

Peer Support Groups for Substance Misuse: Understanding Engagement with the Group

by

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M.Sc., University of Victoria, 2011

B.A., York University, 2007

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Abstract

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Peer support groups (PSGs) for addiction recovery are the most common source for aftercare services once professional treatment has ended (Cloud, Rowan, Wulff, & Golder, 2007), and a significant number of individuals who seek help for a substance-related problem only seek that help from peer support organizations, such as Alcoholics Anonymous (White, 2010). In the last two decades, a different, more secular culture of “recovery” from self-defined problematic substance has led to the emergence of new PSGs (White, 2009). However, very few research studies to date have examined how more recent, typically secular, PSGs work, what aspects of them attract participants, and what participants find helpful about the group. Further, very little is known whether theories that have been applied to clinical treatment, such as the Stages of Change model, relate to the peer support environment. LifeRing is a secular PSG that views substance misuse as a learned habit that can be changed through taking responsibility for one’s actions and actively engaging with peers (Nicolaus, 2009). A particularly relevant model to LifeRing is Stages of Change, because LifeRing encourages personal responsibility and choice, does not prescribe any specific steps, and encourages individuals to build their own recovery plan that can help them stay motivated in recovery (Nicolaus, 2009). The current study examined data from 50 participants that attend LifeRing meetings on Vancouver Island. The results were not consistent with the Stages of Change framework.

Specifically, readiness to change and active group participation did not predict group engagement outcomes. Analysis of open-ended follow-up questions indicate that group cohesion and match in beliefs were significantly associated with greater active group participation and convenor alliance was significantly associated with group satisfaction, paralleling findings on the topic in the psychotherapy literature. Information from qualitative follow-up questions regarding helpful and unhelpful aspects of LifeRing are also discussed.

Table of Contents

Supervisory Committee	ii
Abstract	iii
Table of Contents	v
List of Tables	vii
Acknowledgments.....	viii
Peer Support Groups for Substance Misuse: Understanding Engagement with the Group.	
Part I: Review of the Literature.	1
Introduction.....	1
Substance Misuse: An Overview	5
Defining Substance Misuse.....	5
Consequences of Substance Misuse.....	7
Prevalence, Risk, and Protective Factors	8
Defining “Recovery” From Substance Misuse	13
Treatment of Substance Misuse	15
Peer Support Groups for Substance Misuse.....	17
What Are Peer Support Groups?.....	17
Twelve Step Approaches	17
Secular And Non-Twelve Step Peer Support Approaches	19
What is the Evidence for Effectiveness of Peer Support Groups?.....	23
What Are The “Active Ingredients” In Peer Support Groups?.....	36
What Factors Predict Greater Effectiveness Of Peer Support Groups?.....	42
What Factors Predict Attendance Of Peer Support Groups?	44
Part II: Current Study	46
Purpose.....	46
Hypotheses	47
Method	48
Participants.....	48
Procedures.....	50
Measures.	51
Results.....	55
Quantitative Analyses Results	55
Readiness to change, active participation, and satisfaction	57
Active participation, match between beliefs, and satisfaction with LifeRing	62
Qualitative Follow-Up Analyses.....	63
Helpful aspects of LifeRing.	64
Participants’ needs and what they would change about LifeRing.	67
Discussion	71
Conclusion	75
Strengths and Limitations	75
Study Implications	77
Future Directions	78
Bibliography	80

Appendix A.....	96
Demographics questionnaire for LifeRing study.....	96
Appendix B.....	97
Strengths and Limitations of LifeRing Questionnaire.....	97
Appendix C.....	98
Alcohol Contemplation Ladder (Hogue et al., 2010).....	98
Appendix D.....	99
Alcohol Use Disorders Identification Test (Saunders et al., 1993).....	99
Appendix E.....	101
Drug Use Disorders Identification Test (Berman et al., 2005).....	101
Appendix F.....	103
Client Satisfaction Questionnaire (Larsen et al., 1979).....	103
Appendix G.....	104
Recovery Group Participation Scale (Groshkova et al., 2011).....	104
Copyright License.....	106

List of Tables

Table 1 Summary of all Intercorrelations	59
Table 2 Hierarchical Multiple Regression Analyses Predicting Active Group Participation	60
Table 3 Hierarchical Multiple Regression Analyses Predicting Satisfaction with LifeRing	61
Table 4 Moderation Analyses Predicting Group Satisfaction.....	62

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Peer Support Groups for Substance Misuse: Understanding Engagement with the Group. Part I: Review of the Literature.

Introduction

Peer support groups (PSGs) for addiction recovery, such as Alcoholics Anonymous (AA) and Narcotics Anonymous (NA), are common recovery resources (Cloud, Rowan, Wulff, & Golder, 2007). PSGs are often seen as a valued and important adjunct to professional-led treatment (White, 2010). When treatment ends, PSGs are the most common source of subsequent treatment (White, Kelly, & Roth, 2012). However, it is also important to note that while PSGs can be perceived as an “adjunct” to treatment for those people attending professional-delivered interventions, much greater numbers of people attend PSGs for substance use problems when compared to attending professional treatment (White, 2010). Further, PSGs for substance misuse recovery typically do not include individuals who achieve spontaneous recovery from substance misuse (i.e., recovery without any peer- or professional-based assistance) (Klingemann, Sobell, & Sobell, 2010).

These issues are important to consider and can help researchers recognize that PSGs do not represent all individuals who are considering changing their use of substances. Further, research with persons who recover from substance misuse spontaneously provides important context for examining recovery from substance misuse in general. First of all, the mere fact that individuals can recover without engagement with treatment and/or PSGs suggests that individuals are able to make choices about their substance use, but the choice to stop or moderate their substance use becomes more difficult when the individual’s dependence is greater and their use patterns are on the heavy end of the continuum (Klingemann et al., 2010). In fact, a number of studies illustrate that persons who recover naturally are more likely to moderate their substance use rather than abstain from substance use altogether, and individuals with milder forms of substance dependence appear to be more successful at engaging in controlled, non-harmful use (Klingemann et al., 2010; Ruan, Grant, Stinson, Chou, Huang, & Ruan, 2005; Schute, Moos, & Brennan, 2006). Second, research with self-changers indicates that while some of their motivations to control or stop using substances are similar to

individuals who do engage in treatment, other motivations appear quite different. For example, in a qualitative study of 46 individuals with a history of alcohol and other drug misuse, participants cited health concerns and traumatic events as common reasons for cutting down or eliminating their substance use (Granfield & Cloud, 2001), which is similar to reasons cited by persons who attend PSGs in other studies (e.g., Cloud et al., 2007). In the Granfield and Cloud (2001) study, participants also identified that maintaining non-using relationships with friends and family was instrumental to their ability to change. Once again, this is similar to the findings from the PSG literature, which suggests that sobriety-specific social support is one factor that may help persons in their recovery process (e.g., Cloud et al., 2007). However, a study that included 83 self-changers and 138 problem drinkers also found that self-changers, compared to problem drinkers, were more likely to be successful in their recovery when they told *fewer* people in their social network about their attempts to recover and fewer persons have expressed concern about their substance use (Russell, Peirce, Chan, Wiczorek, Moscato, & Nochajski, 2001). This is in stark contrast to the typical studies done with PSGs, which have consistently found that greater availability and engagement with sobriety-specific social supports is associated with greater amount of days sober, which is often used as one index of recovery (Beattie & Longabaugh, 1999; Bond, Kaskutas, & Weisner, 2003; Groh, Jason, Davis, Olson, & Farrari, 2007). What these findings mean for the research on substance misuse, recovery, and PSGs is that the pathways to change are complex and multi-determined, and can rarely be attributed to a single factor, such as attending a PSG. The discussion of literature on PSGs and their role in the process of recovery is considered with this in mind.

In the last few decades, a number of new PSGs have emerged. In contrast to the twelve-step model of AA and NA, these PSGs tend to be secular and tend to de-emphasize one way or one set of steps to recovery (White et al., 2012). Many research studies have been conducted with twelve-step model PSGs, which include AA and NA, and the overall results for twelve-step groups specifically suggest that these groups are beneficial for many individuals (Armitage, Lyons, & Moore, 2010; Atkins & Hawdon, 2007; Kelly, Stout, Zywiak, & Schneider, 2006; Kownacki & Shadish, 1999; Magura, 2008; Sanders, Trinh, Sherman, & Banks, 1998; Schmidt, Carns, & Chandler, 2001).

Longitudinal studies have linked twelve step PSG attendance with lower substance use and longer sobriety times (e.g., Kelly, Stout, Magill, Tonigan, & Pagano, 2010; Kownacki & Shadish, 1999). However, research findings on this topic are mixed: some studies highlight the high rate of drop out from these PSGs (Cloud et al., 2007; McIntire, 2000) and some systematic reviews have failed to find significant effects associated with twelve-step participation (e.g., Miller & Wilbourne, 2002). Although some randomized controlled trials have been conducted in this area (e.g., Beattie & Longabaugh, 1999; Project MATCH Research Group, 1997), many studies do not include control groups, which limits their ability to account for possible self-selection biases or other variables that could potentially confound the results. Thus, the questions of whether twelve-step groups work, who may they work for, and under what conditions do they work best remain under investigation. While the complexity of the studies in this literature will be addressed in subsequent sections, the state of the present research literature suggests that attending PSGs, particularly twelve step PSGs like AA and NA, is associated with some positive outcomes, like reduction in substance use and increase in amount of sober days (e.g., Kelly et al., 2011). At this juncture, there are not enough studies to conclusively suggest that engagement with PSGs actually leads to benefits, as most of the studies within this literature fail to account for reverse causation (i.e., people who are more successful in their recovery may be more likely to attend PSGs rather than PSGs helping people be more successful in recovery). Only a few studies have looked at how PSGs may contribute to positive outcomes, and there has been some suggestion that twelve step groups specifically contribute to positive substance use outcomes via increase of spirituality (Kelly et al., 2011), decrease in anger (Kelly et al., 2010), and increase in perceived sobriety-specific social support (e.g., Bond, Kaskutas, & Weisner, 2003). However, studies of mediational mechanisms within PSGs are too few to conclusively establish how, if at all, PSGs affect outcomes.

Much less is known about the potential mechanisms of the new, secular PSGs, what features of these groups attract membership, and what factors are associated with satisfaction with and active participation in the group. Recent studies have illustrated that some concepts that apply to group psychotherapy may also apply to the dynamics of twelve-step PSGs, but it is unknown if they are also applicable in the context of secular

PSGs. For example, cohesion, a well-established predictor of outcomes in group psychotherapy (Gillaspy, Wright, Campbell, Stokes, & Adinoff, 2002), has also been identified as a predictor of satisfaction with recovery PSGs (Rice & Tonigan, 2011; Subbaraman, & Kaskutas, 2012). On the other hand, other prominent theories of behaviour change in an interpersonal context (i.e., Stages of Change theory, e.g., Moyers & Houck, 2011) have not been examined in either twelve step or secular PSGs. Further, emerging evidence suggests that a match between program philosophy and participant beliefs is an important factor in choosing which secular PSG to attend (e.g., Atkins & Hawdon, 2007), but this has not been investigated by asking participants explicitly about this match.

Finally, several studies have explored the characteristics of participants who attend secular PSGs in a qualitative manner (e.g., Kaskutas, 1996), but there is a lack of mixed methods studies that assess both quantitative data derived from standardized questionnaires and follow-up open-ended questions that explore the research questions in greater depth. Data obtained from mixed methods designs can reflect the participants' unique perspectives of why they come to the secular peer groups and what they find beneficial about the groups. The advantage of using qualitative data is that when participants respond to open-ended questions, additional information may emerge from their answers that the researchers have not considered, yet participants may express that this information are important to their understanding of the subject matter (Neale, Allen, & Coombes, 2005). As such, studies of non-twelve PSGs, to date, have been small, correlational studies that have mainly focused on descriptive results.

The current study will employ mixed methods (standardized questionnaires and follow-up open-ended questions) to examine the research questions that have not yet been addressed in the research literature. These questions are: What is the relationship between the indicators of the Action stage in the Stages of Change model (high readiness to change, active participation in the group) and satisfaction with the group? Is the match between personal beliefs and program philosophy associated with satisfaction with the group? What drew the participants to attend the peer support group? The open-ended questions will address participants' own ideas about what they like and don't like about LifeRing, what they would like to see changed, and what benefits, if any, they think they

receive from attending LifeRing. These questions are important to address because they can provide information about the mechanisms of engaging with a PSG, including potential benefits, drawbacks, and participants' suggestions for improvement. Since many persons attend PSGs for addiction recovery every year, this information may contribute to improvement of the services they receive.

To answer these questions, the current study will examine data from the LifeRing Study project, which included 50 participants who attend LifeRing on Vancouver Island. LifeRing is a secular PSG that emphasizes self-empowerment and personal responsibility (Nicolaus, 2009). It has emerged from Secular Organizations for Sobriety in late 1990's and is one of the more recent PSGs that emphasize a new culture of recovery (White et al., 2012). This new "recovery culture" includes concepts such as recovery is unique to each individual; no one treatment or approach will work for everyone in recovery; and people in recovery need to be actively involved in their choice of treatment (White et al., 2012).

The review below begins with an overview of the problem of substance misuse, including definitions of substance misuse and recovery, prevalence and consequences of misuse, risk and protective factors, and treatment options. Next, I will examine the research literature on twelve-step and secular PSGs, namely, what evidence exists to support the claim the PSGs are effective and should be the focus of further scientific investigation; what factors predict longer involvement and greater satisfaction with PSGs; what are the mediators or moderators of positive effects of PSGs; and what are the differences between twelve step, spiritual-based and secular PSG literatures. Throughout the review, I will discuss strengths and weaknesses of this research literature.

Substance Misuse: An Overview

Defining Substance Misuse

In this dissertation, the term "substance misuse" will be used to signify a pattern of harmful use of substances (e.g., substance use despite continued negative consequences), including licit and illicit substances and alcohol (Todd et al., 2004). The advantage of using the "substance misuse" terminology is that it is broad and subsumes other terms that indicate different levels of severity of the substance-related problem (Todd et al., 2004). Such terms may include but are not limited to "alcohol-related

problems” and “substance use disorders” (as proposed for a number of years before DSM-V, Helzer, Van Den Brink, & Guth, 2006). This is an advantage when engaging with research with PSG members for several reasons. LifeRing does not require its members to self-label as suffering from addiction or to adopt any particular label with respect to their substance use habits. However, the overarching goal of LifeRing is to unite people who are making a choice to stop using substances, which generally invites participants who self-define as having some sort of problem with their substance use (Nicolaus, 2009). As such, the “substance misuse” terminology reflects that typical LifeRing participants come to LifeRing because they are considering whether substances are a problem for them or because they have already identified something problematic about their substance use (Nicolaus, 2009). The “substance misuse” definition is also advantageous because it includes a broad spectrum of problem type and severity, which also reflects the diversity of persons who come to LifeRing (Nicolaus, 2009).

The term substance misuse will also subsume the term “substance use disorders” used by the DSM-V (American Psychiatric Association, 2013). The criteria for a substance use disorder diagnosis requires that the person exhibit a maladaptive pattern of substance use over the last 12 months, characterized by at least two symptoms. Possible symptoms include recurrent substance use resulting in failure to meet role obligations; recurrent use in physically dangerous situations; tolerance; withdrawal; and recurrent use despite significant social problems (American Psychiatric Association, 2013). Definitions of what constitutes substance use, misuse, abuse, etc., differ widely. Definitions of substance (mis)use also tend to differ from definitions of addiction and how the phenomena are labelled and defined depends greatly on the context (Tomberg, 2010). For example, within some Cognitive Behavioural Therapy (CBT) models, “substance use disorders” are defined as maladaptive psycho-physiological habit formations that have cognitive (e.g., schemas of substances) and behavioural components (e.g., Newlin & Strubler, 2007). On the other hand, in the context of common peer support networks, such as Alcoholics Anonymous (AA), the term used is “addiction” (McElrath, 1997). In the AA context, addiction is defined as a medical disease that is lifelong. The addicted person is seen as having no control over their substance use and needing lifelong help to manage it (e.g., McElrath, 1997). Other peer support groups may define addiction differently

(Nicolaus, 2009). For instance, LifeRing, a secular support group that emphasizes personal responsibility and self-empowerment, defines addiction in a way similar to definitions seen in learning theory and CBT models (e.g., Newlin & Strubler, 2007). LifeRing defines addiction as a learned maladaptive habit that resulted from an interaction of complex biological, social, and psychological systems (Nicolaus, 2009). LifeRing and twelve-step groups have different theoretical underpinnings, which will be discussed below. Therefore, the differences in definition of addiction are a reflection of differences in the overall philosophy of these groups. Thus, although “substance misuse” is the terminology that will be used throughout this dissertation, it is also important to acknowledge the great variety in how key terms are defined in various academic disciplines and within the recovery community, that is the persons who are engaging in substance use and what is defined as “misuse” in this dissertation.

Consequences of Substance Misuse

Since substance misuse lies on a spectrum, its effects on one’s life can range from minimal to fatal. While milder consequences can include declined job performance, declined academic performance, one-time accidental injuries, and interpersonal conflicts (Gillespie, Holt, & Blackwell, 2007), more severe consequences of substance misuse can include job losses (Tapert et al., 2001), anxiety, depression (McDowell & Clodfelter, 2001; Smith & Book, 2010), elevated risk for serious health problems and sexually transmitted infections (STI’s; Pacek, Malcolm, & Martins, 2012), all of which can affect the individual’s psychological, physical, emotional, and social functioning. Long-standing substance misuse can erode the person’s adaptive coping mechanisms, problem-solving skills, ability to regulate one’s emotions, and general life skills. At the severe end of the substance misuse continuum these effects are likely to be intensified (McDowell & Clodfelter, 2001; Smith & Book, 2010; Tapert et al., 2001). For instance, substance misuse can become a replacement for other forms of coping and thus affect the person’s ability to cope safely with daily stressors and difficult events (Newlin & Strubler, 2007). Substance misuse can contribute to a risk to the personal safety of self and others. For example, substance misuse can also affect the person’s judgment and lead them to make decisions that can put them in dangerous situations, such as committing illegal acts in order to procure money so that one can later purchase their drug of choice (Pacek et al.,

2012). Researchers have found a robust link between intimate partner violence and alcohol-related disorders in particular, although this link is at this time more apparent for men than women (Charles & Perreira, 2007; Chase, O'Farrell, Murphy, Fals-Stewart, & Murphy, 2003). Besides personal safety, substance misuse has also been associated with negative physical health consequences, such as elevated risk for Hepatitis C infection (Callaghan, Phillips, Khalil, & Carter, 2012). Finally, substance misuse is frequently comorbid with other high-risk behaviour, such as suicidal behaviour; (Strausner & Nemenzik, 2007).

Prevalence, Risk, and Protective Factors

In this section, prevalence, risk, and protective factors will be discussed. Prior to this discussion, it is important to note that there is a great variability in terms of type of substance misuse problem (e.g., sporadic binge patterns vs. chronic heavy use, etc.); problem severity; types of substance(s) used; social perceptions of the substance(s) and substance users; and consequences of substance use and misuse (Klingemann et al., 2010). Thus, persons who engage with PSGs represent a very diverse and heterogeneous group. As such, the following discussion will focus on general trends in risk and protective factors rather than examining specific risk and protective factors per problem type or associated with specific level of severity. As no research, besides internal member surveys, has been done with LifeRing in the past, the following broad overview is meant to introduce risk and protective factors that may be relevant to this population. However, only further studies with specific PSGs can determine what specific risk and protective factors may be relevant to the LifeRing population specifically.

