illness, violence, and stigma', *Psychiatric Services,* 55(5): 577-580.

Corrigan, P.W., Watson, A.C., Warpinski, A.C., and Gracia, G. (2004b) 'Stigmatizing attitudes about mental illness and allocation of resources to mental health services', *Community Mental Health Journal*, 40(4): 297-307.

Coser, L.A. (1962) 'Some functions of deviant behavior and normative flexibility', *American Journal of Sociology*, 68(2): 172-181.

Costa, A.M. (2008) *Making Drug Control 'fit for purpose': Building on the UNGASS Decade, Statement of the Executive Director of the United Nations Office on Drugs and Crime*. Available from http://transform-drugs.blogspot.com/2008/03/unodc-director-declares-international.html (accessed June 17, 2010).

Costa, A.M. (2010) *Drug control, crime prevention and criminal justice: A Human Rights perspective*, Vienna: United Nations Office on Drug Control. Available from http://www.unodc.org/documents/commissions/CND-Uploads/CND-53 RelatedFiles/ECN72010_CRP6eV1051605.pdf (accessed June 2, 2011).

Costello, A.B., and Osborne, J.W. (2005) 'Best practices in Exploratory Factor Analysis: Four recommendations for getting the most from your analysis', *Practical Assessment, Research & Evaluation*, 10(7): 1-9.

Courtwright, D.T. (1991) 'Drug legalization, the drug war, and drug treatment in historical perspective'. *Journal of Policy History*, 3(4): 42-63.

Courtright, D.T. (2011) 'Language-use disorder: comment on DSM-V's proposed addiction and related disorders and Charles O'Brien's addiction and dependence in DSM-V', *Addiction*, 106: 878-879.

Couture, S.M., and Penn, D.L. (2003) 'Interpersonal contact and the stigma of mental illness: A review of the literature', *Journal of Mental Health*, 12(3): 291-305.

Couture, S.M., Penn, D.,L., and Roberts, D.L. (2006) 'The functional significance of social cognition in schizophrenia: A review', *Schizophrenia Bulletin*, 32: S44-S63.

Coverdale, J.H., Nairn, R., and Claasen, D. (2002) 'Depictions of mental illness in print media: A prospective national sample', *Australian and New Zealand Journal of Psychiatry*, 36(5): 697-700.

Covington, J. (1987) 'Addict attitudes toward legalization of heroin', *Contemporary Drug Problems*, 14: 315-353.

Crick, E. (2012) 'Drugs as an existential threat: An analysis of the international securitization of drugs', *International Journal of Drug Policy*, 23(5): 407-414.

Crisp, A. (1998) 'Changing minds: every family in the land', *Psychiatric Bulletin*, 22: 328-329.

Crisp, A.H., Gelder, M.G., Goddard, E., and Meltzer, H. (2005) 'Stigmatization of people with mental illnesses: A follow-up study within the Changing Minds campaign of the Royal College of Psychiatrists', *World Psychiatry*, 4(2): 106-113.

Crisp, A.H., Gelder, M.G., Rix, S., Meltzer, H.I., and Rowlands, O.J. (2000) 'Stigmatization of people with mental illness', *British Journal of Psychiatry*, 177(1): 4-7.

Cronbach, L.J. (1951) 'Coefficient alpha and the internal structure of tests', *Psychometrika*, 16(3): 297-333.

Crowne, D.P., and Marlowe, D. (1960) 'A new scale of social desirability independent of psychopathology', *Journal of Consulting Psychology*, 24(4): 349-354.

Cudeck, R., and Henly, S.J. (1991) Model selection in covariance structure analysis and the 'problem' of sample size: A clarification', *Psychological Bulletin*, 109(3): 512-519.

Cunningham, J.A., Sobell, L.C, Sobell, M.B., Agrawal, S., and Toneatto, T. (1993) 'Barriers to treatment – Why alcohol and drug-abusers delay or never seek treatment', *Addictive Behaviors*, 18(3): 347-353.

Cuomo, D., and Ronacher, A. (1998) 'Attitudes among college students towards mental illness'. Available from http://www.drury.edu/multinl/story.cfm?ID=2495&NLID=166 (accessed December 1, 2012).

Curran, P.J., West, S.G., and Finch, J.F. (1996) 'The robustness of test statistics to nonnormality and specification error in Confirmatory Factor Analysis', *Psychological Methods*, 1(1): 16-29.

Cutcliffe, J.R., and Hannigan, B., (2001) 'Mass media, monsters and mental health clients: The need for increased lobbying', *Journal of Psychiatric and Mental Health Nursing*, 8(4): 315-321.

Dalky, H.F. (2012) 'Mental illness stigma interventions: Review of intervention trials', *Western Journal of Nursing Research*, 34(4): 520-547.

Danda, M.C. (2012) 'Attitudes of health care professionals towards addictions clients accessing mental health services: What do we know and how can this be used to improve care?', *Journal of Ethics in Mental Health*, 7: 1-5.

Darke, S., Slade, T., Ross,J., Marel, C., Mills, K., and Tessson, M. (2015) 'Patterns and correlates of alcohol use amongst heroin users: 11-year follow-up of the Australian Treatment Outcome Study cohort', *Addictive Behaviors*, 50: 78-83.

Darley, J. (2009) 'Morality in the law: the psychological foundations of citizens' desire to punish transgressions', *Annual Review of Law and Society*, 5: 1-23.

Davies, S., and Tanner, J. (2003) 'The long arm of the law: Effects of labeling on employment', *The Sociological Quarterly*, 44(3): 385-404.

Davis, N.J. (1972) 'Labeling theory in deviance research: A critique and recommendations', *Sociological Quarterly*, 13: 447-474.

Deacon, H. (2006) 'Towards a sustainable theory of health-related stigma: Lessons from the HIV/AIDS literature', *Journal of Community & Applied Social Psychology*, 16: 418-425.

Dean, J.C., and Rudd, F. (1984) 'The drug addict and the stigma of addiction', *The International Journal of the Addictions,* 19(8): 859-869.

Deans, C., and Soar, R. (2005) 'Caring for clients with dual diagnosis in rural communities in Australia: The experience of mental health professionals', *Journal of Psychiatric and Mental Health Nursing*, *12*(3): 268-274.

DeBeck, K., Kerr, T., Li, K., Milloy, M.J., Montaner, J., and Wood, E. (2009) 'Incarceration and drug use patterns among a cohort of injection drug users', *Addiction*, 104(1): 69-76.

Deering, D.E.A., Sheridan, J., Sellman, D., Adamson, S.J., Pooley, S., Robertson, R., and Henderson, C. (2011) 'Consumer and treatment provider perspectives on reducing barriers to opioid substitution treatment and improving treatment attractiveness', *Addictive Behaviors*, 36(6): 636-642.

Degenhardt, L., Bucello, C., Calabria, B., Nelson, P., Roberts, A., Hall, W., Lynskey, M., and Wiessing,L. (2011) 'What data are available on the extent of illicit drug use and dependence globally? Results of four systematic reviews', *Drug and Alcohol Dependence*, 117: 85-101.

Degenhardt, L., Bucello, C., Mathers, B., Briegleb, C., Ali, H., Hickman, M., and McLaren, J. (2011a) 'Mortality among regular or dependent users of heroin and other opioids: A systematic review and meta-analysis of cohort studies', *Addiction*, 106: 32-51.

DeLamater, J. (1968) 'On the nature of deviance', *Social Forces*, 46(4): 445-455.

De Maeyer, J., Vanderplasschen, W., and Broekaert, E. (2010) 'Quality of life among opiate-dependent individuals: A review of the literature', *International Journal of Drug Policy*, 21(5): 364-380.

De Oliveira, M.C., Martins, L.F., Richter, K., and Ronzani, T.M. (2013) 'Evaluation of an intervention to reduce health professional stigma toward drug users: A pilot study', *Journal of Nursing Education and Practice*, 3(5): 138-148.

Deren, S., Kang, S., Cohon, H., and Robles, B. (2007) 'Predictors of injection drug use cessation among Puerto Rican drug injectors in New York and Puerto Rico', *American Journal of Drug and Alcohol Abuse*, 33: 292-299.

Deschin, C.S. (1973) 'We need an alternative, not an escalation', *American Journal of Orthopsychiatry*, 43: 519-523.

Desforges, D.M., Lord, C.G., Ramsay, S.L., Mason, J.A., Van Leeuwen, M.D., West, S.C., and Lepper, M.R. (1991) 'Effects of structured cooperative contact on changing negative attitudes toward stigmatized social groups', *Journal of Personality and Social Psychology*, 60(4): 531-544.

DeSocio, J., Sember, L., and Schrinsky, J. (2006) 'Teaching children about mental health and illness: A school nurse health education program', *Journal of School Nursing*, 22(2): 81-86.

De Sousza, S., Marques, A., Curral, R., and Queirós, C. (2012) 'Stigmatizing attitudes in relatives of people with schizophrenia: A study using the Attribution Questionnaire AQ-27', *Trends in in Psychiatry and Psychotherapy*, 34(4): 186-197.

Devine, P.G. (1989) 'Stereotypes and prejudice: Their automatic and controlled components', *Journal of Personality and Social Psychology*, 56(1): 5-18.

Dickson, D.T. (1968) 'Bureaucracy and morality: an organizational perspective on a moral crusade', *Social Problems*, 16: 143-156.

Dietze, P., Jenkinson, R., Aitken, C., Stoove, M., Jolley, D., Hickman, M., and Kerr, T. (2013) 'The relationship between alcohol use and injecting drug use: Impacts on health, crime and wellbeing', *Drug and Alcohol Dependence*, 128(1-2): 111-115.

Digiusto, E., and Treloar, C. (2007) 'Equity of access to treatment, and barriers to treatment for illicit drug use in Australia', *Addiction*, 102(6): 958-969.

Ding, L., Landon, B.E., Wilson, I.B., Wong, M.D., Shapiro, M.F., and Cleary, P.D. (2005) 'Predictors and consequences of negative physician attitudes toward HIV-infected injection drug users', *Archives of Internal Medicine*, 165: 618-623.

Donmall, M., Jones, A., Davies, L., and Barnard, M. (2009) *Summary of key findings from the Drug Treatment Outcomes Research Study (DTORS)* (Research Report 23: Home Office). Available from http://www.dtors.org.uk/reports/DTORS_Key_Summary.pdf (accessed May 3, 2014).

Dooley, P.A. (1995) 'Perceptions of the onset controllability of AIDS and helping judgements: An attributional analysis', *Journal of Applied Social Psychology*, 25(10): 858-869.

Douglas, K., Guy, L., and Hart, G.L. (2009) 'Psychosis as a risk factor for violence to others: A Meta-Analysis', *Psychological Bulletin*, 135(5): 679- 706.

Dowler, K., Fleming, T., and Muzzatti, S.L. (2006) 'Constructing crime: media, crime, and popular culture', *Canadian Journal of Criminology and Criminal Justice*, 48: 837-850.

Downs, W., Miller, B., and Panek, D. (1993) 'Differential patterns of partner-to-woman violence: A comparison of samples of community, alcohol abusing and battered women', *Journal of Family Violence*, 8(2): 113-135.

Drake, R.E., O'Neal, E.L., and Wallach, M.A. (2008) 'A systematic review of psychosocial research on psychosocial interventions for people with co-occurring severe mental and substance use disorders', *Journal of Substance Abuse Treatment*, 34: 123-138.

Drake, S. (2003) 'Polydrug use and overdose: Overthrowing old myths', *Addiction*, 98(6): 711

Dubugras, M.T.B., Evans-Lacko, S., and Mari, J. (2011) 'A two-year cross-sectional study on the information about schizophrenia divulged by a prestigious daily newspaper', *The Journal of Nervous and Mental Disease*, 199(9): 659-665.

Duke, K. (2006) 'Out of crime and into treatment? The criminalization of contemporary drug policy since tackling drugs together', *Drugs: Education, Prevention and Policy*, 13: 409-415.

Dunlap, E., Johnson, B., Sanabria, H., and Holliday, E. (1990) 'Studying crack users and their criminal careers - the scientific and artistic aspects of locating hard-to-reach subjects and interviewing them about sensitive topics', *Contemporary Drug Problems*, 17: 121-144.

Durrant, R., Fisher, S., and Thun, M. (2011) 'Understanding punishment responses to drug offenders: the role of social threat, individual harm, moral wrongfulness, and emotional warmth', *Contemporary Drug Problems*, 38(1): 147-177.

Earnshaw, V., Smith, L., and Copenhaver, M. (2013) 'Drug addiction stigma in the context of methadone maintenance therapy: An investigation into understudied sources of stigma', *International Journal of Mental Health and Addiction*, 11: 110-122.

Eaton, K., Ohan, J.L., and Dear, G. (2014) 'The stigmatisation of the provision of services for alcohol and other drug users: A systematic literature review', *Drugs: Education, Prevention and Policy*, ahead of print, pp. 1-7.

Economou, M., Peppou, L.E., Louki, E., and Stefanis, C.N. (2012) 'Medical student beliefs and attitudes towards schizophrenia before and after undergraduate psychiatric training in Greece', *Psychiatry and Clinical Neurosciences*, 66: 17-25.

Edlinger, M., Rauch, A.S., Kemmler, G., Yalcin-Siedentopf, N., Fleischhacker, W.W., and Hofer, A. (2014) 'Risk of violence of inpatients with severe mental illness – Do patients with schizophrenia pose harm to others?' *Psychiatry Research*, 219(3): 450-456.

Eisenberg, D., Downs, M.F., and Golberstein, E. (2012) 'Effects of contact with treatment users on mental illness stigma: Evidence from university roommate assignments', *Social Science & Medicine*, 75(6): 1122-1127.

El-Bassel, N., Gilbert, L., Schilling, R., and Wada, T. (2000) 'Drug abuse and partner violence among women in methadone treatment', *Journal of Family Violence*, 15(3): 209-228.

El-Bassel, N., Gilbert, L., Wu, E., Go, H., and Hill, J. (2005) 'Relationship between drug abuse and intimate partner violence: A longitudinal study among women receiving methadone', *American Journal of Public Health*, 95: 465-470.

Elbogen, E.B., and Johnson, S.C. (2009) 'The intricate link between violence and mental disorder: Results from the national epidemiologic survey on alcohol and related conditions', *Archives of General Psychiatry*, 66(2): 152-161.

Elbogen, E.B., Van Dorn, R.A., Swanson, J.W., Swartz, M.S., and Monahan, J. (2006) 'Treatment engagement and violence risk in mental disorders', *British Journal of Psychiatry*, 189: 354-360.

Elliott, A.J., and Chapman, S. (2000) 'Heroin hell their own making: Construction of heroin users in the Australian press 1992-97', *Drug and Alcohol Review*, 19(2): 191-201.

Elliot, R., Csete, J., Kerr, T., and Wood, E. (2006) 'Harm reduction, HIV/AIDS, and the human rights challenge to global drug control policy', *Health and Human Rights*, 8(2): 104-113.

Elsworth, G.R., Nolte, S., and Osborne, R.H. (2015) 'Factor structure and measurement invariance of the Health Education Impact questionnaire: Does the subjectivity of the response perspective threaten the contextual validity of inferences?', *SAGE Open Medicine*, 3: 1-13.

Ericson, R.V. (1975) 'Responsibility, moral relativity, and response ability - some implications of deviance theory for criminal justice', *University of Toronto Law Journal*, 25: 23-41.

Erikson, K.T. (1962) 'Notes on the sociology of deviance', *Social Problems*, 9: 307-314.

Essler, V., Arthur, A., and Stickley, T. (2006) 'Using a school-based intervention to challenge stigmatizing attitudes and promote mental health in teenagers', *Journal of Mental Health*, 15(2): 243-250.

Etesam, F., and Assarian, F. (2014) 'Stigma and its determinants among male drug dependents receiving methadone maintenance treatment', *Archives of Iranian Medicine*, 17(2): 108-114.

Evans-Lacko, S., Henderson, C., Thornicroft, G., and McCrone, P. (2013) 'Economic evaluation of the anti-stigma social marketing campaign in England 2009-2011', *British Journal of Psychiatry*, 202: s95-s101

Evans-Lacko, S., Little, K., Meltzer, H., Rose, D., Rhydderch, D., Henderson, C., and Thornicroft, G. (2010) 'Development and psychometric properties of the mental health knowledge schedule (MAKS)', *Canadian Journal of Psychiatry*, 55: 440-448.

Evans-Lacko, S., London, J., Japhet, S., Rusch, N., Flach, C., Corker, E., Henderson, C., and Thornicroft, G. (2012) 'Mass social contact interventions and their effect on mental health related stigma and intended discrimination', *BMC Public Health*, 12(489): 1-8.

Evans-Lacko, S., London, J., Little, K., Henderson, C., and Thornicroft, G. (2010a) 'Evaluation of a brief anti-stigma campaign in Cambridge: Do short-term campaigns work?', *BMC Public Health*, 10(339): 1-6.

Evans-Lacko, S., Malcolm, E., West, K., Rose, D., London, J., Rusch, N., Little, K., Henderson, C., and Thornicroft, G. (2013a) 'Influence of Time to Change's social marketing interventions on stigma in England 2009-2011', *British Journal of Psychiatry*, 202: s77-s88.

Evans-Lacko, S., Rose, D., Little, K., Rhydderch, D., Henderson, C., and Thornicroft, G. (2011) 'Development and psychometric properties of the reported and intended behaviour scale (RIBS): A stigma-related behaviour measure', *Epidemiology and Psychiatric Services*, 20: 263-271.

Evans-Lacko, S., and Thornicroft, G. (2010) 'Stigma among people with dual diagnosis and implications for health services', *Advances in Dual Diagnosis*, 3(1): 4-7.

Fabrigar, L.R., Wegener, D.T., MacCallum, R.C., and Strahan, E.J. (1999) 'Evaluating the use of exploratory factor analysis in psychological research', *Psychological Methods*, 4(3): 272-299.

Fagan, J., and Chin, K. (1990) 'Violence as regulation and social control in the distribution of crack', in De La Rosa, M., Lambert, E.Y., and Gropper, B. (eds.), *Drugs and violence: Causes, correlates and consequences*, NIDA Research monograph 103, DHHS Publication No. ADM 90-1721, Rockville,MD: US Department of Health and Human services, National Institute on Drug Abuse, pp. 8-43.

Fals-Stewart, W., Golden, J., and Schumacher, J. (2003) 'Intimate partner violence and substance use: A longitudinal day-to-day examination', *Addictive Behaviors*, 28: 1555-1574.

Fals-Stewart, W., Leonard, K., and Birchler, K. (2005) 'The occurrence of male-to-female intimate partner violence on days of men's drinking: the moderating effects of antisocial personality disorder', *Journal of Consulting and Clinical Psychology*, 73: 239-248.

Farabee, D., Joshi, V., and Anglin, M.D. (2001) 'Addiction careers and criminal specialization', *Crime and Delinquency*, 47(2): 196-220.

Farnham, C.R., Zipple, A.M., Tyrell, W., and Chittinanda, P. (1999) 'Health status risk of people with severe and persistent mental illness', *Journal of Psychosocial Nursing and Mental Health Services*, 37: 16-21.

Farnworth, M., Longmire, D.R., and West, V.M. (1998) 'College students' views on criminal justice', *Journal of Criminal Justice Education*, 9(1): 39-57.

Fazel, S., and Danesh, J. (2002) 'Serious mental disorder in 23000 prisoners: A systematic review of 62 surveys', *The Lancet*, 359(9306): 545-550.

Fazel, S., Gulati, G., Linsell, L., Geddes, J.R., and Grann, M. (2009) 'Schizophrenia and violence: Systematic review and meta-analysis', *PLoS Medicine*, 6(8): 1-15.

Fazel, S., Lichtenstein, P., Grann, M., Goodwin, G.M., and Langstrom, N. (2010) 'Bipolar disorder and violent crime: New evidence from population-based longitudinal studies and systematic review', *Archives of General Psychiatry*, 67(9): 931-938.

Feldman, D.B., and Crandall, C.S. (2007) 'Dimensions of mental illness stigma: What about mental illness causes social rejection?', *Journal of Social and Clinical Psychology*, 26(2): 137-154.

Feldman, K.A., and Newcomb, T.M. (1969) *The impact of college on students*, San Francisco: Jossey-Bass Inc.

Ferguson, D.M., Boden, J.M., and Horwood, L.J. (2011) 'Structural models of the comorbidity of internalizing disorders and substance use disorders in a longitudinal birth cohort', *Social Psychiatry and Psychiatric Epidemiology*, 46: 933-942.

Fernando, S.M., Deane, F.P., and McLeod, H.J. (2010) 'Sri Lankan doctors' and medical undergraduates' attitudes towards mental illness', *Social Psychiatry and Psychiatric Epidemiology*, 45(7): 733-739.

Finnigan, F. (1996) 'How non-heroin users perceive heroin users and how heroin users perceive themselves', *Addiction Research*, 4(1): 25-32.

Fischer, B., Medved, W., Kirst, M., Rehm, J., and Glicksman, L. (2001) 'Illicit opiates and crime: Results of an untreated user cohort study in Toronto', *Canadian Journal of Criminology and Criminal Justice*, 43(2): 197-217.

Fischer, J., and Neale, J. (2008) 'Involving drug users in treatment decisions: an exploration of potential problems', *Drugs: Education, Prevention and Policy*, 15(2): 161-175.

Ford, J.H., Green, C.A., Hoffman, K.A., Wisdom, J.P., Riley, K.J., Bergmann, L., and Molfenter, T. (2007) 'Process improvement needs in substance abuse treatment: Admissions walk-through results', *Journal of Substance Abuse and Treatment*, 33: 379-389.

Ford, R. (2011) 'Interpersonal challenges as a constraint on care: The experience of nurses' care of patients who use illicit drugs', *Contemporary Nurse*, 37(2): 241-252.

Ford, R., Bammer, G., and Becker, N. (2008) 'The determinants of nurses' therapeutic attitude to patients who use illicit drugs and implications for workforce development', *Journal of Clinical Nursing*, 17: 2452-2462.

Ford, R., Bammer, G., and Becker, N. (2009) 'Improving nurses' therapeutic attitude to patients who use illicit drugs: Workplace drug and alcohol education is not enough', *International Journal of Nursing Practice*, 15(2): 112-118.

Francis, C., Pirkis, J.E., Blood, W.R., Burgess, P.M., and Dunt, D.R. (2003) 'Media reporting of specific mental illnesses in the context of crime: Implications for mental health literacy', *Medical Journal of Australia*, 179: 638.

Franken, I.H.A. (2003) 'Drug craving and addiction: Integrating psychological and neuro-psychopharmacology approaches', *Progess in Neuro*, 27: 563-579.

French, M.T., McCollister, K.E., Kebreau, A., Chitwood, D.D., and McCoy, C.B. (2004) 'Revolving roles in drug-related crime: The cost of chronic drug users as victims and perpetrators', *Journal of Quantitative Criminology*, 20(3): 217-241.

Friedrich, B., Evans-Lacko, S., London, J., Rhydderch, D., Henderson, C., and Thornicroft, G. (2013) 'Anti-stigma training for medical students: The education not discrimination project', *British Journal of Psychiatry*, 202: s89-s94.

Frischknecht, U., Beckmann, B., Heinrich, M., Kniest, A., Nakovics, H., Kiefer, F., Mann, K., and Hermann, D. (2011) 'The vicious circle of perceived stigmatization, depressiveness, anxiety, and low quality of life in substituted heroin addicts', *European Addiction Research*, 17: 241-249.

Gabbidon, J., Clement, S., Van Nieuwenhuizen, A., Kassam, A., Brohan, E., Norman, I., and Thornicroft, G. (2013) 'Mental illness: clinicians' attitudes (MICA) scale- psychometric properties of aversion for healthcare students and professionals', *Psychiatry Research*, 206(1): 81-87.

Gaertner, S.L., Dovidio, J.F., and Bachman, B. (1996) 'Revisiting the contact hypothesis. The induction of a common ingroup identity', *International Journal of Intercultural Relations*, 20(3-4): 271-290.