Substance use-misuse lies on a wide continuum. Yearly prevalence of substance misuse is approximately 11%, while lifetime prevalence is closer to 27% for the general population (Tapert, Tate, & Brown, 2001). However, these rates increase dramatically in populations that face multiple obstacles, such as intimate partner violence (IPV), trauma, poverty, and severe mental health disorders (Tapert et al., 2001). In the Canadian Alcohol and Drug Use Monitoring Survey with a sample of 10,076 individuals over 15 years of age, 74.3% of women and 81.9% of men report consuming alcohol sometime in the past year (Canadian Alcohol and Drug Use Monitoring Survey (CADUMS), 2011). The above rates are obviously much higher than rates of actual misuse and reflect

normative behaviour. In terms of risks associated with alcohol use (i.e., injuries, overdoses, and poisoning), 15% of female drinkers and 22.3% of male drinkers were classified as being in increased risk for negative effects of chronic drinking such as physical diseases (CADUMS, 2011). However, the CADUMS data suggested that there was a strong tendency from participants to underreport the rates of alcohol consumption, indicating that alcohol consumption and associated consequences and risks may be even more pronounced than the data suggest (CADUMS, 2011). With regards to other substances, 9.1% of Canadians reported using cannabis, but approximately half of them reported infrequent or experimental use only (CADUMS, 2011). The yearly prevalence rate for specific illicit drug use, other than cannabis, was much lower, at or below 1% for all classes of drugs. (CADUMS, 2011). However, rates of use of different substances, such as heroin, crystal meth, and crack cocaine, are significantly higher in populations with specific risk factors. This is discussed below.

In terms of gender differences, past research studies reported that women's rates of substance misuse were lower than men's (Tapert et al., 2001). However, in the last few decades women's rates of substance misuse and dependence have been steadily on the rise. Currently, men's and women's overall rates of illicit drug use remain approximately the same, although there are differences between samples (Lev-Ran, Le Strat, Imtiaz, Rehm, & Le Foll, 2013; Grella, 2008). However, men are still three to four times more likely to suffer from alcohol dependence/abuse than women, and women are twice more likely to misuse prescription drugs than men (Grella, 2008). In general, young men (18-24) appear to be at high risk for misusing alcohol and illicit substances (CADUMS, 2011), but this finding is not uniform to all men. Men in various geographical areas (i.e., Alberta) and men of lower socio-economic positions (SEPs) are at higher risk (CADUMS, 2011). While some studies have found that occupation also has an effect on alcohol use specifically (e.g., Head, Standfeld, & Siegrist, 2004), a large (two samples of n=6526 and n=6582) recent study based on Canadian Health Survey did not find a link between occupation type and alcohol-related problem, although other occupations variables were related to alcohol use onset and recurring drinking (Marchand & Blanc, 2011). As such, the research on the relationship between substance misuse occupation (by type and by status) is complex.

There are some general risk factors for substance misuse. A detailed discussion of all known risk and protective factors is beyond the scope of this dissertation, so the following discussion will focus on the common trends in research on risk factors. Some such risk factors that have already been mentioned include male gender (Canadian Addiction Survey, 2004; Stone, Becker, Hubert, & Catalano, 2012) and young age, specifically 18-25 (Stone et al., 2012). In one review concerning older adults, researchers found that older adults with either minimal or high cognitive impairment appear to be at greater risk for alcohol misuse than older adults with moderate impairment, but the explanations of these findings are lacking (Christensen, Low, & Anstley, 2006). Another risk factor related to the individual's well-being is the presence of a mental health disorder. Specific mental health disorders (e.g., panic disorder, generalized anxiety disorder) place the persons at higher risk for misusing substances (e.g., Gummatirra et al., 2010; Ham & Hope, 2003). At the same time, a number of research studies have also examined how substance use and misuse can place a person at higher risk for mental health difficulties, such as increase depression symptoms (e.g., Worley, Trim, Roesch, Mrnak-Meyer, Tate, & Brown, 2012). In terms of environmental risk factors, living in urban vs. rural area does not appear to elevate the risk of substance misuse, but there are specific geographical areas where substance use is higher than the national average, such as Prince Edward Island (CADUMS, 2011). This may be partly due to rates of poverty and unemployment, as poverty and low socio-economic position are considered important social determinants of health and they tend to be associated with higher risk of substance misuse, although persons of high socio-economic position has also been associated with increased alcohol use specifically (Smyth & Kost, 1998).

Other risk factors that have been documented in the research literature include genetic predisposition (e.g., Kendler, Karkowski, Corey, Prescott, & Neale, 1999); personality traits, such as impulsivity and risk-seeking traits (Hecimovic, Barrett, Darredeau, & Stewart, 2013); family history, such as substance misuse in the family of origin (e.g., Sbrana et al., 2007); and cultural/peer norms that condone substance use and misuse (e.g., Wambeam, Canen, Linkenbach, & Otto, 2013).

It's important to note that risk factors discussed above are very general trends or common threads that have been found in a variety of research studies that sampled very

diverse populations. Further, some populations experience unique risk and protective factors. It is important to keep the intersections of gender, ethnicity, sexuality, ability, and socio-economic position in mind when discussing risk and protective factors related to substance abuse.

In terms of protective factors that are associated with lowered risk of substance misuse, one consistent research finding is that stricter laws and taxation related to alcohol and tobacco are protective from any tobacco and alcohol use in general, although this factor can also be conceptualized as a social policy that has an impact on substance use rather than a protective factor per se (Stone et al., 2012). For example, higher tobacco prices are associated with declines in tobacco use. Further, strict driving laws that require blood alcohol level to be below 0.08% or 0.05% are associated with fewer alcohol-related motor vehicle mortalities. In some studies, higher pricing of alcohol was related to decreased binge drinking for college-aged women, but not men (Stone et al., 2012). Thus, a factor that has been found to be protective for a particular group of people may not be protective for another group. Other common protective factors include religious involvement (e.g., White 2008), higher educational attainment (e.g., Merline et al., 2008), and being in a supportive married or a committed relationship (e.g., Duncan, 2006). However, intimate relationship may be either a risk or a protective factor if there is violence in the relationship (Charles & Perreira, 2007) and the research on educational attainment as protective is not always consistent (Stone et al., 2012). The latter inconsistency may be partly due to different methods of measuring educational attainment. While some studies may measure education by years in school only, others also measure scholastic attitudes, such as positive expectations of school and academic self-efficacy, to denote educational attainment. Further, some studies have found that religiosity is only protective for heterosexual individuals (e.g., Rostosky, Danner, & Riggle, 2007), possibly because of the judgmental attitudes that some religious teachings have regarding the LGBTQ community.

This dissertation focuses on a specific protective factor: social support from one's peers. Social support has many facets. For example, if one is part of a delinquent peer group (a peer group that supports anti-social behaviour, such as criminal activity, aggression, and criminal financial enterprises), then one's social circle may actually be

supportive of alcohol and drug misuse (Valdez, Kaplan, & Curtis, 2007). This type of social support is usually considered “anti-social” support, because the type of behaviours that the group encourages often go against wider social norms and are associated with negative consequences (e.g., criminal activity) (Valdez et al., 2007). On the other hand, having a sober social network while in recovery (i.e., a network gained through an organization like AA or NA) increases the likelihood that one can stay sober (Groh, Jason, Davis, Olson, & Ferrari, 2007). The sober social network may also include sober friends and family members (Groh et al., 2007). For persons in recovery who attend professional treatment (not including persons who are working on changing their substance use patterns on their own), peer support is often seen as an essential part of the treatment plan and peer support organizations are the most common source of treatment aftercare after short-term public treatments have ended (White, 2010). Once again, it is necessary to note that peer support is often geared towards helping individuals who have more severe substance misuse patterns (White, 2009), whereas self-changers likely exhibit a wider range in the severity of their substance misuse (Klingemann et al., 2010). It is possible that fewer self-changers seek out support because they do not feel they need it (Klingemann et al., 2010). However, comprehensive studies on this subject are lacking.

It may be possible that people seek out the social support available at PSGs partly due to the larger social dynamics that surround substance misuse. Substance misuse is highly stigmatized in North American society and substance users are often labelled as inadequate or immoral (Livingston, Milne, Fang, & Amari, 2012). Such stigmatization can even surface in services that are meant to help individuals who are using or misusing substances, such as hospitals and health care clinics (van Boekel, Brouwers, van Weeghel, & Garretsen, 2013). In a way, a peer support organization provides potentially non-stigmatizing space where other individuals with lived experience of substance misuse and recovery can gather, share stories, and encourage one another (Armitage, Lyons, & Moore, 2010). White (p. 16, 2009) defines peer support in the following way:

Peer-based recovery support is the process of giving and receiving nonprofessional, non-clinical assistance to achieve long-term recovery from severe alcohol and/or other drug-related problems. This support is provided by people who are experientially

credentialed to assist others in initiating recovery, maintaining recovery, and enhancing the quality of personal and family life in long-term recovery.

This is the peer support definition that will be used in this dissertation. In the sections that follow, the function, phenomenology, and effectiveness of peer support are discussed. However, it is important to address the definition of “recovery” from substance misuse first.

Defining “Recovery” From Substance Misuse

This dissertation will focus specifically on individuals who are self-identified as being in recovery from substance misuse. Therefore, it is also necessary to define the term “recovery.” This term originally came from the Alcoholics Anonymous literature, but in the last few decades it has become widely used in the general culture of substance misuse treatment (Laudet, 2007). Researchers who conduct studies with people attempting to stop substance misuse often use the term “recovery” to mean complete abstinence (e.g., Scott, Foss, & Dennis, 2005). The American Society of Addiction defines recovery as “overcoming both physical and psychological dependence to a psychoactive drug while making a commitment to sobriety,” which is a more flexible definition because it expands the criterion of complete abstinence (American Society of Addiction Medicine, 2001). Still, this definition is not clear on whether a person can be in the process of “overcoming” to be considered “in recovery” or whether they are expected to have “overcome” dependence (which is open to interpretation as to whether it denotes complete abstinence or moderated substance use). Further, it is important to involve people who actually have the lived experience of attempting to quit substance use in the definition of “recovery.” Research participants’ definitions of recovery also differ. For example, 86.5% in a sample of 289 American participants with an average 18.7 years of dependence on crack cocaine or heroin said that they equate recovery with total abstinence (Laudet, 2007). These participants also came from a country where the AA/NA model of total abstinence is prevalent (Laudet, 2007). On the other hand, only 73.5% of Australian participants with similar drug use histories said that they define recovery as total abstinence from substances. The difference between these findings makes sense, given that the harm reduction model was more prevalent in the community from which the latter sample was drawn (Laudet & Storey, 2006), with “harm reduction”

defined as “any program or policy designed to reduce drug-related harm without requiring the cessation of drug use” (CAMH, 2012). Qualitative data from one study suggest that although abstinence was a major theme in defining recovery, other themes were also important to the research participants (Laudet, 2007). These themes included using drugs and alcohol in a controlled manner, recovery meaning a “new life,” a process of “working on oneself,” and taking control back over one’s life (Laudet, 2007). Although abstinence from substances appears very important for many people in recovery, it is not necessarily the only defining feature of recovery. Finally, a number of studies have suggested that complete abstinence is most likely to be a recovery goal for individuals with severe substance misuse patterns, indicated by heavy regular use despite serious (e.g., potentially life-threatening) negative consequences (e.g., Xie, McHugo, & Drake, 2009).

Further, it is important to note that substance misuse has negative consequences in many areas of one’s life, including social, psychological, occupational, and medical (Canadian Addiction Survey, 2004). If recovery is conceptualized broadly as regaining well-being, health, and control over one’s life, then abstinence, even if it is the goal of the individual, will not be enough to restore the desired level of quality of life (Laudet, 2007).

Even if one were to stop using substances completely, the psychosocial, medical, and interpersonal problems caused by previous substance use may remain unless they are addressed. For example, if an individual was using substances to medicate symptoms of Post-Traumatic Stress Disorder (PTSD), their PTSD symptoms may increase when they stop using substances, although that is not always the case (Najavits, Sonn, Walsh, & Weiss, 2004). This individual would need specific treatment to address the PTSD (Najavits et al., 2004). Further, the stigma associated with being perceived as a “substance abuser” may continue to affect the individual’s interpersonal relationships and functioning in society even if they stop using substances (Benoit, McCarthy, & Jansson, in press). Social support, appropriate health care, psychological treatments that address motivation and self-efficacy are examples of resources that a person in recovery may seek (Laudet, 2007). This thesis will specifically address the relationships between peer support and other recovery-related resources/experiences.

Treatment of Substance Misuse

Since this dissertation is focused on peer support rather than professional treatment, this section will be a brief overview. There are a number of treatments available for substance misuse. However, not all treatments are supported by empirical evidence (Miller & Willbourne, 2002). Several meta-analyses consistently rank Cognitive-Behavioural therapy and its variants (i.e., Relapse Prevention Training, Behavioural Couples Therapy), Community Reinforcement Model, and Motivational Interviewing/Motivational Enhancement Therapy as the most well-supported psychosocial treatments (e.g., Miller & Wilbourne, 2002; Martin & Rehm, 2012). Motivational Interviewing, for example, is based on the Stages of Change theory and its proponents suggest that assisting the clients in resolving ambivalence with respect to change leads to improved engagement with treatment and, as such, improved outcomes (Connors, DiClemente, Velasquez, & Donovan, 2013). While some studies have found some support for the relationship between Stages of Change interventions and improved treatment engagement (e.g., Amrhein, Miller, Yahne, Palmer, & Fulcher, 2007), other studies have failed to find support for this relationship (e.g., Baker et al., 2002). Thus, even treatments that are considered to be empirically supported are not necessarily effective for all populations and may work via different causal mechanisms than the ones identified in the Stages of Change model.

Beyond the effectiveness of treatments that are considered empirically supported, the type of treatment that clients are most likely to receive in publically-funded clinics is supportive psychotherapy (Miller & Wilbourne, 2002). Compared to other psychosocial treatments for substance misuse, the effectiveness of supportive therapy has been ranked 12.5th out of 46 placements (Miller & Wilbourne, 2002). Evidently, there is a gap between evidence-supported treatments and the implementation of these treatments in practice (Morgenstern, 2000), as is common in other areas of psychosocial treatments (e.g., Essock, Covel, & Weissman, 2004).

This disconnect between research and practice is a common one, as it takes considerable time for research results to be incorporated into policy and program planning decisions (e.g., Essock et al., 2004; Morgenstern, 2000). Another obstacle to offering evidence-supported treatments in the public systems is the amount of training

and on-going supervision required in order to deliver the treatment in the way it is meant to be delivered (Martino, Ball, Nich, Canning-Ball, Rounsaville, & Carroll, 2011; Miller & Mount, 2002). For example, professionals being trained in Motivational Interviewing frequently overestimate their ability to apply the treatment after participating in a brief workshop or a brief educational experience (i.e., reading a book about the treatment) (Martino et al., 2011). Brief workshops that teach the specific strategies associated with Motivational Interviewing show improvement in clinician skill level immediately after the workshop, but these results often disappear over time if no further feedback or supervision in Motivation Interviewing is offered (Martino et al., 2011).

There is a complex relationship between medical/psychiatric treatment of substance misuse and peer support/mutual aid for recovery from substance misuse. On the one hand, publically-offered programs posit that psychological intervention for the individual is the bona fide *treatment* for substance misuse, while peer support is an important *adjunct*, but not a treatment in itself (White et al., 2012). The legacy of this relationship is that that peer support is almost always recommended as an adjunct to treatment and it is also the most common suggested resource for post-treatment aftercare (Cloud et al., 2007). At the same time, many clients in public treatment programs are required to attend peer support meetings (most often, AA or NA meetings) as part of their treatment plan, which gives rise to complex issues of how autonomous the client feels in their action of attending the support group (Rynes & Tonigan, 2011). Peer support group attendance for substance misuse may also be mandated by civil and criminal courts, which raises the issue of autonomy and forced treatment to another level (Speigman, 1997). On the other hand, PSGs are much more accessible than professional treatment: PSGs are free, they are usually offered at different times of the day, and they do not require a commitment (White, 2010). In fact, more individuals attend PSGs than professional treatment for substance misuse recovery at some point in their life (White, 2010). Considering the proliferation of PSGs in the domain of substance misuse treatment, many researchers are asking whether peer support is, indeed, effective and, if yes, who is it effective for and who is it not (e.g., Atkins & Hawdon, 2007; Magura, Knight, Vogel, Mahmood, Laudet, & Rosenblum, 2003)? These questions will be addressed in subsequent sections.

Peer Support Groups for Substance Misuse

What Are Peer Support Groups?

“Peer support groups” will be discussed in this dissertation with the consideration of the earlier definition of “peer support” as a form of non-clinical help provided by individuals in recovery from substance misuse to other individuals in recovery (p. 16, White, 2009). Thus, “peer support groups” (PSGs) will be defined as any meeting, grouping, community, or organization of persons in recovery whose purpose is to meet together and provide mutual aid and support. Other terms used in the research literature is “mutual aid groups” and “self-help groups” (e.g., Magura et al., 2003; Magura, 2008); any studies that use this and similar terminology will be subsumed under the reference to the “peer support groups.”

Today in North America there is a plethora of peer support groups (PSGs) for substance misuse, including Alcoholics Anonymous, Narcotics Anonymous, LifeRing, Secular Organizations for Sobriety, Women for Sobriety, and more (White, 2009). However, many of the latter secular organizations are relatively new (i.e., LifeRing), existing only for several decades or less (White et al., 2012). Before 1980’s, spiritually-oriented, twelve-step support groups were the main form of peer support for addiction recovery (White et al., 2012). In order to understand PSGs today, a brief history of the development of PSGs for addiction recovery is offered below. First, I begin with discussing the history of the AA approach and then I will consider how more recent support groups have evolved from the AA tradition.

Twelve Step Approaches

The AA approach to recovery from alcoholism was articulated by Bill Wilson & Bob Smith in 1935 (Mullins, 2010). This approach was not created in a vacuum, but arose in a context of changing attitudes towards alcoholism and alcoholics, and was influenced by organizations that existed during the Temperance movement in the 1800’s and early 1900s in USA (for a more detailed discussion pre-AA history of peer support, see White et al., 2012). At the time, the predominant model for understanding addiction was the moral model, which stated that any “addicted person” was somehow morally flawed or had a tragic deficiency in character (Mullins, 2010). The addicted person, then, was the only one to blame for the addiction (Mullins, 2010). The AA model was

emerging in a zeitgeist of people questioning the moral model (White et al., 2012). It proposed a different way of understanding addiction. To this day, the AA philosophy holds the medical model to be true (McElrath, 1997). Thus, addiction is seen as a lifelong disease that the person has no control over (with the goal of reducing the blame on the individual). With the expansion of AA into NA in the later years, this model was also applied to drug misuse (McElrath, 1997). In 1935, this model was revolutionary and signified a shift in social paradigms of medicine, addiction, and mental health: new, emerging discourses in these disciplines were no longer compatible with the moral model (Mullins, 2010). This is a noteworthy point, as I will return to it later to illustrate how the paradigm is shifting again in the more recent decades (White et al., 2012).

AA proposes that the way to recover from substances is to follow the twelve steps laid out in the main Alcoholic Anonymous text (or “The Big Book,” AAWS, 1976). The AA organization describes itself as spiritual, not religious, and is adamant that they are not associated with any religion or denomination (AAWS, 1976). However, it is difficult to deny the Christian roots of AA, as the influence of Christian religious principles is evident in AA’s principles today. For example, the Christian ethic of confession as a way of personal cleansing and healing is central to the twelve steps – the step of taking one’s “moral inventory” and confessing one’s wrongdoings to one’s peers is particularly prominent in the twelve step process (Mullins, 2010). At the same time, the language used in AA emphasizes personal meaning and ambiguity of spiritual concepts – there is an emphasis on God/Higher Power *as individuals understand it*, therefore leaving the concept of God/Higher Power completely open to individual interpretation (Mullins, 2010).