Galka, S.W., Perkins, D.V., Butler, N., Griffith, D.A., Schmetzer, A.D., Avirrappattu, G., and Lafuze, J.E. (2005) 'Medical students' attitudes toward mental disorders before and after a psychiatric rotation', *Academic Psychiatry*, 29(4): 357-361.

Garfinkel, H. (1956) 'Conditions of successful degradation ceremonies', *American Journal of Sociology*, 61(5): 420-424.

Gau, J.M. (2010) 'Basic principles and practices of structural equation modeling in criminal justice and criminology research', *Journal of Criminal Justice Education*, 21(2): 136-151.

George, M., and Martin, E. (1992) 'GPs' attitudes towards drug users', *British Journal of General Practice*, 42(360): 302.

Gerstley, L.L., Alterman, A.I., McLellan, A., and Woody, G. (1990) 'Antisocial personality disorder in patients with substance abuse disorder: A problematic diagnosis?', *American Journal of Psychiatry,* 147: 173-178.

Ghatak, S. (2010) 'The opium wars: The biopolitics of narcotic control in the United States, 1914-1935', *Critical Criminology*, 18: 41-56.

Ghate, D. (2000) 'Family violence and violence against children', *Children & Society*, 14: 395-403.

Gibbs, J.P. (1966) 'Conceptions of deviant behavior: The old and the new', *Pacific Sociological Review*, 9: 9-14.

Gibbs, J.P. (1968) 'Crime, punishment and deterrence', *Southwestern Social Science Quarterly*, 48: 515-530.

Gibbs, J.P. (1970) 'Issues in defining deviant behavior', in Scott, R.A., and Douglas, J.D., *Theoretical Perspectives on Deviance*, New York: Basic Books, pp. 39-68.

Giffen, P.J. (1966) 'The revolving door: A functional interpretation', *Canadian Review of Sociology and Anthropology*, 3: 154-166.

Gilbert, D.T., and Malone, P.S. (1995) 'The correspondence bias', *Psychological Bulletin*, 117: 21-38.

Gilchrist, G., Moskalewicz, J., Slezakova, S., Okruhlica, L., Torrens, M., Vajd, R., and Baldacchino, A. (2011) 'Staff regard towards working with substance users: A European multi-centre study', *Addiction*, 106(6): 1114-1125.

Gill, J.S., and O'May, F.P. (2011) 'Is it my job? Alcohol brief interventions: Knowledge and attitudes among future health-care professionals in Scotland', *Alcohol and Alcoholism*, 46(4): 441-450.

Glaser, D. (1971) 'Interlocking dualities in drug use, drug control, and crime', in Inciardi, N.A.. and Chambers, C.D., *Drugs and the criminal justice system*, Beverly Hills: Sage Publications, pp. 39-56.

Glass, J.E., Kristjansson, S.D., and Bucholz, K.K. (2013a) 'Perceived alcohol stigma: factor structure and construct validation', *Alcoholism: Clinical and Experimental Research*, 37(s1): E237-E246.

Glass, J.E., Mowbray, O.P., Link, B.G., Kristjansson, S.D., and Bucholz, K.K. (2013) 'Alcohol stigma and persistence of alcohol and other psychiatric dfisorders: A modified labeling theory approach', *Drug and Alcohol Dependence*, 133(2): 685-692.

Glass, J.E., Williams, E.C., and Buckholz, K.K. (2014) 'Psychiatric comorbidity and perceived alcohol stigma in a nationally representative sample of individuals with DSM-5 alcohol use disorder', *Alcoholism: Clinical and Experimental Research*, 38(6): 1697-1705.

Gleason, W. (1993) 'Mental disorders in battered women: an empirical study', *Violence and Victims*, 8: 53-68.

Glozier, N., Hough, C., Henderson, M., and Holland-Elliott, K. (2006) 'Attitudes of nursing staff towards co-workers returning from psychiatric and physical illness', *International Journal of Social Psychiatry*, 52(6): 525-534.

Godfrey, C., Stewart, D., and Gossop, M. (2004) 'Economic analysis of costs and consequences of the treatment of drug misuse: 2-year outcome data from the national treatment outcome research study (NTORS)', *Addiction*, 99(6): 697-707.

Goffin, R.D. (2007) 'Assessing the adequacy of structural equation models: Golden rules and editorial policies', *Personality and Individual Differences*, 42(5): 831-839.

Goffman, E. (1961) *Asylums: Essays on the social situation of mental patients*, New York: Anchor Books.

Goffman, E. (1963) *Stigma: Notes on the management of spoiled identity,* Englewood Cliffs, NJ: Prentice Hall.

Goldman, H.H. (2010) 'Progress in the elimination of the stigma of mental illness', *American Journal of Psychiatry*, 167(11): 1289-1290.

Goldstein, P.J. (1985) 'The drugs/violence nexus: A tripartite conceptual framework', *Journal of Drug Issues*, 15(4): 493-506.

Goldstein, R.Z., and Volkow, N.D. (2002) 'Drug addiction and its underlying neurobiological basis: Neuroimaging evidence for the involvement of the frontal cortex', *American Journal of Psychiatry*, 159(10): 1642-1652.

Gomes, M. (2007) 'Perception of drugs and drug users in Portugal', in Fountain, J., and Korf, D.J. (eds.), *Drugs in Society*, Radcliffe Publishing: Oxford New York, pp. 1-13.

Gonzalez-Torres, M.A., Oraa, R., Aristegui, M., Fernandez-Rivas, A., and Guimon, J. (2007) 'Stigma and discrimination towards people with schizophrenia and their family members: A qualitative study with focus groups', *Social Psychiatry and Psychiatric Epidemiology*, 42(1): 14-23.

Goode, E. (1974) 'Criminology of drugs and drug use', in Blumberg, A.S. (ed.), *Current perspectives on criminal behavior*, New York: Alfred A. Knopf, pp. 165-191.

Goode,E. (1975) 'On behalf of labeling theory', *Social Problems*, 22: 570-583.

Goode, E. (2014) 'Labeling Theory', in Bruinsma, G., and Weisburd, D. (eds.), *Encyclopedia of Criminology and Criminal Justice*, New York: Springer, pp. 2807-2813.

Goodman, L.A., Salyers, M.P., Mueser, K.T., Rosenberg, S.D., Swartz, M., Essock, S.M., Osher, F.C., Butterfield, M.I., Swanson, J., Becker, M.E., Bosworth, H.B., Frothingham, R., Horner, R.D., McIntyre, L.M., Spivey, P.M., Stechuchak, K,M., Garber, L.J., Gearon, J.S., Goldberg, R.W., Herron, J.D., Hoffman, R.S., Riismandel, C.L., Auciello, P.C., Drake, R.E., Iber, M.C., Luckoor, R., Skillman, G.R., Wolfe, R.S., and Vidaver, R.M. (2001) 'Recent victimization in women and men with severe mental illness: Prevalence and correlates', *Journal of Trauma Stress*, 14(4): 615-632.

Gordon, D.R. (2000) 'Drug policy and the dangerous classes: A historical overview', *Temple Political & Civil Rights Law Review*, 10: 315.

Gossop, M., Trakada, K., Stewart, D., and Witton,J. (2005) 'Reductions in criminal activity after addiction treatment: 5 year follow-up', *Drug and Alcohol Dependence,* 79(3): 295-302.

Gottfredson, D.C., Kearley, B.W., and Bushway,S.D. (2008) 'Substance Use, Drug Treatment, and Crime: An Examination of Intra-Individual Variation in a Drug Court Population', *Journal of Drug Issues*, 38(2): 601-630.

Goulden, R., Corker, E., Evans-Lucko, S., Rose, D., Thornicroft, G., and Henderson, C. (2011) 'Newspaper coverage of mental illness in the UK, 1992-2008', *BMC Public Health*, 11(796): 1- 8.

Gove, W.R. (1970) 'Societal reaction as an explanation of mental illness: An evaluation', *American Sociological Review*, 35: 873-884.

Gove, W.R. (1975) 'The labelling theory of mental illness: a reply to Scheff', *American Sociological Review*, 40: 242-248.

Gove,W.R. (1975a) 'The labelling perspective: An overview', in Gove, W.R. (ed.), *The labelling of deviance,* Beverley Hills: Sage, pp. 9-33, 295.

Gove, W.R. (2004) 'The career of the mentally ill: an integration of psychiatric, labeling/ social construction, and lay perspectives', *Journal of Health and Social Behavior*, 45(4): 357-375.

Grattet, R. (2011) 'Societal reactions to deviance', *Annual Review of Sociology*, 37: 185-204.

Grausgruber, A., Meise, U., Katschnig, H., Schony, W., and Fleischhacker, W.W. (2007) 'Patterns of social distance towards people suffering from schizophrenia in Austria: A comparison between the general public, relatives, and mental health staff', *Acta Psychiatrica Scandinavica*, 115: 310- 319.

Graves, R.E., Chandon, S.T., and Cassisi, J.E. (2011) 'Natural contact and stigma towards schizophrenia in African Americans: Is perceived dangerousness a threat or a challenge response?', *Schizophrenia Research*, 130: 271-276.

Greenwood, J. (1992) 'Unpopular patients: GPs' attitudes to drug users', *Druglink*, 7: 8-10.

Greer, C., and Reiner, R. 'Labeling, deviance, and media', in Bruinsma, G., and Weisburd, D. (eds.), *Encyclopedia of criminology and criminal justice*, Springer: New York, pp. 2814-2823.

Guay, F., Morin, A.J., Litalien, D., Valois, P., and Vallerand, R.J. (2015) 'Application of exploratory structural equation modeling to evaluate the academic motivation scale', *The Journal of Experimental Education*, 83(1): 51-82.

Hagan, J. (1973) 'Labeling and deviance: A case study in the sociology of the interesting', *Social Problems*, 20: 447-458.

Hagan, J.L. (1973a) 'Conceptual deficiencies of an interactionist perspective in deviance', *Criminology*, 11(3): 383-404.

Haggard-Grann, U., Hallqvist, J., Langstrom, N., and Moller, J. (2006) 'The role of alcohol and drugs in triggering criminal violence: A case-crossover study', *Addiction*, 101: 100-108.

Haider-Markel, D.P., and Joslyn, M.R. (2008) 'Beliefs about the origins of homosexuality and support for gay rights', *Public Opinion Quarterly*, 72(2): 291-310.

Hammersley, R., Ditton, J., Smith, I., and Short, E. (1999) 'Patterns of ecstasy use by drug users', *British Journal of Criminology*, 39(4): 625-647.

Hammersley, R., and Reid, M. (2002) 'Why the pervasive addiction myth is still believed', *Addiction Research & Theory*, 10(1): 7-30.

Hansson, L., Jormfeldt, H., Svedberg, P., and Svensson, B. (2013) 'Mental health professionals' attitudes towards people with mental illness: Do they differ from attitudes held by people with mental illness?', *International Journal of Social Psychiatry*, 59(1): 48-54.

Harris, A., and Lurigio, A.J. (2007) 'Mental illness and violence: A brief review of research and assessment strategies', *Aggression and Violent Behavior*, 12: 542-551.

Harris, J., and McElrath, K. (2012) 'Methadone as social control institutionalized stigma and the prospect of recovery', *Qualitative Health Research*, *22*(6): 810-824.

Harrison, L.D. (2001) 'The revolving prison door for drug-involved offenders: Challenges and opportunities', *Crime and Delinquency*, 47(3): 462-485.

Hart, C., de Vet, R., Moran, P., Hatch, S.L., and Dean, K. (2012) 'A UK population-based study of the relationship between mental disorder and victimisation', *Social Psychiatry and Psychiatric Epidemiology*, 47: 1581-1590.

Hartwell, S. (2004) 'Triple stigma: persons with mental illness and substance abuse problems in the criminal justice system', *Criminal Justice Policy Review*, 15(1): 84-99.

Hatzenbuehler, M.L., Phelan, J.C., and Link, B.G. (2013) 'Stigma as a fundamental cause of population health inequalities', *American Journal of Public Health*, 103(5): 813-821.

Hau, K.T., and Marsh, H.W. (2004) 'The use of item parcels in structural equation modelling: Non-normal data and small sample sizes', *British Journal of Mathematical and Statistical Psychology*, 57: 327-351.

Hayes, S.C., Bissett, R., Roget, N., and Padilla, M. (2004) 'The impact of acceptance and commitment training and multicultural training on the stigmatizing attitudes and professional burnout of substance abuse counselors', *Behavioral Therapy*, 35: 821-835.

Hayhurst, K.P., Jones, A., Millar, T., Pierce, M., Davies, L., Weston, S., and Donmall, M. (2013) 'Drug spend and acquisitive offending by substance misusers', *Drug and Alcohol Dependence*, 130: 24-29.

Hayward, P., and Bright, J.E. (1997) 'Stigma and mental illness: A review and critique', *Journal of Mental Health*, 6(4): 345-354.

Heene, M., Hilbert, S., Draxler, C., Ziegler, M., and Bühner, M. (2011) 'Masking misfit in confirmatory factor analysis by increasing unique variances: A cautionary note on the usefulness of cutoff values of fit indices', *Psychological Methods,* 16(3): 319-336.

Henderson, C., Evans-Lacko, S., Flach, C., and Thornicroft, G. (2012) 'Responses to mental health stigma questions: The importance of social desirability and data collection method', *Canadian Journal of Psychiatry*, 57(3): 152-160.

Henderson, S., Stacey, C.L., and Dohan, D. (2008) 'Social stigma and the dilemmas of providing care to substance users in a safety-net emergency department', *Journal of Health Care for the Poor and Underserved*, 19(4): 1336-1349.

Hengartner, M.P., Loch, A.A., Lawson, F.L., Guarniero, F.B., Wang, Y.P., Rossler, W., and Gattaz, W.F., (2013) 'Public stigmatization of different mental disorders: A comprehensive attitude survey', *Epidemiology and Psychiatric Sciences*, 22(3): 269-274.

Herrero, M.J., Domingo-Salvany, A., Brugal, M.T., Torrens, M., and The Intinere Investigators (2011) 'Incidence of psychopathology in a cohort of young heroin and/or cocaine users', *Journal of Substance Abuse Treatment*, 41: 55-63.

Herrmann, A., and Pfister, H.R. (2013) 'Simple measures and complex structures: Is it worth employing a more complex model of personality in big five inventories?', *Journal of Research in Personality*, 47: 599-608.

Herzog, W., and Boomsma, A. (2009) 'Small-sample robust estimators of noncentrality-based and incremental model fit', *Structural Equation Modeling*, 16(1): 1-27.

Hewstone, M. (1990) 'The 'ultimate attribution error'? A review of the literature on intergroup causal attribution', *European Journal of Social Psychology*, 20: 311-335.

Hiday, V.A., Swartz, M.S., Swanson, J.W., Borum, R., and Wagner, H.R. (1999) 'Criminal victimization of persons with severe mental illness', *Psychiatric Services*, 50(1): 62-68.

Hilton, J.L., and Von Hippel, W. (1996) 'Stereotypes', *Annual Review of Psychology*, 47: 237-271.

Hirschi, T. (1973) 'Procedural rules and the study of deviant behavior', *Social Problems*, 21(2): 159-173.

Hirschi, T. (1975) 'Labeling theory and juvenile delinquency: An assessment of the evidence', in Gove, W.R. (ed.), *The Labelling of Deviance*, Beverley Hills: Sage, pp. 271-293.

Hoaken, P.N.S., and Stewart, S.H. (2003) 'Drugs of abuse and the elicitation of human aggressive behavior', *Addictive Behaviors*, 28(9): 1533-1554.

Holma, K., Koski-Jannes, A., Raitasalo, K., Blomqvist, J., Perova, I., and Cunningham, J.A. (2011) 'Perceptions of addictions as societal problems in Canada, Sweden, Finland and St. Petersburg, Russia', *European Addiction Research*, 17(2): 106-112.

Holmes, E., Corrigan, P., Williams, P., Canar, J., and Kubiak, M. (1999) 'Changing public attitudes about schizophrenia', *Schizophrenia Bulletin*, 25: 447-456.

Holt, S., Buckley, H., and Whelan, S. (2008) 'The impact of exposure to domestic violence on children and young people: a review of the literature', *Child Abuse & Neglect*, 32: 797-810.

Holzinger, A., Dietrich, S., Heitmann, S., and Angermeyer, M. (2008) 'Evaluation of target-group oriented interventions aimed at reducing the stigma surrounding mental illness: A systematic review', *Psychiatrische Praxis*, 35(8): 376-386.

Hooper, D., Coughlan, J., and Mullen, M.R. (2008) 'Structural equation modeling: guidelines for determining model fit', *The Electronic Journal of Business Research Methods*, 6(1): 53-60.

Hopwood, C.J., and Donnellan, M.B. (2010) 'How should the internal structure of personality inventories be evaluated?', *Personality and Social Psychology Review*, 14(3): 332-346.

Hori, H., Richards, M., Kawamoto, Y., and Kunugi, H. (2011) 'Attitudes toward schizophrenia in the general population, psychiatric staff, physicians, and psychiatrists: A web-based survey in Japan', *Psychiatry Research*, 186(2-3): 183-189.

Horowitz, I.L., and Liebowitz, M. (1968) 'Social distance and political marginality: Toward a definition of the relation between sociology and politics', *Social Problems*, 15: 280-296.

Horsfall, J., Cleary, M., and Hunt, G.E. (2010) 'Stigma in mental health: Clients and professionals', *Issues in Mental Health Nursing*, 31(7): 450-455.

Horsfall, J., Cleary, M., Hunt, G.E., and Walter, G. (2009) 'Psychosocial treatments for people with co-occurring severe mental illnesses and substance use disorders (dual diagnosis): A review of empirical evidence', *Harvard Review of Psychiatry*, 17(1): 24-34.

Hough, M. (1996) *Drug misuse and the criminal justice system: a reeview of the literature. Drugs prevention initiative*, London: Home Office.

Howard, V., and Holmshaw, J. (2010) 'Inpatient staff perceptions in providing care to individuals with co-occurring mental health problems and illicit substance use', *Journal of Psychiatric and Mental Health Nursing*, 17(10): 862-872.

Hsu, C.I., Caputi, P., and Byrne, M.K. (2011) 'The level of service inventory-revised (LSI-R) and Australian offenders: Factor structure, sensitivity, and specificity', *Criminal Justice and Behavior*, 38(6): 600-618.

Hu, L.T., and Bentler, P.M. (1998) 'Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification', *Psychological Methods*, 3(4): 424-453.

Hu, L.T., and Bentler, P.M. (1999) 'Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives', *Structural Equation Modeling*, 6(1): 1-55.

Hughes, C.E., Lancaster, K., and Spicer, B. (2011) 'How do Australian news media depict illicit drug issues? An analysis of print media reporting across and between illicit drugs, 2003–2008', *International Journal of Drug Policy*, 22(4): 285-291.

Humphreys, C., Regan, L., River, D., and Thiara, R.K. (2005) 'Domestic violence and substance use: Tackling complexity', *British Journal of Social Work*, 35(8): 1303-1320.

Hunt, N., and Stevens, A. (2004) 'Whose harm? Harm reduction and the shift to coercion in UK drug policy', *Social Policy and Society*, 3(4): 333-342.

Husak, D.N. (2004) 'The moral relevance of addiction', *Substance Use and Misuse*, 39(3): 399-436.

Hutchinson, I. (1999) 'Alcohol, fear, and women abuse', *Journal of Sex Roles Research*, 40: 893-920.

Hutchinson, I. (2003) 'Substance use and abused women's utilization of the police', *Journal of Family Violence,* 18(2): 93-106.

Hutton, N. (2005) 'Beyond populist punitiveness', *Punishment and Society*, 7: 243-258.

Huxley, P., Evans, S., Beresford, P., Davidson, B., and King, S. (2009) 'The principles and provisions of relationships: Findings from an evaluation of support, time and recovery workers in mental health services in England', *Journal of Social Work*, 9(1): 99-117.

Huxley, P., and Thornicroft, G. (2003) 'Social inclusion, social quality and mental illness', *The British Journal of Psychiatry*, 182(4): 289-290.

Iannucci, R., Sanders, K., and Greenfield, S.F. (2009) 'A 4-year curriculum on substance use disorders for psychiatry residents', *Academic Psychiatry*, 33: 60-66.

Innes, M. (2011) *Excerpts from social control* (1st ed.), Maidenhead Berkshire, England: McGraw-Hill Create.

Institute for Digital Research and Education UCLA (2012) *Statistical Computing Seminars: Introduction to Mplus Featuring Confirmatory Factor Ansalysis*. Available from http://statistics.ats.ucla.edu/stat/mplus/seminars/IntroMplus_CFA/default.htm (accessed November 29, 2012).

International Drug Policy Consortium (IDPC) (2010) *Drug Policy Guide , Edition 1*. Available from http://www.idpc.net/sites/default/files/library/IDPC%20Drug%20Policy%20Guide_Version%201.pdf (accessed October 21, 2010).

Jacka, D., Clode, D., Patterson, S., and Wyman, K. (1999) 'Attitudes and practices of general practitioners training to work with drug using patients', *Drug and Alcohol Review*, 18(3): 287-291.

Jackson, D.L., Voth, J., and Frey, M.P. (2013) 'A note on sample size and solution propriety for confirmatory factor analytic models', *Structural Equation Modeling*, 20(1): 86-97.

Jackson, L.A., McWilliam, S., Martin, F., Dingwell, J., Dykeman, M., Gahagan, J., and Karabanow, J. (2014) 'Key challenges in providing services to people who use drugs: the perspectives of people working in emergency departments and shelters in Atlantic Canada', *Drugs: Education, Prevention and Policy*, 21(3): 244-253.

Jamieson, K.R. (2006) 'The many stigma of mental illness', *The Lancet*, 367: 533-534.

Jané-Llopis, E., and Matytsina, I. (2006) 'Mental health and alcohol, drugs and tobacco: a review of the comorbidity between mental disorders and the use of alcohol, tobacco and illicit drugs', *Drug and Alcohol Review*, 25(6): 515-536.

Janulis, P.F. (2010) *Understanding addiction stigma: Examining desired social distance toward addicted individual,* Theses and Dissertations: DePaul University. Available at http://via.library.depaul.edu/cgi/viewcontent.cgi?article=1047&context=etd (accessed October 20, 2010).

Janulis, P.F., Ferrari, J.R., and Fowler, P. (2013) 'Understanding public stigma toward substance dependence', *Journal of Applied Social Psychology*, 43(5): 1065-1072.

Johns, A. (1997) 'Substance misuse: A primary risk and a major problem of comorbidity', *International Review of Psychiatry*, 9: 233-241.

Johnson, L.M., Simons, R.L., and Conger, R.D. (2004) 'Criminal justice system involvement and continuity of youth crime', *Youth & Society*, 36: 3-29.

Johnston, L.D., O'Malley, P.M., Bachman, J.G., and Schulenberg, J.E. (2010) '*Monitoring the future national survey results on drug use, 1975-2009. College students and adults ages 19-45* (NIH publication no. 10-7585)', Bethesda, MD: National Institute on Drug Abuse.

Jones, A., Weston, S., Moody, A., Millar, T., Dollin, L., Anderson, T., and Donmall, M. (2007) *The Drug Treatment Outcomes Research Study (DTORS): Baseline Report*, London: Home Office. Available from http://rds.homeoffice.gov.uk/rds/pdfs07/horr03c.pdf (accessed September 23, 2010).

Jones, E.E., Farina, A., Hastorf, A.H., Markus, H., Miller, D.T., and Scott, R.A. (1984) *Social stigma: The psychology of marked relationships*, New York: Freeman.

Jordan, B.H., Karg, R.S., Batts, K.R., Epstein, J.F., and Wiesen, C. (2008) 'A clinical validation of the national survey on drug use and health assessment of substance use disorders', *Addictive Behaviors*, 33(6): 782-798.

Jorm, A.F. (2000) 'Mental health literacy', *British Journal of Psychiatry*, 177(5): 396-401.

Jorm, A.F., Christensen, H., and Griffiths, K.M. (2005) 'The impact of beyondblue: the national depression initiative on the Australian public's recognition of depression and beliefs about treatment', *Australian and New Zealand Journal of Psychiatry*, 39: 248-254.