Given its long history, it is interesting to note that the twelve step model is the most common type of peer support model for addiction recovery, not just in North America, but in many other developed and developing countries (Mullins, 2010; White, 2010). AA and NA continue to attract many people in recovery, but many changes have occurred in the peer support landscape over the last few decades. Before I consider whether PSGs are effective in helping people achieve their recovery goals, I will briefly discuss the process of development of other peer support approaches.

Secular And Non-Twelve Step Peer Support Approaches

A new culture of “recovery.” In the 1980’s and 1990’s, the landscape of peer support for recovery begun to shift again. New peer support organizations were being created, including spiritual (e.g., Women for Sobriety, 1975) and secular-based organizations (e.g., Smart Recovery, 1994), as well as some that used a harm reduction approach rather than the historically prevalent abstinence-based approach (e.g., Moderation Management, 1994) (White et al., 2012). The concept of controlled drinking has also become more prevalent in the landscape of substance misuse treatment in the last 20 years (Adamson, Heather, Morton, & Raistrick, 2010). The new paradigm was one of a diverse recovery culture with a set of broad and inclusive principles (White et al., 2012). Some of the core principles included: recovery affects many different people; just as everyone’s addiction story is different, everyone’s recovery story is also different; there is no one path to recovery and a menu of options should be available to each individual; healthy communities are a cornerstone of recovery, not an adjunct to treatment (White et al., 2012). One of the major shifts within the paradigm of peer support and recovery was the shift from conceptualizing addiction as a medical disease to focusing more on recovery as a personal process of healing (Laudet, 2007). This review will focus specifically on definitions of recovery within intervention and peer support paradigms. An analysis of how other disciplines and institutions view substance misuse and recovery is beyond the scope of this thesis. However, it is important to note people outside of the peer support and recovery networks have a very different view on the subject than the views presented here (e.g., Holma, Koski-Jännes, Raitasalo, Blomqvist, Pervova, & Cunningham, 2011). For example, in a large study that included public’s perception of societal problems in four countries, participants displayed a strong tendency to equate substance use with constructs of “badness,” including criminality and public threat, indicating a fairly one-dimensional view of substance misuse and substance users (Holma et al., 2011).

In the new, emerging recovery paradigm, there was also a shift away from finding one absolute definition of either “addiction” or “recovery” (White et al., 2012). An interest in this new recovery culture, language, and principles was evident: new support groups were starting up and growing (White et al., 2012); major funding bodies were

increasing research and program funds for peer support programs (Kaplan, Nugent, Baker, & Clark, 2010); and national policies explicitly included an expansion of healthy, supportive communities as policy goals and targets (White et al., 2012). In 2001, a meeting of recovery-based community organizations took place in St. Paul, MN, USA and this has been considered the launch of the new “recovery advocacy movement” (pg. 8, White et al., 2012). Just as when AA was emerging on the scene in 1930’s, this new recovery movement paradigm of the 1980s-1990s did not arise from a vacuum. This new conceptualization of recovery emerged partially as a result of intersecting discourses on health, addiction, substance use and misuse, communities, and empowerment that occurred across disciplines and communities (White, 2010).

The above principles of the recovery advocacy movement are independently reflected in many of the more recent recovery organizations (White et al., 2012). For example, LifeRing explicitly states that there is no one recovery method or path that is recommended, that recovery is unique to each individual (Nicolaus, 2009). Although many peer support organizations share these principles in common, each organization usually has its own discourses and theories of substance misuse and recovery from it. For example, the Self-Management and Recovery Training (SMART) model is organized according to the CBT model and SMART participants are encouraged to identify their thinking errors, engage in cognitive restructuring together, and check the validity of their assumptions and expectations with regards to using drugs or alcohol (Li, Feifer, & Strohm, 2000). In SMART recovery, these CBT methods are viewed as a way to recover from substance misuse, and the support of one’s peers in this process is seen as essential. However, SMART recovery does not assert that this is the only way to recover (Li et al., 2000).

I will limit this discussion to examining the LifeRing organization and its basic theories and principles, which is the PSG of interest in this dissertation.

LifeRing: A secular peer support group. LifeRing is a secular PSG that evolved from the larger Secular Organization for Sobriety (SOS). LifeRing was established as a separate organization in 1999 (p. 70, Nicolaus, 2009). Nicolaus (2009), the CEO of LifeRing, writes about three principles of LifeRing, which are: Sobriety, Secularity, and Self-help. Sobriety refers to LifeRing’s philosophy of abstinence – LifeRing encourages

100% abstinence from all substances (e.g., alcohol, cannabis, cocaine), excluding coffee, nicotine, and sugar. This LifeRing has in common with the twelve step approach. Secularity is where LifeRing's philosophy takes a sharp turn away from twelve step-type principles (p. 13-14, Nicolaus, 2009). Nicolaus (p. 14, 2009) describes LifeRing as neither a pro- or anti-religious organization. Rather, the 'secularity' principle means that religious and spiritual matters are not discussed at LifeRing meetings – in either positive or negative light. Nicolaus (2009) writes that in a general poll of LifeRing members in 2005, 40% of the respondents said that they have some religious or spiritual convictions, which is on par with general population. However, LifeRing prefers to keep recovery and spirituality separate at the meetings, while recognizing that although spirituality may be an important part of someone's recovery plan, spirituality is neither necessary nor sufficient for *all* persons in recovery (p. 116, Nicolaus, 2009). Finally, the Self-help principle emphasizes takes control back over one's life by taking control over one's substance use. This principle also implies that the individual is responsible for their own recovery. The self-help principle also touches on the idea of self-help through a nonjudgmental peer support process (p. 14, Nicolaus, 2009). Besides the three principles described above, Nicolaus makes a number of other suggestions for recovery, all while being adamant that these are suggestions and not steps, and that it is important for each person in recovery to come up with their unique recovery plan. Some such suggestions include tips on general health (i.e., to get lots of sleep and regular exercise), while others echo pop psychology suggestions (i.e., turn negatives into positives with the power of your thinking) (p. 55-56, Nicolaus, 2009; White et al., 2012).

In fact, LifeRing subscribes to a number of the recovery advocacy movement principles, such as the menu of treatment options and the necessity of choice of treatment for the person in recovery. But besides the three principles, what else is unique about LifeRing's approach to substance misuse and recovery? How does it differ from the approach of other secular recovery organizations?

The other unique feature of LifeRing, besides the three principles, is LifeRing's eclectic theoretical background and its interest in scientific, evidence-supported understanding of substance misuse and recovery (Nicolaus, 2009). LifeRing denies the moral and medical models of addictions, and does not view substance misuse as a sign of

either profound illness or character defect (p. 58, Nicolaus, 2009). However, unlike the twelve step approach and unlike some other secular organizations (e.g., SMART Recovery, Li et al., 2000), LifeRing does not propose one definitive model that might describe the etiology, course, and prognosis of substance misuse. Instead, LifeRing draws on multiple social discourses (i.e., discourse of recovery), scientific evidence (e.g., p. 58, Nicolaus, 2009), and psychological theories (e.g., p. 104, Nicolaus, 2009) to define substance misuse and recovery. Cognitive and behavioural theories are especially prominent in LifeRing's discourse on substance dependence and relapse. Nicolaus (2009) describes substance misuse as a maladaptive set of behaviours that results from specific learning environments paired with specific conditioning experiences and specific reinforcement contingencies (p. 62-63), which is consistent with the cognitive-behavioural framework. However, Nicolaus (2009) also brings in other scientific concepts to help enrich the understanding of substance misuse and addiction as multi-determined, multi-dimensional constructs. For example, he discusses the concept of self-efficacy with respect to being able to maintain sobriety (p. 104) and the role of physical dependence, as illustrated by research done with animal models of addiction (p. 59). This conception of substance misuse is supported by a number of extant studies in the substance use literature, which have illustrated the connection between addiction recovery and pro-social support (e.g., Beattie & Longabaugh, 1999; Subbaraman & Kaskutas, 2012); internal locus of control (e.g., Magura et al., 2003), and self-efficacy (e.g., Shaikh & Ghosh, 2011). In contrast to the medical model, LifeRing places more emphasis on individual's ability to exert control over their behaviour and make conscious choices about their substance use (Nicolaus, 2009).

Finally, LifeRing explicitly opposes the doctrine of powerlessness over substance use, which is a central principle in any twelve step organization (p. 122, Nicolaus, 2009). Instead, LifeRing encourages its members to find ways to empower themselves. Nicolaus (2009) discusses the disadvantages of the powerlessness doctrine and describes LifeRing's approach to the idea of self-control and responsibility in the following ways: people in recovery have responsibility for their actions, even though while misusing substances they may feel like they cannot control their actions; and it is possible to regain control over using substances. Notably, LifeRing's emphasis on abstinence is

interesting when considering their stance on powerlessness. While explicitly promoting empowerment, LifeRing's stance on abstinence appears to imply that, for some reason, it is not acceptable for LifeRing members to discuss controlled substance use. This may be based on a scaled-down concept of powerlessness (when compared with AA's explicit concept of powerlessness), or on a different concept. LifeRing has not commented on this specifically.

LifeRing is an abstinence-based PSG and since harm reduction and controlled drinking approaches in PSGs comprise a different research literature, this review will focus on abstinence-based PSGs only. It is important to note, however, that Moderation Management is a group that provides mutual aid for persons who wish to control their drinking rather than abstain from drinking completely (Hester, Delaney, & Campbell, 2011; Lembke & Humphreys, 2012).

What is the Evidence for Effectiveness of Peer Support Groups?

It is important to consider whether peer support groups are effective in helping people stay sober or achieve other recovery-related goals. If evidence suggests that peer support groups are or may be effective, then it is important to examine who PSGs are effective for and who not, how do PSGs work, and how participants can get the most benefit out of PSGs they attend. I will first consider the general question of whether PSGs are effective and deserve further empirical study.

Are peer support groups effective? In previous sections, twelve step groups and secular groups were discussed separately because of differences in philosophies – this will be continued in the current section since much of the research available on PSGs was conducted with twelve step group participants. Therefore, the twelve step and non twelve step literatures on effectiveness of PSGs are quite distinct and it is necessary to distinguish between them.

On the general question of whether peer support is effective in helping people achieve the goal of sobriety, the research evidence suggests that there is a positive association between PSG engagement and recovery, but these findings are also complicated by lack of studies that can offer conclusions about causality and by studies that highlight high drop-out rates for PSGs. A number of studies strongly suggest that taking part in PSGs in general appears to be beneficial for sobriety and recovery

(Armitage et al., 2010; Atkins & Hawdon, 2007; Beattie & Longabaugh, 1999; Kelly et al., 2006; Kownacki & Shadish, 1999; Magura, 2008; Sanders et al., 1998; Schmidt et al., 2001). These studies will be described in detail in the respective section on twelve step and secular PSGs below. Unfortunately, the above studies do not usually compare people attending PSGs with self-changers who stop using substances on their own. Thus, there is little information available on how self-selection and motivational variables (e.g., readiness to change) affect recovery-related outcomes. For instance, even when more frequent attendance of a PSG is correlated with greater number of days abstinent, the effect may be driven by the attendee's motivation, conscientiousness, or factors other than PSG attendance. More recent longitudinal studies have addressed some of the limitations of correlational research that was done earlier in this field by showing that within samples of participants that have attended PSGs, those who attend more and are more actively engaged are much more likely to remain sober longer (e.g., Beattie & Longabaugh; Kelly, Stout, & Slaymaker, 2013; Kelly, Stout, Tonigan, Magill, & Pagano, 2010).

Further, this literature is complicated as many studies have also failed to find benefits of PSGs (e.g., Miller & Wilbourne, 2002), but a high proportion of these studies focused on twelve step approaches only (e.g., Martin & Rehm, 2012). These complications and controversies may be partly due to the history of different approaches in PSGs for addiction recovery. Since twelve step approaches are the oldest and most prevalent form of PSGs, much of the research has focused on twelve step groups (White, 2010). This means that the methodology, population, and research questions in studies of AA and NA span many decades and thus present a great variety of methods and conclusions. Additionally, this also means that persons who are mandated to attend PSGs as part of mandated addiction treatment (i.e., through civil or criminal courts) are most likely to end up in an AA meeting rather than a non twelve step meeting (Speiglmán, 1997). The high rate of non-voluntary attendants of AA meetings also confounds the research results (Miller & Wilbourne, 2002). The research literature on more recent, secular, and alternative PSGs is smaller, but also more homogenous in terms of research methodology that has been utilized (White, 2009). At the same time, the research studies on non-twelve step support groups display a great diversity – among support groups

themselves and also among the philosophies, geographical locations, types of substances used, socio-economic locations of participants, and so on. In order to clarify some of these complications, I will discuss the twelve step literature first.

Twelve step approaches. There are a number of studies that suggest that attending AA or NA is more effective (in terms of sobriety time, frequency of substance use, and other substance-related outcomes) than no treatment (e.g., Kelly et al., 2010; Kownacki & Shadish, 1999; Montgomery, Miller, & Tonigan, 1995; Tonigan, Toscova, & Miller, 1995; Ullman, Najdowski, & Adams, 2012; Walitzer, Dermen, & Barrick, 2009). For example, in one study, 169 alcohol-dependent clients (35% women) were randomly assigned to treatment as usual, AA facilitation condition, and motivational enhancement condition that targeted AA attendance specifically (Walitzer et al., 2009). Their results suggested the clients in the twelve-step facilitated condition showed increased AA attendance, increased AA participation, and increased day sober, with increased AA participation partially mediating the relationship between AA facilitation and number of days abstinent (Walitzer et al., 2009).

However, randomized controlled studies report smaller effect sizes for AA/NA attendance than non-randomized studies (e.g., Kelly et al., 2010; Kownacki & Shadish, 1999; Montgomery, Miller, & Tonigan, 1995; Tonigan, Toscova, & Miller, 1995; Ullman, Najdowski, & Adams, 2012). For example, one review of 21 controlled studies of AA effectiveness included 7000 subjects, of which 92% were male, 79% were Caucasian, and 56% did not graduate with a high school diploma (Kownacki & Shadish, 1999). This review found that non-randomized controlled studies were likely to find a larger effect size than randomized controlled studies (Kownacki & Shadish, 1999). However, one of the possible biases in the randomized studies was greater likelihood of inclusion of participants who felt coerced in their AA attendance, which may have impacted the participant's perception of AA (Kownacki & Shadish, 1999). Further, the composition of the sample in this review speaks to a very specific cultural group, and may not apply to women in recovery or persons of different cultural/educational background.

Other systematic reviews of AA studies suggest that many studies may not be able to detect small or medium effects due to methodological limitations, such as small

sample size or lack of comparison group (e.g., Tonigan et al., 1995). On the other hand, some critics of the AA effectiveness studies suggest that randomized controlled studies find smaller effect sizes because the effect sizes in non-randomized, less methodologically rigorous studies are inflated with Type I error that results from performing many complex analyses with correlational data (e.g., Ullman et al., 2012).

Notably, Project MATCH, a multi-site study comparing a professionally-facilitated twelve-step approach, CBT, and Motivational Enhancement Training (MET) is one of the studies that is frequently cited in support of the hypothesis that AA is an effective intervention for substance misuse. Indeed, the findings from Project MATCH indicate that clients without a sober support network and clients with a history of severe substance dependence showed greater improvement in the twelve step facilitation than in the other two treatment conditions (Project MATCH Research Group, 1997). On the other hand, MET and CBT outperformed the twelve step approach in other areas, such as with clients who showed high anger. Overall, Project MATCH failed to support its main hypotheses – that matching clients to treatments will have a large effect on treatment efficacy. One possible explanation for this is that participants' frequent contact with researchers became a brief intervention in itself, and the differences between types of treatment were minimized by the potential therapeutic effect of research assessments (Stockwell, 1999). However, the results of Project MATCH do show some evidence that certain persons may fare better in twelve step vs. other treatments, but there was no control condition (Project MATCH Research Group, 1997).

There is another significant problem with using original results from the Project MATCH data in support of the AA effectiveness hypothesis. The major limitation is that much of the research results from Project MATCH compared MET and CBT with therapy based on the twelve-step approach (however, there was also data available on AA attendance outside of the professional therapy) (Project MATCH Research Group, 1997). This therapy was delivered by professionals, not peers, and its format was quite different from the typical AA format that a person in recovery might encounter when walking into an AA or NA meeting (Project MATCH Research Group, 1997). Although the twelve-step-based intervention was associated with higher attendance of AA groups in the community, it is important to differentiate between effects of the increased AA

attendance vs. receiving twelve-step based professional intervention. The goal of the twelve-step based professional facilitation was to increase AA attendance, and Project MATCH appeared to succeed in this goal. However, it is important not to conflate this with “success” or “failure” of twelve step meeting per se. Generally speaking, professional-delivered twelve step therapy cannot be equated with twelve step peer support programs. The evidence for effectiveness for AA and NA needs to come from studies specific to twelve step programs the way they are delivered in the community in order to preserve the ecological validity of the studies. It is important to consider the results of Project MATCH as a comprehensive and methodologically rigorous study, but these results must be interpreted with some caution when thinking about whether twelve step programs actually *cause* decreases in substance misuse

However, researchers are currently re-analyzing the Project MATCH data with more sophisticated methodologies and are finding stronger support for the hypothesis that AA engagement leads to positive outcomes. In fact, Project MATCH provides most up-to-date RCT data findings on this issue. For example, Magura, McKean, Kosten, and Tonigan (2013) identified subgroup of AA attendees who attended AA because of being randomly assigned to twelve step facilitation therapy. The authors used the strategy of propensity score matching to examine the relationship between AA attendance and drinking in this latent subgroup and found that, even after controlling for confounding variables, persons who attended AA because they were randomly assigned to twelve step facilitation reported better drinking outcomes over time (Magura et al., 2013).

On the other hand, a number of studies failed to show positive effects associated with twelve step program attendance. In a recent meta-analysis of randomized controlled trials of psychosocial treatments for substance misuse, Martin & Rehm (2012) included twelve-step approaches alongside therapies like CBT and Motivational Interviewing, only to find that the effectiveness of twelve step approaches is controversial at best - a number of studies under review failed to show positive effects associated with AA or twelve step therapy participation. In another example, the Cochrane Review of 2006 did not find any evidence that either AA participation or twelve step-based psychotherapy lead to reduced alcohol intake or longer sobriety (Ferri, Amato, & Davoli, 2006). The Mesa Grande review of 361 controlled studies of interventions targeting substance use disorders found

that the Minnesota Model, discussed above, ranked 20.5th in the list of treatments (below apnoeic aversion therapy), twelve-step facilitated therapy ranked 24.5th (same rating as electric aversion therapy), and peer-based AA ranked 39.5th out of 46 placements (Miller & Wilbourne, 2002). Notably, “self-help” interventions ranked 18th and there were no controlled studies of non-AA support groups included in this review. Under “self-help” interventions, the authors subsumed interventions such as reading a book or educational material – the self-help interventions listed in this study did not have the component of peer support. Although self-changers were not included in this review, since this was a review of interventions, the rating of “self-help” interventions may represent the proportion of individuals who recover from substance misuse on their own. Once again, Motivational Interviewing and CBT-based approaches were in the top ten. Unfortunately, no alternative peer support groups were included, probably due to a lack of methodologically rigorous studies at the time (Miller & Wilbourne, 2002).