Jorm, A.F., Christensen, H., and Griffiths, K.M. (2005a) 'Public beliefs about causes and risk factors for mental disorders. Changes in Australia over 8 years', *Social Psychiatry and Psychiatric Epidemiology*, 40: 764-767.

Jorm, A.F., and Griffiths, K.M. (2008) 'The public's stigmatizing attitudes towards people with mental disorders: How important are biomedical conceptualizations?', *Acta Psychiatrica Scandinavica*, 118(4): 315-321.

Jorm, A.F., Kitchener, B., Fischer, J.-A., and Cvetkovski, S. (2010) 'Mental health first aid training by e-learning: A randomized controlled trial', *Australian and New Zealand Journal of Psychiatry*, 44: 1072-1081.

Jorm, A.F., Korten, A.E., Jacomb, P.A., Christensen, H., and Henderson, S. (1999) 'Attitudes towards people with a mental disorder: A survey of the Australian public and health professionals', *Australian and New Zealand Journal of Psychiatry*, 33(1): 77-83.

Jorm, A.F., and Oh, E. (2009) 'Desire for social distance from people with mental disorders: a review', *Australian and New Zealand Journal of Psychiatry*, 43: 183-200.

Jorm., A.F., Reavley, N.I., and Ross, A.M. (2012) 'Belief in the dangerousness of people with mental disorders: A review', *Australian and New Zealand Journal of Psychiatry*, 46(11): 1029-1045.

Jorm, A.F., and Wright, A. (2008) 'Influences on young people's stigmatising attitudes towards peers with mental disorders: National survey of young Australians and their parents', *British Journal of Psychiatry*, 192: 144-149.

Jost, J.T., and Banaji, M. (1994) 'The role of stereotyping in system justification and the production of false consciousness', *British Journal of Social Psychology*, 33: 1-27.

Jost, J.T., and Burgess, D. (2000) 'Attitudinal ambivalence and the conflict between group and system justification motives in low status groups', *Journal of Personality and Social Psychology*, 26(3): 293-305.

Judd, C.M., and Park, B. (1993) 'Definition and assessment of accuracy in social stereotypes', *Psychological Review*, 100: 109-128.

Kain, E.L. (2007) 'The sociological major at institutions of higher education in the United States', *Teaching Sociology*, 35(1): 31-47.

Kalivas, P.W., and Volkow, N.D. (2005) 'The neural basis of addiction: A pathology of motivation and choice', *American Journal of Psychiatry*, 162(8): 1403-1413.

Kaplan, H.B., and Johnson, R.J. (1991) 'Negative social sanctions and juvenile delinquency: Effects of labeling in a model of deviant behavior', *Social Science Quarterly,* 72: 98-122.

Karam-Hage, M., Nerenberg, L., and Brower, K.J. (2001) 'Modifying residents' attitudes about substance abuse treatment and training', *American Journal on Addictions*, 10: 40-47.

Karidi, M.V., Stefanis, C.N., Theleritis, C., Tzedaki, M. Rabavilas, A.D., and Stefanis, N.C. (2010) 'Perceived social stigma, self-concept, and self-stigmatization of patient with schizophrenia', *Comprehensive Psychiatry*, 51(1): 19-30.

Kasow, Z.M., and Weisskirch, R.S. (2010) 'Differences in attributions of mental illness and social distance for portrayals of four mental disorders', *Psychological Reports*, 107(2): 547-552.

Kassam, A., Glozier, N., Leese, M, Henderson, C., and Thornicroft, G. (2010) 'Development and responsiveness of a scale to measure clinicians' attitudes to people with mental illness (medical student version)', *Acta Psychiatrica Scandinavica*, 122: 153-161.

Kassam, A., Papish, A., Modgill, G., and Patten, S. (2012) 'The development and psychometric properties of a new scale to measure mental illness related stigma by health care providers: The Opening Minds Scale for Health Care Providers (OMS-HC)', *BMC Psychiatry*, 12(62): 1-12.

Kasow, Z.M., and Weisskirch, R.S. (2010) 'Differences in attributions of mental illness and social distance for portrayals of four mental disorders', *Psychological Reports*, 107(2): 547-552.

Kavanagh, D.J., Greenaway, L., Jenner, L., Saunders, J.B., White, A., and Sorban, J. (2000) 'Contrasting views and experiences of health professionals on the management of comorbid substance misuse and mental disorders', *Australian and New Zealand Journal of Psychiatry*, 34: 279-289.

Kaye, S., Drake, S., and Findlay-Jones, R. (1998) 'The onset of heroin use and criminal behaviour: does order make a difference', *Drug and Alcohol Dependence*, 53: 79-86.

Keane, M. (1990) 'Contemporary beliefs about mental illness among medical students: Implications for education and practice', *Academic Psychiatry,* 14: 172-177.

Kelly, J.F., and Westerhoff, C.M. (2010) 'Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms', *International Journal of Drug Policy*, 21(3): 202-207.

Kelley, M.L., and Fals-Stewart, W. (2004) 'Psychiatric disorders of children living with drug-abusing, alcohol abusing, and non-substance-abusing fathers', *Journal of the American Academy of Child and Adolescent Psychiatry*, 43: 612-628.

Kerby, J., Calton, T., Dimambro, B., Flood, C., and Glazebrook, C. (2008) 'Anti-stigma films and medical students'attitudes towards mental illness and psychiatry: Randomised controlled trial', *Psychiatric Bulletin*, 32(9): 345-349.

Kessler, R., House, J., and Turner, J.B. (1987) 'Unemployment and health in a community sample', *Journal of Health and Social Behavior*, 28: 51-59.

Kessler, R.C., Nelson, C.B., McGonagle, K.A., Edlund, M.J., Frank, R.G., and Leaf, P.J. (1996) 'The epidemiology of co-occurring addictive and mental disorders: Implications for prevention and service utilization', *American Journal of Orthopsychiatry*, 66: 17-31.

Keusch, G.T., Wilentz, J., and Kleinman, A. (2006) 'Stigma and global health: developing a research agenda', *The Lancet*, 367: 525-527.

Keys, D., (2008) 'Myth-making and opiate abuse: An early symbolic interactionist theory of addiction in the field of Alfred Lindesmith and its opposition', *Contemporary Justice Review*, 11(2): 177-186.

Khan, F., Welch, T., and Zillmer, E. (1993) 'MMPI-2 profiles of battered women in transition', *Journal of Personal Assessment*, 60: 100-111.

Kitsuse, J.I. (1962) 'Societal reaction to deviant behavior: Problems of theory and method', *Social Problems*, 9: 247-257.

Kitsuse, J.I., and Cicourel, A.V. (1963) 'A note on the uses of official statistics', *Social Problems*, 11: 131-139.

Klag, S., O'Callaghan, F., and Creed, P. (2005) 'The use of legal coercion in the treatment of substance abusers: An overview and critical analysis of thirty years of research', *Substance Use & Misuse*, 40: 1777- 1795.

Klee, H. (1998) 'The love of speed: an analysis of the enduring attraction of amphetamine sulphate for British youth', *Journal of Drug Issues*, 28: 33-56.

Klin, A., and Lemish, D. (2008) 'Mental disorders stigma in the media: Review of studies on production, content, and influences', *Journal of Health Communication*, 13: 434-449.

Knightbridge, S.M., King, R., and Rolfe, T.J. (2006) 'Using participatory action research in a community based initiative addressing complex mental health needs', *Australian and New Zealand Journal of Psychiatry*, 40: 325-332.

Kokkevi, A., Liappas, J., Boukouvala, V., Alevizou, V., Anastassopoulou, E., and Stefanis, C. (1993) 'Criminality in a sample of drug abusers in Greece', *Journal of Drug and Alcohol Dependence*, 31: 111-121.

Kolind, T. (2007) 'Form or content: The application of user perspectives in treatment research', *Drugs: Education, Prevention and Policy*, 14(3): 261-275.

Kolodziej, M.E., and Johnson, B.T. (1996) 'Interpersonal contact and acceptance of persons with psychiatric disorders: A research synthesis', *Journal of Consulting and Clinical Psychology*, 64(6): 1387-1396.

Koo, D.J., Chitwood, D.D., and Sanchez, J. (2008) 'Violent victimization and the routine activities/lifestyle of active drug users', *Journal of Drug Issues*, 38(4): 1105-1138.

Korszun, A., Dinos, S., Ahmed, K., and Bhui, K. (2012) 'Medical student attitudes about mental illness: Does medical-school education reduce stigma', *Academic Psychiatry*, 36(3): 197-204.

Koschade, J.E., and Lynd-Stevenson, R.M. (2011) 'The stigma of having a parent with mental illness: Genetic attributions and associative stigma', *Australian Journal of Psychology*, 63: 93-99.

Kreek, M.J. (2011) 'Extreme marginalization: Addiction and other mental health disorders, stigma, and imprisonment', *Annals of the New York Academy of Sciences*, 1231: 65-72.

Kroll, B. (2004) 'Living with an elephant: Growing up with parental substance misuse', *Child and Family Social Work*, 9: 129-140.

Kulesza, M., Larimer, M.E., and Rao, D. (2013) 'Substance use related stigma: what we know and the way forward', *Journal of Addictive Behaviors, Therapy & Rehabilitation*, 2(2): 1-11.

Kulesza, M., Ramsey, S.E., Brown, R.A., and Larimer, M.E. (2014) 'Stigma among individuals with substance use disorders: Does it predict substance use, and does it diminish with treatment', *Journal of Addictive Behaviors, Therapy & Rehabilitation*, 3(1): 1-5.

Lai, H.M.X., Cleary, M., Sitharthan, T., and Hunt, G.E. (2015) "Prevalence of comorbid substance use, anxiety and mood disorders in epidemiological surveys, 1990-2014: A systematic review and meta-analysis', *Drug and Alcohol Dependence*, 154: 1-13.

Lalaguna, J.L.P., Ribas, C.C., and Aymerich, M. (2014) 'Addictions: A need for specific education', *Procedia-Social and Behavioral Sciences*, 141: 160-165.

Lancaster, K., Hughes, C.E., Spicer, B., Matthew-Simmons, F., and Dillon, P. (2011) 'Illicit drugs and the media: Models of media effects for use in drug policy research' , *Drug and Alcohol Review*, 30(4): 397-402.

Lancaster, K., Santana, L., Madden, A., and Ritter, A. (2015) 'Stigma and subjectivities: Examining the textured relationship between lived experience and opinions about drug policy among people who inject drugs', *Drugs: Education, Prevention and Policy*, 22(3): 224-231.

Lance, C.E., Butts, M.M., and Michels, L.C. (2006) 'The sources of four commonly reported cutoff criteria: what did they really say?', *Organizational Research Methods*, 9(2): 202-220.

Lang, F.R., John, D., Ludtke, O., Schupp, J., and Wagner, G.G. (2011) 'Short assessment of the big five: Robust across survey methods except telephone interviewing', *Behavioral Research*, 43: 548-567.

Large, M.M., and Nielssen, O. (2010) 'Violence in first-episode psychosis: A systematic review and meta-analysis', *Schizophrenia Research,* 125: 208-220.

Larney, S., Toson, B., Burns, L., and Dolan, K. (2012) 'Effect of prison-based opioid substitution treatment and post-release retention in treatment on risk of re-incarceration', *Addiction*, 107(2): 372-380.

Lasnier, B., Brochu, S., and Fischer, B. (2010) 'A heroin prescription trial: Case studies from Montreal and Vancouver on crime and disorder in the surrounding neighbourhoods', *International Journal of Drug Policy*, 21(1): 28-35.

Latkin, C., Srikrishnan, A.K., Yang, C., Johnson, S., Solomon, S.S., Kumar, S., Celentano, D.D., and Solomon, S. (2010) 'The relationship between drug use stigma and HIV injection risk behaviors among injection drug users in Chennai, India', *Drug and Alcohol Dependence*, 110(3): 221-227.

Lauber, C., Anthony, M., Ajdacic-Gross, V., and Rossler, W. (2004) 'What about psychiatrists' attitude to mentally ill people?', *European Psychiatry*, 19(7): 423-427.

Lauber, C., Nordt, C., Braunscheig, C., and Rossler, W. (2006) 'Do mental health professionals stigmatize their patients?', *Acta Psychiatrica Scandinavica*, 113(Supplement 429): 51-59.

Laudet, A.B. (2007) "What does recovery mean to you? Lessons from the recovery experience for research and practice', *Journal of Substance Abuse Treatment*, 33(3): 243-256.

Lavack, A. (2007) 'Using social marketing to de-stigmatize addictions: a review', *Addiction Research and Theory*, 15(5): 479-492.

Law, G.U., Rostill-Brookes, H., and Goodman, D. (2009) 'Public stigma in health and non-healthcare students: attributions, emotions and willingness to help with adolescent self-harm', *International Journal of Nursing Studies*, 46(1): 108-119.

LeBel, T.P. (2008) 'Perceptions of and responses to stigma', *Sociology Compass*, 2(2): 409-432.

Lebowitz, M.S. (2014) 'Biological conceptualizations of mental disorders among affected individuals: A review of correlates and consequences', *Clinical Psychology: Science and Practice*, 21(1): 67-83.

Lebowitz, M.S., and Ahn, W.K. (2012) 'Combining biomedical accounts of mental disorders with treatability information to reduce mental illness stigma', *Psychiatric Services*, 63: 496-499.

Lebowitz, M.S., Pyun, J.J., and Ahn, W.K. (2014) 'Biological explanations of generalized anxiety disorder: Effects on beliefs about prognosis and responsibility', *Psychiatric Services*, 65(4): 498-503.

Lee, A.A., Laurent, S.M., Wykes, T.L., Andren, K.A.K., Bourassa, K.A., and McKibbin, C.L. (2014) 'Genetic attributions and mental illness diagnosis: Effects on perceptions of danger, social distance, and real helping decisions', *Social Psychiatry and Psychiatric Epidemiology*, 49(5): 781-789.

Leech, K. (1997) 'Was our heroin problem necessary?', *Addiction Research*, 5(2): 79-82.

Leipold, A.D. (2002) 'The war on drugs and the puzzle of deterrence', *Journal of Gender, Race and Justice*, 6: 111-129.

Lemert, E.M. (1951) *Social pathology: A systematic approach to the theory of sociopathic behavior,* New York: McGraw-Hill.

Lemert, E. (1967) *Human deviance, social problems, and social control*, Englewood Cliffs, NJ: Prentice Hall.

Lemert, E. (1972) *Human deviance, social problems, and social control* 2nd Edition, Englewood Cliffs, NJ: Prentice Hall.

Lemert, E.M. (1974) 'Beyond Mead: the societal reaction to deviance', *Social Problems*, 21: 457-468.

Leshner, A.I. (1997) 'Addiction is a brain disease, and it matters', *Science*, 278: 45-47.

Levey, S., and Howells, K. (1995) 'Dangerousness, unpredictability and fear of people with schizophrenia', *Journal of Forensic Psychiatry & Psychology*, 6(1): 19-39.

Liazos, A. (1972) 'The poverty of the sociology of deviance: Nuts, sluts and perverts', *Social Problems*, 20: 103-120.

Liekens, S., Smits, T., Laekeman, G., and Foulon, V. (2012) 'Factors determining social distance toward people with depression among community pharmacists', *European Psychiatry*, 27(7): 528-535.

Lin, Z. (1993) 'An exploratory study of the social judgments of Chinese college students from the perspectives of attribution theory', *Acta Psychologica Sinica*, 25: 155-163.

Lind, B., Chen, S.L., Weatherburn, D., and Mattick, R. (2005) 'The effectiveness of methadone maintenance treatment in controlling crime- an Australian aggregate-level analysis', *British Journal of Criminality*, 45: 201-211.

Lindesmith, A.R. (1940) 'Dope-fiend mythology', *Journal of Criminal Law, Criminology and Police Science,* 31: 199-208.

Lindesmith, A.R. (1940a) 'The drug addict as a psychopath', *American Sociological Review*, 5(6): 914-920.

Lindesmith, A.R. (1965) *The addict and the law*, New York: Random House.

Lindesmith, A.R. (1973) 'Drugs and public policy. Patent medicine for the drug problem', *American Journal of Orthopsychiatry,* 43(4): 512-514.

Lindqvist, P. (1991) 'Homicides committed by abusers of alcohol and illicit drugs', *British Journal of Addiction*, 86: 321-326.

Lines, R. (2010) 'Deliver us from evil? – The single convention on narcotic drugs 50 years on', *International Journal on Human Rights and Drug Policy*, 1: 3-13.

Link, B.G. (1982) 'Mental patient status, work, and income: An examination of the effects of a psychiatric label', *American Sociological Review,* 47: 202-215.

Link, B.G. (1987) 'Understanding labeling effects in the area of mental disorders: An empirical assessment of the effects of expectations of rejection', *American Sociological Review*, 52: 96-112.

Link, B.G., Andrews, H., and Cullen, F.T. (1992) 'The violent and illegal behavior of mental patients reconsidered', *American Sociological Review*, 57 (3): 275-292.

Link, B.G., and Cullen, F.T. (1986) 'Contact with the mentally ill and perceptions of how dangerous they are', *Journal of Health and Social Behavior*, 27(4): 289-302.

Link, B.G., and Cullen, F.T. (1990) 'The labeling theory of mental disorder: a review of the evidence', in Greenley, J. (ed.), *Mental illness in social context,* Greenwich, CT: JAI Press, pp. 75-106.

Link, B.G., Cullen, F.T., Frank, J., and Wozniak, J.F. (1987) 'The social rejection of former mental patients: understanding why labels matter', *American Journal of Sociology*, 92(6): 1461-1500.

Link, B.G., Cullen, F.T,, Struening, E., Shrout, P.E., and Dohrenwend, B.P. (1989) 'A modified labeling theory approach to mental disorders: An empirical assessment', *American Sociological Review*, 54: 400-423.

Link, B.G., and Phelan, J.C. (2001) 'Conceptualizing stigma', *Annual Review of Sociology*, 27: 363-385.

Link, B.G., and Phelan, J.C. (2006) 'Stigma and its public health implications', *The Lancet*, 367(9509): 528-529.

Link, B.G., and Phelan, J.C. (2010) 'Labeling and stigma', in Scheid, T.L., and Brown, T.N. (eds.), *A handbook for the study of mental health: Social contexts, theories, and systems*, New York: Cambridge University Press, pp. 571-587.

Link, B.G., and Phelan, J.C. (2014) 'Stigma power', *Social Science & Medicine*, 103: 24-32.

Link, B.G., and Phelan, J.C. (2014a) 'Mental illness stigma and the sociology of mental health', in Johnson, R.J., Turner, R.J., and Link, B.G. (eds.), *Sociology of mental health*, Springer International Publishing, pp. 75-100.

Link, B.G., Phelan, J.C., Bresnahan, M., Stueve, A., and Pescosolido, B.A. (1999) 'Public conceptions of mental illness: Labels, causes, dangerousness, and social distance', *American Journal of Public Health*, 89(9): 1328-1333.

Link, B.G., Struening, E.L., Neese-Todd, S., Asmussen, S., and Phelan, J.C. (2001) 'The consequences of stigma for the self-esteem of people with mental illnesses', *Psychiatric Services*, 52(12): 1621-1626.

Link, B.G., Struening, E.L., Neese-Todd, S., Asmussen, S., and Phelan, J.C. (2002) 'On describing and seeking to change the experience of stigma', *Psychiatric Rehabilitation Skills*, 2: 201-231.

Link, B.G., Struening, E.L., Rahav, M., Phelan, J.C., and Nuttbrock, L. (1997) 'On stigma and its consequences: Evidence from a longitudinal study of men with dual diagnoses of mental illness and substance abuse', *Journal of Health and Social Behavior*, 38: 177-190.

Link, B.G., and Stueve, A. (1995) 'Evidence bearing on mental illness as a possible cause of violent behavior', *Epidemiologic Reviews*, 17(1): 172-181.

Link, B.G., Yang, L.H., Phelan, J.C., and Collins, P.Y. (2004) 'Measuring mental illness stigma', *Schizophrenic Bulletin*, 30(3): 511-541.

Litalien, D., Guay, F., and Morin, A.J. (2015) 'Motivation for PhD studies: Scale development and validation', *Learning and Individual Differences* 41: 1-13.

Livingston, J.D., and Boyd, J.E. (2010) 'Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis', *Social Science & Medicine*, 71(12): 2150-2161.

Livingston, J.D., Cianfrone, M., Korf-Uzan, K., and Coniglio, C. (2014) 'Another time point, a different story: one year effects of a social media intervention on the attitudes of young people towards mental health issues', *Social Psychiatry Psychiatric Epidemiology*, 49(6): 985-990.

Livingston, J., Milne, T., Fang, M.L., and Amari, E. (2012) 'The effectiveness of interventions for reducing stigma related to substance use disorders: A systematic review', *Addiction*, 107(1): 39-50.

Livingston, J.D., Rossiter, K.R., and Verdun-Jones, S.N. (2011) 'Forensic' labelling: An empirical assessment of its effects on self-stigma for people with severe mental illness', *Psychiatry Research*, 188(1): 115-122.

Lloyd, C. (2010) *Sinning and sinned against: the stigmatisation of problem drug users*, London, UK : Drug Policy Commission. Available from http://www.ukdpc.org.uk/resources/Stigma_Expert_Commentary_final.pdf (accessed September 21, 2010).

Lloyd, C. (2013) 'The stigmatization of problem drug users: A narrative literature review', *Drugs: Education, Prevention and Policy*, 20(2): 85-95.

Loch, A.A., Hengartner, M.P., Guarniero, F.B., Lawson, F.L., Wang, Y.P., Gattaz, W.F., and Rossler, W. (2013) 'The more information, the more negative stigma towards schizophrenia: Brazilian general population and psychiatrists compared', *Psychiatry Research*, 205(3): 185-191.

Lock, E.D., Timberlake, J.M., and Rasinski, K.A. (2002) 'Battle fatigue: Is public support waning for war-centered drug control strategies', *Crime & Delinquency*, 48(3): 380-398.

Logie, C., and Gadalla, T.M. (2009) 'Meta-analysis of health and demographic correlates of stigma towards people living with HIV', *AIDS Care*, 21(6): 742-753.

Lorber, J. (1965) 'Deviance as performance: The case of illness', *Social Problems*, 14: 302-310.

Lovald, K, and Stub, H.R., 1968) 'The revolving door. Reactions of chronic drunkenness offenders to court sanctions', *Journal of Criminal Law, Criminology and Police Science*, 59: 525-530.

Lovi, R., and Barr, J. (2009) 'Stigma reported by nurses related to those experiencing drug and alcohol dependency: a phenomenological Giorgi study', *Contemporary Nurse*, 33(2): 166-178.

Lucksted, A., and Drapalski, A.L. (2015) "Self-stigma regarding mental illness: Definition, impact, and relationship to societal stigma', *Psychiatric Rehabilitation Journal*, 38(2): 99-102.

Lundberg, G.D. (1997) 'New winds blowing for American drug policies', *Journal of the American Medical Association*, 278(11): 946-947.

Luo, T., Wang, J., Li, Y., Wang, X., Tan, L., Deng, Q., Prishni, J., Thakoor, D., and Hao, W. (2014) 'Stigmatization of people with drug dependence in China: a community-based study in Hunan province', *Drug and Alcohol Dependence*, 134: 285-289.

Luoma, J.B. (2011) 'Substance use stigma as a barrier to treatment and recovery', in Johnson, B.A. (ed.), *Addictive disorders and substance abuse*, New York: Springer, pp. 1195-1215.

Luoma, J.B., Kohlenberg, B.S., Hayes, S.C., Bunting, K., and Rye, A.K. (2008) 'Reducing self-stigma in substance abuse through acceptance and commitment therapy: Model, manual development, and pilot outcomes', *Addiction Research and Theory*, 16(2): 149-165.

Luoma, J.B., Nobles, R.H., Drake, C.E., Hayes, S.C., O'Hair, A., Fletcher, L., and Kohlenberg, B.S. (2013) 'Self-stigma in substance abuse: Development of a new measure', *Journal of Psychopathology and Behavioral Assessment*, 35: 223-234.

Luoma, J.B., O'Hair, A.K., Kohlenberg, B.S., Hayes, S.C., and Fletcher, L. (2010) 'The development and psychometric properties of a new measure of perceived stigma toward substance users', *Substance Use & Misuse*, 45: 47-57.

Luoma, J.B., Twohig, M.P., Waltz, T., Hayes, S.C., Roget, N, Padilla, M., and Fisher, G. (2007) 'An investigation of stigma in individuals receiving treatment for substance abuse', *Addictive Behavior*, 32(7): 1331-1346.

Lurigio, A.J. (2008) 'The first 20 years of drug treatment courts: A brief description of their history and impact', *Federal Probation*, 72(1): 13-17.

Luty, J., and Grewal, P. (2002) 'A survey of the British public's attitudes towards drug dependence', *Journal of Substance Use*, 7(3): 93-95.

Luty, J., Umoh, O., Sessay, M., and Sarkhel, A. (2007) 'Effectiveness of Changing Minds campaign factsheets in reducing stigmatised attitudes towards mental illness', *Psychiatric Bulletin*, 31(10): 377-381.

Lyons, M., and Hayes, R. (1993) 'Student perceptions of persons with psychiatric and other disorders', *The American Journal of Occupational Therapy*, 47(6): 541-548.

Lysaker, P.H., Roe, D., and Yanos, P.T. (2007) 'Toward understanding the insight paradox: Internalized stigma moderates the association between insight and social functioning, hope, and self-esteem among people with schizophrenia spectrum disorders', *Schizophrenia Bulletin*, 33(1): 192-199.

Lysaker, P.H., Tunze, C., Yanos, P.T., Roe, D., and Rand, K. (2012) 'Relationships between stereotyped beliefs about mental illness, discrimination experiences, and distressed mood over 1 year among persons with schizophrenia enrolled in rehabilitation', *Social Psychiatry and Psychiatric Epidemiology*, 47: 849-855.

MacCallum, R.C., Browne, M.W., and Sugawara, H.M. (1996) 'Power analysis and determination of sample size for covariance structure modeling', *Psychological Methods*, 1(2): 130-149.

MacCoun, R., Kilmer, B., and Reuter, P. (2003) 'Research on drugs-crime linkages: the next generation', in *Towards a drugs and crime research agenda for the 21st century, Special Report* (Washington, D.C.:

US Department of Justice). Available from https://www.ncjrs.gov/pdffiles1/nij/194616c.pdf (accessed December 12, 2012).

Mackesy-Amiti, M.E., Donenberg, G.R., and Ouellet, L.J. (2012) 'Prevalence of psychiatric disorders among young injection drug users', *Drug and Alcohol Dependence*, 124: 70-78.

Mackey, D.A, and Courtright, K.E (2000) 'Assessing punitiveness among college students: A comparison of criminal justice majors with other majors', *The Justice Professional*, 12: 423-441.

Macrae, C.N., Bodenhausen, G.V., Milne, A.B., and Jetten, J. (1994) 'Out of mind but back in sight: Stereotypes on the rebound', *Journal of Personality and Social Psychology*, 67(5): 808-817.

Macy, R.J., Ferron, J., and Crosby, C. (2009) 'Partner violence and survivors' chronic health problems: Informing social work practice', *Social Work*, 54: 29-43.

Macy, R.J., and Goodbourn, M. (2012) 'Promoting successful collaborations between domestic violence and substance abuse treatment service sectors: A review of the literature', *Trauma, Violence & Abuse*, 13(4): 234-251.

Macy, R.J., Renz, C., and Pelino, E. (2013) 'Partner violence and substance abuse are intertwined: Women's perceptions of violence-substance connections', *Violence Against Women*, 19(7): 881-902.

Maddan, S., and Hartley, R.D. (2011) 'Lawyers practicing medicine: criminal justice, criminology, sociology and differential curricula', *Journal of Criminal Justice Education*, 22(3): 440-465.

Maddan, S., and Marshall, I. (2009) 'Labeling and symbolic theories', in Miller, J. (ed.), *21st Century Criminology: A Reference Handbook*, Thousand Oaks: Sage Publications, Inc., pp. 253-262.

Madianos, M.G., Madianou, D., Vlachonikolis, J., and Stefanis, C.N. (1987) 'Attitudes toward mentally ill in the Athens area: Implications for community mental health interventions', *Acta Psychiatrica Scandinavica*, 75: 158-165.

Magalhaes, P.V., Kapczinski, F., Nierenberg, A.A., Deckersbach, T., Weisinger, D., Dodd, S., and Berk M. (2012) 'Illness burden and medical comorbidity in the systematic treatment enhancement program for bipolar disorder', *Acta Psychiatrica Scandinavica*, 125(4): 303-308.

Magliano, L., Read, J., Sagliocchi, A., Patalano, M., D'Ambrosio, A., and Oliviero, N. (2013) 'Differences in views of schizophrenia during medical education: A comparative study of 1st versus 5th–6th year Italian medical students', *Social Psychiatry and Psychiatric Epidemiology*, 48: 1647-1655.

Maiano, C., Morin, A.J.S., Lanfranchi, M.-C., and Therme, P. (2013) 'The Eating Attitudes Test-26 revisited using exploratory structural equation modeling', *Journal of Abnormal Child Psychology*, 41: 775-788.

Major, B., and O'Brien, L.T. (2005) 'The social psychology of stigma', *Annual Review of Psychology*, 56(1): 393-421.

Mak, W.W.S., Cheung, R.Y.M., Law, R.W., Woo, J., Li, P.C.K., and Chung, R.W.Y. (2007a) 'Examining attribution model of self-stigma on social support and psychological well-being among people with HIV+/AIDS', *Social Science & Medicine*, 64(8): 1549-1559.

Mak, W.W.S., Poon, C.Y.M., Pun, L.Y.K., and Cheung, S.F. (2007) 'Meta-analysis of stigma and mental health', *Social Science & Medicine*, 65(2): 245-261.

Mandell, W., and Amsel, Z. (1976) 'Dimensions of addict life-style after treatment', *British Journal of Addiction*, 71(4): 377-384.

Mankoff, M. (1971) 'Societal reaction and career deviance: A critical analysis', *The Sociological Quarterly*, 12: 204-217.

Mann, C., and Himelein, M.J. (2008) 'Putting the person back into psychopathology: An intervention to reduce mental illness stigma in the classroom', *Social Psychiatry and Psychiatric Epidemiology*, 43: 545-551.

Mannarini, S., and Boffo, M. (2013) 'Assessing mental disorder causal beliefs: a latent dimension identification', *Community Mental Health Journal*, 49: 686-693.

Mansouri, L., and Dowell, D.A. (1989) 'Perceptions of stigma among the long term mentally ill', *Psychosocial Rehabilitation Journal*, 13: 79-91.

Mantler, J., Schellenberg, E.G., and Page, J.S. (2003) 'Attributions for serious illness: Are controllability, responsibility and blame different constructs', *Canadian Journal of Behavioural Science*, 35(2): 142-152.

Manusov, V., and Spitzberg, B.H. (2008) 'Attribution theory: Finding good cause in the search for theory', in Baxter, L.A., and Braithwaite, D.O. (eds.), *Engaging theories in interpersonal communication: multiple perspectives*, Thousand Oaks, CA: Sage Publications, pp. 37-50.

Marcussen, K., Ritter, C., and Munetz, M.R. (2010) 'The effect of services and stigma on quality of life for persons with serious mental illness', *Psychiatric Services*, 61(5): 489-494.

Marel, C., Mills, K.L., Darke, S., Ross, J., Slade, T., Burns, L., and Teesson, M. (2013) 'Static and dynamic predictors of criminal involvement among people with heroin dependence: Findings from a 3-year longitudinal study', *Drug and Alcohol Dependence*, 133(2): 600-606.

Marie, D., and Miles, B. (2008) 'Social distance and perceived dangerousness across four diagnostic categories of mental disorder', *Australian and New Zealand Journal of Psychiatry*, 42(2): 126-133.

Mark, T.I., Woody, G.E., Juday, T., and Klber, H.D. (2001) 'The economic costs of heroin addiction in the United States', *Drug and Alcohol Dependence*, 61: 195-206.

Markland, D. (2007) 'The golden rule is that there are no golden rules: A commentary on Paul Barrett's recommendations for reporting model fit in structural equation modeling', *Personality and Individual Differences,* 42(5): 851-858.

Markowitz, F.E. (1998) 'The effects of stigma on the psychological well-being and life satisfaction of persons with mental illness', *Journal of Health and Social Behavior*, 39(4): 335-347.

Markowitz, F.E. (2014) 'Mental illness and labeling theory', in Cockerham, W.C., Dingwall, R., and Quah, S.R. (eds.) *The Wiley Blackwell encyclopedia of health, illness, behavior, and society vol. IV*, Chichester, West Sussex, UK: John Wiley & Sons Ltd., pp. 1582-1587.

Marsh, H.W. (2007) 'Application of confirmatory factor analysis and structural equation modeling in sport and exercise psychology', in Tenenbaum, G., and Eklund, R.C. (eds.), *Handbook on sport psychology 3rd edition*, New York: Wiley, pp. 774-798.

Marsh, H.W., Balla, J.R., and McDonald, R.P. (1988) 'Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size', *Psychological Bulletin*, 103(3): 391-410.

Marsh, H.W., Hau, K.-T., Balla, J.R., and Grayson, D. (1998) 'Is more ever too much? The number of indicators per factor in confirmatory factor analysis', *Multivariate Behavioral Research*, 33(2): 181-220.

Marsh, H.W., Hau, K.-T., and Grayson, D. (2005) 'Goodness of fit evaluation in structural equation modeling', in Maydeu-Olivares, A., and McArdle, J. (eds.), *Contemporary psychometrics*, Mahwah,N.J.: Lawrence Erlbaum Associates Inc., pp. 275-340.

Marsh, H.W., Hau, K.-T., and Wen, Z. (2004) 'In search of golden rules: comment on hypothesis testing approaches to setting cutoff vales for fit indexes and dangers in overgeneralizing Hu & Bentler's (1999) findings', *Structural Equation Modeling*, 11: 320-341.

Marsh, H.W., Liem, G.A.D., Martin, A.J., Morin, A.J.S., and Nagengast, B. (2011) 'Methodological measurement fruitfulness of Exploratory Structural Equation Modeling (ESEM): new approaches to key substantive issues in motivation and engagement', *Journal of Psychoeducational Assessment*, 29(4): 322-346.

Marsh, H.W., Lüdtke, O., Muthén, B., Asparouhov, T., Morin, A.J.S., Trautwein, U., and Nagengast, B. (2010) 'A new look at the big-five factor structure through exploratory structural equation modeling', *Psychological Assessment*, 22(3): 471-491.

Marsh, H.W., Lüdtke, O., Nagengast, B., Morin, A.J., and Von Davier, M. (2013a) 'Why item parcels are (almost) never appropriate: two wrongs do not make a right-camouflaging misspecification with item parcels in CFA models', *Psychological Methods,* 18(3): 257- 284.

Marsh, H.W., Lüdtke, O., Trautwein, U., and Morin, A.J.S. (2009) 'Classical latent profile analysis of academic self-concept dimensions: synergy of person- and variable-centered approaches to theoretical models of self concept', *Structural Equation Modeling*, 16(2): 191-225.

Marsh, H.W., Morin, A.J.S., Parker, P.D., and Kaur, G., 2014, 'Exploratory structural equation modeling: An integration of the best features of exploratory and confirmatory factor analysis', *Annual Review of Clinical Psychology*, 10: 85-110.

Marsh, H.W., Muthén, B., Asparouhov, A., Lüdtke, O., Robitzsch, A., Morin, A.J.S., and Trautwein, U. (2009a) 'Exploratory structural equation modeling, integrating CFA and EFA: Application to students' evaluations of university teaching', *Structural Equation Modeling*, 16: 439-476.

Marsh, H.W., Nagengast, B., and Morin, A.J.S. (2013b) 'Measurement invariance of Big-Five factors over the life span: ESEM tests of gender, age, plasticity, maturity, and La Dolce Vita effects", *Developmental Psychology*, 49(6): 1194-1218.

Marsh, H.W., Nagengast, B., Morin, A.J.S., Parada, R.H., Craven, R.G., and Hamilton, L.R. (2011a) 'Construct validity of the multidimensional structure of bullying and victimization: An application of exploratory structural equation modeling', *Journal of Educational Psychology*, 103(3): 701-732.

Marsh, H.W., Seaton, M., Kuyper, H., Dumas, F., Huguet, P., Regner, I., Buunk, A.P., Monteil, J.M., Blanton, H., and Gibbons, F.X. (2010a) 'Phantom behavioral assimilation effects: systematic biases in social comparison choice studies', *Journal of Personality*, 78(2): 671-709.

Marsh, H.W., Vallerand, R.J., Lafrenière, M.-A.K., Parker, P., Morin, A.J.S., Carbonneau, N., Jowett, C., Bureau, J.S., Fernet, C., Guay, F., Abduljabber, A.S., and Paquet, Y. (2013) 'Passion: does one scale fit all? Construct validity of two-factor passion scale and psychometric invariance over different activities and languages', *Psychological Assessment*, 25(3): 796-809.

Marshall, K.L., and Deane, F.P. (2004) 'General practitioners' detection and management of patients with a dual-diagnosis: Implications for education and training', *Drug and Alcohol Review*, 23: 455-462.

Martens, M.P. (2005) 'The use of structural equation modeling in counselling psychology research', *The Counseling Psychologist*, 33(3): 269-298.

Martin, I., Palepu, A., Wood, E., Li, K., Montaner, J., and Kerr, T. (2009) 'Violence among street-involved youth: the role of methamphetamine', *European Addiction Research*, 15(1): 32-38.

Martin, J.K., Pescosolido, B.A., Olafsdottir, S., and McLeod, J.D. (2007) 'The construction of fear: Americans' preferences for social distance from children and adolescents with mental health problems', *Journal of Health and Social Behavior*, 48(1): 50-67.

Martin, J.K., Pescosolido, B.A., and Tuch, S.A. (2000) 'Of fear and loathing: The role of disturbing behavior, labels, and causal attributions in shaping public attitudes toward people with mental illness', *Journal of Health and Social Behavior*, 41(2): 208-223.

Martin, S.E., Maxwell, C.D., White, H.R., and Zhang, Y. (2004) 'Trends in alcohol use, cocaine use, and crime: 1989-1998', *Journal of Drug Issues*, 34(2): 333-360.

Marzo, J.N., Rotily, M., Meroueh, F., Varastet, M., Hunault, C., Obradovic, I., and Zin, A. (2009) 'Maintenance therapy and 3-year outcome of opioid-dependent prisoners: a prospective study in France (2003–06)', *Addiction*, 104(7): 1233-1240.

Mason, M.F., and Morris, M.W. (2010) 'Culture, attribution and automaticity: A social cognitive neuroscience view', *Social Cognitive and Affective Neuroscience*, 5(2-3): 292-306.

Matas, M., El-Guebaly, N., Harper, D., and Green, M. (1986) 'Mental illness and the media: II. Content analysis of press coverage of mental health topics', *The Canadian Journal of Psychiatry*, 31: 431-433.

Matas, M., El-Guebaly, N., Peterkin, A., Green, M., and Harper, D. (1985) 'Mental illness and the media: an assessment of attitudes and communication', *Canadian Journal of Psychiatry,* 30(1): 12-17.

Matheson, C., Jaffray, M., Ryan, M., Bond, C.M., Fraser, K., Kirk, M., and Liddell, D. (2014) 'Public opinion of drug treatment policy: Exploring the public's attitudes, knowledge, experience and willingness to pay for drug treatment strategies', *International Journal of Drug Policy*, 25(3): 407-415.

Matsueda, R.L. (1992) 'Reflected appraisals, parental labeling, and delinquency: Specifying a symbolic interactionist theory', *American Journal of Sociology*, 97(6): 1577-1611.

Matthews, J., Kadish, W., Barratt, S.V., Mazor, K,, Field, D., and Jonassen, J. (2002) 'The impact of a brief interclerkship about substance abuse on medical students' skills', Academic Medicine, 77: 419-426.

Mattoo, S.K., Sarkar, S., Gupta, S., Nebhinani, N., Parakh, P., and Basu, D. (2015) 'Stigma towards substance use: Comparing treatment seeking alcohol and opioid dependent men', *International Journal of Mental Health and Addiction*, 13(1): 73-81.

Mattsson, M. (2012) 'Investigating the factorial invariance of the 28-item DBQ across genders and age groups: An exploratory structural equation modeling study', *Accident Analysis and Prevention*, 48: 379-396.

McAuliffe, W.E. (1975) 'Beyond secondary deviance: negative labelling and its effects on the heroin addict', in Gove, W.R. (ed.), *The labelling of deviance* (New York: Sage Publications), pp. 303-340.

McAuliffe, W.E. (1975a) 'Beyond secondary deviance: negative labeling and its effects on the heroin addict', in Gove, W.R. (ed.), *Labeling approach to deviant behavior: the evaluation of a perspective,* New York: HalstedSage, pp. 205-242.

McBride, D.C., VanderWaal, C.J., and Terry-McElrathy, Y.M. (2003) 'The drugs-crime wars: past, present, and future directions in theory, policy, and program interventions', in *Toward a drugs and crime research agenda for the 21st Century (NIJ Special Report).* Available from http://www.ojp.usdoj.gov/nij (accessed November 1, 2009).

McCleary, R., O'Neil, M.J., Epperlein, C., and Gray, R.H. (1981) 'Effects of legal education and work experience on perceptions of crime seriousness', *Social Problems,* 28: 276-289.

McCollister, K.E., French, M.T., Pyne, J.M., Booth, B., Rapp, R., and Carr, C. (2009) 'The cost of treating addiction from the client's perspective: results from a multi-modality application of the client DATCAP', *Drug and Alcohol Dependence*, 104: 241-248.

McCreaddie, M., Lyons, I., Watt, D., Ewing, E., Croft, J., Smith, M., and Tocher, J. (2008) 'Routines and rituals: A grounded theory of the pain management of drug users in acute care settings', *Journal of Clinical Nursing*, 19: 2730-2740.

McDonald, R.P., and Ho, M-H.R. (2002) 'Principles and practice in reporting structural equation analyses', *Psychological Methods*, 7(1): 64-82.

McElrath, K., Chitwood, D.D., and Comerford, M. (1997) 'Crime victimization among injection users', *Journal of Drug Issues*, 27: 771-783.

McElrath, K., and McEvoy, K. (2001) 'Heroin as evil: Ecstacy users' perceptions about heroin', *Drugs: Education, Prevention and Policy*, 8(2): 177-189.

McGinty, E.E., Goldman, H.H., Pescosolido, B., and Barry, C.L. (2015) 'Portraying mental illness and drug addiction as treatable health conditions: Effects of a randomized experiment on stigma and discrimination', *Social Science & Medicine*, 126: 73-85.

McGinty, E.E., Webster, D.W., Jarlenski, M., and Barry, C.L. (2014) "News media framing of serious mental illness and gun violence in the United States, 1997-2012', *American Journal of Public Health*, 104(3): 406-413.

McIntosh, C.N. (2007) 'Rethinking fit assessment in structural equation modelling: A commentary and elaboration on Barrett (2007)', *Personality and Individual Differences*, 42(5): 859-867.

McIntosh, J., and McKeganey, N. (2001) 'Identity and recovery from dependent drug use: The addict's perspective'**,** *Drugs: Education, Prevention and Policy*, 8(1): 47-59.

McKeganey, N. (1988) 'Shadowland: General practitioners and the treatment of opiate-abusing patients', *British Journal of Addiction*, 83: 373-386.

McKeganey, N. (2006) 'The lure and the loss of harm reduction in UK drug policy and practice', *Addiction Research and Theory*, 14(6): 557-588.

McKeganey, N. (2007) 'The challenge to UK drug policy', *Drugs: Education, Prevention and Policy*, 14(6): 559-571.

McKeganey, N. (2011) 'Abstinence and harm reduction: Can they work together?', *International Journal of Drug Policy*, 22(3): 194-195.

McKeganey, N.P., Neale, J., Parkin, S., and Mills, C. (2004) 'Communities and drugs: Beyond the rhetoric of community action', *Probation Journal*, 51(4): 343-361.

McKeganey, N.P., and Norrie, J. (2000) 'Association between illegal drugs and weapon carrying young people in Scotland: Schools' survey', *British Medical Journal*, 320: 982-984.

McKenna, B. (2011) 'Mental health and addiction services in the criminal justice system: Where do we sit', *International Journal of Mental Health Nursing*, 20(2): 75-76.

McKeown, A., Matheson, C., and Bond, C. (2003) 'A qualitative study of GPs' attitudes to drug misusers and drug misuse services in primary care', *Family Practice,* 20(2): 120-125.

McKinney, K., Howery, C.B., Strand, K.J., Kain, E.L., and Berhede, C.W. (2004) *Liberal learning and the Sociology major updated,* Washington,D.C.: American Sociological Association.

McLaughlin, D., and Long, A. (1996) 'An extended literature review of health professionals' perceptions of illicit drugs and their clients who use them', *Journal of Psychiatric and Mental Health Nursing*, 3(5): 283-288.

McLaughlin, D.F., and McKenna, H. (2000) 'The perceptions and aspirations illicit drug users hold toward health care staff and the care they receive', Available from http://www.drugsandalcohol.ie/6919/1/McLaughlin_4219_J_Psychiatric_mental_health_perceptions.pdf (accessed July 1, 2011).

McLaughlin, D., McKenna, H., Leslie, J., Moore, K., and Robinson, J. (2006) 'Illicit drug users in Northern Ireland: Perceptions and experiences of health and social care professionals', *Journal of Psychiatric and Mental Health Nursing*, 13(6): 682-686.

McMillan, G.P., Lapham, S., and Lackey, M. (2008) 'The effect of a jail methadone maintenance therapy (MMT) program on inmate recidivism', *Addiction*, 103: 2017-2023.

McPhee, I., Martin, C.H., Martin, C.R., and Sneider, A. (2012) 'Exploring the consequences of how Scotland interprets the UK Misuse of Drugs Act 1971', *Drugs and Alcohol Today*, 12(3): 146-156.

Mehta, S., and Farina, A. (1988) 'Associative stigma: perceptions of the difficulties of college-aged children of stigmatized fathers', *Journal of Social and Clinical Psychology*, 7: 192-202.

Meier, P., and Barrowclough, C. (2009) 'Mental health problems: are they or are they not a risk factor for drop-out from drug treatment? A systematic review of the literature', *Drugs: Education, Prevention and Policy*, 16(1): 7-38.

Melberg, H.O., Henden, E., and Gjelsvik, O. (2013) 'Addiction and responsibility: A survey of opinions', *Inquiry*, 56(5): 558-570.

Melnick, G., Sacks, S., and Banks, S. (2006) 'Use of the COVR in violence risk assessment. Letter to the editor', *Psychiatric Services*, 57(1): 142.

Mena, F., and Hobbs, D. (2010) 'Narcophobia: Drugs prohibition and the generation of human rights abuses', *Trends in Organized Crime,* 13: 60-74.

Menec, V.H., and Perry, R.P. (1998) 'Reactions to stigmas among Canadian students: Testing attribution-affect-help judgment model', *Journal of Social Psychology*, 138: 443-453.

Menon, T., Morris, M.W., Chiu, C.Y., and Hong, Y.Y. (1999) 'Culture and the construal of agency: Attribution to individual versus group dispositions', *Journal of Personality and Social Psychology*, 76(5): 701-717.

Merrill, J.O., Rhodes, L.A., Deyo, R.A., Marlatt, G.A., and Bradley, K.A. (2002) 'Mutual mistrust in the medical care of drug users: The keys to the 'Narc' cabinet', *Journal of General Internal Medicine*, 17(5): 327-333.

Mestdagh, A., and Hansen, B. (2014) 'Stigma in patients with schizophrenia receiving community mental health care: A review of qualitative studies', *Social Psychiatry and Psychiatric Epidemiology*, 49(1): 79-87.

Meurk, C., Carter, A., Hall, W., and Lucke, J. (2014) 'Public understandings of addiction: Where do neurobiological explanations fit?', *Neuroethics*, 7: 51-62.