When considering whether AA and NA peer support programs are effective, it is also important to consider the dropout rates in such programs. Unfortunately, dropout rates for AA and NA tend to be quite high (Cloud, Rowan, Wulff, & Golder, 2007; McIntire, 2000). For example, AA’s own internal surveys that span several decades indicate that out of people that attend AA, 80% have not returned within the first month, 90% have not returned within three months, and by twelve months, the drop out or walk away rate is 95% (McIntire, 2000). There are very few studies that examine the reasons for dropout, as it is usually difficult for researchers to follow the people who have left the organization. Participants in one study indicated that comorbid psychiatric problems and concerns about spiritual aspects of the program were implicated in reasons why people choose not to return to twelve-step support groups (Kelly, Kahler, & Humphreys, 2010). The majority of the participants did not have any suggestions to make to improve the program they attended and said that the program could not do anything differently to change their mind (Kelly et al., 2010). Participants in other studies have identified similar barriers of social anxiety and speaking up at meetings, as well as the perception that the support is no longer needed as reasons for dropping out of AA/NA (Cloud et al., 2007). Women in recovery have also reported gender-related barriers such as perceived sexism as a barrier to engagement with twelve step programs (Ullman et al., 2012). What these

studies illustrate is that some of the reasons for dropout may be related to client characteristics (i.e., anxiety or other mental health problems), while others may be related to systemic problems (i.e., sexism), and yet others may be an indication of the individual is actually doing well in their recovery, no longer requires the resource, and is able to initiate/maintain change on their own.

The studies and reviews of studies of twelve step PSGs are associated with a number of limitations. One of the most significant limitations is the actual research question, “are twelve step PSGs effective?” This is the question that guides most of the studies in the field, especially older studies. This question is so general that, considering the great heterogeneity of AA/NA participants (in age, income, socio-economic position, urban vs. rural status, gender, sexual orientation, education, personal beliefs, occupation, level of substance use, etc.), it cannot possibly lead to a straight forward answer that would hold true for all the subpopulations of AA/NA. Thus, this research question itself may set researchers up for failure. Different studies of AA and NA sample different populations and some of the contradictory findings in the literature may be due to the differences among the populations sampled. In the future studies, some ecologically valid research questions to ask may be, “Whom do PSGs work for? Are there client, program, or process-related characteristics that predict better outcome?”

In a sense, these types of research questions are related to the matching hypothesis – the idea of matching treatment to individuals based on characteristics of clients and treatment programs (Project MATCH Research Group, 1997). This hypothesis was investigated in Project MATCH (Project MATCH Research Group, 1997), then fell out of vogue for several years as Project MATCH did not deliver absolute proof of the matching hypothesis (Ullman et al., 2012), and is now being revived again in studies that are examining mediators and moderators of peer support effect on individuals’ recovery (e.g., Kelly et al., 2010). In fact, some studies that are re-analyzing Project MATCH data with more sophisticated strategies are finding novel results with respect to potential mediators and moderators of the effect of AA engagement on recovery (Kelly et al., 2011). For example, in a study that included 1,726 participants from Project MATCH, the authors found that the positive association between AA attendance and drinking

outcomes (less drinks per drinking day, number of abstinent days) was partially explained by an increase in spiritual practices (Kelly et al., 2011).

There are several potential explanations for this history of the matching hypothesis in the research literature. Project MATCH was included in the current review because it is the most methodologically rigorous and the only systematic, randomized study that attempted to examine whether certain client characteristics match specific treatments. Project MATCH failed to show large effects for treatment matching, but some small and medium effects in support of matching treatment to client characteristics were found (Project MATCH Research Group, 1997). However, the lack of large effect sizes has perhaps led to a wane in interest in the “matching hypothesis” for treatment of substance misuse. Researchers may be forgetting that although Project MATCH was an excellent study, it is still only one study, with its own methodological limitations. Thus, rather than abandoning the matching hypothesis, researchers may need to focus on how to improve their research questions and methodology. As mentioned above, some studies are beginning to take this approach by asking more specific research questions about moderators and mediators of effectiveness (e.g., Subbaraman & Kaskutas, 2012).

Further, there are other conceptual and methodological limitations of the twelve step effectiveness literature. For instance, some reviews conflate AA/NA program attendance with professional-led twelve step facilitated therapy. Second, studies often do not compare effectiveness of the twelve step approach for mandatory vs. voluntary attendees, yet many AA programs in the community have participants who were mandated to be there by their treatment program, civil court, or criminal court (Speiglman, 1997). There is great heterogeneity between AA/NA meetings in terms of how many AA/NA members are mandated to attend, yet this heterogeneity and any potential differences that result from the reasons why people attend AA/NA are not adequately examined in the research literature (Miller & Wilbourne, 2002). On a similar note, older reviews of the literature tend to find more positive effects associated with twelve step programs (e.g., Tonigan et al., 1995) when compared with the more recent reviews (e.g., Martin & Rehm, 2012). This may be because of differences in methodology between older studies (i.e., smaller sample sizes, homogenous samples) and studies conducted within the last decade (i.e., more complex sample stratification). This

difference may also be an artifact of different research questions and the fact that more recent studies (e.g., Kelly et al., 2012) tend to ask more specific research questions about mediational mechanisms. Finally, more recent studies are more likely to use comparison groups, which was a serious limitation of earlier studies. When effect of a program is examined without a comparison group, the probability of Type I error can be inflated as researchers may attribute positive outcomes to the effect of the program rather than a natural developmental process that occurs over time. However, many current studies also have this limitation and the lack of comparison and control groups are a methodological weakness in this research literature.

Finally, the outcomes of the studies are often related to substance misuse (i.e., length of sobriety, frequency of current drug use) and do not examine other outcomes. This is problematic because, as discussed above, abstinence from substances is an insufficient index of overall recovery and well-being. Future research needs to examine how twelve step participation is related to other areas of recovery, such as mental health, perceived stress, perceived social support, and ability to experience positive affect.

Comparing the Literature on Twelve Step and Secular Groups. So what about secular, non-twelve step PSGs and the research on how effective they are in helping people achieve recovery goals? The literature on other PSGs is quite different from the twelve step literature. First of all, these groups (e.g., SMART recovery, Rational Recovery) are much newer and there have only been a handful of studies on each of such groups (White et al., 2012). Some groups, like LifeRing, have not yet had the opportunity to participate in any research efforts until very recently. Essentially, the research literature on non twelve-step support groups is an emerging literature (White, 2010). The studies tend to have small samples (since the populations that the researchers are sampling from are also much smaller), provide an introduction (i.e., introducing the PSG's particular approach), and focus on descriptive and exploratory vs. explanatory research questions (e.g., Armitage et al., 2010; Kaskutas, 1996; Schmidt et al., 2001). Unlike the twelve step-focused studies, the researchers who are examining non-twelve step groups are focusing on group attendance, active involvement, satisfaction with the group, etc., rather than focusing on substance use outcomes per se (e.g., Li et al., 2000; Sanders et al., 1998), which is a logical focus for a research literature on a new social

phenomenon. Another difference from the twelve-step literature is that, presently, there is not the same controversy about the effectiveness of non twelve step PSGs – which is simply because there is not enough research and there are very few systematic studies, so there is not yet enough diversity in studies to engender different patterns of research results. So rather than asking “are secular PSGs effective?,” researchers are more likely to ask questions such as, “who attends secular PSGs? What factors predict engagement with secular PSGs?” (e.g., Kaskutas, 1996; Li et al. 2000). To my knowledge, there are no meta-analyses available on this topic yet. Since the study of secular PSGs is an emerging field, the current studies are less likely to be randomized, systematic, and even less likely to use comparison and control groups than studies that examine twelve step group effectiveness. Finally, there is almost no literature available on effectiveness of secular PSGs for special populations, such as lesbian, gay, bisexual, transgender, and queer (LGBTQ) community: often this is because the emerging secular support groups are not wide-spread enough to offer meetings specifically for LGBTQ persons, while urban centres often offer many LGBTQ-exclusive AA and NA meetings (p. 52, White, 2009).

However, there are some similarities between the research literatures on twelve step and non-twelve step groups worthy of note. A recent comprehensive review of the peer support literature by White (p. 113, 2009) suggests that in studies to date, twelve step and secular PSGs are both associated with reduced substance misuse and no differences in the magnitude of that association have been uncovered. However, no studies have yet compared the two approaches systematically. A number of studies indicated that these two approaches are not effective for all people equally – there are moderators of program effectiveness, which I will discuss below (e.g., Atkins & Hawdon, 2007). Although studies have shown that twelve step PSGs are associated with additive benefit when used in conjunction with or as an aftercare for professional treatment (e.g., Bond et al., 2003; Longabaugh, Wirtz, Zweben, & Stout, 1998; Morgenstern et al., 2003), no studies have examined this with respect to secular PSGs. A limitation of both of the literatures is the use of convenience samples – this is especially true for pilot studies done with some of the newer PSGs (e.g., Li et al., 2000; Schmidt et al., 2001). Many studies of twelve step and secular support groups are cross sectional and correlational. Further, the

majority of the studies of PSGs have been conducted with alcohol-dependent populations. There is some evidence that PSGs are also effective for cannabis-, heroin-, and cocaine-dependent individuals (Magura, 2008; McKay, Merikle, Mulvaney, Weiss, & Koppenhaver, 2001), and evidence on effectiveness of PSGs for stimulant users is mixed (Donovan et al., 2013). Whether or not PSGs work for individuals with a different primary substance of choice has not yet been examined in the research literature.

Another limitation that is consistent across both literatures is that many of the studies focus exclusively on men, even though the PSG under study does not advertise itself as gender-exclusive and it is unclear whether or not men are specifically targeted as the population of interest (Ullman et al., 2012). There are several articles published on Women for Sobriety (e.g., Kaskutas, 1996), which is an exception to this, since Women for Sobriety is a women-only organization.

From reviewing the studies of secular PSGs, it is not completely clear why the designs are so gender-imbalanced. While men are more likely to develop a substance use problem, women are more likely than men to seek help for a substance misuse problem. For example, women are 2.5 times more likely than men to seek help for alcohol-related problems (Ullman et al., 2012). As such, although there is typically more men in substance use treatment than women, some researchers suggest that the proportion of people with problematic substance use: people seeking help for substance use is different for men and women (Ullman et al., 2012). General surveys of PSG attendance in both AA/NA and non twelve step groups report a general ratio of 30% women and 70% men (Ullman et al., 2012; p. 135, White, 2009). One exception to this is SMART Recovery; their internal attendance surveys indicated an equal proportion of men and women participants (SMART Recovery, 2013). So, for whatever reasons, women appear to be less likely than men to seek help from at least some peer support organizations. One part of the explanation may be that, since women are less likely to develop a substance use disorder when compared with men (Ullman et al., 2012), the proportion of women seeking any substance use treatment (including PSG services) will also be lower.

A review of this problem by Ullman and colleagues (2012) suggests several other possible explanations. Some studies indicated that women prefer secular models of recovery rather than spiritual models. The authors suggest that a possible explanation for

this is that spiritual models of twelve step recovery, permeated with ideas of powerlessness and surrender to an implied Christian, male Higher Power/God actually replay oppressive patriarchal dynamics (Ullman et al., 2012). Additionally, a small study (n=55 women who attend AA) by Bogart and Pearce (2003) documented that 50% of the participants reported experiencing some form of sexual harassment in the group, ranging from more mild forms, such as sexual innuendos/unwelcome invitations, to more severe, such as unwanted touching. There is also some evidence that suggests that women and men who do not attend AA or NA rate these groups to be much more focused on spirituality than men and women who actually attend AA and NA (Ullman et al., 2012). It is possible that perceptions of AA/NA as being too focused on religion and/or spirituality create a barrier to engaging with these groups for some women and men (Ullman et al., 2012). Finally, there are some indicators that women may perceive AA/NA differently than men and utilize AA for different reasons. In a study that included 571 women, many of whom attended both AA and Women for Sobriety, the participants reported that they attended Women for Sobriety because they agreed with the women-centered philosophy and felt safe and supported in female-only forums (Kaskutas, 1996). On the other hand, these women continued to attend AA because they viewed it as an “insurance policy” against drinking. Thus, these women used AA as a way to be accountable for their behaviour and they used Women for Sobriety to access peer support (Kaskutas, 1996). There are other possible systemic barriers that may get in women’s way of accessing PSGs, such as lack of childcare. However, systemic barriers have not been investigated within this specific literature. Although the constitution of PSGs may not be balanced with respect to gender, researchers who are studying secular support groups need to make more of an effort to include female participants in their studies. Most studies of secular support groups to date have focused exclusively on men, despite researcher’s knowledge of many gender differences in etiology, maintenance, and treatment of substance misuse for men and women (Ullman et al., 2012).

Effectiveness of secular and non-twelve step support groups. In terms of the actual evidence supporting the effectiveness of secular, non twelve step PSGs, the research is very modest and emerging, but it is promising insofar as it suggests that these groups warrant further empirical investigation. One of the difficulties in summarizing the

research findings that answer the question, “are secular PSGs effective?” is that the secular PSG literature is very limited and there is not enough data to answer the question conclusively. Although some evidence is available on the positive associations between of AA and NA attendance and substance use outcomes (e.g., Beattie & Longabaugh, 1999), researchers cannot assume that these findings will hold true for secular support groups. With this in mind, the general findings are that the secular PSGs, similarly to AA and NA, are associated with improvements in overall functioning, are associated with longer recovery time post-treatment, and reduce costs associated with emergency healthcare and criminal justice system involvement (p. 113, White, 2009). For example, there are some studies that suggest that more frequent attendance of secular PSGs is associated with increased openness to recovery and decreased denial and self-deception about substance use (e.g., Schmidt et al., 2001; Strom, Janon, & Barone, 1993). There is also evidence suggesting that longer attendance of non twelve step PSGs is correlated with lower alcohol and drug use and longer recovery time (e.g., Armitage et al., 2010; Kaskutas, 1996; Magura, 2008), but a correlation between abstinence and PSG attendance is expected, since abstinence is the goal of the PSG. Therefore, no causal conclusions can be drawn based on this evidence. Further, individuals’ experiences with PSGs vary considerably, and, as with professional treatment, there is a significant proportion of individuals who do not experience any improvement as a result of involvement with a PSG or, more generally, do not experience positive outcomes as a result of attending a PSG (p. 113-114, White, 2009). At this point, simply not enough is known about effectiveness of non twelve step PSGs, but the initial results are promising and thus warrant further research.

Since the current study is concerned with a secular PSG, and existing research findings cannot definitely say whether such groups are generally effective, the discussion below will examine what factors/components/mechanisms (conceptualized of mediators or moderators of potential effect) in PSGs may potentially be beneficial to recovery, well-being, and overall functioning of its members. So far, the discussion has addressed the empirical evidence for twelve step vs. non twelve step groups separately because of differences in history, longevity, and general philosophy of such groups. However, there is not enough research on mediators and moderators of recovery outcomes in the non

twelve step literature. Due to this significant limitation, I will discuss known moderators and mediators of twelve step and non-twelve step programs together. However, the reader is encouraged to keep in mind that most of the studies discussed below have been done with twelve step PSGs and their results may or may not generalize to secular, non-twelve step approaches. Up until now, this review has synthesized the results of many different types of research studies, including correlational/descriptive studies, longitudinal studies and RCTs, and meta-analytic studies. In the next section I will first review the more methodologically rigorous studies, based on longitudinal, controlled designs and discuss what is known about “what works” in PSGs. Next, I will consider studies that are cross-sectional and more preliminary, which are important to consider because they can provide important suggestions for future research on mediators and moderators of PSG effects.

What Are The “Active Ingredients” In Peer Support Groups?

Although researchers cannot definitively answer whether PSGs are effective in general, a number of studies have explored the questions, “What are the “active ingredients” in PSGs that are associated with recovery?” and “Why does peer support appear to be beneficial? How does it work?” Under “active ingredients,” I mean factors that appear to account for all or portion of the effect of PSG attendance on recovery. An example would be mediators (e.g., motivation to be in recovery) of the relationship between PSG attendance and amount of days sober. The discussion of the active ingredients of PSGs can be categorized in the following way: person-level effects (i.e., effects related to individual’s behaviour, mental health, or other characteristics), program-level effects (i.e., effects related to program philosophy, such as whether or not the program has a spiritual component), and social environment-level effects (i.e., effects related to social support from PSGs or other sources, economic support, social networks, etc.). Of course, this categorization is only a heuristic. In reality, these effects are often interdependent and difficult to parse apart.

In some studies, the discussion of causal mechanisms in peer support programs is framed within the discourse of moderators and mediators of effect. However, the relationship between potential mediators and moderators can be a complex one: for example, a number of studies report that participation in PSGs is associated with

increased self-efficacy (e.g., Morgenstern et al., 1997) and greater perceived social support (e.g., Groh, Jason, Davis, Olson, & Ferrari, 2007), but the relationship between self-efficacy and perceived support is not clear and many of the studies have been correlational. For instance, is higher perceived support *causing* self-efficacy to increase? Or, is it the case that higher self-efficacy leads to increase in social behaviour (i.e., PSG attendance), which then causes the perception of increased social support? There is not enough evidence to draw conclusions either way so for the sake of parsimony, this discussion will refer to active ingredients in PSGs rather than discussing which factors may be mediators and which ones may be moderators. I will begin by discussing studies that have used longitudinal, time-lagged methods to examine what factors predict positive experiences with PSGs over time and continue with a discussion of studies that are correlational and more descriptive in nature.

With regards to the effects related to the social environment, a number of prospective longitudinal studies indicate that 1) *recovery- and sobriety-specific* social support and 2) sober social networks are strongly associated with longer sobriety time when compared with general social support (e.g., Beattie & Longabaugh, 1999; Bond et al., 2003; Groh et al., 2007). For example, a study by Bond et al (2003) included 367 men and 288 women who sought treatment for substance use problems in ten different clinics. The participants were evaluated on measures of substance use and social support prior to treatment, one year later, and three years later. The results of longitudinal analyses indicated that attending AA between 12 and 36 months after treatment increased chances of being sober by 35% and that AA attendance and greater number of sober-specific supports predicted greater likelihood of abstinence at 1-year and 3-year follow up (Bond et al., 2003). However, a possible explanation for this is reverse causation: abstinent participants were more likely to attend AA than non-abstaining persons. Further, PSGs are associated with other positive social environment-related effects, such as providing a structure for self-monitoring and accountability (e.g., Moos, 2008); and providing opportunities to participate in fulfilling sober activities (e.g., Kaskutas, Bond, & Humphreys, 2002). However, there are fewer longitudinal studies available that examined these factors and some of the studies relied on the same sample from the Bond et al. 2003 study.

On a different note, clinical treatment providers can also influence the type of PSG that their clients attend and how their clients perceive the PSG (e.g., Humphreys, Noke, & Moos, 1996). It is important to note this, since many individuals who attend PSGs also attend professional treatment and, in fact, it is their treatment providers who refer them to the support groups (p. 123, White, 2009). One study asked clinicians about their knowledge of PSGs and which PSGs they are likely to refer clients to (Fenster, 2006). This study found that clinicians who reported limited knowledge of non-twelve-step support groups were most likely to refer clients exclusively to AA/NA (Fenster, 2006). Thus, the clinician's knowledge about available resources plays a crucial role in what groups they refer their clients to. However, no studies have examined how the clinician's referral influences the client's experience of PSG, if it has an influence at all.

In terms of individual-level effects (i.e., mediators and moderators of effect of attending PSGs), participation in PSGs has been linked with a number of personal changes. In turn, longitudinal studies show that these personal changes appear to be associated with improved recovery and overall health outcomes. These factors include: increased motivation for recovery (including increased re-motivation after a relapse; e.g., Morgenstern, Labouvie, McCray, Kahler, & Frey, 1997); increased repertoire of adaptive coping skills (e.g., Humphreys, Mankowski, Moos, & Finney, 1999); increased self-efficacy (e.g., Bogenschutz, Tonigan, & Miller, 2006; Morgenstern et al., 1997); decreased anger (e.g., Kelly, Stout, Tonigan, Magill, & Pagano, 2010); and decreased depression (e.g., Kelly et al., 2010). There have also been mixed research results on whether gender has an effect on being able to benefit from peer support groups. As discussed above, some studies show that women are more likely to benefit than men, while other studies show the opposite or are inconclusive (Ullman et al., 2012). Prospective studies are needed to address this inconsistency.

There is another potential moderator that has received some preliminary empirical support: internal locus of control. When an individual has an internal locus of control, they are more likely to see themselves as responsible agents in their own life and perceive themselves as having some measure of control and influence over their life (Magura et al., 2003). When compared with twelve step participants, persons who attend non-twelve step groups tend to display greater internal locus of control and greater self-efficacy in

regard to recovery and ability to abstain from substances (e.g., Murray, Goggin, & Malcarne, 2006). Yet, other studies have found that internal locus of control (vs. external) is associated with better outcomes in twelve step groups as well (Magura et al., 2003). Internal locus of control has also been linked with increased self-efficacy (Murray et al., 2006). However, the studies that examined the relationship between locus of control, PSGs, and recovery have been cross-sectional (e.g., Murray et al., 2006) and thus it is not known how locus of control in PSGs relates to recovery over time. However, internal locus of control may be the missing link in studies of self efficacy as a mediator of program effects. Further research using more sophisticated designs is required to address this question.

A number of other personal characteristics have been tested as potential mediators and moderators of effects, but research results have either been contradictory or failed to support the hypothesis. For instance, ethnicity, diagnoses of mental health disorders, and prior experience in PSGs do not appear to have an effect on outcomes (e.g., Atkinson, Abreu, Ortiz-Bush, & Brewer, 1994; Humphreys et al., 1991; Kelly et al., 2006). Additionally, researchers have hypothesized that twelve step groups specifically lead to decrease in narcissism through the targeting of selfishness in the twelve step process of recognizing one's shortcomings in making amends (e.g., Tonigan, Rynes, Toscova, & Hagler, 2013). However, studies failed to support this hypothesis. For example, a recent study found that although levels of pathological narcissism were higher in the sample of participants attending AA (when compared with the general population), the narcissism did not decrease over nine months of AA attendance (Tonigan et al., 2013).

Finally, studies of program-level effects have typically looked at program philosophy and the match between participants' beliefs and program principles. For example, several studies have examined whether spirituality, typically operationalized as the extent to which the participant believes in Higher Power, God, or subscribes to a spiritual practice, is a mediator of sobriety-related effects on AA (Kelly, Stout, Magill, Tonigan, & Pagano, 2011; Magura et al., 2003). One study examined longitudinal data from 1726 Project MATCH participants and employed lagged mediational analysis to examine the relationship between spirituality and sobriety (Kelly et al., 2011). The authors found that spirituality increased with longer AA involvement and this increase

mediated the relationship between AA attendance and decreased drinking with a medium effect size (Kelly et al., 2011). However, another longitudinal study that examined the role of spirituality using a sample of 276 participants who attended AA in the community did not find support for this relationship (Magura et al., 2003). When spirituality was compared with other mediators of the relationship between PSG attendance and sobriety, the researchers found a small effect size for spirituality. In this study, other mediators appeared to exert a stronger effect on outcomes related to sobriety (Magura et al., 2003). Thus, the question of whether spirituality is a strong mediator of AA effects requires further research.

Some studies have also assessed differences in spiritual beliefs and the choice of PSG to attend. The results of such studies have been mixed. For instance, a number of studies suggest that atheists are much less likely to participate in twelve-step programs and that the spirituality/secularity dimension is likely an important factor when considering a match between a person's beliefs and program philosophy (e.g., Atkins & Hawdon, 2007; Li et al., 2000; Tonigan, Miller, & Schermer, 2002). Further, Li and colleagues (2000) found that the research participants who reported religious beliefs were least likely to attend Secular Organizations for Sobriety and there was no effect on choosing to attend SMART Recovery – religious and non-religious participants were equally likely to attend (Li et al., 2000). At the same time, several studies found that out of the people who did participate in twelve step groups, there is no difference in recovery-related outcomes between groups of atheists, agnostics, and people with spiritual beliefs (Kelly et al., 2006; Tonigan et al., 2002). Thus, although persons with atheist beliefs are much more likely to be attracted to secular PSGs, there are a number of persons with atheist beliefs who attend AA and NA and appear to benefit just as much as persons with spiritual beliefs. These preliminary and somewhat mixed results speak to the concept of self-selection with regards to the matching hypothesis – people may tend to choose PSGs based on perceived compatibility with their personal beliefs and some studies indicate that a closer match in beliefs leads to increased participation (e.g., Atkins & Hawdon, 2007).

Overall, a survey of the research literature suggests that a peer-based social environment that supports the individual's goals of recovery provides a number of

benefits that professionally-delivered therapy may provide in a different way or may not provide at all because of the limitations of the therapeutic relationship (e.g., Groh et al., 2007). The findings about the benefits of recovery-specific social support parallel the larger literature on social support and health, which indicates that persons who receive specific social support for healthy behaviours (e.g. better diabetes management), are more likely to engage in those health behaviours (e.g., Strine, Chapman, Balluz, & Mokdad, 2008). In the context of addiction recovery, a peer-based social group can provide opportunities to make sober friends and engage in social activities that are free from substance use – such an opportunity would be a violation of professional boundary for most clinical treatment providers (Beattie & Longabaugh, 1999). Basically, PSGs provide a unique environment. They connect the person in recovery with people who have shared experiences of substance misuse and shared goals of recovery. They provide a philosophy of understanding substance misuse and recovery and often encourage members to share stories of coping with challenges of recovery and overcoming addiction, thus providing pro-social modelling. PSGs also provide a way to give back to the recovery community by volunteering and helping others in recovery, which may help increase the sense of competence and achievement (p. 69-71, White, 2009). Once again, this parallels research findings in social psychology, which indicate that perceived competence is positively related with a sense of mastery and achievement (e.g., Mouratidis, Vansteenkiste, Michou, & Lens, 2013) Therefore, groups that offer such an environment can confer a number of benefits on its members. Some such benefits have been described above, while other active mechanisms of PSGs are just beginning to be explored.

At the same time, it is important to note the limitations of the studies discussed above. Recovery-specific social support and increased sober social networks have garnered the most empirical support and there are a number of longitudinal, large sample studies that have examined the effects of these factors (e.g., Bond et al., 2003). Other factors, such as the referring clinician's opinion on the PSG, have only begun to be investigated and their potential effect on sobriety is unknown (Fenster, 2006). Further, Rynes and Tonigan (2012) point out that many of the older studies that examine the role of social support as a mediator of the effect of AA used cross-sectional data and did not employ time-lagged methods. Recent studies are more likely to use more sophisticated

methods and thus this criticism is less likely to apply (e.g., Kelly, Hoepfer, Stout, & Pagano, 2012). There are three other limitations of the studies of mediators and moderators of peer support effects: 1) many of these results come from one study, specifically Project MATCH (e.g., Kelly et al., 2010; Kelly et al., 2011), which has its own methodological shortcomings; 2) many of the studies focus on twelve step groups only and thus their results cannot be generalized to secular support groups; and 3) there is a lack of qualitative research done with secular PSGs and thus there is little information about what the participants think works/does not work about PSGs and whether the participants think that they are receiving benefits from attending PSGs. These limitations must be considered when interpreting the conclusions of the above studies.

What Factors Predict Greater Effectiveness Of Peer Support Groups?

This review has already considered whether PSGs work equally well for all participants or whether there is an effect for matching participants to specific peer support programs based on program characteristics and participants' characteristics and beliefs. However, another question remains, namely, are there specific factors that can enhance the effect of PSGs? Do certain factors make it more likely for PSG participants to remain in recovery? There have been some empirical investigations of this question and a number of factors appear to be related to a more positive experience with a PSG. The research on twelve-step and non-twelve step groups will be discussed together here, as there is not enough research on non-twelve-step groups on their own to warrant separate discussion.

First of all, longer attendance of the program and active program participation, such as frequent rather than sporadic attendance, appear to be related to greater satisfaction with the program (e.g., Montgomery, 1995, Kelly et al., 2012). However, longer attendance of the program may be a proxy for another variable. For example, people who are committed to a specific group may also be high in conscientiousness, sociability, and self-efficacy. It may be these latter characteristics of the individual, and not the length of time spent in the program, that account for the effect of greater satisfaction with the program. However, to my knowledge there are no studies that have examined any such explanations using non-correlational models. Second, the perception of group cohesion appears to be an important factor that predicts retention and

satisfaction with the program (Rice & Tonigan, 2011; Subbaraman, & Kaskutas, 2012). Cohesion also predicts longer attendance and it may one of the factors that explain the relationship between attendance and satisfaction (Rice & Tonigan, 2011). Researchers hypothesize that a perception of the PSG as cohesive group leads to increased comfort with the group and increased perceived support (Subbaraman, & Kaskutas, 2012). Finally, attending PSGs concurrently with or after professional treatment appears to result in greater benefit (e.g., Dawson, Grant, Stinson, & Chou, 2006). Professional treatment and peer support appear to have synergistic effects insofar as attending one appears to improve the outcomes of the other, but it is not known what accounts for this synergistic effect (p. 130, White, 2009).

These findings generally parallel the research on professionally-delivered interventions, such as psychotherapy. For instance, cohesion is a well-known predictor of outcome in group psychotherapy (e.g., Dinger & Schauenburg, 2010) and studies have shown additive effect of additional treatment, especially for populations on the more severe end of the spectrum of substance misuse and mental health problems (McCabe, & Priebe, 2004; Timko & Sempel, 2004). Other potential factors to investigate in future research would be the role of alliance with the group facilitator and perceived acceptance/non-judgmental attitude of the group, as these factors have also been implicated in psychotherapy outcomes (Tasca & Lampard, 2012). However, there is a potentially important, but unexamined group of variables that may moderate the level of participants' engagement and satisfaction with PSGs. This group of variables is related to motivation and readiness to change. The larger substance misuse treatment literature based on the Stages of Change model has shown that readiness to change a behaviour, "change talk," and active participation in treatment all predict better outcomes (e.g., Amrhein et al., 2003; Moyers & Houck, 2011). However, some studies have not found support for effect of Stages of Change-based interventions on substance use outcomes (Baker et al., 2002). Thus, further research into this area is required to determine which populations or under which conditions Stages of Change principles may be applicable to recovery from substance misuse. Since motivation to change is relevant to anyone who is trying to change their behaviour, studies of PSGs need to examine how motivation-related factors relate to engagement with a PSG program.

What Factors Predict Attendance Of Peer Support Groups?

In the twelve-step PSG literature, attendance is usually examined as a predictor of substance use, quality of life, and other outcomes. However, it is important to examine attendance as an outcome itself. The question, “what predicts attendance in PSGs?” is especially important to the emerging PSGs such as LifeRing. Since limited or no research is available on these new PSGs and their effectiveness, it is important to examine whether there are individual differences among persons who tend to attend the PSG longer and more frequently. Information about patterns of attendance can provide important clues about what it is about the group that is attractive to individuals, what type of person is most likely to attend and experience positive outcomes, and how participants can maximize the benefits they receive from the group.

Unfortunately, few studies have systematically examined PSG attendance as an outcome, and some studies apply only to special populations, such as persons living with HIV/AIDS who attend AA and NA (e.g., Orwat, Samet, Tompkins, Cheng, Dentato, & Saitz, 2011). The available studies suggest that the individual’s characteristics and their perception of the meeting environment are important factors in predicting attendance, which is a form of measuring continued engagement with the group. In terms of individuals’ characteristics, more severe substance use (e.g., Humphreys et al., 1991) has been shown to predict longer and more frequent attendance and attachment anxiety has been shown to predict lower attendance and retention (e.g., Jenkins & Tonigan, 2011). Further, perception of group cohesion has also been identified as a predictor of satisfaction and attendance of PSGs (Rice & Tonigan, 2011). Since group cohesion is conceptualized as one of the key mechanisms in group interventions in general (Dinger & Schauenburg, 2010), these results suggest that some of the mechanisms behind professional- and peer-based group interventions may be the same.

Further, some studies have examined whether type of professional treatment or how the referral is made influence PSG attendance. Although the type and length of professional treatment do not appear to affect PSG attendance (Weist et al., 2000), differential referral paths may have an effect on retention (Manning et al., 2012; Timko, DeBenedetti, & Billow, 2006). For example, when a referral to a PSG was initiated by a peer that the participants met within an inpatient program, the participants were much

more likely to attend a PSG than if the referral was initiated by a doctor within the same program or if no referral was initiated (Manning et al., 2012). These results are consistent with the studies that have shown how important sober social network and sobriety-specific social support is for persons in recovery from substance misuse (e.g., Groh et al., 2007). Finally, the results of another study suggest that PSG programs that encourage long-term commitment show higher attendance rates than programs that encourage shorter graduation. This may be because long-term-oriented programs are more likely to retain members who have been in recovery for a long time and are able to mentor and provide positive role modelling to new members (Hiance, Doogan, Warren, Hamilton, & Lewis, 2012).

These patterns of research results suggest that many of the factors that influence attendance of PSGs are dynamic rather than static, and thus amenable to change.

Part II: Current Study

Purpose

There is some evidence that peer support groups may be helpful in reducing substance misuse, promoting healthy social support networks, and increasing overall quality of life and well-being of individuals in recovery (e.g., Armitage et al., 2010; Atkins & Hawdon, 2007; Kelly et al., 2006; Magura, 2008), but this evidence must be considered in light of high rates of spontaneous recovery from substance misuse (Klingemann et al., 2010), and in the context of a number of limitations of the PSG literature. Some of these limitations are: previous research has focused primarily on twelve-step PSGs and very little is known about whether secular, non-twelve step PSGs function in the same way as AA and NA. Studies of non-twelve step PSGs often focus on men only, even though the PSG is not gender-exclusive (Ullman et al., 2012). Moreover, there are few qualitative studies in this area and it is important to understand the unique experiences of PSG participants that may not be captured by a confirmatory, quantitative research framework. The current study will address these specific limitations of previous studies by examining the experiences of participants in LifeRing, a secular PSG, and examining the data from both male and female participants. Further, the current study will combine quantitative and qualitative elements by examining participants' answers to validated questionnaires and to brief, open-ended questions about their perceptions of their PSG and the reasons for their involvement with the PSG.

In terms of knowledge gaps, there are no current studies of how Stages of Change components (e.g., readiness to change, active participation in the group vs. simple attendance of the group), may contribute to greater engagement with the PSG. The current study will build on previous research literature with twelve step groups to examine this issue in a previously unstudied population. Studies of extant substance misuse treatment based on the Stages of Change model indicate that active involvement and motivation for change may be important factors in predicting therapy outcomes (Moyers & Houck, 2011), but these questions have not been examined in a PSG context. Using the Stages of Change model, this study will explore whether active involvement and readiness to change have similar effects in PSGs as they do in professional therapy.

Finally, there is some preliminary evidence that a match between participants' beliefs and program philosophy has an effect on participants' satisfaction with the PSG (e.g., Atkins & Hawdon, 2007). The current study will examine how match between beliefs and program philosophy affects participants' perception of the program.

The purpose of this study is to address the knowledge gaps described above by examining the functioning of LifeRing, a secular, non twelve step PSG. As noted in the previous chapter, LifeRing principles emphasize abstinence from substance use, empowerment of self and others, and non-hierarchical peer support (Nicolaus, 2009). Very little is known about how secular peer support groups function, what attracts participants to PSGs, and what factors are associated with greater engagement (e.g., satisfaction with the group). The current study will address the following research questions:

- 1) a) Is readiness to change substance use associated with unique variance in active participation in LifeRing?
- b) Does active participation in LifeRing predict greater satisfaction with LifeRing over and above simple attendance in the program?
- c) Is there a mediation-type relationship between readiness to change, active participation, and satisfaction?
- 2) Does active participation in LifeRing moderate the relationship between match of beliefs between LifeRing philosophy and participants' beliefs and satisfaction with the LifeRing groups?
- 3) What do participants find the most helpful and unhelpful about LifeRing? What aspects would they like to see changed?

Hypotheses

The hypotheses for the current study are as follows:

- 1) a) Readiness to change own substance use will be associated with unique variance in active participation, over and above severity of substance use, frequency of attendance, and total LifeRing meetings attended.
- b) Active participation will predict greater satisfaction with LifeRing over and above number of meetings attended and frequency of attendance.

c) Active participation will mediate the relationship between readiness to change and satisfaction with the group.

2) Active participation in LifeRing will moderate the relationship between match of beliefs between LifeRing philosophy and participant's beliefs and satisfaction with the LifeRing groups.

3) In order to answer Research Question #3, exploratory content analysis will be conducted with qualitative data collected when participants were asked the following statements:

What do you find most helpful about LifeRing?

Do you feel you are getting the most out of LifeRing (yes/no answer)? What would you need to get the most out of LifeRing?

What would you change about LifeRing if you could?

There are no specific a priori hypotheses associated with this research question. However, these questions were designed to follow up on the information obtained from the questionnaires. As such, these questions assume that there are some aspects of LifeRing that participants find helpful and there are some that they do not find helpful. Another assumption is that participants will have suggestions on how LifeRing can improve their service.

Method

Participants.

The study participants were recruited from LifeRing meetings in Greater Victoria Area (GVA) because the majority of LifeRing meetings in BC (10 out of 11) occur in this area. The principal investigators in this study were the author of this dissertation and Dr. Woodin. Research assistants were trained by the principal investigators. Research assistants attended all LifeRing meetings in GVA for four months, advertising the study. Advertisements about the study were also sent out via LifeRing Canada's listserv and placed on the LifeRing Canada website. The participants were offered a \$10 Tim Horton's gift certificate for completing the survey. A gift card rather than cash was offered because gift cards were more efficient honoraria to track and get to participants as soon as possible. The advantage of low amount honorarium is that it is non-coercive ethically in terms of being difficult to refuse for persons who may be in poverty and do

not wish to take part in the study, but would benefit from the financial gain. The downside to using such an honorarium is that the honorarium may not provide enough incentive to take part in the study. All LifeRing meeting attendees were given individual identification numbers and passwords for the online survey at the LifeRing meetings, unless they declined the card. Although the research assistants did not track how many individuals refused the card, by verbal account, very few individuals refused. The research assistants explained that the meeting attendees can choose to complete the survey or not. Other interested participants emailed the research coordinator, Cassandra Sullivan, indicating that they would like to take part in the study. The participants who chose to do the online survey could complete the survey from home or a location of their choosing. Several participants opted to complete the same survey on paper, as they did not have access to a computer. In that case, participants requested a copy of the paper survey from the research assistant at the LifeRing meeting and returned it to a research assistant at a LifeRing meeting when they completed it (within two weeks of receiving the survey). The honorarium was either mailed to the participants upon survey completion, or delivered to them at a LifeRing meeting by a research assistant (the delivery method was up to the participants). A limitation of not conducting the survey in person is that there is no way to make sure that the correct person filled out the survey.

In order to be eligible to participate in this study, the participants had to have attended at least one LifeRing meeting during the time frame of the study (four months). This criterion made sure that all study participants have experienced at least one LifeRing meeting. LifeRing caters to adults over 18, so all of the participants were over 18.