Meurk, C., Hall, W., Morphett, K., Carter, A., & Lucke, J. (2013) 'What does acceptance mean? Public reflections on the idea that addiction is a brain disease', *BioSocieties*, 8(4): 491-506.

Miethe, T. (1984) 'Types of consensus in public evaluations of crime: An illustration of strategies for measuring consensus', *Journal of Criminal Law and Criminology*, 75: 459-473.

Miller, P. (2010) 'Reporting of the ACT heroin trials', *Journal of Media and Communication Studies*, 2(1): 1-8.

Miller, N., Sheppard, L., Colenda, C., and Magen, J. (2001) 'Why physicians are unprepared to treat patients who have alcohol- and drug-related disorders', *Academic Medicine*, 76(5): 410-418.

Miller, P., and Dunlop, A. (2011) 'Rhetoric, reality and research: What they mean for achieving the best possible treatment system for addiction-related problems', *International Journal of Drug Policy*, 22: 196-197.

Miller, P.G., and Miller, W.R. (2009) 'What should we be aiming for in the treatment of addiction?', *Addiction*, 104(4): 685-686.

Millsap, R.E. (2007) 'Structural equation modeling made difficult', *Personality and Individual Differences*, 42(5): 875-881.

Minior, T., Galea, S., Stuber, J., Ahern, J., and Ompad, D. (2003) 'Racial differences in discrimination experiences and responses among minority substance users', *Ethnicity and Disease,* 13: 521-527.

Mino, Y., Yasuda, N., Tsuda, T., and Shimodera, S. (2001) 'Effects of one-hour education program on medical students' attitudes to mental illness', *Psychiatry and Clinical Neurosciences*, 55: 501-507.

Mittal, D., Sullivan, G., Chekuri, L., Allee, E., and Corrigan, P.W. (2012) 'Empirical studies of self-stigma reduction strategies: A critical review of the literature', *Psychiatric Services*, 63(10): 974-981.

Monahan, J. (1992) 'Mental disorder and violent behavior: Perceptions and evidence', *American Psychologist*, 47(4): 511-521.

Monteith, M.J., Sherman, J.W., and Devine, P.G. (1998) 'Suppression as a stereotype control strategy', *Personality and Social Psychology Review*, 2(1): 63-82.

Moodley-Kunnie, T. (1988) 'Attitudes and perceptions of health professionals toward substance use disorders and substance-dependent individuals', *International Journal of the Addictions*, 23(5): 469-475.

Moos, R.H. (2005) 'Iatrogenic effects of psychosocial interventions for substance use disorders: Prevalence, predictors, prevention', *Addiction*, 100: 595-604.

Moran, P., and Hodgins, S. (2004) 'The correlates of comorbid antisocial personality disorder in schizophrenia', *Schizophrenia Bulletin*, 30: 791-802.

Morgan, A.J., and Jorm, A.F. (2009) 'Recall of news stories about mental illness by Australian youth: associations with help-seeking attitudes and stigma', *Australian and New Zealand Journal of Psychiatry*, 43(9): 866-872.

Morgan, V.A., Morgan, F., Valuri, G., Ferrante, A., Castle, D., and Jablensky, A. (2013) 'A whole-of-population study of the prevalence and patterns of criminal offending in people with schizophrenia and other mental illness', *Psychological Medicine*, 43(9): 1869-1880.

Morin, A.J.S., Arens, A.K., and Marsh, H.W. (2014) 'A bifactor exploratory structural equation modeling framework for the identification of distinct sources of construct-relevant psychometric multidimensionality', *Structural Equation Modeling,* ahead of print, pp. 1-50.

Morin, A.J.S., and Maiano, C. (2011) 'Cross-validation of the short form of the physical self-inventory (PSI-S) using exploratory structural equation modeling (ESEM)', *Psychology of Sport and Exercise*, 12: 540-554.

Morin, A.J.S., Marsh, H.W., and Nagengast, B. (2013) 'Exploratory Structural Equation Modeling', To appear in Hancock, G.R., and Mueller, R.O. (eds.), *Structural equation modeling: A second course (2nd ed.),* Charlotte, NC: Information Age Publishing, Inc., pp. 1-58.

Morphett, K., and Meurk, C. (2013) 'The brain disease concept in addiction: A cause for ambivalence, not concern', *AJOB Neuroscience*, 4(3): 48-50.

Morris, S.B., and DeShon, R.P. (2002) 'Combining effect size estimates in meta-analysis with repeated measures and independent groups designs', *Psychological Methods*, 7(1): 105-125.

Moskalewicz, J., Barrett, D., Bujalski, M., Dabrowska K., Klingemann, H., Klingemann, J., Malczewski, A., and Struzik, M.M. (2007) 'Harm reduction coming of age: a summary of the '18th International Conference on the Reduction of Drug Related Harm'-Warsaw, Poland: 13–17 May 2007', *International Journal of Drug Policy*, 18(6): 503-508.

Mueser, K.T., Bennett, M., and Kushner, M.G. (1995) 'Epidemiology of substance use disorders among persons with chronic mental illness', in Lehman, A.F., and Dixon, L.B. (eds.), *Double jeopardy: Chronic mental illness and substance use disorders,* Chur, Switzerland: Harwood Academic Publishers, pp. 9-25.
Mueser, K.T., Crocker, A.G., Frisman, L.B., Drake, R.E., Covell, N.H., and Essock, S.M. (2006) 'Conduct disorder and antisocial personality disorder in persons with severe psychiatric and substance use disorders', *Schizophrenia Bulletin*, 32: 626-636.

Mueser, K.T., Glynn, S.M., Cather, C., Zarate, R., Fox, L., Feldman, J., Wolfe, R., and Clark, R.E. (2009) 'Family intervention for co-occurring substance use and severe psychiatric disorders: Participant characteristics and correlates of initial engagement and more extended exposure in a randomized controlled trial', *Addictive Behaviors*, 34: 867-877.

Mukherjee, R., Fialho, A., Wijetunge, A., Checinski, K., and Surgenor, T. (2002) 'The stigmatisation of psychiatric illness: The attitudes of medical students and doctors in a London teaching hospital', *Psychiatric Bulletin*, 26: 178-181.

Mulaik, S. (2007) 'There is a place for approximate fit in structural equation modeling', *Personality and Individual Differences*, 42(5): 883-891.

Mulvey, E.P., Odgers, C., Skeem, J., Gardner, W., Schubert, C., and Lidz, C. (2006) 'Substance use and community violence: A test of the relation at the daily level', *Journal of Consulting and Clinical Psychology*, 74(4): 743-754.

Munro, A., Watson, H.E., and McFadyen, A. (2007) 'Assessing the impact of training on mental health nurses' therapeutic attitudes and knowledge about co-morbidity: A randomised controlled trial', *International Journal of Nursing Studies*, 44(8): 1430-1438.

Murphy, S., and Irwin, J. (1992) 'Living with the dirty secret: Problems of disclosure for methadone maintenance clients', *Journal of Psychoactive Drugs*, 24(3): 257–264.

Muthén, B., du Toit, S.H.C., and Spisic, D. (1997) 'Robust inference using weighted least squares and quadratic estimating equations in latent variable modeling with categorical and continuous outcomes'. Available from http://www.statmodel.com/wlscv.shtml (accessed June 4, 2012).

Muthén, L.K., and Muthén, B. (2002) 'How to use a Monte Carlo study to decide on sample size and determine power', *Structural Equation Modeling*, 9(4): 599-620.

Muthén, L.K. and Muthén, B.O. (2012). *Mplus user's guide*, Seventh Edition, Los Angeles, CA: Muthén & Muthén.

Myers, N.D. (2013) 'Coaching competency and (exploratory) structural equation modeling: A substantive-methodological synergy', *Psychology of Sport & Exercise*, 14(5): 709-718.

Myers, N.D., Chase, M.A., Pierce, S.W., and Martin, E. (2011) 'Coaching efficacy and exploratory structural equation modeling: A substantive-methodological synergy', *Journal of Sport & Exercise Psychology*, 33: 779-806.

Nadelmann, E.A. (1992) 'Thinking seriously about alternatives to drug prohibition', *Daedalus,* 121: 85-132.
National Institute on Drug Abuse (NIDA) (2014) *Heroin: research report series. (NIH Publication Number 14-0165)*. Available from http://www.drugabuse.gov/sites/default/files/rrheroin_4_14.pdf (accessed April 23, 2014).

Neale, J., Bloor, M., and Weir, C. (2005) 'Problem drug users and assault', *International Journal of Drug Policy*, 16(6): 393-402.

Neale, J., Finch, E., Marsden, J., Mitcheson, L., Rose, D., Strang, J., Tompkins, C., Wheeler, C., and Wykes, T. (2014) 'How should we measure addiction recovery? Analysis of service provider perspectives using online Delphi groups', *Drugs: Education, Prevention, and Policy*, 21(4): 310-323.

Neale, J., Nettleton, S., and Pickering, L. (2011) 'Recovery from problem drug use: What can we learn from the sociologist Erving Goffman?', *Drugs: Education, Prevention, and Policy*, 18(1): 3-9.

Neale, J., Nettleton, S., and Pickering, L. (2011a) 'What is the role of harm reduction when drug users say they want abstinence?', *International Journal of Drug Policy*, 22(3): 189-193.

Neale, J., Tompkins, C., and Sheard, L. (2008) 'Barriers to accessing generic health and social care services: A qualitative study of injecting drug users', *Health & Social Care in the Community*, 16(2): 147-154.

Neale, J., Tompkins, C., Wheeler, C., Finch, E., Marsden, J., Mitcheson, L., Rose, D., Wykes, T., and Strang, J. (2014a) 'You're all going to hate the word 'recovery' by the end of this: Service users' views of measuring addiction recovery', *Drugs: Education, Prevention and Policy*, 22(1): 26-34.

Nemec, P.B., and Swarbrick, M. (2015) 'Prejudice and discrimination from mental health service providers', *Psychiatric Rehabilitation Journal*, 38(2): 203-206.

Newcombe, R.D., and Rutter, D.R. (1982) 'Ten reasons why ANOVA theory and research fail to explain attribution processes: 1. Conceptual problems', *Current Psychological Reviews*, 2(1): 95-107.

Newcombe, R.D., and Rutter, D.R. (1982a) 'Ten reasons why ANOVA theory and research fail to explain attribution processes: 2. Methodological problems', *Current Psychological Reviews*, 2(2): 153-169.

Nguyen, E., Chen, T.F., and O'Reilly, C.L. (2012) 'Evaluating the impact of direct and indirect contact on the mental health of pharmacy students', *Social Psychiatry and Psychiatric Epidemiology*, 47(7): 1087-1098.

Nguyen, V. (2009) 'The war on drug addiction: A two-pronged attack', *Yale Journal of Medicine and Law*, 5(2): 1-2.

Nielssen, O., and Large, M. (2010) 'Rates of homicide during the first episode of psychosis and after treatment: a systematic review and meta-analysis', *Schizophrenia Bulletin*, 36(4): 702-712.

Nkowane, A., and Saxena, S. (2004) 'Opportunities of an improved role for nurse in psychoactive substance use: Review of the literature', *International Journal of Nursing Practice*, 10: 102-110.

Nordt, C., Rossler, W., and Lauber, C., (2006) 'Attitudes of mental health professionals toward people with schizophrenia and major depression', *Schizophrenia Bulletin*, 32(4): 709-714.

Nordt, C., and Stohler, R. (2010) 'Combined effects of law enforcement and substitution treatment on heroin mortality', *Drug and Alcohol Review*, 29(5): 540-545.

Norenzayan, A., Choi, I., and Nisbett, R.E. (2002) 'Cultural similarities and differences in social inference: Evidence from behavioral predictions and lay theories of behavior', *Personality and Social Psychology Bulletin*, 28(1): 109-120.

Norman, R.M., Sorrentino, R.M., Windell, D., and Manchanda, R. (2008) 'The role of perceived norms in the stigmatization of mental illness', *Social Psychiatry and Psychiatric Epidemiology*, 43: 851-859.

Nunn, A., and Rich, J. (2012) 'Commentary on Boyd et al. (2012): Debunking myths about methadone and crime', *Addiction*, 107: 1639-1640.

Nutt, D., King, L.A., Saulsbury, W., and Blakemore, C. (2007) 'Development of a rational scale to assess the harm of drugs of potential misuse', *Lancet*, 369(9566): 1047-1053.

Obonsawin, M.C., Lindsay, A., and Hunter, S.C. (2013) 'Beliefs and emotions have different roles in generating attitudes toward providing personal help and state-sponsored help for people with a mental illness', *Comprehensive Psychiatry*, 54(5): 581-588.

O'Brien, C. (2011) 'Addiction and dependence in DSM-V', *Addiction*, 106(5): 866-867.

O'Connor, C., and Joffe, H. (2013) 'How has neuroscience affected lay understandings of personhood? A review of the evidence', *Public Understanding of Science*, 22(3): 254-268.

O'Gara, C., Keaney, F., Best, D., Harris, J., Boys, A., Leonard, F., Kelleher, M., and Strang, J. (2005) 'Substance misuse training among psychiatric doctors, psychiatric nurses, medical students and nursing students in a South London psychiatric teaching hospital', *Drugs: Education, Prevention and Policy*, 12(4): 327-336.

Oliver, P., Keen, J., Rowse, G., Ewins, E., Griffiths, L., and Mathers, N. (2010) 'The effect on time spent in treatment and dropout status on rates of convictions, cautions and imprisonment over 5 years in a primary care-led methadone maintenance service', *Addiction*, 105(4): 732-739.

Olson, J.M., and Zanna, M.P. (1993) 'Attitudes and attitude change', *Annual Review of Psychology*, 44: 117-154.

O'Malley, S.S., Kosten, T.R., and Renner, J.A. (1990) 'Dual diagnoses: substance abuse and personality', *New Directions for Mental Health Services,* 47: 115-137.

Oram, S., Trevillion, K., Khalifeh, H., Feder, G., and Howard, L.M. (2014) 'Systematic review and meta-analysis of psychiatric disorder and the perpetration of partner violence', *Epidemiology and Psychiatric Sciences*, 23(4): 361-376.

Ormston, R., Bradshaw, P., and Anderson, S. (2010) *Scottish social attitudes survey 2009: public attitudes to drugs and drug use in Scotland*, Edinburgh: Scottish Government Social Research. Available from http://www.scotland.gov.uk/Publications/2010/03/15102525/0 (accessed September 22, 2010).

Osborne, R.H., Batterham, R.W., Elsworth, G.R., Hawkins, M., and Buchbinder, R. (2013) 'The grounded psychometric development and initial validation of the Health Literacy Questionnaire (HLQ)', *BMC Public Health*, 13(658): 1-17.

Packer, H.L. (1969) *The limits of the criminal sanction*, Stanford, California: Stanford University Press.

Page, S. (1983) 'Psychiatric stigma: Two studies of behavior when the chips are down', *Canadian Journal of Community Mental Health*, 2(1): 13-19.

Palamar, J.J. (2012) 'A pilot study examining perceived rejection and secrecy in relation to illicit drug use and associated stigma', *Drug and Alcohol Review*, 31(4): 573-579.

Palamar, J.J. (2013) 'An examination of beliefs and opinions about drug use in relation to personal stigmatization towards drug users', *Journal of Psychoactive Drugs*, 45(3): 367-373.

Palamar, J.J., Halkitis, P.N., and Kiang, M.V. (2013a) 'Perceived public stigma and stigmatization in explaining lifetime illicit drug use among emerging adults', *Addiction Research and Theory*, 21(6): 516-525.

Palamar, J.J., Kiang, M.V., and Halkitis, P.N. (2011) 'Development and psychometric evaluation of scales that assess stigma associated with illicit drug users', *Substance Use & Misuse*, 46(12): 1457-1467.

Palamar, J.J., Kiang, M.V., and Halkitis, P.N. (2012) 'Predictors of stigmatization towards use of various illicit drugs among emerging adults', *Journal of Psychoactive Drugs*, 44(3): 243-251.

Palamara, F., Cullen, F.T., and Gersten, J.C. (1986) 'The effect of police and mental health intervention on juvenile deviance: Specifying contingencies in the impact of formal reaction', *Journal of Health and Social Behavior*, 27: 90-105.

Parcesepe, A.M., and Cabassa, L.J. (2013) 'Public stigma of mental illness in the United States: A systematic literature review', *Administration and Policy in Mental Health and Mental Health Services Research*, 40(5): 384-399.

Parker, R.N., and Auerhahn, K. (1998) 'Alcohol, drugs, and violence', *Annual Review of Sociology*, 24: 291-311.

Parmar, P., Rathod, G.B., Rathod, S., and Parikh, A. (2015) 'Drug abuse and illicit drug trafficking vis-a-vis human life- A review', *La Prensa Medica Argentina*, 101(2): 1-7.

Pascoe, E.A., and Richman, L.S. (2009) 'Perceived discrimination and health: A meta-analytic review', *Psychological Bulletin*, 135(4): 531-554.

Paternoster, R., and Iovanni, L. (1989) 'The labelling perspective and delinquency: An elaboration of the theory and assessment of the evidence', *Justice Quarterly*, 6(3): 359-394.

Paterson, B., Backmund, M., Hirsch, G., and Yim, C. (2007) 'The depiction of stigmatization in research about hepatitis C', *International Journal of Drug Policy*, 18(5): 364-373.

Paterson, B., Hirsch, G., and Andres, K. (2013) 'Structural factors that promote stigmatization of drug users with hepatitis C in hospital emergency departments', *International Journal of Drug Policy*, 24(5): 471-478.

Patten, S.B., Remillard, A., Phillips, L., Modgill, G., Szeto, A.C., Kassam, A., and Gardner, D.M. (2012) 'Effectiveness of contact-based education for reducing mental illness-related stigma in pharmacy students', *BMC Medical Education*, 12(1): 1-9.

Pattyn, E., Verhaeghe, M., and Bracke, P. (2013) 'Attitudes toward community mental health care: The contact paradox revisited', *Community Mental Health Journal*, 49: 292-302.

Pearlin, L.I., Menaghan, E., Lieberman, M., and Mullan, J. (1981) 'The stress process', *Journal of Health and Social Behavior*, 22: 337-356.

Peckover, A., and Chidlaw, R. (2007) 'Too frightened to care? Accounts by district nurses working with clients who misuse substances', *Health and Social Care in the Community*, 15(3): 238-245.

Pelet, A., Besson, J., Pecoud, A., and Favrat, B. (2005) 'Difficulties associated with outpatient management of drug abusers by general practitioners. A cross-sectional survey of general practitioners with and without methadone patients in Switzerland', *BMC Family Practice*, 6(51): 1-7.

Penn, D.L., Chamberlin, C., and Mueser, K.T. (2003) 'The effects of a documentary film about schizophrenia on psychiatric stigma', *Schizophrenia Bulletin*, 29(2): 383-391.

Penn, D.L., and Corrigan, P.W. (2002) 'The effects of stereotype suppression on psychiatric stigma', *Schizophrenia Research*, 55(3): 269-276.

Penn, D.L., Guynan, K., Daily, T., Spaulding, W.D., Garbin, C.P., and Sullivan, M. (1994) 'Dispelling the stigma of schizophrenia: What sort of information is best?', *Schizophrenia Bulletin*, 20(3): 567-578.

Penn, D.L., Kommana, S., Mansfield, M., and Link, B.G. (1999) 'Dispelling the stigma of schizophrenia: II. The impact of information on dangerousness', *Schizophrenia Bulletin*, 25(3): 437-446.

Penn, D.L., and Martin, J. (1998) 'The stigma of severe mental illness: Some potential solutions for a recalcitrant problem', *Psychiatric Quarterly*, 69(3): 235-247.

Peris, T.S., Teachman, B.A., and Nosek, B.A. (2008) 'Implicit and explicit stigma of mental illness: Links to clinical care', *The Journal of Nervous and Mental Disease*, 196: 752-760.

Perry, J.L., Nicholls, A.R., Clough, P.J., and Crust, L. (2015) 'Assessing model fit: Caveats and recommendations for confirmatory factor analysis and exploratory structural equation modeling', *Measurement in Physical Education and Exercise Science*, 19(1): 12-21.

Pescosolido, B.A. (2013) 'The public stigma of mental illness: What do we think; what do we know; what can we prove?', *Journal of Health and Social Behavior*, 54(1): 1-21.

Pescosolido, B.A., and Martin, J.K. (2007) 'Stigma and the sociological enterprise', in Avison, W.R., McLeod, J.D., and Pescosolido, B.A. (eds.), *Mental health, social mirror*, New York: Springer, US, pp. 307-328.

Pescosolido, B.A., and Martin, J.K. (2015) 'The stigma complex', *Annual Review of Sociology*, 41: 87-116.

Pescosolido, B.A., Martin, J.K., Long, J.S., Medina, T.R., Phelan, J.C., and Link, B.G. (2010) 'A disease like any other? A decade of change in public reactions to schizophrenia, depression, and alcohol dependence', *American Journal of Psychiatry*, 167(11): 1321-1330.

Pescosolido, B.A., Medina, T.R., Martin, J.K., and Long, J.S. (2013) 'The backbone of stigma: Identifying the global core of public prejudice associated with mental illness', *American Journal of Public Health*, 103(5): 853-860.

Pescosolido, B.A., Monahan, J., Link, B.G., Stueve, A., and Kikuzawa, S. (1999) 'The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems', *American Journal of Public Health*, 89(9): 1339-1345.

Peters, R.H., Kearns, W.D., Murrin, M.R., and Dolente, A.S. (1992) 'Psychopathology and mental illness needs among drug-involved inmates', *Journal of Prison and Jail Health*, 11(1): 3-25.

Pettigrew, T.F., and Tropp, L.R. (2006) 'A meta-analytic test of intergroup contact theory', *Journal of Personality and Social Psychology*, 90(5): 751-783.

Pettigrew, T.F., and Tropp, L.R. (2008) 'How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators', *European Journal of Social Psychology*, 38(6): 922-934.

Phelan, J.C. (2005) 'Geneticization of deviant behavior and consequences for stigma: The case of mental illness', *Journal of Health and Social Behavior*, 46(4): 307-322.

Phelan, J.C., and Link, B.G. (2004) 'Fear of people with mental illnesses: The role of personal and impersonal contact and exposure to threat or harm', *Journal of Health and Social Behavior*, 45(1): 68-80.

Phelan, J.C., and Link, B.G. (2012) 'Genetics, addiction, and stigma', in Chapman, A. (ed.) *Genetic research on addiction: ethics, the law and public health*, New York: Cambridge University Press, pp. 174-194.

Phelan, J.C., Link, B.G., Stueve, A., and Pescosolido, A. (2000) 'Public conceptions of mental illness in 1950 and 1996: What is mental illness and is it to be feared?', *Journal of Health and Social Behavior*, 41(2): 188-207.

Phelan, J.C., Lucas, J.W., Ridgeway, C.L., and Taylor, C.J. (2014) 'Stigma, status, and population health', *Social Science & Medicine*, 103: 15-23.

Phelan, J.C., Yang, L.H., and Cruz-Rojas, R. (2006) 'Effects of attributing serious mental illnesses to genetic causes on orientations to treatment', *Psychiatric Services*, 57: 382-387.

Philo, G., Secker, J., Platt, S., Hennderson, L. McLaughlin, G., and Burnside, J. (1994) 'The impact of the mass media on public images of mental illness: Media content and audience belief', *Health Education Journal*, 53: 271-281.

Pihl, R., and Peterson, J. (1995) 'Drugs and aggression: correlations, crime and human manipulative studies and some proposed mechanisms', *Journal of Psychiatry and Neuroscience*, 20(2): 141-149.

Pinfold, V., Stuart, H., Thornicroft, G., and Arbolelda-Florez, J. (2005) 'Working with young people: The impact of mental health awareness programs in schools in the UK and Canada, *World Psychiatry*, 4(Suppl.1): 48-52.

Pinfold, V., Thornicroft, G., Huxley, P., and Farmer, P. (2005a) 'Active ingredients in anti-stigma programmes in mental health', *International Review of Psychiatry*, 17(2): 123-131.