There are a total of 50 participants who agreed to participate in this study. Eight participants were meeting convenors and 42 participants were meeting attendees. Meeting convenors have an additional role at LifeRing: they are volunteers in recovery who also facilitate at least one LifeRing meeting. All meeting convenors reported also attending LifeRing meetings that they do not facilitate, in order to have support in their own recovery. The age of the participants ranged from 21 to 77, with 47 being the average age. Although this is a very broad age range, persons between 18 and 21 were not represented in this sample. Out of 50 participants, 28% were female and 72% were male, which is similar to other studies (Ullman et al., 2012). The majority of the

participants reported a heterosexual orientation. In terms of ethnic composition of the sample, 4% of the participants were non-First Nations visible minorities, and 6% were First Nations. This is somewhat lower than the ethnic constitution of GVA (Statistics Canada, 2006). In terms of comparing to other studies of PSGs, some other samples have included no ethnic minorities at all, while others were able to recruit more ethnically diverse samples than in the current study. However, from four months of observing every LifeRing meeting in GVA, it was evident that there are fewer ethnic minorities and First Nations participants in LifeRing in general. Thus, the proportion ethnic minority individuals sampled in this study is parallel to the general attendance of LifeRing, but lower than GVA population. The sample was quite diverse in terms of educational background and occupations. In terms of education, the participants ranged from completing grade 8 to obtaining a graduate degree. Mean number of years of education was 13.1 (i.e., one year in college or university) and the median was 12 (completing high school). Mean annual income was \$26, 547, but median income was \$11,000. Reported incomes ranged from \$0 to \$100,000 and 52% of the participants reported making \$11,000 a year or less. This is quite a bit below the 2009 average for Victoria, which was \$44,239 (BC Stats, 2012). When consider previous studies of PSGs, some also reported relatively low incomes for their participants (e.g., Kingree, 2001), while others reported more economically diverse samples (e.g., Li et al., 2000). Approximately a third of the participants (28%) reported that they have been attending LifeRing for a month or less, but the average length of LifeRing attendance was 6-11 months. This may be because there was a wide range in the lengths of time that the participants have been involved with LifeRing (from less than a month to four years). With respect to attending other support groups, 48% reported attending AA and NA concurrently and 50% reported being involved with other supports, such as counselling.

Procedures.

The participants completed a survey that included validated questionnaires about past and current substance use, perceptions of LifeRing, the degree of their participation in LifeRing, and questionnaires on attendance of LifeRing. The original aim of the study was to collect longitudinal data by asking the participants to complete the survey at least twice and up to four times within the four month period. Although a number of people

(25) did fill out the survey twice, their number was insufficient for statistical analyses. Although systematic feedback was not collected, some participants mentioned that they had many other commitments in recovery and participating more than once was a challenge in time management for them. Therefore, only cross-sectional data are used in this study. Interested participants contacted the research assistants in person at LifeRing meetings or contacted the research coordinator (not including the applicant) by phone or email. The participants who contacted the laboratory by phone or email were asked whether they have attended a LifeRing meeting on Vancouver Island in the last six months to establish eligibility. The percentage of ineligible individuals was less than 4%. The majority of the participants contacted research assistants in person. The interested participants were given an individual username and password to an online survey. They were given a time frame (two weeks) within which the survey could be completed. They also had the option of coming to University of Victoria or arranging to meet at an office with a more central, downtown location to complete the survey, but no one chose these options. Participants who chose the online survey options completed informed consent procedures online prior to starting the survey. Once the online survey was completed, the honorarium (\$10 Tim Horton's gift certificate) was either mailed to the participant or delivered to them in person at the LifeRing meeting of their choice. The research coordinator also sent copies of informed consent form and a debriefing note to all participants after the survey was completed.

A minority of the participants (seven) chose to do the paper version of the survey. They received a paper copy from a research assistant at the LifeRing meeting and were asked to return the survey within a specific time frame. Once the survey was returned (by mail or in person at the LifeRing meeting), the participant received their honorarium, a copy of the consent form, and debriefing materials.

Measures.

LifeRing attendance. Frequency of attendance (how often participants come to meetings) and length of involvement with LifeRing (how long have participants been LifeRing members) were measured by a set of questions specifically designed for this study. Questions that asked about LifeRing attendance included, "how long have you been attending LifeRing?" (answer options ranged from "less than one month" to "more

than four years”); “on average, how often do you attend LifeRing meetings?” (answer options ranged from “once every few months” to “four-seven times per week”); and “how many LifeRing meetings have you attended?” (answer options ranged from “one” to “more than 15”). Thus, there are three items measuring different aspects of LifeRing attendance. These items will be analyzed individually since they represent different information. Kurtosis and skewness analysis indicated that all of these items are approximately normally distributed and not over-representing either people in early recovery or people in advanced recovery. This format of obtaining data about participants’ attendance is similar to other studies in this area (e.g., Atkins & Hawdon, 2007).

Match between LifeRing philosophy and participant beliefs. This construct was assessed by a set of questions designed specifically for this study, the Strengths and Weaknesses of LifeRing questionnaire, because we had specific questions about participants’ perceptions of LifeRing that could not be captured in existing questionnaires. One item asked specifically about match of beliefs. This item was a close-ended question about match of beliefs, which asked, “how well do you feel your personal beliefs match LifeRing philosophy?” (answer options ranging from “very well” to “not at all,” with the neutral response being “50/50 – some of my beliefs match LifeRing philosophy”). The mode response was “very well,” with 53% of participants choosing this response, and 45% of participants choosing the next closest response, “somewhat.” We also asked participants open-ended questions about what drew them to LifeRing, what they like about LifeRing, and what they would change about LifeRing, if they could. The purpose of the open-ended questions to elicit participants’ own interpretations of why they come to LifeRing so that it can be compared with quantitative questionnaire data.

Readiness to change. Readiness to change alcohol and drug use was assessed by the Contemplation Ladder (CL; Hogue, Dauber, & Morgenstern, 2010). The original measure was a 1-item ladder with seven response options, each option representing a different point in the Stages of Change model. Scoring ranges from 1 to 7. For example, “I have decided to quit drinking and plan to never drink again” is the highest possible score (7), indicating the highest level of readiness to change. Conversely, “I do not have a problem with drinking and I do not intend to cut down” is the lowest possible score,

indicating the lowest level of motivation. This measure can be worded to apply to drug use as well. The final measure in this study was composed of two items: one to measure readiness to change alcohol use and the other to measure readiness to change drug use. In a previous validation study, the higher scores on the CL (indicating higher motivation) demonstrated high correlations with established questionnaires of motivation and readiness to change, indicating good construct validity (Hogue et al., 2010). In terms of predictive validity, the CL predicted percentage of days abstinent up to a year after the initial administration. Reliability indices are not available because it is a one-item measure and motivation to change behaviour is not stable over time (Hogue et al., 2010). In terms of participants responses for readiness to change alcohol use, 67% of participants indicated a response of “7,” denoting high motivation and being in action stage, 25% indicated a respond of “6,” and the remaining 8% ranged between “1” and “4.” For readiness to change use of other substances, 79% of participants indicated a response of “7,” and the remaining 21% ranged between “1” and “6.” Thus, although some individuals expressed ambivalence with respect to changing their patterns of substance use, most individuals reported high motivation to change their use.

Current alcohol use and negative consequences. Alcohol Use Disorder Identification Test (AUDIT) is a screening measure that assesses problem drinking (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). It is comprised of ten items that assess four domains: drinking behaviour, alcohol consumption, adverse psychological reactions, and alcohol-related problems. The response options range from “never” to “daily or almost daily,” resulting in minimum score of zero and maximum score of 40 (Saunders et al., 1993). In the representative sample used during the development of the questionnaire, 92% of participants diagnosed with an alcohol-related disorder had a score of 8 or higher on the AUDIT. Conversely, 94% of the participants without a diagnosed alcohol-related disorder had a score of 7 or less. A cut-off score of 15 indicates presence of “dependence,” a more severe form of alcohol-related problem. The validity statistics associated with the external reference group scores (i.e., scores for participants in the control group, who did not suffer from problematic alcohol use) were even higher, between 98% and 100% (Saunders, et al., 1993). A cut-off score of 4 is

suggested as an indicator that a clinical problem may be present. AUDIT had excellent reliability in the current sample, indicated by alpha reliability coefficient = .90.

Current drug use and negative consequences. Drug Use Disorder Identification Test (DUDIT) is a measure that assesses harmful drug use patterns (Berman et al., 2005). It is comprised of 11 items that assess the following domains: drug-related problems, intensity of drug use, and drug dependence. Examples of items include, “How many times a day do you take drugs on a typical day when you take drugs?” and “Has it happened, over the past year, that you have not been able to stop taking drugs once you started?” Most of the response options are on a Likert-type scale, except for items that only have two response options. A cut off score of 25 is recommended as an indicator of a clinical problem (Berman et al., 2005). Using the cut-off score of 25, DUDIT accurately predicted presence of a clinical problem as diagnosed according to the DSM-IV guidelines, suggesting good construct and concurrent validity (Berman et al., 2005). In the current study, DUDIT was associated with excellent reliability (alpha = .90).

Severity of overall substance use. To measure the overall severity of substance use in this study, AUDIT (Saunders et al., 1993) and DUDIT (Berman et al., 2005) scores will be combined into a composite measure that will reflect overall negative consequences from any substance use in the past year.

Satisfaction with LifeRing. Client Satisfaction Questionnaire (CSQ-8) is a widely used, eight-item measure that assesses overall satisfaction with groups (Larsen, Attkisson, Hargreaves, & Nguyen, 1979). It was originally developed to assess satisfaction with professional treatment groups (i.e., psychotherapy), and has been used in studies of other groups as well (e.g., De Wilde & Hendriks, 2005). Example of a question is, “how satisfied are you with the general amount of help you’ve received at LifeRing?” with response options on a Likert-type scale ranging from low satisfaction to high satisfaction. The raw score ranges from 8 to 32, 32 meaning higher satisfaction. A mean satisfaction score for each participant ranges from 1 to 4, 4 indicating highest satisfaction. The CSQ-8 showed excellent reliability in the current study (alpha = .93) and further studies have supported its content validity (e.g., Freed, Ellen, Irwin, & Millstein, 1998).

Active participation. Recovery Group Participation Scale (RGPS) measures the degree of active participation in a recovery group (Groshkova, Best, & White, 2011). It is

a 14-item measure, with items such as “I speak at LifeRing meetings” and “I stay to socialize after LifeRing meetings.” Participants respond on a Likert-type scale, with response options ranging from “never” to “frequently.” The total score can range from 0 to 45, with higher scores indicating more active participation. This questionnaire asks specifically about participation behaviours rather than perceptions of the group. Higher RGPS scores have been linked with higher use of social networks in recovery and higher self-esteem (Groshkova et al., 2011). The RGPS also demonstrated good internal consistency during validation (Groshkova et al., 2011). In the current study, the alpha reliability coefficient = .81, indicating good reliability.

In terms of analytic strategy, hierarchical regression (Lindenberger & Potter, 1998) was chosen as the main method of analysis because it is best suited for answering the research question of whether or not the predictor variables make a unique contribution to explaining variance in satisfaction and active participation, over and above attendance-related variables (e.g., attendance of LifeRing and AA meetings).

Results

Quantitative Analyses Results

Prior to conducting analyses, diagnostics were performed on all measures, including checking for missing data, and abnormal kurtosis and distribution. All of the measures show an approximately normal distribution and acceptable levels of skewness/kurtosis. Data was also examined for potential outliers, defined as two standard deviations above or below the mean. A data point was considered an outlier if it was two standard score deviations above or below the standard score mean. Such outliers were transformed to the value of the next highest or lowest data point, which does not affect the results of multiple regression analyses. Two such outliers were transformed on the AUDIT measure.

There is less than 1% missing data in this sample and the missing data is not systematic. All of the missing data was characterized by an omission of one or two questions on a questionnaire. Therefore, the missing data was replaced using the person mean substitution, which is the recommended method when there is little missing data and most of the questionnaire data for the individual is present (Hawthorne & Elliot, 2005).

Prior to conducting analysis, a composite variable for negative consequences of any substance use was computed by combining the scores of measures of alcohol- and drug-related negative consequences. AUDIT (Saunders et al., 1993) was used as the alcohol-related measure and DUDIT (Berman et al., 2005) was used as a measure related to other substances. This composite score was used as an indicator of overall substance use severity in the past year.

Next, potential correlations between all the outcome variables and demographic variables were examined. The demographic variables included were age, visible minority status, education, income, number of LifeRing meetings attended, length of involvement with LifeRing, and AA attendance. The number of LifeRing meetings attended and length of attending LifeRing were significantly correlated with the satisfaction variable (measured by CSQ-8), while AA attendance correlated significantly with active participation variable (measured by RGPS). Thus, the covariates included in this study were number of LifeRing meetings attended, length of involvement with LifeRing (for the satisfaction outcome variable), and AA attendance (for the active participation outcome variable). There were no gender differences in these results. Additional potential covariates were explored, including number of days abstinent (if applicable), number of days in recovery, length of involvement with other PSGs, and involvement with other forms of intervention (professional-delivered treatment). These potential covariates were explored because the measure of LifeRing attendance (length of involvement and meetings attended) has a wide range, including persons new to LifeRing and persons who have been attending for several years. There may be differences in levels of participation and satisfaction between these two groups of people, if satisfaction and participation increase over time. Thus, controlling for other PSG and treatment history would be important in order to partial out effects of being “socialized” to treatment and PSG culture in general. However, none of these variables correlated significantly with the outcomes and thus were not included in subsequent analyses.

Subsequently, all possible bivariate correlations were computed (see Table 1). Contrary to study hypotheses, readiness to change either drug or alcohol use was not related to active participation. In fact, AA attendance was the only variable that significantly correlated with active participation. The positive direction of this correlation

indicated that participants who attended AA concurrently were more likely to report greater active participation.

Contrary to hypotheses 1a-1c, active participation was unrelated to satisfaction with the group. However, match in beliefs was positively correlated with satisfaction with the group. Total number of LifeRing meetings attended and the frequency of attending LifeRing meetings were also correlated with satisfaction, such that persons who attended meetings more frequently and attended a greater amount of total meetings were likely to report higher satisfaction.

Notably, readiness to change alcohol or drug use was unrelated to all other variables. High means ($M = 6.43$ and 6.63 out of a possible score of 7, respectively) were noted for the latter two variables, suggesting that the participants in this study were highly motivated to change. It is possible that a lack of variability in participants' motivation affected the results of the analyses.

On the other hand, the match between participants' beliefs and program philosophy was positively correlated with satisfaction, length of involvement with LifeRing, total number of LifeRing meetings attended and was negatively correlated with substance use severity. Interestingly, substance use severity was uncorrelated with any variables related to attending either LifeRing or AA.

Readiness to change, active participation, and satisfaction

Hypothesis 1a) Readiness to change own substance use will be associated with unique variance in active participation, over and above severity of substance use, frequency of attendance, and length of involvement with LifeRing meetings.

To test this hypothesis, hierarchical multiple regression was performed. Active participation was regressed on readiness to change, severity of substance use, frequency of attendance, length of involvement, and AA attendance. Covariates (severity of substance use, frequency of attendance, length of involvement, and AA attendance) were entered in the first step and readiness to change alcohol use and drug use were entered in the second step. Two sets of analyses were performed so that readiness to change drug and alcohol use could be entered separately.

The results did not support the hypothesis. Readiness to change either drug ($\beta=.08, p>.05$) or alcohol ($\beta=.12, p>.05$) use did not predict higher active participation.

The only significant multivariate predictor was AA attendance ($\beta=.64$, $p<.001$; see Table 2).

I conducted post hoc analyses to examine if perceptions of the group, specifically perceptions of alliance with a convenor and perception of group cohesion, explained significant variance in active participation over and above the covariates. While the convenor alliance was only trending, group cohesion did predict active participation over and above severity of substance use, frequency of attendance, length of involvement, and AA attendance ($\beta=.39$, $p<.01$; see Table 2).

Hypothesis 1b) Active participation will predict greater satisfaction over and above length of involvement and frequency of attendance.

To test this hypothesis, hierarchical multiple regression was carried out. Satisfaction was regressed on length of involvement and frequency of attendance (entered in the 1st step) and active participation (entered in the 2nd step).

The results did not support the hypothesis. Number of meetings attended ($\beta=.59$, $p<.01$) was the only significant multivariate predictor of satisfaction (see Table 3). To examine what factors related to perception of the group environment might predict satisfaction with LifeRing, two post hoc analyses were conducted. I hypothesized that group cohesion and alliance with the convenor may predict how satisfied participants are with LifeRing groups.

Two additional analyses were conducted. In the first analysis, satisfaction was regressed on length of involvement and frequency of attendance (entered in the 1st step) and group cohesion (entered in the 2nd step). However, group cohesion did not predict unique variance in satisfaction over and above the attendance variables (see Table 3).

In the second analysis, satisfaction was regressed on length of involvement and frequency of attendance (entered in the 1st step) and convenor alliance (entered in the 2nd step). The results supported the post hoc hypothesis: higher convenor alliance predicted higher satisfaction with the group, over and above attendance variables ($\beta=.43$, $p<.01$; see Table 3).

Hypothesis 1c) Active participation will mediate the relationship between readiness to change and satisfaction with the group.

To test this hypothesis, mediation analysis was conducted, using multivariate

Table 1 Summary of all IntercorrelationsTable 1
Summary of all Intercorrelations

Measure	1	2	3	4	5	6	7	8	9	<i>M</i>	<i>SD</i>
1. Active participation	—									21.40	7.40
2. Satisfaction	.23	—								3.37	.55
3. Readiness to change alcohol use	.23	.06	—							6.43	1.22
4. Readiness to change other substance use	.16	-.05	.06	—						6.63	1.08
5. Match of beliefs	-.30 ⁺	.44 ^{**}	-.15	-.05	—					3.21	1.01
6. Substance use severity	.05	-.28	-.06	-.33 ⁺	-.32 [*]	—				.001	8.97
7. Length of involvement with LifeRing	.09	.22	-.19	-.13	.36 [*]	-.30 [*]	—			3.24	1.82
8. Average LifeRing attendance	-.15	.60 ^{***}	-.13	.01	.13	-.19	-.13	—		3.72	1.59
9. LifeRing meetings attended	.13	.46 ^{**}	-.17	-.13	.32 [*]	-.27 ⁺	.57 ^{***}	.38 ^{**}	—	3.82	2.19
10. AA attendance	.59 ^{***}	-.07	.27	.22	-.20	-.06	-.06	-.08	.01	1.48	.50

Note. AA = Alcoholics Anonymous

⁺*p* < .10, ^{*}*p* < .05, ^{**}*p* < .01, ^{***}*p* < .001.

Table 2 Hierarchical Multiple Regression Analyses Predicting Active Group Participation

Table 2

Hierarchical Multiple Regression Analyses Predicting Active Group Participation

	Overall				<i>R</i> ² change
	<i>R</i>	<i>F</i>	β	<i>t</i>	
Steps and Predictors: Alcohol Use Readiness					
1. Substance use severity	.62	4.22**	.10	.63	
Attendance frequency			.08	.52	
Length of involvement			.14	.88	
AA Attendance			.64	4.07***	
2. Readiness to change alcohol	.63	3.42*	.12	.73	.10
Steps and Predictors: Other Use Readiness					
1. Substance use severity	.64	3.54*	.20	1.04	
Attendance frequency			.13	.65	
Length of involvement			.18	1.04	
AA Attendance			.67	3.60**	
2. Readiness to change other use	.62	2.75*	.08	.38	.02
Post hoc analyses: Group Cohesion					
1. Substance use severity	.62	4.76**	.11	.74	
Attendance frequency			.01	.07	
Length of involvement			.18	1.24	
AA Attendance			.62	4.19***	
2. Group cohesion			.39	2.95**	.14

Note. AA = Alcoholics Anonymous

* $p < .10$, * $p < .05$. ** $p < .01$. *** $p < .001$.

multiple regression according to recommendations of Zhao, Lynch, and Chen, (2010), who have suggested improvements to the Baron and Kenny mediation method (Baron & Kenny, 1986). The steps are as follows. Readiness to change (IV) was regressed on active participation (M). Then satisfaction (DV) was regressed on readiness to change (IV).