Pinfold, V., Toulmin, H., Thornicroft, G., Huxley, P., Farmer, P., and Graham, T. (2003) 'Reducing psychiatric stigma and discrimination: Evaluation of educational interventions in UK secondary schools', *British Journal of Psychiatry*, 182: 342-346.

Pingani, L., Forghieri, M., Ferrari, S., Ben-Zeev, D., Artoni, P., Mazzi, F., Palmieri, G., Rigatelli, M., and Corrigan, P.W. (2011) 'Stigma and discrimination toward mental illness: Translation and validation of the Italian version of the attribution questionnaire-27 (AQ-27-I)', *Social Psychiatry and Psychiatric Epidemiology,* 47(6): 993-999.

Pingani, L., Vinci, V., Colavito, M. G., Rigatelli, M., and Ferrari, S. (2012) 'P-1179-Mental illness and mass media: Review of the literature since 1950 up to date', *European Psychiatry*, 27(Suppl 1): 1.

Pintard, P.-J., D'Sa, A., and Sciascia, S. (2012) 'Medical student attitudes about mental illness', *Psychiatric Services*, 63(8): 836.

Pinto-Foltz, M.D., and Logsdon, M.C. (2009) 'Reducing stigma related to mental disorders: Initiatives, interventions, and recommendations for nursing', *Archives of Psychiatric Nursing*, 23(1): 32-40.

Pinto-Foltz, M.D., Logsdon, M.C., and Myers, J.A. (2011) 'Feasibility, acceptability, and initial efficacy of a knowledge-contact program to reduce mental illness stigma and improve mental health literacy in adolescents', *Social Science & Medicine*, 72(12): 2011-2019.

Pittman, J.O.E., Noh, S., and Coleman, D. (2010) 'Evaluating the effectiveness of a consumer delivered anti-stigma program: replication with graduate-level helping professionals', *Psychiatric Rehabilitation Journal*, 33(3): 236-238.

Plummer, K. (2011) 'Labelling theory revisited: forty years on', in Peters, H., and Dellwing, M. (eds.), *Langweiliges verbrechen (boring crimes)*, Weisbaden: VS Verlag, pp. 83-103.

Plummer, K. (1979) 'Misunderstanding labelling perspectives', in Downes, D., and Rock, P. (eds.), *Deviant interpretations*, Oxford: Martin Robertson, pp. 85-121.

Pollard, H. (2008) 'Moral, prudential, and political arguments about harm reduction', *Contemporary drug problems*, 35: 211-239.

Polydorou, S., Gunderson, E.W., and Levin, F.R. (2008) 'Training physicians to treat substance use disorders', *Current Psychiatry Reports*, 10(5): 399-404.

Power, R., Power, T., and Gibson, N. (1996) 'Attitudes and experience of drug use amongst a group of London teenagers', *Drugs: Education, Prevention and Policy*, 3: 71-80.

Preacher, K.J., and Coffman, D.L. (2006) 'Computing power and minimum sample size for RMSEA'. Available from http://quantpsy.org/rmsea/rmsea.htm (accessed February 11, 2013).

Price, O., and Wibberley, C. (2012) 'An exploratory study investigating the impact of the procedures used to manage patient substance misuse on nurse-patient relationships in a medium secure forensic unit', *Journal of Psychiatric and Mental Health Nursing*, 18(8): 672-680.

Pridemore, W.A. (2002) 'Vodka and violence: Alcohol consumption and homicide rates in Russia', *American Journal of Public Health*, 92(12): 1921-1930.

Putman, S. (2008) 'Mental Illness: diagnostic title or derogatory term? (attitudes towards mental iullness). Developing a learning resource for use within a clinical call centre. A systematic literature review on attitudes towards mental illness', *Journal of Psychiatric and Mental Health Nursing,* 15: 684-693.

Quinn, D.M., Williams, M.K., and Weisz, B.M. (2015) "From discrimination to internalized mental illness stigma: The mediating roles of anticipated discrimination and anticipated stigma', *Psychiatric Rehabilitation Journal*, 38(2): 103-108.

Quinn, N., Smith, M., Fleming, S., Shulman, A., and Knifton, L. (2011) 'Self and others: The differential impact of an anti-stigma programme', *Stigma Research and Action*, 1(1): 36-43.

RachBeisel, J., Scott, J., and Dixon, L. (1999) 'Co-occurring severe mental illness and substance use disorders: a review of research', *Psychiatric Services*, 50(11): 1427-1434.

Radcliffe, P., and Stevens, A. (2008) 'Are drug treatment services only for 'thieving junkie scumbags'? Drug users and the management of stigmatised identities', *Social Science & Medicine*, 67(7): 1065-1073.

Ram, A., and Chisolm, M.S. (2015) 'The time is now: Improving substance abuse training in medical schools', *Academic Psychiatry*, 39: 1-7.

Rao, D., Fineglass, J., and Corrigan, P. (2007) 'Racial and ethnic disparities in mental illness stigma', *Journal of Nervous and Mental Disease*, 195(12): 1020-1023.

Rao, D., Feldman, B.J., Fredericksen, R.J., Crane, P.K., Simoni, J.M., Kitahata, M.M., and Crane, H.M. (2012) 'A structural equation model of HIV-related stigma, depressive symptoms, and medication adherence', *AIDS and Behavior*, 16(3): 711-716.

Rao, H., Mahadevappa, H., Pillay, P., Sessay, M., Abraham, A., and Luty, J. (2009) 'A study of stigmatized attitudes towards people with mental health problems among health professionals', *Journal of Psychiatric and Mental Health Nursing*, 16(3): 279–284.

Rasinski, K.A.,Woll, P., and Cooke, A. (2005) 'Stigma and substance use disorders', in Corrigan, P.W., (ed.), *On the stigma of mental illness: practical strategies for research and social change*, Washington, D.C.: American Psychological Association, pp. 219-236.

Rassool, G.H. (2000) 'Guest editorial, addiction: global problem and global response complacency or commitment?', *Journal of Advanced Nursing*, 32: 505-508.

Rassool, G.H. (2004) 'Curriculum model, course development, and evaluation of substance misuse education for health care professionals', *Journal of Addictions Nursing*, 15: 85-90.

Rassool, G.H., and Oyefeso, A. (1993) 'The need for substance misuse education in health studies curriculum: a case for nursing education', *Nurse Education Today*, 13: 107-110.

Rassool, G.H., and Rawaf, S. (2008) 'Educational intervention of undergraduate nursing students' confidence skills with alcohol and drug misusers', *Nurse Education Today*, 28(3): 284-292.

Rassool, G.H., and Villar-Luis, M. (2004) 'Tackling drug and alcohol misuse in Brazil: Priorities and challenges for nurses', *International Nursing Review*, 51: 201-207.

Rassool, G.H., Villar-Luis, M., Carraro, T.E,, and Lopes, N. (2006) 'Undergraduate nursing students perceptions of substance use and misuse: a Brazilian position', *Journal of Psychiatric and Mental Health Nursing,* 13: 85-89.

Rasyidi, E., Wilkins, J.N., and Danovitch, I. (2012) 'Training the next generation of providers in addiction medicine', *The Psychiatric Clinics of North America*, 35(2): 461-480.

Ray, M.B. (1964) 'The cycle of abstinence and relapse among heroin addicts', in Becker, H.S. (ed.), *The other side*, New York: The Free Press, pp. 163-177.

Read, J., and Cain, A. (2013) 'A literature review and meta-analysis of drug company-funded mental health websites', *Acta Psychiatrica Scandinavica*, 128(6): 422-433.

Read, J., Haslam, N., and Magliano, L. (2013a) 'Prejudice, stigma and 'schizophrenia': The role of bio-genetic ideology", in Read, J., and Dillon, J. (eds.), *Models of madness*, 2nd ed., London: Routledge, pp. 157-177.

Read, J., Haslam, N., Sayce, L., and Davies, E. (2006) 'Prejudice and schizophrenia: A review of the mental illness is an illness like any other approach', *Acta Psychiatrica Scandinavica*, 114: 303-318.

Read, J., Magliano, L., and Beavan, V. (2013b) 'Public beliefs about the causes of "schizophrenia": Bad things happen and can drive you crazy", Read, J., and Dillon, J. (eds.), *Models of Madness*, 2nd ed., Routledge: London, pp. 143-156.

Reasons, C.E. (1975) 'The addict as a criminal. Perpetuation of a legend', *Crime and Delinquency*, 21(1): 19-27.

Reasons, C.E. (1976) 'Images of crime and the criminal: The dope fiend mythology', *Journal of Research in Crime and Delinquency*, 13(2): 133-144.

Reed, R.S., and Reed, J.P. (1973) 'Status, images, and consequence: Once a criminal always a criminal', *Sociology and Social Research*, 57(4): 460-473.

Rehm, J., Taylor, B., and Room, R. (2006) 'Global burden of disease from alcohol, illicit drugs and tobacco', *Drug and Alcohol Review*, 25: 503-513.

Reinke, R.R., Corrigan, P.W., Leonhard, C., Lundin, R.K., and Kubiak, M.A. (2004) 'Examining two aspects of contact on the stigma of mental illness', *Journal of Social & Clinical Psychology*, 23(3): 377-389.

Reisenzein, R. (1986) 'A structural equation analysis of Weiner's attribution-affect model of helping behavior', *Journal of Personality and Social Psychology*, 50(6): 1123-1133.

Resignato, A.J. (2000) 'Violent crime: A function of drug use or drug enforcement?', *Applied Economics*, 32(6): 681-688.

Reuter, P. (2001) 'Why does research have so little impact on American drug policy?', *Addiction*, 96: 373-376.

Reuter, P. (2006) 'What drug policies cost. Estimating government drug policy expenditures', *Addiction*, 101: 315-322.

Reuter, P. (2009) 'Ten years after the United Nations general assembly Special Session (UNGASS): assessing drug problems, policies and reform proposals', *Addiction*, 104: 510-517.

Reuter, P., and Pollack, H., (2006) 'How much can treatment reduce national drug problems', *Addiction*, 101: 341-347.

Reuter, P., and Stevens, A. (2007) *An analysis of UK drug policy*, London: UK Drug Policy Commission. Available from http://www.ukdpc.org.uk/docs%5CUKDPC%20drug%20policy%20review.pdf (accessed June 17, 2010), pp. 1-4.

Revelle, W., and Zinbarg, R.E. (2009) 'Coefficients alpha, beta, omega, and the GLB: comments on Sijtsma', *Psychometrika*, 74(1): 145-154.

Rhodes, S.D., Bowie, D.A., and Hergenrather, K.C. (2003) 'Collecting behavioural data using the world wide web: considerations for researchers', *Journal of Epidemiology and Community Health*, 57: 68-73.

Richman, W.l., Kiesler, S., Weisband, S., and Drasgow, F. (1999) 'A meta-analytic study of social desirability distortion in computer-administered questionnaires, and interviews', *Journal of Applied Psychology*, 84(5): 754-775.

Richmond, I.C., and Foster, J.H. (2003) 'Negative attitudes towards people with co-morbid mental health and substance misuse problems: An investigation of mental health professionals', *Journal of Mental Health*, 12(4): 393-403.

Ritsher, J.B., Otilingam, P.G., and Grajales, M. (2003) 'Internalized stigma of mental illness: psychometric properties of a new measure', *Psychiatry Research*, 121(1): 31-49.

Ritsher, J.B., & Phelan, J.C. (2004) 'Internalized stigma predicts erosion of morale among psychiatric outpatients', *Psychiatry Research*, 129(3): 257-265.

Ritson, E.B. (1999) 'Alcohol, drugs and stigma', *International Journal of Clinical Practice*, 53(7): 549-551.

Rivera, C.S., De Arriba Rosseto, A., Pesqueuira, G.S., and Otero, M.J.F. (2007) 'Attitudes of university students toward people with paranoid schizophrenia', *Psychological Reports*, 100: 325-332.

Rivers, P.C., Sarata, B.P., and Anagnostoploulos, M. (1986) 'Perceptions of deviant stereotypes by alcoholism, mental health and school personnel in New Zealand and United States', *International Journal of Addictions*, 21: 123-129.

Robbers, M.L. (2005) 'The media and public perceptions of criminal justice policy issues: An analysis of Bowling for Columbine and gun control', *Journal of Criminal Justice and Popular Culture*, 12: 77-95.

Robbers, M.L. (2007) 'Crime shows and sensational interests: An exploratory examination of students in criminal justice related majors', *Journal of Criminal Justice and Popular Culture*, 14(4): 344-361.

Roberts, B.R., and Chen, Y. (2013) 'Drugs, violence and the state', *Annual Review of Sociology*, 39: 105-125.

Robins, L., Compton, W., and Horton, J. (2000) 'Is heroin the worst drug? Implications for drug policy', *Addiction Research*, 8(6): 527-547.

Roche, A.M. (1997) 'Have efforts to improve medical students' drug and alcohol knowledge, skills, and attitudes worked?', *Drug and Alcohol Review*, 16(2): 157-170.

Roche, A.M., Guray, C., and Saunders, J.B. (1991) 'General practitioners' experiences of patients with drug and alcohol problems', *British Journal of Addiction*, 86(3): 263-275.

Roche, A.M., Hotham, E.D., and Richmond, R.L. (2002) 'The general practitioner's role in AOD issues: Overcoming individual, professional and systemic barriers', *Drug and Alcohol Review*, 21: 223-230.

Roche, M., Moracco, K.E., Dixon, K.S., Stern, E.A., and Bowling, J.M. (2007) 'Correlates of intimate partner violence among female patients at a North Carolina emergency department', *North Carolina Medical Journal*, 68(1): 89-94.

Roebuck, J.B. (1967) *Criminal typology*, Springfield, Illinois: Charles C. Thomas.

Rogers, B., McGee, G., Vann, A., Thompson, N., and Williams, O.J. (2003) 'Substance abuse and domestic violence: Stories of practitioners that address the co-occurrence among battered women', *Violence Against Women,* 9(5): 590-598.

Rolles, S. (2009) *After the war on drugs: Blueprint for regulation*, London: Transform Drug Policy Foundation. Available from http://www.tdpf.org.uk/downloads/blueprint/Blueprint_exec_summary.pdf (accessed September 1, 2012).

Romem, P., Anson, O., Kanat-Maymon, Y., and Moisa, R. (2008) 'Reshaping students' attitudes toward individuals with mental illness through a clinical nurse clerkship', *Journal of Nursing Education*, 47: 396-402.

Romer, D., Jamieson, K.H., and Aday, S. (2003) 'Television news and the cultivation of fear of crime', *Journal of Communication*, 53: 88-104.

Romney, D., and Bynner, J. (1972) 'Drug addicts as perceived by hospital staff', *British Journal of Social and Clinical Psychology*, 11(1): 20-34.

Ronzani, T.M., Higgens-Biddle, J., and Furtado, E.F. (2009) 'Stigmatization of alcohol and other drug users by primary care providers in Southeast Brazil', *Social Science & Medicine*, 69(7): 1080-1084.

Room, R. (2005) 'Stigma, social inequality and alcohol and drug use', *Drug and Alcohol Review*, 24: 143-155.

Room, R. (2006) 'Taking account of cultural and societal influences on substance use diagnosis and criteria', *Addiction*, 101(Supplement 1): 31-39.

Rooney, E.A., and Gibbons, D.C. (1966) 'Social reactions to crimes without victims', *Social Problems*, l3: 400-410.

Roose, R., Fuentes, L., and Cheema, M. (2012) 'Messages about methadone and buprenorphine in reality television: A content analysis of celebrity rehab with Dr. Drew', *Substance Use & Misuse*, 47: 1117-1124.

Rose, A.M. (1969) 'Law and the causation of social problems', *Social Problems*, 16: 33-43.

Rose, G., Beale, I., Malone, J., Higgin, J., Whiticker, M., and Brener, L. (2012) 'Problematic substance use in two mental health NGOs, and staff, client and general public attitudes towards problematic substance use amongst people with mental illness', *Mental Health and Substance Use*, 5(4): 275-286.

Rosellini, A.J., and Brown, T.A. (2011) 'The NEO five-factor inventory: Latent structure and relationships with dimensions of anxiety and depressive disorders in a large clinical sample', *Assessment*, 18(1): 27-38.

Rosenfield, S. (1997) 'Labeling mental illness: The effects of received services and perceived stigma on life satisfaction', *American Sociological Review*, 62(4): 660-672.

Ross, L., and Nisbett, R.E. (1991) *The person and the situation: Perspectives of social psychology*, New York: McGraw-Hill.

Rossi, P.H., Waite, E., Bose, C.E., and Berk, R.E. (1974) 'The seriousness of crimes: Normative structure and individual differences', *American Sociological Review*, 39(2): 224-237.

Rossow, I. (2004) 'Alcohol consumption and homicides in Canada 1950–1999', *Contemporary Drug Problems*, 31: 541-559.

Roth, D., Antony, M.M., Kerr, K.L., and Downie, F. (2000) 'Attitudes toward mental illness in medical students: Does personal and professional experience with mental illness make a difference?', *Medical Education*, 34: 234-236.

Roth, J.A. (1994) *Psychoactive substances and violence* (NIJ Research in Brief,NCJ 145534). Available from http://www.ncjrs.gov/txtfiles/psycho.txt (accessed June 10, 2010).

Rukavina, T.V., Nawka, A., Brborovic, O., Jovanovic, N., Kuzman, M.R., Nawkova, L., Bednarova, B., Zuchova, S., Hrodkovsa, M., and Lattova, Z. (2012) 'Development of the PICMIN (picture of mental illness in newspapers): instrument to assess mental illness stigma', *Social Psychiatry and Psychiatric Epidemiology*, 47(7): 1131-1144.

Rusch, L.C., Kanter, J.W., Angelone, A.F., and Ridley, R.C. (2008) 'The impact of In Our Own Voice on stigma', *American Journal of Psychiatric Rehabilitation*, 11(4): 373-389.

Rusch, N., Angermeyer, M.C., and Corrigan, P.W. (2005) 'Mental illness stigma: Concepts, consequences, and initiatives to reduce stigma', *European Psychiatry*, 20(8): 529-539.

Rusch, N., Corrigan, P.W, Todd, A.R., and Bodenhausen, G.V. (2011) 'Automatic stereotyping against people with schizophrenia, schizoaffective and affective disorders', *Psychiatry Research*, 186(1): 34-39.

Rusch, N., Evans-Lacko, S., and Thornicroft, G.. (2012) 'What is a mental illness? Public views and their effects on attitudes and disclosure', *Australian and New Zealand Journal of Psychiatry*, 46(7): 641-650.

Rusch, N., Todd, A.R., Bodenhausen, G.V., Olschewski, M., and Corrigan, P.W. (2010) 'Automatically activated shame reactions and perceived legitimacy of discrimination: A longitudinal study amongst people with mental illness', *Journal of Behavior Therapy and Experimental Psychiatry,* 41(1): 60-63.

Rushing, W.A. (1971) 'Individual resources, societal reaction, and hospital commitment', *American Journal of Sociology*, 77: 511-526.

Rushing, W.A. (1978) 'State resources, societal reactions, and type of mental health admission', *American Sociological Review*, 43: 521-533.

Russell, D.W. (2002) 'In search of underlying dimensions: The use (and abuse) of factor analysis in Personality and Social Psychology Bulletin', *Personality and Social Psychology Bulletin*, 28(12); 1629-1646.

Russell, S.J., and McVeigh, J. (2011) 'Next generation challenges: An overview of harm reduction 2010, IHRA's 21st conference', *International Journal of Drug Policy*, 22(1): 82-86.

Sacks, S., Cleland, C.M., Melnick, G., Flynn, P.M., Knight, K., Friedmann, P.D., Prendergast, M.L., and Coen, C. (2009) 'Violent offenses associated with co-occuring substance use and mental health problems: Evidence from CJDATS', *Behavior Sciences and the Law*, 27(1): 51-69.

Sadow, D., and Ryder, M. (2008) 'Reducing stigmatizing attitudes held by future health professionals: The person is the message', *Psychological Services*, 5(4): 362-372.

Samuel, R.Z. (2015) 'DSM-5 and substance use disorders', *Journal of the American Academy of Psychiatry and the Law Online,* 43(2): 262-263.

Sánchez-Carracedo, D., Barrada, J.M., Lopez-Guimera, G., Fauquet, J., Almenara, C.A., and Trepat, E. (2012) 'Analysis of the factor structure of the sociocultural attitudes towards appearance questionnaire (SATAQ-3) in Spanish secondary-school students through exploratory structural equation modeling', *Body Image*, 9: 163-171.

Saporito, J.M., Ryan, C., Bethany, A., and Teachman, A. (2011) 'Reducing stigma toward seeking mental health treatment among adolescents', *Stigma Research and Action*, 2(1): 9-21.

Sarkar, K., and Chakrabarti, S. (2008) 'Comorbidities among injecting drug users with HIV in India-challenges in clinical management', *Indian Journal of Medical Research*, 127: 428-430.

Sartorius, N., Gaebel, W., Cleveland, H.R., Stuart, H., Akiyama, T., Arboleda-Florez, J., Baumann, A.E., Gureje, O., Jorge, M.R., Kastrup, M., Suzuki, Y., and Tasman, A. (2010) 'WPA guidance on how to combat stigmatization of psychiatry and psychiatrists', *World Psychiatry*, 9: 131-144.

Sass, D.A., and Schmitt, T.A. (2010) 'A comparative investigation of rotation criteria within exploratory factor analysis', *Multivariate Behavioral Research*, 45(1): 73-103.

Sass, D.A., Schmitt, T.A., and Marsh, H.W. (2014) 'Evaluating model fit with ordered categorical data within a measurement invariance framework: A comparison of estimators', *Structural Equation Modeling*, 21: 167-180.

Saxena, S., Thornicroft, G., Knapp, M., and Whiteford, H. (2007) 'Resources for mental health: Scarcity, inequity, and inefficiency', *The Lancet*, 370(9590): 878-889.

Sayce, L. (1998) 'Stigma, discrimination and social exclusion: What's in a word?', *Journal of Mental Health*, 7(4): 331-342.

Sayce, L. (2003) 'Beyond good intentions. Making anti-discrimination strategies work', *Disability & Society*, 18(5): 625-642.

Scaife, V.H. (2008) 'Maternal and paternal drug misuse and outcomes for children: Identifying risk and protective factors', *Children & Society*, 22: 53-62.

Schachter, H.M., Girardi, A., Ly, M., Lacroix, D., Lumb, A.B., van Berkom, J., and Gill, R. (2008) 'Effects of school-based interventions on mental health stigmatization: A systematic review', *Child and Adolescent Psychiatry and Mental Health*, 2(18): 1-14.

Schafer, T., Wood, S., and Williams, R. (2011) 'A survey into student nurses' attitudes towards mental illness: Implications for nurse training', *Nurse Education Today*, 31(4): 328-332.

Scheff, T.J. (1966) *Being mentally ill: A sociological theory*, Chicago: Aldine de Gruyter.

Scheff, T.J. (1974) 'The labeling theory of mental illness', *American Sociological Review*, 39(3): 444-452.

Scheff, T.J. (1975) 'Reply to Chauncey and Gove', *American Sociological Review*, 40: 252-257.

Scheff, T.J. (1979) 'Reply to comment by Horowitz', *Journal of Health and Social Behavior*, 20: 305-308.

Schermelleh-Engel, K., Moosbrugger, H., and Müller, H. (2003) 'Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures', *Methods of Psychological Research Online*, 8(2): 23-74.

Schervish, P.G. (1973) 'The labelling perspective: Its bias and potential in the study of political deviance', *The American Sociologist*, 8: 47-57.

Schlosberg, A. (1993) 'Psychiatric stigma and mental health professionals (stigmatizers and destigmatizers)', *Medicine and Law*, 12: 409-416.

Schmidt, G., and Weiner, B. (1988) 'An attribution-affect-action theory of behavior: Replications of judgments of helping-giving', *Journal of Personality and Social Psychology Bulletin*, 14: 610-621.

Schmitt, T.A. (2011) 'Current methodological considerations in exploratory and confirmatory factor analysis', *Journal of Psychoeducational Assessment*, 29(4): 304-321.