Finally, satisfaction (DV) was regressed on readiness to change (entered in 1st step) and active participation (entered in 2nd step). The results of the analysis indicated that there was no direct or indirect effect (all steps resulted in non-significant results), thus failing to provide support for this hypothesis.

Table 3 Hierarchical Multiple Regression Analyses Predicting Satisfaction with LifeRing

Table 3

Hierarchical Multiple Regression Analyses Predicting Satisfaction with LifeRing

	Overall				<i>R</i> ² change
	<i>R</i>	<i>F</i>	β	<i>t</i>	
Steps and Predictors: Active participation as a predictor					
1. Attendance frequency	.48	4.77*	.59	2.76**	
Length of involvement			-.20	-.91	
2. Active participation	.51	3.61*	.17	1.10	.005
Steps and Predictors: Post hoc analyses					
1. Attendance frequency	.48	4.78*	.59	2.76*	
Length of involvement			-.20	-.91	
2. Group cohesion	.53	3.98*	.22	1.44	.03
1. Attendance frequency	.48	4.78*	.59	2.76*	
Length of involvement			-.20	-.91	
2. Convenor alliance	.64	7.04***	.43	3.02**	.17

* $p < .05$. ** $p < .01$. *** $p < .001$.

Active participation, match between beliefs, and satisfaction with LifeRing

Hypothesis 2) Active participation in LifeRing will moderate the relationship between match of beliefs between LifeRing philosophy and participant's beliefs and satisfaction with the LifeRing groups.

To test this hypothesis, moderation analysis using hierarchical multiple regression was performed. First, match in beliefs and active participation were centered so that an interaction term for active participation x match in beliefs could be created. Next, the interaction term was computed. Finally, satisfaction was regressed on active participation and match in beliefs (entered in 1st step) and the interaction term (entered in 2nd step).

The results provided partial support for the hypothesis (see Table 4).

Table 4 Moderation Analyses Predicting Group Satisfaction

Steps and Predictors	<i>R</i>	Overall			<i>R</i> ² change
		<i>F</i>	β	<i>t</i>	
1. Active participation	.58	8.07***	.39	2.60*	
Match of beliefs			.56	3.69***	
2. Active participation x Match of beliefs	.58	5.21**	-.10	-.06	.02

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

The interaction term was not significant ($\beta = -.10, p > .05$), thus failing to provide support for the presence of a moderated relationship. However, both active participation ($\beta = .39, p < .05$) and match in beliefs ($\beta = .56, p < .001$) were significant predictors of satisfaction when entered together. Interestingly, when active participation was entered on its own (resulting in mathematical equivalency to the non significant zero-order correlation between active participation and satisfaction), it was not a significant predictor of satisfaction. Since active participation and match in beliefs are negatively correlated with one another, but positively correlated with group satisfaction, this pattern suggests a cooperative suppressor effect. These results illustrate that when controlling for participants who feel they do not have a good match with LifeRing's beliefs, active participation does actually predict group satisfaction.

Qualitative Follow-Up Analyses

In order to answer Research Question #3, the participants' responses were analyzed by two coders, including the author of this dissertation, using the content analysis method for qualitative data (Chambers & Chiang, 2012; Patton, 1990). One of the coders was a trained undergraduate assistant and the other coder was the author of this dissertation. The content analysis method is ideally suited for identifying themes in brief answers to open-ended questions. The quantitative data analyses results were not available to both of the coders at the time of analysis, since qualitative analysis was performed before quantitative ones. The analyses were performed in this order so that qualitative analysis would not be influenced by knowledge of quantitative analysis results. The analysis examined overall themes that emerged in participants' answers. The coders conducted the analysis independently. Then, both coders met to compare results for any discrepancies. Since most of the participants' answers were brief and concrete, there were very few discrepancies between how a response should be classified. For example, in one discrepancy one coder classified a response as relating to the theme of *relaxed and open atmosphere* and the other coder classified the same response as relevant to another additional theme, the theme related to exchange of ideas among meeting participants. Just as in these examples, the discrepancies were minor and were resolved through discussion.

Once the quantitative analysis was completed, it was compared to the qualitative analysis results. Thus, there were two different sources of information about what factors are implicated in how engaged participants are with LifeRing: quantitative analyses of relationships between motivation, active participation, and satisfaction with LifeRing and qualitative analyses of participants' perception of how LifeRing benefits them or not, what drew them to LifeRing, and what they would like to see changed about LifeRing. The comparison between qualitative and quantitative results examined any potential inconsistencies and facilitated a more comprehensive understanding of the problem under study. I will first describe the results of qualitative analyses and then go on to discuss comparisons with quantitative data results.

In order to answer the research question #3, the participants were asked the following questions:

What do you find most helpful about LifeRing?

What would you need to get the most out of LifeRing?

What would you change about LifeRing if you could?

The following is a summary of the qualitative results. Forty-five out of fifty participants answered the qualitative follow-up questions. There were no distinctive features of individuals who did not answer the qualitative questions. Although the participants' responses varied in length, most of the responses were short despite a large space allocated for the responses in the survey. Most responses were one or two sentences in length; several responses were quite brief – just a few words, an incomplete sentence, or simply “N/A” indicating that the participant did not wish to say anything with regards to the question asked. However, these latter types of responses were infrequent. The example responses below are unedited and appear exactly as participants wrote them.

Helpful aspects of LifeRing.

The frequent responses mentioned that the helpful aspect of LifeRing is its members, which was coded as a “*social support*” category. Example responses in this category are, by Bernard¹, a 52-year-old male participant, “Opinions of other with similar challenges,” Miguel, a 58-year-old male participant:

Being able to speak honest among a group of like minded people. Talking and sharing thoughts. Learning from others experiences. Getting ideas from what other people say and learning from them. The relaxed atmosphere, laughter. Being with others who have or been through the same problems as yourself. Being empowered by others situations. Life Ring helps maintain your sobriety through its meetings. It just really nice being in a room with people who are like friends because we share a common bond.

A total of 29 participants (64%) said that the most helpful aspect of LifeRing is the presence and support of other members. Out of 29 participants whose responses were related to this theme, 23 participants (79%) specifically mentioned *exchange of ideas and experiences* as a particularly valuable tool. For example, Ken, a 42-year-old man wrote:

¹ All names are pseudonyms to protect participants' anonymity.

Discussion and feedback. Group members all share a common goal and the discussions are very helpful! Within every meeting there is a wealth of knowledge like a library, except for addicts. An amazing resource for maintaining sobriety. The feeling of belonging, and knowing that I am in the right place when I attend any LR meeting as all of the individual's have a common goal and purpose....to achieve and maintain sobriety.

Another participant, Marilyn, a 52 year-old woman touched on several themes in her answer when she wrote:

I appreciate the Recovery is my "Choice" attitude. I like the peer support and exchange of resources and strategies to maintain my choice of sobriety. I am choosing to educate myself. I appreciate people helping people, sharing our experiences and what works.

Within this theme, common responses were related to having a group of “like-minded people,” receiving help and support from other members, and feeling accepted and not judged. For example, 49 year-old Natasha wrote the following response, “non-judgemental attitude; laughter at meetings; openness to share,” thus referring to several themes that emerged during content analysis.

The next most common theme was related to a *relaxed, open atmosphere*. Out of 45 respondents to the question about what is helpful about LifeRing, the responses of 14 participants (31%) were classified under this theme. Common responses referred to a sense of belonging, an open and friendly atmosphere, and a focus on the positive. Other comments in this theme had to do with the use of humour in groups and the intimate and down-to-earth vibe of the meetings. An example of a response that touches on multiple aspects of this theme from Ted, a 61-year-old male participant, is:

The open, relaxed environment of the meetings with the ability to stay focused on discussing helpful recovery methods either general or specific. I also like the use of humour sometimes to deal with a difficult subject. Looking forward and not back to solve problems.

Another minor theme that emerged in responses to this question was related specifically to *LifeRing Philosophy*. Twelve participants (27%) had a response relevant to this theme. The most common responses in this category were related to either the

secularity of LifeRing and/or to the idea of free choice in recovery. To illustrate a response related to LifeRing's secularity, Michael, a 38-year-old participant, wrote, "the thing I find most helpful is the fact that theology pro or con is not discussed." In another example, TJ, a 77-year-old male participant, wrote "Flexibility of approach to recovery." Several other responses were unique, such as a response by Paul, a 45-year-old male, who wrote "it [LifeRing] is not shame based; the lack of Judgment and the feedback." On the other hand, Ken, a 48-year-old male participant, wrote a response that touched on multiple themes:

I find to be most helpful is that lifering is a workshop based on what is needed/suggested to maintain absolute and lifelong recovery. The philosophy fits in perfectly with what I firmly believe a support group should provide. Wherein, the group as a whole is my sponsor, and I am completely responsible for tailor making my program adding components of other programs or what I deem to be important i.e. church and compiling them all together in an effort to maintain abstinence.

Finally, a small number of responses did not fit with any of these themes. For example, some participants talked about the structure of the meetings as being most helpful, but these were only represented by a handful of responders. For instance, Lisa, a 47-year-old woman, wrote "The long-term members and those who have a lot of sobriety. Helping newcomers. No reliance on a Higher Power. The workbook." In her response, Lisa touches on the secular aspect of LifeRing as a helpful one, but also introduces other material, such as referencing the LifeRing participants with a long history of sobriety.

These findings suggest that participants mostly found the socially supportive, group aspect of LifeRing meetings to be the most helpful. Being able to share problems and get feedback from other members has been shown to be one of the most helpful parts of LifeRing, according to most of the participants. Although some participants identified specific sources of social support – a friend who also goes to LifeRing, or convenors as a group as being friendly and helpful – most participants spoke about group dynamics in general terms, suggesting that the participants view LifeRing meeting as having a positive, non-judgmental, and supportive atmosphere overall.

Participants' needs and what they would change about LifeRing.

The two questions, “What would you need to get the most out of LifeRing?” and “What would you change about LifeRing if you could?” were designed to assess the same construct – constructive feedback that participants may have about LifeRing meetings. Therefore, participants’ responses to these questions were coded under one category. The participants’ responses confirmed the original assumption that these questions were related to the same topic. Although each individual participant put different responses to the two questions, some similar responses were found across the two questions. For example, suggestions on adding more meetings were found in the answers to both questions. At the same time, participants did provide additional information in response to the second question, what they needed to get most out of the group. While this was a limitation of the design, the additional question did provide new information.

The main theme that arose from the participants’ answers was that of *growth and accessibility*. When analyzing combined answers to the two questions, out of 45 answers, 22 participants’ answers (49%) were classified under this theme. Approximately half (13 participants, 26% of total sample) said they would like to see more meetings at different times and in different locations, but did not elaborate on their reasons for this suggestion. Some sample responses in this theme were from Natasha, a 49-year-old woman, “Increase number of meetings, include daytime meetings” and Maria, a 30-year-old woman, “every night in every area of town.” Increasing the length of meetings was also mentioned by several responders. For example, Lee, a 41-year-old man, simply mentioned, “maybe 1.5 hours,” without elaborating (currently, LifeRing meetings range from one hour to one hour and fifteen minutes in length). Some participants also suggested not passing around the donation basket at meetings or had made a suggestion regarding financial matters; however, this was only mentioned by a few participants. For instance, one participant wrote, “The cost of literature and work books. I am on a fixed budget so I find it difficult to purchase them,” implying that the cost of the literature needs to be reduced. As this and other answers illustrated, a minority of the participants are concerned about costs associated with LifeRing participation, even if it is presented as an optional cost (e.g., donation basket). This and other participants made reference to being on a tight budget and the demographic information for the sample also suggests

that the majority of the participants can be classified as low-income. These responses may indicate stress over finances that may be related to low income or poverty.

Another theme that emerged from the data was related to the *content of sharing in the LifeRing groups*. Comments on this theme varied widely, but there were some commonalities. The most common suggestions and comments were related to having more sharing, crosstalk, and questions at meetings. Thirteen people (26%) commented on this theme. Alan, a 22-year-old man, wrote “Have everyone share other than their check-in. Get to know the people that attend on a personal level, exchange phone numbers, meet outside of lifering.” Sam, a 43-year-old woman, wrote:

I disagree with the not theology pro or con. I think it should be open to discussion with some parameters [sic]. A spritual componet to recovery is vital, and to leave that out entirely is LifeRing's biggest weakness. Introduce spirituality, don't leave it out altogether. Spirituality should not be avoided as a subject Also, i think using DOC is silly. People won't be triggered by the word alcohol or drugs. More time! Lunchtme meetings. Peraps having or being a PAL. I think that notion is not really used.

As illustrated, the responses of participants ranged from general suggestions to very specific suggestions about the language used at the meetings and the expectations of communications between members.

There were also some responses that were too few (five or less) to be classified as its own theme. For example, some participants spoke to issues of efficiency, others mentioned wanting to have some discussion about spirituality in the meetings, and yet others had constructive feedback about how the brochures should look. Most of these responses were unique. For instance, Lisa, a 47-year-old woman, had a number of specific suggestions in her response:

Better trained facilitators with long-term sobriety. Ensure that all facilitors & convenors are trained! This is HUGE! Take a look at how SMART Recovery runs their meetings and have trained facilitators. Ensure each one in the group has the ability to speak if they so choose to speak. Do not let one person go on and one and take up a lot of time. Promote LifeRing principles at recovery houses/facilities so that AA is not the only way! If there is a large group, split these groups up into

manageable smaller groups so that everyone has the opportunity to speak, if they so choose.

Ken, a 48-year-old man, also mentioned the SMART Recovery model in his answer:

I am not so sure that I would change very much, though the meetings themselves could be extended in duration provided everyone was in agreement. Lifering meetings have most of the ingredients I require to maintain my sobriety. Perhaps interject some parts of S.M.A.R.T recovery and alternate recovery programs?? In my experience the two models/philosophies go hand in hand with regards to empowering the sober self! Access to more meetings at varying times throughout the day. Lunchtime or morning meetings would be a great asset. I get what I need and almost always I am dealing with similar issues as the rest of the group. I make sure that I ask questions and get feedback with the things I am struggling with and it helps tremendously.

Finally, a proportion of responders indicated that there is nothing they would like to see changed about LifeRing (25 participants, 50%) and that there is nothing else they need to get the most out of LifeRing (20 participants, 40%). Out of these participants, some stated that there was nothing they would like to change because they are already getting the most out of LifeRing. For example, Leon, a 31-year-old male participant, wrote, "I get what I need most times I attend. I listen to what my peers have to say and I try and relate it to my own life." Other participants simply stated "nothing" or, like Bernard, a 52-year-old man who wrote "Still assessing the process," they made reference to being new to LifeRing and not having enough time with LifeRing to make suggestions. A minority of participants also said "I don't know." Eight participants (17%) simply left the fields blank for those two questions.

Overall, these findings suggest that participants are generally satisfied with what LifeRing has to offer and would like to see it grow and expand with the help of a few changes, specifically with having more meetings and meetings being more accessible (at different times of the day, in different locations), and an increase in the amount of sharing happening in the meetings.

In conclusion, the participants' open-ended responses indicated that they do find a number of things helpful about LifeRing (most notably, the presence and support of other

LifeRing members and a non-judgmental, friendly atmosphere of the meetings). Interestingly, all of the female participants answered the qualitative questions and female typically provided constructive suggestions in comparison with the proportion of male participants who, at times, had no suggestions for improvement. Approximately half of the participants indicated that they are getting all they need out of LifeRing and another half indicated that they would not change anything about LifeRing. However, approximately 50% of the participants had some concrete suggestions on how LifeRing could be improved. Two of the most common suggestions were to improve accessibility (i.e., by increasing the number of meetings) and to facilitate greater sharing and feedback among LifeRing members. The comments regarding growth and accessibility are consistent with the current developmental stage of LifeRing Canada. The Canadian chapter has only existed for just over five years and is still working on establishing more meetings and attracting new meeting convenors. The comments regarding the desire for more sharing are more difficult to interpret. Since a number of participants (79%) already indicated that sharing and receiving support from others is the most helpful part of LifeRing, it is possible that they want to see this aspect developed even more. It is also possible that some participants do not think there is enough sharing happening in the meetings, but we were not able to explore this avenue since participants did not comment on this specifically. Another possible explanation may be related to the size of the meetings. In some or the larger meetings, not all the participants may have a chance to share their opinions or experiences. The qualitative data analysis also provided insights into possible explanations for non-significant findings related to hypotheses 1a-c and significant post hoc analyses results. For instance, in participants' answers of what they find helpful about LifeRing, no major themes emerged that appeared directly relevant to participation in LifeRing increasing the participants' motivation to change. Instead, the participants chose to focus on themes related to receiving recovery-specific social support, a nonjudgmental and relaxed atmosphere, and exchange of ideas. While this does not mean that participating in LifeRing did not affect the participants' motivation, it is notable that none of the participants mentioned this in their responses.

Discussion

The purpose of this study was to examine what factors predict group engagement in a secular peer support group for recovery from substance misuse, LifeRing. Specifically, the study examined components of the Stages of Change model to investigate whether this model is applicable in a peer support context. Further, the study examined the link between match of beliefs and group engagement, which has been shown to be an important factor in group satisfaction in previous studies (e.g., Atkins & Hawdon, 2007). Finally, this study analysed qualitative follow-up data that provided additional information about what participants found helpful and unhelpful about LifeRing. To the researcher's knowledge, this is the first study to examine these factors together in the context of a secular peer support group and, as such, provides novel information with respect to what attracts individuals to peer support groups for recovery and what contributes to their satisfaction with such groups.

Active Participation. Contrary to study hypotheses, readiness to change alcohol or drug use was unrelated to any other variables in this study. As such, readiness to change did not predict active participation in the group. This finding contradicts several previous studies on process in group therapy (since no studies have examined these constructs with respect to PSGs), which suggested that greater readiness to change behaviour is associated with increase in action-stage behaviours (e.g., Amrhein et al., 2003; Moyers & Houck, 2011). However, it is possible that these results were affected by participants' high overall motivation to change, thus making it difficult to examine how people who may be low in readiness to change perceive LifeRing groups.

Notably, AA attendance was the only variable that was a significant predictor of active group participation. This is a novel finding that has not been identified in previous studies. It may be possible that persons who take an active role during support meetings are also more likely to engage with more than one peer support modality. On the other hand, it is also possible that persons who attend AA become more socialized to be active participants in meetings via previous exposure to the support group environment. It was interesting to note that this was not related to the number of years of abstinence or the number of years in recovery, suggesting that a process specific to AA is involved.

Considering these results, I conducted post hoc analyses that indicated that group cohesion was a significant predictor of active participation. This result supports previous studies, which have illustrated that group cohesion is related to positive outcomes in group therapy for substance misuse (e.g., Gillaspay et al., 2012) and in PSGs (e.g., Rice & Tonigan, 2011; Subbaraman, & Kaskutas, 2012). For example, group cohesion has been shown to predict satisfaction with the peer support group (Rice & Tonigan, 2011). However, this finding is also novel because no previous studies have examined the relationship between group cohesion and active participation in a PSG context. Further, in the present study, active participation was unrelated to satisfaction with the group. Thus, group cohesion appears to predict a process that is unrelated to group satisfaction in the current sample. Specifically, a perception of the group as cohesive and supportive may lead to a greater comfort with speaking and sharing in the group. Qualitative follow-up data provide further insight into this issue.

The participants' suggestions to have more sharing, crosstalk, and feedback may also provide an explanation for the non-significant association between readiness to change substance use and active participation. Since participants' follow-up answers indicate that sharing is very important to them and they would like to see more open discussions during the meetings, it may be that even though the participants feel motivated to stop substance use (as indicated by the high means on the scale of motivation), they see some barriers to participating more actively in the groups. Some of the responses alluded to possible barriers that had to do with the quality of facilitation, such as suggesting that all convenors should receive training and make more effort to make sure everyone has a chance to participate in the group. Thus, another possible explanation for the non-significant associations between a) motivation and active participation and b) active participation and satisfaction may be due to a perception of barriers to sharing in the group. Further, the quantitative data indicated that participants who perceived the group as more cohesive were also more likely to be active participants. Thus, the quantitative and qualitative results provide converging support for this explanation.

Satisfaction with the Group. Contrary to the hypotheses, active participation did not predict satisfaction with the group over and above attendance-related variables. To

the researcher's knowledge, there are no other studies that have examined this relationship. However, active participation was associated with group satisfaction when active participation and match in beliefs were entered simultaneously, suggesting that match in beliefs and active participation account for shared variance in group satisfaction. Specifically, these results demonstrate that for participants who perceive LifeRing philosophy to be a good match with their own beliefs, active participation *does* predict satisfaction, whereas for participants who do not perceive a match in the first place, it does not seem to matter whether they participate actively or not, in terms of an effect on their satisfaction.

On the other hand, these findings may also mean that a match in beliefs may be a proxy variable for perceiving that one's worldview is validated and accepted at LifeRing meetings. There was no measure of acceptance/non judgmental perception in this study, but other studies in the area of group therapy have linked a perception of being accepted and validated in a group with decreased substance use (e.g., Bobrova et al., 2010; Tasca & Lampard, 2012). Future studies need to explore these issues in greater depth, examining the match in beliefs and perceived acceptance simultaneously and investigating whether these variables exert longitudinal effect on engagement with the peer support group.

The total number of meetings attended did predict group satisfaction, which is consistent with previous literature (e.g., Bond et al., 2003; Montgomery et al., 1995). There are two possible explanations for this result. It is possible that persons who attend more meetings become more comfortable with the group over time, leading to greater satisfaction. However, it is also possible that persons who are highly satisfied with the group experience self-select to continue attending the group, while persons who were initially dissatisfied with their experience drop out.

Qualitative analysis results suggest another possible explanation. Most of the participants who reported that *social support* is the most helpful thing about LifeRing did not specify that speaking up in group and sharing their opinion was beneficial. In fact, most respondents focused on a different angle: on *receiving* advice, *experiencing* warm atmosphere, or *perceiving* non judgmental group attitude. Taken together, the quantitative and qualitative results suggest that the research participants find the sharing/discussing

dynamic of the group helpful and may or may not need to actively share themselves to experience the benefits of social support.

Alliance with the convenor, on the other hand, was significantly associated with satisfaction. This supports extant findings in group therapy literature, which suggest that alliance with the group facilitator is crucial for positive outcomes (e.g., Norton, Hayes, & Springer, 2008; Piper, Ogrodniczuk, Lamarche, Hilscher, & Joyce, 2005). However, this finding also presents novel information because this issue has not been previously examined in PSGs. Considering the differences between group therapy and PSG, one might hypothesize that group cohesion rather than group alliance would be a more potent predictor of group satisfaction. While in group therapy, the facilitator often has a very active role, including guiding the therapy process, offering feedback, and so on, the role of the LifeRing convenor is meant to be minimal. In essence, the LifeRing convenors are meant to maintain the safety of the group by reinforcing group boundaries, but are encouraged to let the participants guide the group as much as possible and intervene as little as possible. However, the study findings indicated the opposite. Group cohesion was not significantly associated with group satisfaction, while convenor alliance was. These findings suggest that, despite the differences in the roles of group therapist and PSG facilitator, the role of the group facilitator in general and the participants' perception of the relationship with the group leader is an important factor in how satisfied participants are with their group.

Here the qualitative data offers additional information once again. For instance, cohesion was not a significant predictor of satisfaction over and above attendance-related variables. If we assume that attendance variables are proxies for something else, it is possible that the group cohesion did not predict satisfaction because there is a more specific concept that is predicting satisfaction. For example, perceived social support and non-judgmental attitude were mentioned prominently in the open-ended follow-up answers. It is possible that the attendance variable, which is a significant predictor of satisfaction, is a proxy for a more specific variable that was not measured in the study, such as perceived acceptance/non-judgment and/or perceived sobriety-specific support.

Finally, consistent with study hypotheses, match between participants' beliefs and program philosophy was significantly associated with group satisfaction, which supports

previous studies (e.g., Atkins & Hawdon, 2007). In the qualitative follow-up questions, the participants' responses also suggested that it is important for LifeRing philosophy to reflect their own value and ideas about recovery. The themes of socially supportive atmosphere, emphasizing choice in recovery, and a nonjudgmental, accepting atmosphere were all prominent in the participants' responses. Taken together, these results suggest that one potential factor in participants' satisfaction is their perception of acceptance by the group. Although this variable was not examined specifically in the quantitative analyses of this study, the qualitative follow-up results and previous research literature (e.g., Milgram & Rubin, 1992; Tasca & Lampard, 2012) suggest that it is an important factor in predicting group engagement.

Conclusion

Strengths and Limitations

This study examined data from a previously unstudied population, LifeRing secular PSG. One particular strength of this study is that the current study examined both quantitative and follow-up qualitative data, which contributes to a more holistic understanding of participants' perceptions of the group. Another strength is that the current study included both male and female participants, while many studies of PSGs are focused on male participants only. Finally, despite a modest sample, this study represents individuals across the lifespan, individuals who are new to recovery and individuals who have been in recovery for many years, and individuals from a variety of socio-economic backgrounds.

Nonetheless, the study also contains several limitations. The cross-sectional design of the study limits the researcher's ability to make inferences about causation or to understand how the relationships between variables may change over time. Although the researcher attempted a longitudinal design with this study, the number of participants who filled out more than one wave of the questionnaire was too few for statistical analysis. Some of the feedback received from LifeRing members during the study indicated that many LifeRing members in early recovery could not find the time to commit to participating in the study more than once. The modest overall sample size in

this study is another limitation. Although the sample size is adequate for detecting large and medium-sized effects, it may underestimate small effects.

As such, this sample does not contain information about which participants may continue attending LifeRing and which participants may choose not to come back. Thus, the findings related to the active participation level should be interpreted with this limitation in mind. Further, the constitution of the sample as a convenience sample (vs. random sample) may have affected the readiness to change measure, as its range was fairly narrow, with the majority of the participants indicating high readiness for change.

Another limitation is that the participants chose to provide fairly brief (typically several sentences long) answers to qualitative follow-up questions. This limited the researchers' ability to gain a more thorough understanding of the participants' perspective on the issue as might have been gained by conducting qualitative interviews. In fact, the original survey had to be shortened due to a lack of responses and consistent feedback from LifeRing members that the survey was too long. It is possible that the participants who took part in this study did not provide more elaborate responses because of time considerations. As the participants generally represented a group of persons of lower socio-economic position and approximately 50% were in their first year of recovery, it is possible that various stressors and structural obstacles in their lives had placed limits on their time commitments.

However, there is more in-depth qualitative data available from a parallel research project conducted by M. Bass. This study was conducted at the same time. The themes identified in the research report on eleven qualitative interviews with LifeRing members were very much parallel to the findings in this study (Bass & Sullivan, 2012). For example, the three main themes that participants identified as being helpful about LifeRing were social support, LifeRing philosophy, and structure of the meeting. The social support and LifeRing philosophy themes demonstrated overall fit with the quantitative data from the current study. Further, participants in the Bass and Sullivan study identified LifeRing's individualized recovery plan, moving beyond identity of an "addict," and the principle of abstinence as helpful components of the LifeRing philosophy. With respect to meeting structure, the participants described the flexible, informal structure as helpful because they felt that they could share their experiences, but

also did not experience pressure to talk at each meeting (Bass & Sullivan, 2012). These findings may be particularly relevant to the investigation of the role of active participation in LifeRing, namely, that it does not appear to have a significant association with satisfaction, unless match in beliefs was also included in the analysis. The results of my follow-up qualitative data and the results of the Bass and Sullivan (2012) study indicate that active participation may not be as central to *perception* of the group as helpful in LifeRing meetings.

Further, this study did not examine substance use as an outcome. One of the reasons for this is that a small percentage of the sample reported current substance use. Approximately 16% reported some current alcohol use, while approximately 5% reported use of other substances. Considering these low percentages, we concluded that our study included participants who were especially motivated to stay abstinent, which may not accurately represent the diversity of individuals who attend LifeRing. Finally, the results of this study must be considered in the very specific PSG context, as there are likely important differences between persons who engaged with PSGs and persons who choose to recover without outside support of peers or professionals (Klingemann et al., 2010).

Study Implications

With respect to implications for PSGs in general, the results of this suggest that some processes in PSGs may be similar to processes in group psychotherapy. For example, cohesion was significantly associated with group satisfaction and this finding was also supported by the qualitative follow-up analyses, which indicated that participants really valued a group atmosphere that is supportive, accepting, and friendly. At the same time, the participants' indicated that hearing other people's stories and hearing about how they cope with difficulties in recovery was also very helpful. These results suggest that PSGs in general may want to focus on how to best balance these two aspects of the group: on the one hand, creating an atmosphere that is nonjudgmental and, on the other hand, ensuring that as many group participants as possible have a chance to participate and express their opinion in such a way that maintains the safety and cohesion of the group.

Another finding that may be relevant to other PSGs besides LifeRing has to do with a match in beliefs and active participation in the group. The qualitative results

indicated that it is important to participants that LifeRing supports their beliefs about recovery, such as recovery being a conscious choice that they make. In this study, the match of beliefs appeared to be more important in predicting satisfaction than active participation in the group. LifeRing and other PSGs may want to conduct further surveys of their members to find out what aspects of the PSG philosophy are most appealing and which ones are least appealing to people who attend. It would be especially important during a process like this to gather the opinions of first-comers who may or may not return to the group a second time, since it may provide insight into why some people choose not to stay with a PSG. Further, PSGs in general may have greater success with attracting and retaining members if they focus on how to make their message attractive to diverse individuals in recovery, including women and visible minorities.

Future Directions

Future research in this area should employ longitudinal designs and larger and more diverse samples, which can enable researchers to understand the relationship between motivation to change substance use patterns, actual change behaviour (e.g., rate of substance use), and perceptions of the group. Specifically, longitudinal study designs can assist researchers with examining causal relationships between substance use and factors related to PSG attendance, such as perception of acceptance, group cohesion, and satisfaction. Although perception of acceptance was not directly examined in this study, the qualitative follow-up data and other research literature (e.g., Bobrova, Alcorn, Rhodes, Rughnikov, Neifeld, & Power, 2007; Milgram & Rubin, 1992; Tasca & Lampard, 2012) suggest that feeling accepted by one's group may be an important factor in what makes the PSG attractive to individuals recovering from substance misuse. Future studies need to explicitly examine the perception of acceptance by the group and its relationship to substance use outcomes and to individual's perception of the group. Such studies can contribute to expanding our understanding of what mechanisms are involved in the relationship between attendance-related variables and group engagement. Although attendance variables have been demonstrated to be consistently related to outcomes, it is likely that attendance represents a proxy variable that, in fact, represents several causal mechanisms. A perception of acceptance may be one of these mechanisms.

Other potential mechanisms may be related to individual's initial perception of the group and how this perception influences their decision to stay with the group or to leave.

Finally, it is important to continue to examine the components of the Stages of Change model longitudinally and in samples that include people in different stages of change. Overall, designs that examine both individual factors (motivation, substance use) and group-related factors (cohesion, alliance) are important to examine simultaneously in order to enhance our understanding of PSG processes.

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Appendix A

Demographics questionnaire for LifeRing study

(selected questions about LifeRing attendance)

1. How many LifeRing meetings have you attended?

1-3 4-6 7-9 10-11 12-15 more than 15

2. How long have you been attending LifeRing?

Less than 1 month 2-3 months 4-6 months 6-11 months 1 year -2 years
3-4years more than 4 years

3. On average, how often do you attend LifeRing meetings?

Once every few months once a month every 2 weeks every week
2-3 time a week 4-7 times a week

Appendix B

Strengths and Limitations of LifeRing Questionnaire

1. What is it about LifeRing that you find most helpful? (short answer)
2. What about LifeRing would you change, if you could? (specify)
3. How well do you feel your personal beliefs match LifeRing philosophy:
 - a. Very well
 - b. Somewhat
 - c. 50/50 – I agree with some of LifeRing’s philosophy
 - d. A little
 - e. Not at all
4. Do you feel that you are getting the most out of the LifeRing experience?
 - a. Very much so
 - b. Somewhat
 - c. Not at all
5. What would you need in order to get the most out of the LifeRing experience? (specify)
6. What feedback about LifeRing would you give to the group convenors, if you could? (specify)
7. What drew you to LifeRing? (specify)

Appendix C

Alcohol Contemplation Ladder (Hogue et al., 2010)

Use if 3 or more drinks at one time in last six months:

Instructions: Each rung on this ladder represents where various drinkers are in their thinking about quitting. Choose the answer that indicates where you are now.

7 = I have decided to quit drinking alcohol and plan never to drink again

6 = I have decided to quit drinking alcohol, at least for now

5 = I am close to making a decision to quit drinking alcohol, at least for now

4 = I am thinking about quitting drinking altogether, but I still have not made any definite plans

3 = I am thinking about cutting down on my drinking, but I am not thinking about quitting drinking altogether

2 = I might have a problem with drinking, but I do not intend to cut down or quit now

1 = I do not have a problem with drinking, and I do not intend to cut down

Drug Contemplation Ladder

Use if any drug use in last six months:

Instructions: Each rung on this ladder represents where various drug users are in their thinking about quitting. Choose the answer that indicates where you are now.

7 = I have decided to quit using drugs and plan never to use drugs again

6 = I have decided to quit using drugs, at least for now

5 = I am close to making a decision to quit using drugs, at least for now

4 = I am thinking about quitting using drugs altogether, but I still have not made any definite plans

3 = I am thinking about cutting down on my drug use, but I am not thinking about quitting drug use altogether

2 = I might have a problem with drug use, but I do not intend to cut down or quit now

1 = I do not have a problem with drug use, and I do not intend to cut down

Appendix D

Alcohol Use Disorders Identification Test (Saunders et al., 1993)

1. How often do you have a drink containing alcohol?
 Never Monthly or less Once a week or less Two to four times a week

Five times a week

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

1 2 3 or 4 5 or 6 7 or more

3. How often do you have six or more drinks on one occasion?

Never Less than monthly Monthly Weekly Daily

Almost daily

4. How often during the last year have you found that you were not able to stop drinking once you had started?

Never Less than monthly Monthly Weekly Daily

Almost daily

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

Never Less than monthly Monthly Weekly Daily

Almost daily

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

Never Less than monthly Monthly Weekly Daily

Almost daily

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

Never	Less than monthly	Monthly	Weekly	Daily
Almost daily				

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

Never	Less than monthly	Monthly	Weekly	Daily
Almost daily				

9. Have you or someone else been injured as a result of your drinking?

Never	Yes, but not in the last year	Yes, during the last year
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10. Has a relative or friend, or a doctor or other health worker been concerned about your drinking or suggested you cut down?

Never	Yes, but not in the last year	Yes, in the last year
-------	-------------------------------	-----------------------

Appendix E

Drug Use Disorders Identification Test (Berman et al., 2005)

1. How often do you use drugs other than alcohol?

Examples of drugs:

Marijuana

LSD

Ecstasy

Other hallucinogens (example: mushrooms)

Cocaine

Heroin

Crystal methamphetamine (“crystal meth”)

Inhalants (example: paint thinner)

Nonmedical use of pain medications (example: morphine, codeine)

Nonmedical use of sleeping medications (example: barbiturates)

Nonmedical use of anxiety/sedative medications (example: Valium, Xanax, Atavan)

Nonmedical use of stimulant medications (example: Ritalin, Concerta)

Never Once a month or less often 2-4 times a month 2-3 times a week
4 times a week or more often

2. Do you use more than one type of drug on the same occasion?

Never Once a month or less often 2-4 times a month

2-3 times a week 4 times a week or more often

3. How many times do you take drugs on a typical day when you use drugs?

0 1-2 3-4 5-6 7 or more

4. How often are you influenced heavily by drugs?

Never Less than once a month Every month Every week

Daily or almost daily

5. Over the past year, have you felt that your longing for drugs was so strong that you couldn't resist it?

Never Less than once a month Every month Every week

Daily or almost daily

6. Has it happened, over the past year, that you have not been able to stop using drugs once you started?

Never Less than once a month Every month Every week

Daily or almost daily

7. How often in the past year have you taken drugs and then neglected to do something you should have done?

Never Less than once a month Every month Every week

Daily or almost daily

8. How often in the past year have you needed to take a drug the morning after heavy drug use the day before?

Never Less than once a month Every month Every week

Daily or almost daily

9. How often in the past year have you had guilt feelings or a bad conscience because you used drugs?

Never Less than once a month Every month Every week

Daily or almost daily

10. Have you or anyone else been hurt (mentally or physically) because you used drugs?

Never Yes, but not over the last year Yes, over the last year

11. Has anyone else, relative or a friend, doctor or a nurse, or anyone else been worried about your drugs use or said to you that you should stop using drugs?

Never Yes, but not over the last year Yes, over the last year

Appendix F

Client Satisfaction Questionnaire (Larsen et al., 1979)

1. How would you rate the quality of service received at LifeRing?

Low Satisfaction A Little Satisfaction Moderate Satisfaction High Satisfaction

2. Did you get the kind of service you wanted at LifeRing?

Low Satisfaction A Little Satisfaction Moderate Satisfaction High Satisfaction

3. To what extent has the LifeRing program met your needs?

Not very much A Little Met most of my needs Met all my needs

4. If a friend were in need of similar help, would you recommend the LifeRing program to him or her?

No Maybe Most likely Definitely

5. How satisfied are you with the amount of help you have received at LifeRing?

Low Satisfaction A Little Satisfaction Moderate Satisfaction High Satisfaction

6. Have the services you received at LifeRing helped you to deal more effectively with your problems?

No A little Mostly yes Definitely yes

7. In an overall, general sense, how satisfied are you with the service you have received at LifeRing?

Low Satisfaction A Little Satisfaction Moderate Satisfaction High Satisfaction

8. If you were to seek help again, would you come back to the LifeRing?

No Maybe Most likely Definitely

Appendix G

Recovery Group Participation Scale (Groshkova et al., 2011)

1. I attend LifeRing recovery group meetings.

Never	1-2 times per week	3-4 times per week	5 or more times per week
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2. The number of LifeRing groups that I attend regularly is...

None	One	2-4	5 or more
------	-----	-----	-----------

3. If I did not make a LifeRing meeting at my “home” group for 2 weeks, I think the number of people who would call to see if I was OK would be...

None	One	2-4	5 or more
------	-----	-----	-----------

4. I speak at LifeRing meetings.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

5. I perform service at LifeRing meetings.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

6. I carry a message of hope to others.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

7. I socialize before or after LifeRing meetings.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

8. I attend recovery social events.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

9. I visit a recovery clubhouse.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

10. I read recovery supportive literature.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

11. I carry a recovery object.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

12. The number of phone numbers of people who support my recovery is...

1-3	4-6	7-9	10 or more
-----	-----	-----	------------

13. I use daily rituals.

Never	Rarely	Sometimes	Frequently
-------	--------	-----------	------------

14. I do voluntary service in the community.

Never	Rarely	Sometimes	Frequently
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Department of Psychology, have submitted a
(School or Department, if any)

thesis/dissertation/project (Work) under the title of:
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