Schmitt, T.A., and Sass, D.A. (2011) 'Rotation criteria and hypothesis testing for exploratory factor analysis: Implications for factor pattern loadings and interfactor correlations', *Educational and Psychological Measurement*, 71(1): 95-113.

Schnittker, J. (2008) 'An uncertain revolution: Why the rise of a genetic model of mental illness has not increased tolerance', *Social Science & Medicine*, 67(9): 1370-1381.

Schnittker, J., and John, A. (2007) 'Enduring stigma: the long term effects of incarceration on health', *Journal of Health and Social Behavior*, 48: 115-130.

Schoenfeld, N. (1942) 'An experimental study of some problems relating to stereotypes', *Archives of Psychology*, 38(270): 1-55.

Schomerus, G., and Angermeyer, M.C. (2008) 'Stigma and its impact on help-seeking for mental disorders: What do we know?', *Epidemiologia e Psichiatria Sociale*, 17(1): 31-37.

Schomerus, G., Corrigan, P.W., Klauer, T., Kuwert, P., Freyberger, H.J., and Lucht, M. (2011) 'Self-stigma in alcohol dependence: Consequences for drinking-refusal self-efficacy', *Drug and Alcohol Dependence*, 114: 12-17.

Schomerus, G., Lucht, M., Holzinger, A., Matschinger, H., Carta, M.G., and Angermeyer, M.C. (2011a) 'The stigma of alcohol dependence compared to other mental disorders: A review of population studies', *Alcohol and Alcoholism*, 46(2): 105-112.

Schomerus, G., Matschinger, H., and Angermeyer, M.C. (2006) 'Alcoholism: Illness beliefs and resource allocation preferences of the public', *Drug and Alcohol Dependence*, 82(3): 204-210.

Schomerus, G., Matschinger, H., and Angermeyer, M.C. (2009) 'The stigma of psychiatric treatment and help-seeking intentions for depression', *European Archives of Psychiatry and Clinical Neuroscience*, 259(5): 298-306.

Schomerus, G., Matschinger, H., and Angermeyer, M.C. (2013) 'Continuum beliefs and stigmatizing attitudes towards persons with schizophrenia, depression and alcohol dependence', *Psychiatry Research*, 209(3): 665-669.

Schomerus, G., Matschinger, H., and Angermeyer, M.C., 2013a, 'Do psychiatric units at general hospitals attract less stigmatizing attitudes compared with psychiatric hospitals?', *Epidemiology and Psychiatric Sciences*, 22(2): 163-168.

Schomerus, G., Matschinger, H., and Angermeyer, M.C. (2014) 'Causal beliefs of the public and social acceptance of persons with mental illness: A comparative analysis of schizophrenia, depression and alcohol dependence', *Psychological Medicine*, 44(2): 303-314.

Schomerus, G., Schwahn, C., Holzinger, A., Corrigan, P.W., Grabe, H.J., Carta, M.G., and Angermeyer, M.C. (2012) 'Evolution of public attitudes about mental illness: A systematic review and meta-analysis', *Acta Psychiatrica Scandinavica*, 125(6): 440-452.

Schon, U.-K., Denhov, A., and Topor, A. (2009) 'Social relationships as a decisive factor in recovering from severe mental illness', *International Journal of Social Psychiatry*, 55: 336-347.

Schrag, C. (1961) 'A preliminary criminal typology', *Pacific Sociological Review*, 4: 11-16.

Schrag, C. (1971) *Crime and justice*, Washington, D.C.: G.P.O.

Schreiber, J.B. (2008) 'Core reporting practices in structural equation modeling', *Research in Social and Administrative Pharmacy*, 4(2): 83-97.

Schulte, S.J., Meier, P.S., Stirling, J., and Berry, M. (2010) 'Dual diagnosis competency among addiction treatment staff: training levels, training needs and the link to retention', *European Addiction Research*, 16(2): 78-84.

Schulze, B. (2007) 'Stigma and mental health professionals: A review of the evidence on an intricate relationship', *International Review of Psychiatry*, 19(2): 137-155.

Schulze, B., and Angermeyer, M.C. (2003) 'Subjective experiences of stigma. A focus group study of schizophrenic patients, their relatives and mental health professionals', *Social Science & Medicine*, 56(2): 299-312.

Schulze, B., and Angermeyer, M.C. (2005) 'What is schizophrenia? Secondary school students' associations with the word and sources of information about the illness', *American Journal of Orthopsychiatry*, 75(2): 316-323.

Schulze, B., Richter-Werling, M., Matschinger, H., and Angermeyer, M.C. (2003) 'Crazy? So what! Effect of a school project on students' attitudes towards people with schizophrenia', *Acta Psychiatrica Scandanavica*, 107: 142-150.

Schur, E.M. (1964) 'Attitudes toward addicts. Some observations and comparative findings', *American Journal of Orthopsychiatry*, 34: 80-90.

Schur, E.M. (1965) *Crimes without victims,* Englewood Cliffs, New Jersey: Prentice Hall, Inc.

Schur, E.M. (1971) *Labelling deviant behaviour: Its sociological implications*, New York: Harper Collins.

Schwarzer, R., and Weiner, B. (1991) 'Stigma controllability and coping as predictors of emotions and social support', *Journal of Social and Personal Relationships*, 8: 133-140.

Schwartz, R.D., and Skolnick, J.H. (1962) 'Two studies of legal stigma', *Social Problems*, 10: 133-142.

Schwartz, R.D., and Skolnick, J.H. (1964) 'Two studies of legal stigma', in Becker, H.S. (ed.), *The other side*, New York: Free Press of Glencoe, pp. 103-117.

Scott, M.C., and Wahl, O.F. (2011) 'Substance abuse stigma and discrimination among American male substance users', *Stigma Research and Action*, 1(1): 60-66.

Secker, J., Armstrong, C., and Hill, M. (1999) 'Young people's understanding of mental illness', *Health Education Research,* 14: 729-739.

Seddon, T. (2006) 'Drugs, crime and social exclusion: Social context and social theory in British drugs-crime research', *British Journal of Criminology,* 46(4): 680-703.

Seddon, T. (2011) 'Explaining drug policy: Towards an historical sociology of policy change', *International Journal of Drug Policy*, 22(6): 415-419.

Seddon, T., Ralphs, R., and Williams, L. (2008) 'Risk, security and the 'criminalization' of British drug policy', *British Journal of Criminology*, 48(6): 818-834.

Semin, G.R. (1980) "A gloss on attribution theory', *British Journal of Social and Clinical Psychology*, 19(4): 291-300.

Semple, S.J., Grant, I., and Patterson, T.L. (2005) 'Utilization of drug treatment programs by methamphetamine users: The role of social stigma', *The American Journal on Addictions*, 14: 367-380.

Sharac, J., Mccrone, P., Clement, S., and Thornicroft, G. (2010) 'The economic impact of mental health stigma and discrimination: a systematic review', *Epidemiologia e Psichiatria Sociale*, 19(3): 223-232.

Sharfstein, S.S. (2012) 'Status of stigma', *Psychiatric Services,* 63(10): 953.

Sheehan, A. (1992) 'Nurses respond to substance abuse', *International Nurses Review*, 39(5): 141-145.

Shepard, E.M., and Blackley, P.R. (2005) 'Drug enforcement and crime: recent evidence from New York state', *Social Science Quarterly*, 86(2): 323-342.

Shera, W., and Delva-Tauiliili, J. (1996) 'Changing MSW students' attitudes towards the severely mentally ill', *Community Mental Health Journal*, 32(2): 159-169.

Shor, R., and Sykes, I.J. (2002) 'Introducing structured dialogue with people with mental illness into the training of social work students', *Psychiatric Rehabilitation Journal*, 26(1): 63-69.

Shrout, P.E., and Bolger, N. (2002) 'Mediation in experimental and nonexperimental studies: New procedures and recommendations', *Psychological Methods*, 7(4): 422-445.

Sibicky, M., and Dovidio, J.F. (1986) 'Stigma of psychological therapy: Stereotypes, interpersonal reactions, and the self-fulfilling prophecy', *Journal of Counseling Psychology*, 33: 148-154.

Sieff, E.M. (2003) 'Media frames of mental illnesses: The potential impact of negative frames', *Journal of Mental Health*, 12(3): 259-269.

Siegfried, N., Ferguson, J., Cleary, M., Walter, G., and Rey, J.M. (1999) 'Experience, knowledge and attitudes of mental health staff regarding clients' problematic drug and alcohol use', *Australian and New Zealand Journal of Psychiatry*, 33: 267-273.

Sijtsma, K. (2009) 'Reliability beyond theory and into practice', *Psychometrika*, 74(1): 169-173.

Silins, E., Conigrave, K.M., Rakvin, C., Dobbins, T., and Curry, K. (2007) 'The influence of structured education and clinical experience on attitudes of medical students towards substance misuers', *Drug and Alcohol Review*, 26(2): 191-200.

Silton, N.R., Flannelly, K.J., Milstein, G., and Vaaler, M.L. (2011) 'Stigma in America: Has anything changed? Impact of perceptions of mental illness and dangerousness on the desire for social distance', *Journal of Nervous and Mental Disease*, 199(6): 361-366.

Simmons, J.L. (1965) 'Public stereotypes of deviants', *Social Problems*, 13: 223-232.

Simmons, J.L. (1969) *Deviants*, Berkeley: Glendessary Press.

Simmonds, L., and Coomber, R. (2009) 'Injecting drug users: A stigmatised and stigmatising problem', *International Journal of Drug Policy*, 20: 212-130.

Simpson, M. (2003) 'The relationship between drug use and crime: A puzzle inside an enigma', *International Journal of Drug Policy*, 14(4): 307-319.

Singh, P., and Luty, J. (2013) 'Clients of drug and alcohol services: More fearful of heroin than members of the general public?', *Journal of Substance Use*, 18(3): 221-228.

Singleton, N. (2010) *Attitudes to drug dependence results from a survey of people living in private households in the UK,* London, UK: UK Drug Policy Commission (UKDPC). Available from http://www.ukdpc.org.uk/resources/UKDPC_Attitudes_to_drug_dep_report.pdf (accessed February 24, 2011).

Singleton, N. (2011) *Getting serious about stigma in Scotland: the problem with stigmatising drug users* (London, UK: UK Drug Policy Commission (UKDPC). Available from http://www.ukdpc.org.uk/resources/UKDPC_Stigma_in_Scotland.pdf (accessed February 23, 2011).

Sirey, J.A., Bruce, M.L., Alexopoulos, G.S., Perlick, D.A., Friedman, S.J., and Meyers, B.S. (2001) 'Stigma as a barrier to recovery: perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence', *Psychiatric Services*, 52(12): 1615-1620.

Skinner, N., Feather, N.T., Freeman, T., and Roche, A. (2007) 'Stigma and discrimination in health-care provision to drug users: The role of values, affect, and deservingness judgments', *Journal of Applied Social Psychology*, 37(1): 163-186.
Skinner, N., Roche, A.M., Freeman, T., and Addy, D. (2005) 'Responding to alcohol and other drug issues: The effect of role adequacy and role legitimacy on motivation and satisfaction', *Drugs: Education, Prevention and Policy*, 12(6): 449-463.

Skolnick, J.H., and Dombrink, J. (1978) 'The legalization of deviance', *Criminology*, 16(2): 193-208.

Slopen, N.B., Watson, A.C., Gracia, G., and Corrigan, P.W. (2007) 'Age analysis of newspaper coverage of mental illness', *Journal of Health Communication*, 12: 3-15.

Small, W., Kain, S., Laliberte, N., and Schecter, M.T. (2005) 'Incarceration, addiction and harm reduction: Inmates experience injecting drugs in prison', *Substance Use and Misuse*, 40: 831-843.

Smith, A.L., and Cashwell, C.S. (2011) 'Social distance and mental illness: Attitudes among mental health and non-mental health professionals and trainees', *The Professional Counselor: Research and Practice*, 1(1): 13-20.

Solomon, S.S., Hawcroft, C.S., Narasimhan, P., Subbaraman, R., Srikrishnan, A.K., Cecelia, A.J., Kumar, M.S., Solomon, S., Gallant, J.E., and Celentano, D.D. (2008) 'Comorbidities among HIV-infected injection drug users in Chennai, India', *Indian Journal of Medical Research*, 127: 447-452.

Soyka, M., and Gorelick, D.A. (2009) 'Why should addiction medicine be an attractive field for young physicians?', *Addiction*, 104(2): 169-172.

Spagnolo, A.B., Murphy, A.A., and Librera, L.A. (2008) 'Reducing stigma by meeting and learning from people with mental illness', *Psychiatric Rehabilitation Journal*, 31(3): 186-193.

Speckart, G., Anglin, M.D., and Deschenes, E.P. (1989) 'Modeling the longitudinal impact of legal sanctions on narcotics use and property crime', *Journal of Quantitative Criminology*, 5: 33-56.

Spidel, A., Lecomte, T., Greaves, C., Sahlstrom, K., and Yuille, J.C. (2010) 'Early psychosis and aggression: predictors and prevalence of violent behavior amongst individuals with early onset psychosis', *International Journal of Law and Psychiatry*, 33(3): 171-176.

Spohn, C., Piper, R.K., Martin, T., and Frenzel, E.D. (2001) 'Drug courts and recidivism: The results of an evaluation using comparison groups and multiple indicators of recidivism', *Journal of Drug Issues*, 31(1): 149-176.

Spooren, P., Mortelmans, D., and Van Loon, F. (2012) 'Exploratory structural equation modelling (ESEM): application to the SET-37 questionnaire for students' evaluation of teaching', *Procedia- Social and Behavioral Sciences*, 69: 1282-1288.

Staiger, P.K., Thomas, A.C., Ricciardelli, L.A., Mccabe, M.P., Cross, W., and Young, G. (2011) 'Improving services for individuals with a dual diagnosis: A qualitative study reporting on the views of service users', *Addiction Research and Theory*, 19(1): 47-55.

Stalcup, M. (2006) 'The 'war on drugs' and national security', Paper for conference April 14th, 2006 Power in thought and practice: 50 Years of C. Wright Mills' 'The Power Elite'. Available from http://www.columbia.edu/~dgf2101/cwmconference/papers/Meg%20Stalcup.pdf (accessed September 27).

Steadman, H.J. (1981) 'Critically reassessing the accuracy of public perceptions of the dangerousness of the mentally ill', *Journal of Health and Social Behavior*, 22(3): 310-316.

Steadman, H.J., Mulvey, E.P. Monahan, J., Robbins, P.C., Appelbaum, P.S., Grisso, T., Roth, L.H., and Silver, E. (1998) 'Violence by people discharged from acute psychiatric inpatient facilities and by others in the same neighborhoods', *Archives of General Psychiatry*, 55(5): 393-401.

Steed, H., Groome, M., Rice, P., Simpson, K., Day, A., and Ker, J. (2012) 'A brief report on perceptions of alcohol and society among Scottish medical students', *Alcohol and Alcoholism*, 47(1): 75-78.

Steenbergh, T.A., Runyan, J.D., Daugherty, D.A., and Winger, J.G. (2012) 'Neuroscience exposure and perceptions of client responsibility among addictions counselors', *Journal of Substance Abuse Treatment*, 42: 421-428.

Steins, G., and Weiner, B. (1999) 'The influence of perceived responsibility and personality characteristics on the emotional and behavioural reactions to people with AIDS', *Journal of Social Psychology*, 139(4): 487-495.

Stevens, A. (2007) 'When two dark figures collide: Evidence and discourse on drug-related crime', *Critical Social Policy*, 27(1): 77-99.

Stevens, A. (2008) 'Weighing up crime: The overestimation of drug-related crime', *Contemporary Drug Problems*, 35(2-3): 265-290.

Stevens, A. (2011) 'Drug policy, harm and human rights: A rationalist approach', *International Journal of Drug Policy*, 22(3): 233-238.

Stevens, A., Berto, D., Frick, U., Kerschl, V., McSweeney, T., Schaaf, S., Tartari, M., Turnbull, P., Trinkl, B., Uchtenhagen, A., Waidner, G., and Werdenich, W. (2007) 'The victimization of dependent drug users: findings from a European study, UK', *European Journal of Criminology*, 4(4): 385-408.

Stewart, E.A., Elifson, K.W., and Sterk, C.E. (2004) 'Integrating the general theory of crime into an explanation of violent victimization among female offenders', *Justice Quarterly*, 21: 159-181.

Strang, J., McCambridge, J., Platts, S., and Groves, P. (2004) 'Engaging the reluctant GP in care of the opiate misuser. Pilot study of change-orientated reflective listening (CORL)', *Family Practice*, 21(4): 150-154.

Streiner, D.L. (2003) 'Starting at the beginning: An introduction to coefficient alpha and internal consistency', *Journal of Personality Assessment*, 80(1): 99-103.

Stromwall, L.K., Holley, L.C., and Bashor, K.E. (2011) 'Stigma in the mental health workplace: Perceptions of peer employees and clinicians', *Community Mental Health Journal*, 47: 472-481.

Stuart, H. (2003) 'Violence and mental illness: an overview', *World Psychiatry*, 2(2): 121-124.

Stuart, H. (2003a) 'Stigma and the daily news: Evaluation of a newspaper intervention', *Canadian Journal of Psychiatry*, 48(10): 651-656.

Stuart, H. (2006) 'Reaching out to high school youth: The effectiveness of a video-based antistigma program', *Canadian Journal of Psychiatry*, 51: 647-653.

Stuart, H. (2008) 'Fighting the stigma caused by mental disorders: Past perspectives, present activities, and future directions', *World Psychiatry*, 7(3): 185-188.

Stuart, H., and Arboleda-Florez, J.E. (2001) 'A public health perspective on violent offenses among persons with mental illness', *Psychiatric Services*, 52(5): 654-659.

Stuart, H., and Arboleda-Florez, J.E. (2001a) 'Community attitudes toward people with schizophrenia', *Canadian Journal of Psychiatry*, 46: 245-252.

Stuart, H., Koller, M., Christie, R., and Pietrus, M. (2011) 'Reducing mental health stigma: A case study', *Healthcare Quarterly*, 14: 41-49.

Stuber,J., Meyer, I., and Link, B. (2008) 'Stigma, prejudice, discrimination and health', *Social Science & Medicine*, 67(3): 351-357.

Stylianou, S. (2002) 'Control attitudes toward drug use as a function of paternalistic and moralistic principles', *The Journal of Drug Issues*, 32(1): 119-152.

Stylianou, S. (2003) 'Measuring crime seriousness perceptions: What have we learned and what else do we want to know', *Journal of Criminal Justice*, 31: 37-56.

Stylianou, S. (2004) 'The role of religiosity in the opposition to drug use', *International Journal of Offender Therapy and Comparative Criminology*, 48(4): 429-448.

Substance Abuse and Mental Health Services Administration (2008) *Results from the 2007 national survey on drug use and health: National findings,* Maryland: Office of Applied Studies NSDUH.

Swann, A.C., 'The strong relationship between bipolar and substance-use disorder mechanisms and treatment implications', *Annals of the New York Academy of Sciences*, 1187(1): 276-293.

Swanson, J.W., Holzer, C. E., Ganju, V.K., and Jono, R.T. (1990) 'Violence and psychiatric disorder in the community: Evidence from the Epidemiologic Catchment Area surveys' *Psychiatric Services*, 41(7): 761-770.

Swanson, J., Swartz, M., Van Dorn, R., Elbogen, E., Wagner, H.R., Rosenheck, R., Stroup, S., McEvoy, J., and Lieberman, J.A. (2006) 'National study of violent behavior in persons with schizophrenia', *Archives of General Psychiatry*, 63: 490-502.

Swindle, R., Heller, K., Pescosolido, B.A., and Kikuzawa, S. (2000) 'Responses to 'nervous breakdowns' in America over a 40-year period: mental health policy implications', *American Psychologist,* 55(7): 740-749.

Taft, C.T., O'Farrell, T.J., Doron-LaMarca, S., Panuzio, J., Suvak, M.K., Gagnon, D.R., and Murphy, C. (2010) 'Longitudinal risk factors for intimate partner violence among men in treatment for alcohol use disorders', *Journal of Consulting and Clinical Psychology*, 78(6): 924-935.

Takahashi, S. (2009) 'Drug control, human rights, and the right to the highest attainable standard of health: by no means straightforward issues', *Human Rights Quarterly*, 31(3): 748-776.

Tannenbaum, F. (1938) *Crime and the community*, Boston: Ginn.

Tannenbaum, F. (1938a) 'The dramatization of evil', in Rubington, E., and Weinberg, M.S. (eds.), *Deviance: the interactionist perspective*, New York: The MacMillan Company, pp. 214-215.

Taylor, H. (2003) *Domestic violence and substance misuse: making the links*, London, UK: London Borough of Tower Hamlets.

Taylor, S. (2008) 'Outside the outsiders: Media representations of drug use', *Probation Journal,* 55(4): 369-387.

Ten Have, M., de Graaf, R., Van Weeghel, J., and Van Dorsselaer, S. (2014) 'The association between common mental disorders and violence: To what extent is it influenced by prior victimization, negative life events and low levels of social support?', *Psychological Medicine*, 44(7): 1485-1498.

Tennant, A., and Pallant, J.F. (2010) *The Root Mean Square Error of Approximation (RMSEA) as a mechanism to determine fit to the Rasch model in the presence of large sample sizes.* Available from http://www.bing.com/search?q=The+Root+Mean+Square+Error+of+Approximation+%28RMSEA%29+as+a+Mechanism+to+Determine+Fit+to+the+Rasch+Model+in+the+Presence+of+Large+Sample+Sizes&form=ASUTDF&pc=NP06&src=IE-SearchBox (accessed June 5, 2012).

Teplin,L.A., 2001, *Assessing alcohol, drug and mental disorders in juvenile detainees*. Available from http://www.ncjrs.gov/pdffiles1/ojjdp/fs200102.pdf (accessed June 10, 2010).

Tew, J., Ramon, S., Slade, M., Bird, V., Melton, J., and Le Boutillier, C. (2012) 'Social factors and recovery from mental health difficulties: a review of the evidence', *British Journal of Social Work*, 42(3): 443-460.

Thomas, C.W., and Bishop, D.M. (1984) 'The effect of formal and informal sanctions on delinquency: A longitudinal comparison of labeling and deterrence theories', *The Journal of Criminal Law and Criminology*, 75(4): 1222-1245.

Thompson, M., Salzman, L., and Johnson, H. (2003) 'A comparison of risk factors for intimate partner violence: related inquiry across two national surveys on violence against women', *Violence Against Women*, 9(4): 438-457.

Thompson, V., Noel, J., and Campbell, J. (2004) 'Stigmatization, discrimination, and mental health: The impact of multiple identity status', *American Journal of Orthopsychiatry*, 74(4): 529-544.

Thornicroft, A., Goulden, R., Shefer, G., Rhydderch, D., Rose, D., Williams, P., Thornicroft, G., and Henderson, C. (2013) 'Newspaper coverage of mental illness in England 2008–2011', *British Journal of Psychiatry*, 202: s64-s69.

Thornicroft, C., Wyllie, A., Thornicroft, G., and Mehta, N. (2014) 'Impact of the 'Like Minds, Like Mine' anti-stigma and discrimination campaign in New Zealand on anticipated and experienced discrimination', *Australian and New Zealand Journal of Psychiatry*, 48(4): 360-370.

Thornicroft, G. (2008) 'Stigma and discrimination limit access to mental health', *Epidemiologia e Psichiatria Sociale*, 17: 14-19.

Thornicroft, G., Brohan, E., Kassam, A., and Lewis-Holmes, E. (2008) 'Reducing stigma and discrimination: Candidate interventions', *International Journal of Mental Health Systems*, 2(3): 1-7.

Thornicroft, G., Brohan, E., Rose, D., Sartorius, N., Leese, M., and The INDIGO Study Group (2009) 'Global pattern of experienced and anticipated discrimination against people with schizophrenia: A cross-sectional survey', *The Lancet*, 373(9661): 408-415.

Thornicroft, G., Rose, D., Kassam, A., and Sartorius, N. (2007) 'Stigma: Ignorance, prejudice or discrimination?', *British Journal of Psychiatry*, 190: 192-193.

Thornicroft, G., Rose, D., and Mehta, N. (2010) 'Discrimination against people with mental illness: what can psychiatrists do?', *Advances in Psychiatric Treatment*, 16: 53-59.

Thoumi, F.E. (2010) 'The international drug control regime's straight jacket: Are there any policy options', *Trends in Organized Crime*, 13: 75-86.

Timberlake, J.M., Lock, E.D., and Rasinski, K.A. (2003) 'How should we wage the war on drugs? Determinants of public preferences for drug control alternatives', *The Policy Studies Journal*, 31(1): 71-88.

Tipper, R., Mountain, D., Lorimer, S., and McIntosh, A. (2006) 'Support workers' attitudes to mental illness: Implications for reducing stigma', *Psychiatric Bulletin*, 30: 179-181.

Tittle, C.R. (1969) 'Crime rates and legal sanctions', *Social Problems*, 16: 409-423.

Tittle, C.R. (1975) 'Deterrents or labeling', *Social Forces*, 53: 399-410.

Tittle, C.R., and Logan, C.H. (1973) 'Sanctions and deviance: Evidence and remaining questions', *Law and Society Review*, 7: 372-392.

Todd, F.C., Sellman, J.D., and Robertson, P.J. (2002) 'Barriers to optimal care for patients with coexisting substance use and mental health disorders', *Australian and New Zealand Journal of Psychiatry*, 36(6): 792-799.

Tomarken, A.J., and Waller, N.G. (2003) 'Potential problems with well fitting models', *Journal of Abnormal Psychology*, 112(4): 578-598.

Tomarken, A.J., and Waller, N.G. (2005) 'Structural equation modeling: Strengths, limitations, and misconceptions', *Annual Review of Clinical Psychology*, 1: 31-65.

Tomás, I., Marsh, H.W., González-Romá, V., Valls, V., and Nagengast, B. (2014) 'Testing measurement invariance across Spanish and English versions of the physical self-description questionnaire: An application of exploratory structural equation modeling', *Journal of Sport & Exercise Psychology*, 36(2): 179-188.

Topalli, V., Wright, R., and Fornango, R. (2002) 'Drug dealers, robbery and retaliation: Vulnerability, deterrence and the contagion of violence', *British Journal of Criminology*, 42(2): 337-351.

Topor, A., Borg, M., Mezzina, R., Sells, D., Marin, I., and Davidson, L. (2006) 'Others: The role of family, friends and professionals in the recovery process', *American Journal of Psychiatric Rehabilitation*, 9(1): 17-37.

Torok, M., Darke, S., and Kaye, S. (2012) 'Predisposed violent drug users versus drug users who commit violence: Does the order of onset translate to differences in the severity of violent offending?', *Drug and Alcohol Review,* 31(4): 558-565.

Torok, M., Darke, S., Kaye, S., and Shand, F. (2014) 'The association of early-life and substance use risks to violent offending among injecting drug users', *Drug and Alcohol Review*, ahead of print, pp. 1-8.

Torrens, M., Gilchist, G., and Domingo-Salvany, A. (2011) 'Psychiatric comorbidity in illicit drug users: Substance-induced versus independent disorders', *Drug and Alcohol Dependence*, 113(2-3): 147-156.

Torrey, E.F. (2011) 'Stigma and violence: Isn't it time to connect the dots?', *Schizophrenia Bulletin*, 37(5): 892-896.

Tourangeau, R., and Yan, T. (2007) 'Sensitive questions in surveys', *Psychological Bulletin*, 133(5): 859-883.

Treloar, C, and Holt, M. (2006) 'Deficit models and divergent philosophies: Service providers' perspectives on barriers and incentives to drug treatment', *Drugs: Education, Prevention and Policy*, 13(4): 367-382.

Trépanier, S.G., Fernet, C., Austin, S., and Ménard, J. (2015) 'Revisiting the interplay between burnout and work engagement: An Exploratory Structural Equation Modeling (ESEM) approach', *Burnout Research*, 2(2): 51-59.

Triandis, H.C., and Vassiliou, V. (1967) 'Frequency of contact and stereotype', *Journal of Personality and Social Psychology*, 7(3): 316-328.

Triplett, R. (1993) 'Conflict perspective, symbolic interactionism, and the status characteristics hypothesis', *Justice Quarterly*, 10(4): 541-558.

Triplett, R.A., and Jarjoura, G.R. (1994) 'Theoretical and empirical specifications of a model of informal labeling', *Journal of Quantitative Criminology*, 10: 241-276.

Tucker, L.R., and Lewis, C. (1973) 'A reliability coefficient for maximum likelihood factor analysis', *Psychometrika*, 38: 1-10.

Turner, J.R. (1981) 'Social support as a contingency in psychological well-being', *Journal of Health and Social Behavior*, 20: 237-258.

Ucok, A., Soygur, H., Atakli, C., Kuscu, K., Sartorius, N., Duman, Z.C., Polat, A., and Erkoc, S. (2006) 'The impact of antistigma education on the attitudes of general practitioners regarding schizophrenia', *Psychiatry and Clinical Neurosciences*, 60(4): 439-443.

Ungar, T., Knaak, S., and Szeto, A.C.H. (2015) 'Theoretical and practical considerations for combating mental illness in healthcare', *Community Mental Health Journal,* 51, ahead of print, pp. 1-23.

UK Drug Policy Commission (2012) *Evidence to the Home Affairs Committee inquiry into drugs*, London: The UK Drug Policy Commission (UKDPC). Available from http://www.ukdpc.org.uk/publication/submission-to-the-home-affairs-committee-inquiry-into-drugs/ (accessed August 31, 2012).

University of Toronto, *Faculty of Arts & Science 2011-2012 Calendar, Sociology Courses*, Available from http://www.artsandscience.utoronto.ca/ofr/calendar/crs_soc.htm#SOC313H1 (accessed July 11, 2011).

UNODC (2008) *Making drug control 'fit for purpose': building on the UNGASS decade* (UN Doc # E/CN.7/2008/CRP.17, March 7). Available from http://www.unodc.org/documents/commissions/CND-Session51/CND-UNGASS-CRPs/ECN72008CRP17.pdf (accessed June 29, 2011).

U.S. Department of Health and Human Services (1999) *Mental health: A report of the Surgeon General,* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, National Institutes of Health, National Institute of Mental Health.

Van Boekel, L.C., Brouwers, E.P.M., Van Weeghel, J., and Garretsen, H.F.L. (2013) 'Public opinion on imposing restrictions to people with an alcohol- or drug addiction: a cross-sectional survey', *Social Psychiatry and Psychiatric Epidemiology*, 48: 2007-2016.

Van Boekel, L.C., Brouwers, E.P.M., Van Weeghel, J., and Garretsen, H.F.L. (2013a) 'Stigma among health professionals towards patients with substance use disorders and its consequences for healthcare delivery: Systematic review', *Drug and Alcohol Dependence*, 131(1-2): 23-35.

Van Boekel, L.C., Brouwers, E.P.M., Van Weeghel, J., and Garretsen, H.F.L. (2014) 'Healthcare professionals' regard toward working with patients with substance use disorders: Comparison of primary care, general psychiatry and specialist addiction services', *Drug and Alcohol Dependence*, 134: 92-98.

Vanderplasschen, W., Bloor, M., and McKeganey, N. (2010) 'Long-term outcomes of aftercare participation following various forms of drug abuse treatment in Scotland', *Journal of Drug Issues*, 40(3): 703-728.

Van der Sar, R., Odegard, E., Rise, J., Brouwers, E.P.M., Van de Goor, L.A.M., and Garretsen, H.F.L. (2012) 'Acceptance of illicit drug use in the Netherlands and Norway: A cross-national survey', *Drugs: Education, Prevention and Policy*, 19(5): 397-305.

Van Dorn, R.A., Volavka, J., and Johnson, N. (2012) 'Mental disorder and violence: Is there a relationship beyond substance use?', *Social Psychiatry and Psychiatric Epidemiology*, 47: 487-503.

Van Olphen, J., Eliason, M.J, Freudenberg, N., and Barnes, M. (2009) 'Nowhere to go: How stigma limits the options of female drug users after release from jail', *Substance Abuse Treatment, Prevention and Policy*, 4(10): 1-10.

Van't Veer, J.T.B., Kraan, H.F., Drosseart, S.H.C., and Modde, J.M. (2006) 'Determinants that shape public attitudes towards the mentally ill: A Dutch public study', *Social Psychiatry and Psychiatric Epidemiology*, 41: 310-317.

Vazsonyi, A.T., Ksinan, A., Mikuška, J., and Jiskrova, G. (2015) 'The Big Five and adolescent adjustment: An empirical test across six cultures', *Personality and Individual Differences*, 83: 234-244.

Vigilant, L.G. (2004) 'The stigma paradox in methadone maintenance: naive and positive consequences of a 'treatment punishment' approach to opiate addiction', *Humanity and Society*, 28(4): 403-418.

Vigilant, L.G. (2008) 'I am still suffering: the dilemma of multiple recoveries in the lives of methadone maintenance patients', *Sociological Spectrum*, 28: 278-298.

Visser, M.J., Kershaw, T., Makin, J.D., and Forsyth, B.W.C. (2008) 'Development of parallel scales to measure HIV-related stigma', *AIDS Behavior*, 12: 759-771.

Volkow, N.D., and Li, T.-K. (2004) 'Drug addiction: The neurobiology of behaviour gone awry', *Neuroscience*, 5: 963-970.

Von Hippel, W., Brener, L., and Von Hippel, C. (2008) 'Implicit prejudice toward injecting drug users predicts intentions to change jobs among drug and alcohol nurses', *Psychological Science*, 19(1): 7-11.

Wahl, O.F. (1992) 'Mass media images of mental illness: a review of the literature', *Journal of Community Psychology*, 20: 343-352.

Wahl, O.F. (2012) 'Stigma as a barrier to recovery from mental illness', *Trends in Cognitive Sciences*, 16(1): 9-10.

Wahl, O.F., and Aroesty-Cohen, E. (2010) 'Attitudes of mental health professionals about mental illness: A review of the recent literature', *Journal of Community Psychology*, 38(1): 49-62.

Wahl, O.F., Wood, A., and Richard, R. (2002) 'Newspaper coverage of mental illness: Is it changing', *Psychiatric Rehabilitation Skills*, 1: 9-31.

Waldo, G.P., and Chiricos, T.G. (1972) 'Perceived penal sanction and self-reported criminality: A neglected approach to deterrence research', *Social Problems*, 19: 522-540.

Wallace, C., Mullen, P.E., and Burgess, P. (2004) 'Criminal offending in schizophrenia over a 25 year period marked by deinstitutionalization and increasing prevalence of comorbid substance use disorders', *American Journal of Psychiatry*, 161: 716-727.

Wallach, H.S. (2004) 'Changes in attitudes towards mental illness following exposure', *Community Mental Health Journal*, 40(3): 235-248.

Walsh, E., Buchanan, A., and Fahy, T. (2002) 'Violence and schizophrenia: Examining the evidence', *The British Journal of Psychiatry*, 180: 490-495.

Wang, J., Kelly, B.C., Booth, B.M., Falck, R.S., Leukefeld, C. and Carlson, R.G. (2010) 'Examining factorial structure and measurement invariance of the Brief Symptom Inventory (BSI)-18 among drug users', *Addictive Behaviors*, 35(1): 23-29.

Wang, J., Kelly, B.C., Liu, T., Zhang, G., and Hao, W. (2013) 'Factorial structure of the Brief Symptom Inventory (BSI)-18 among Chinese drug users', *Drug and alcohol dependence*, 133(2): 368-375.

Wang, J., and Wang, X. (2012) *Structural equation modeling: Applications using Mplus,* John Wiley & Sons, Ltd.

Warburton, H., Turnbull, P.J., and Hough, M. (2005) *Occasional and controlled heroin use. Not a problem?*, York: Joseph Rowntree Foundation, Available from http://www.umsl.edu/~keelr/180/controlled_heroin_use.pdf (accessed September 23, 2010).

Ward, D.A., and Tittle, C.R. (1993) 'Deterrence or labeling: The effects of informal sanctions', *Deviant Behavior,* 14(1): 43-64.

Ward, R.H. (1971) 'The labeling theory: A critical analysis', *Criminology*, 9: 268-290.

Watson, A.C., and Corrigan, P.W. (2001) *The impact of stigma on service access and participation: guideline for the behavioral health recovery management project*, Illinois Department of Human Services' Office of Alcoholism and Substance Abuse. Available from http://www.bhrm.org/guidelines/stigma.pdf (accessed April 1, 2011).

Watson, A.C., Otey, E., Westbrook, A.L., Gardner, A.L., Lamb, T.A., Corrigan, P.W., and Fenton, W.S. (2004) 'Changing middle schoolers' attitudes about mental illness through education', *Schizophrenia Bulletin*, 30(3): 563-572.

Watts, R. (2003) 'Headlining heroin: Policy change and reporting the heroin problem', *Media International Australia Incorporating Culture and Policy*, 108: 67-81.

Weatherburn, D. (2009) 'Dilemmas in harm minimization', *Addiction*, 104(3): 335-339.

Weatherburn, D. (2009a) 'Dilemmas in harm minimization: A response to my critics', *Addiction*, 104(3): 345-346.

Weatherburn, D., and Lind, B. (1997) 'The impact of law enforcement activity on the heroin market', *Addiction*, 92(5): 557-569.

Weaver, T., Madden, P., Charles, V., Stimson, G., Renton, A., Tyrer, P., Barnes, T., Bench, C., Middleton, H., Wright, N., Paterson, S., Shanahan, W., Seivewright, N., and Ford, C. (2003) 'Comorbidity of substance misuse and mental illness in community mental health and substance misuse services', *British Journal of Psychiatry*, 183: 304-313.

Weichelt, S. (2007) 'The spectre of shame in substance misuse', *Substance Use & Misuse*, 42(2-3): 399-409.

Weiner, B. (1980) 'A cognitive (attribution)- emotional- action model of motivated behavior: An analysis of judgments of help-giving', *Journal of Personality and Social Psychology*, 39(2): 186-200.

Weiner, B. (1980a) 'May I borrow your class notes? An attributional analysis of judgments of help giving in an achievement-related context', *Journal of Educational Psychology*, 72(5): 676-681.

Weiner, B. (1993) 'On sin versus sickness: A theory of perceived responsibility and motivation', *American Psychologist*, 48: 957-965.

Weiner, B. (1995) *Judgments of responsibility: A foundation for a theory of social conduct*, New York, NY: Guilford Press.

Weiner, B., Perry, R.P., and Magnusson, J. (1988) 'An attributional analysis of reactions to stigmas', *Journal of Personality and Social Psychology,* 55(5): 738-748.

Weiner, M.D., Sussman, S., Sun, P., and Dent, C. (2005) 'Explaining the link between violence perpetration, victimization and drug use', *Addictive Behavior*, 30(6): 1261-1266.

Weinstein, R. (1983) 'Labeling theory and the attitudes of mental patients: A review', *Journal of Health and Social Behavior*, 24(1): 70-84.

Weiss, M.G., and Ramakrishna, J. (2006) 'Stigma and its public health implications', *The Lancet*, 367: 536-538.

Wellford, C.F. (1975) 'Labeling theory and criminology: An assessment', *Social Problems*, 22: 332-345.

Werb, D., Rowell, G., Guyatt, G., Kerr, T., Montaner, T., and Wood, E. (2011) 'Effect of drug law enforcement on drug market violence: A systematic review', *International Journal of Drug Policy*, 22(2): 87-94.

West, M.L., Yanos, P.T., Smith, S.M., Roe, D., and Lysaker, P.H. (2011) 'Prevalence of internalized stigma among persons with severe mental illness', *Stigma Research and Action*, 1(1): 54-59.

Wheat, K., Brohan, E., Henderson, C., and Thornicroft, G. (2010) 'Mental illness and the workplace: Conceal or reveal?', *Journal of the Royal Society of Medicine*, 103(3): 83-86.

Wheeler, A., Crozier, M., Robinson, G., Pawlow, N., and Mihala, G. (2014) 'Assessing and responding to hazardous and risky alcohol and other drug use: The practice, knowledge and attitudes of staff working in mental health services', *Drugs: Education, Prevention and Policy*, 21(3): 234-243.

White, H.R., and Gorman, D.M. (2000) *The nature of crime: continuity and change*. Available from http://www.ncjrs.gov/criminal_justice2000/vol_1/02d.pdf (accessed June 10, 2010), pp. 151-218.

White, W.L. (2009) *Long term strategies to reduce stigma attached to addiction, treatment and recovery with the City of Philadelphia (with particular reference to medication-assisted treatment/recovery)*, Philadelphia: Department of Behavioral Health and Mental Retardation services. Available from http://www.facesandvoicesofrecovery.org/pdf/White/StigmaMedicationTreatment.pdf (accessed September 22, 2012).

Williams, J., Leamy, M., Bird, V., Harding, C., Larsen, J., Le Boutillier, C., Oades, L., and Slade, M., (2012) 'Measures of the recovery orientation of mental health services: Systematic review', *Social Psychiatry and Psychiatric Epidemiology*, 47(11): 1827-1835.

Williams, J.R. (1976) *Effects of Labeling the 'Drug-Abuser': An Inquiry*, NIDA Research Monograph 6, National Institute on Drug Abuse, US Department of Health, Education, and Welfare.

Williams, L., and Parker, H. (2001) 'Alcohol, cannabis, ecstasy and cocaine: Drugs of reasoned choice amongst young adult recreational drug users in England', *International Journal of Drug Policy*, 12(5): 397-413.

Williams, M., and Taylor, J. (1995) 'Mental illness: Media perpetuation of stigma', *Contemporary Nurse*, 4(1): 41-46.

Williamson, L., Thom, B., Stimson, G.V., and Uhl, A. (2014) "Stigma as a public health tool: Implications for health promotion and citizen involvement' *International Journal of Drug Policy*, 25(3): 333-335.

Williamson, L., Thom, B., Stimson, G.V., and Uhl, A. (2015) "Stigma as a public health tool: Implications for health promotion and citizen involvement- A response to Bayer and Fairchild' *International Journal of Drug Policy*, 26(7): 615-616.

Winnick, T.A., and Bodkin, M. (2008) 'Anticipated stigma management among those to be labeled ex-con', *Deviant Behavior*, 29: 295-333.

Wojtowicz, J.P., Liu, T., and Hedgpeth, G.W. (2007) 'Factors of addiction: New Jersey correctional population', *Crime and Delinquency*, 53(3): 471-501.

Wolfe, D., Carrieri, M.P., and Shepard, D. (2010) 'Treatment and care for injecting drug users with HIV infection: A review of barriers and ways forward', *Lancet*, 376: 355-366.

Wolff, G., Pathare, S., Craig, T., and Leff, J. (1996) 'Community knowledge of mental illness and reaction to mentally ill people', *British Journal of Psychiatry*, 168: 191-198.

Wolff, G., Pathare, S., Craig, T., and Leff, J. (1996a) 'Community attitudes to mental illness', *British Journal of Psychiatry*, 168(2): 183-190.

Wolfgang, A., and Wolfgang, J. (1971) 'Exploration of attitudes via physical interpersonal distance toward the obese, drug users, homosexuals, police and other marginal figures', *Journal of Clinical Psychology*, 27(4): 510-512.

Woll, P. (2005) *Healing the Stigma of Addiction*, 2nd edition, Chicago,Illinois: Great Lakes Addiction Transfer Center. Available from http://sites.google.com/site/humanprioritiesorg/home/healing-the-stigma-of-addiction (accessed April 3, 2010).

Wong, C., Davidson, L., Anglin, D., Link, B., Gerson, R., Malaspina, D., McGlashan, T., and Corcoran, C. (2009) 'Stigma in families of individuals in early stages of psychotic illness: Family stigma and early psychosis', *Early Intervention in Psychiatry*, 3(2): 108-115.

Wood, A.L., ansd Wahl, O.F. (2006) 'Evaluating the effectiveness of consumer-provided mental health recovery education presentation', *Psychiatric Rehabilitation Journal*, 30(1): 46-52.

Wood, E., Spittal, P.M., Small, W., Kerr, T., Li, K., Hogg, R.S., Tyndall, M.W., Montaner, J.S.G., and Schechter, M.T. (2004) 'Displacement of Canada's largest public illicit drug market in response to a police crackdown', *Canadian Medical Association Journal*, 170(10): 1551-1556.

Wright, A., Jorm, A.F., and Mackinnon, A.J. (2011) 'Labeling of mental disorders and stigma in young people', *Social Science & Medicine*, 73(4): 498-506.

Wylie, L.W. (2010) 'Assessing user perceptions of staff training requirements in the substance use workforce: A review of the literature', *Drugs: Education, Prevention and Policy*, 17(5): 618-631.

Yamaguchi, S., Mino, Y., and Uddin, S. (2011) 'Strategies and future attempts to reduce stigmatization and increase awareness of mental health problems among young people: A narrative review of educational interventions', *Psychiatry and Clinical Neurosciences*, 65(5): 405-415.

Yamaguchi, S., Wu, S.I., Biswas, M., Yate, M., Aoki, Y., Barley, E.A., and Thornicroft, G. (2013) 'Effects of short-term interventions to reduce mental health-related stigma in university or college students: a systematic review', *Journal of Nervous and Mental Disease*, 201(6): 490-503.

Yang, L.H., Kleinman, A., Link, B.G., Phelan, J.C., Lee, S., and Good, B. (2007) 'Culture and stigma: Adding moral experience to stigma theory', *Social Science & Medicine*, 64(7): 1524-1535.

Yang, L.H., Link, B.G., and Phelan, J.C. (2008) 'Stigma measurement approaches: Conceptual origins and current applications', in Arboeda-Florez, J., and Sartorius, N. (eds.), *Understanding the stigma of mental illness: Theory and interventions*, Hoboken,N.J.: Wiley & Sons, pp. 175-192.

Yang, L.H., Lo, G., WonPat-Borja, A.J., Singla, D.R., Link, B.G., and Phillips, M.R. (2012) 'Effects of labeling and interpersonal contact upon attitudes towards schizophrenia: Implications for reducing mental illness stigma in urban China', *Social Psychiatry and Psychiatric Epidemiology*, 47(9): 1459-1473.

Yang, Y., and Green, S.B. (2011) "Coefficient alpha: A reliability coefficient for the 21st century", *Journal of Psychoeducational Assessment*, 29(4): 377-392.

Yanos, P.T, Lucksted, A., Drapalski, A.L., and Roe, D., (2015) 'Interventions targeting mental health self-stigma: A review and comparison', *Psychiatric Rehabilitation Journal*, 38(2): 171-178.

Yanos, P.T., Roe, D., and Lysaker, P.H. (2010) 'The impact of illness identity on recovery from severe mental illness', *American Journal of Psychiatric Rehabilitation*, 13(3): 73-79.

Yanos, P.T., Roe, D., Markus, K., and Lysaker, P.H. (2008) 'Pathways between internalized stigma and outcomes related to recovery in schizophrenia spectrum disorders', *Psychiatric Services*, 59(12): 1437-1442.

Yap, M.B.H., Reavley, N., Mackinnon, A.J., and Jorm, A.F. (2013) 'Psychiatric labels and other influences on young people's stigmatizing attitudes: Findings from an Australian national survey', *Journal of Affective Disorders*, 148(2-3): 299-309.

Yates, R., and Malloch, M. (eds.) (2010) *Tackling addiction: Pathways to recovery*, London: Jessica Kingsley Publishers.

Yee, N.Y.I., Large, M.M., Kemp, R.I., and Nielssen, O.B. (2011) 'Severe non-lethal violence during psychotic illness', *Australian and New Zealand Journal of Psychiatry*, 45: 466-472.

Yiu, J.W., Mak, W.W.S., Ho, W.S., and Chui, Y.Y. (2010) 'Effectiveness of a knowledge-contact program in improving nursing students' attitudes and emotional competence in serving people living with HIV/AIDS', *Social Science & Medicine*, 71(1): 38-44.

Young, M., Stuber, J., Ahern, J., and Galea, S. (2005) 'Interpersonal discrimination and the health of illicit drug users', *The American. Journal of Drug and Alcohol Abuse*, 31(3): 371-391.