

## **Horse as Healer: Applying Equine Assisted Learning to Uncover and Strengthen the Spirit of First Nations Youth Who Abuse Solvents**

Colleen Anne Dell, Research Chair in Substance Abuse, Department of Sociology,  
University of Saskatchewan \*

Darlene Chalmers, Faculty of Social Work, University of Regina

Debra Dell, Coordinator, Youth Solvent Addiction Committee

Ernie Sauve, Executive Director, White Buffalo Youth Inhalant Treatment Centre,  
Sturgeon Lake First Nation

Tamara MacKinnon, Program Director, Cartier Equine Learning Centre

### Contributions

This article is a collaborative community-based effort of the identified authors, Elders Herb and Gladys, staff and members of the Board of Directors of the White Buffalo Youth Inhalant Treatment Centre, and staff of the Cartier Equine Learning Centre.

### Acknowledgement

Two of the authors of this article, Darlene and Colleen, were driving from Saskatoon to Sturgeon Lake First Nation to meet with two of the Elders who are trusted with providing spiritual and cultural guidance at the White Buffalo Youth Inhalant Treatment Centre. As they passed a roadside cross (referred to by Darlene as a shrine) to mark the passing of an individual(s) through a motor vehicle accident, they began a discussion that observed how these 'shrines' would not exist to the extent they do if there were no vehicles, and in place, horses were once again the primary mode of transportation. When their morning meeting with the Elders was coming to a close, a final thought was shared by one of the Elders, Herb. He said that the iron horse (i.e., automobile) has contributed its share to the illness (e.g., materialism) that plagues society today. Another of the Elders, Gladys, reflected that all is interconnected in life, and everything (e.g., seasons) comes full circle. In many ways, this article represents a piece of the circle of life for each of the authors. We are happy to be able to share this with the reader, and are grateful for what we have learned in the process.

\* Corresponding author: Department of Sociology, University of Saskatchewan, 9  
Campus Drive, 1015 Arts Building, Saskatoon, SK, S7N 5A5, Tel: 306 966-5912, Fax:  
306 966-6950, [colleen.dell@usask.ca](mailto:colleen.dell@usask.ca)

\*\* The submitted work is original, has not been published elsewhere and will not be sent to another journal or magazine unless it has been declined by Pimatisiwin.

## **Horse as Healer: Applying Equine Assisted Learning to Uncover and Strengthen the Spirit of First Nations Youth Who Abuse Solvents**

### Abstract

Canada is an international leader in providing residential treatment to First Nations youth who abuse solvents. The residential centres are linked through the national Youth Solvent Addiction Committee (YSAC), which provides theoretical direction for the treatment provided at the centres. In this article we discuss YSAC's culture-based model of resiliency, and illustrate it through the offering of Equine Assisted Learning (EAL) at one of the residential centres—the White Buffalo Youth Inhalant Treatment Centre. YSAC has expanded the Western concept of resiliency, which focuses on the individual, to include both the individual (inner spirit) and community. Using the example of EAL, this resiliency model is illustrated from the intersecting perspectives of White Buffalo's volatile solvent abuse program, Cartier Equine Learning Center's EAL program, Elders' stories, and the peer-reviewed literature. We also highlight through the EAL example how YSAC's culture-based model of resiliency and a Western health promotion approach are complimentary, and the potential for much to be learned from YSAC's holistic approach to treatment and healing for both First Nations and Western health promotion responses to substance abuse. The article concludes with four key research suggestions as next steps to further our understanding of EAL, and with a specific emphasis on how it relates to First Nations community health.

## Introduction

Canada is an international leader in providing residential treatment to First Nations youth who abuse solvents. With 5 of its 8 treatment centres in operation for over a decade, this is a laudable achievement given that internationally most centres close down within the same year they are established (Substance Abuse and Mental Health Services Administration, 2003). The Canadian centres are linked through the National Youth Solvent Addiction Committee (YSAC) network. The network provides theoretical direction for the treatment provided at the centres and strength-based counselor training opportunities, emphasizing a culture-based resiliency model. One of the YSAC treatment facilities, the White Buffalo Youth Inhalant Treatment Centre, has expanded its programming to include Equine Assisted Learning (EAL). White Buffalo has partnered with the Cartier Equine Learning Center to offer EAL.

In this article we discuss how YSAC's culture-based model of resiliency is put into practice at White Buffalo through the example of EAL. The application of this model to a horse assisted learning program addresses a significant gap in the literature. YSAC has expanded the Western concept of resiliency, which focuses on the individual, to include both the individual (inner spirit) and community. These fundamental components are reflected in the resiliency literature as the dynamics of insight and relationship.

Resiliency has been re-conceptualized by YSAC as "...a balance between the ability to cope with stress and adversity and the availability of community support" (Dell, Hopkins, Dell, 2005: 5). This definition is operationalized at White Buffalo through traditional First Nations teachings alongside such programs as EAL, with specific attention paid in

this case to the historic and contemporary role of the horse within the lives of First Nations people. Both concepts which comprise YSAC's definition of resiliency—individual (inner spirit) and community—are illustrated using the example of EAL from the intersecting perspectives of White Buffalo's volatile solvent abuse program, Cartier Equine Learning Center's EAL program, Elders' stories, and the peer-reviewed literature.

Using the example of EAL, we also highlight in this article how YSAC's culture-based model of resiliency and a Western health promotion approach are complementary. Both emphasize the importance of the individual *and* the larger community in understanding and responding to health needs. It follows that there is potentially much to be learned from YSAC's holistic approach to treatment and healing that can be of assistance to both First Nations and Western health promotion responses to substance abuse. The article concludes with four key research suggestions as next steps to further our understanding of EAL, and in particular as it relates to First Nations community health.

### Volatile Solvent Abuse

According to a 2005 report commissioned by the World Health Organization, the deliberate inhalation of volatile solvents and aerosols<sup>1</sup> is an increasing global problem. In Canada, attention to volatile solvent abuse (VSA) among Indigenous youth was publicly recognized with a widely-played media clip in 1993 of Innu youth in Davis Inlet, Newfoundland getting high by sniffing gasoline. In 1996 a major response to VSA was

---

<sup>1</sup> "A solvent is a chemical in a liquid or semi-solid state that dissolves other substances (e.g., nail polish remover). The word volatile refers to the rapid evaporation of chemicals in products to a gas or vapour when they are exposed to air.... Aerosol and spray cans contain a product (e.g., shaving cream) under the pressure of a propellant. Propellants are typically solvents and are used to dissolve the content of the can so it can be sprayed" (Dell and Beauchamp 2006:1). Volatile solvent abuse is commonly referred to as inhalant abuse, given that inhaling is the mode of ingestion.

undertaken on the part of First Nations people and Health Canada's First Nations and Inuit Health Branch; several residential youth solvent treatment centres were established.

Volatile solvent abuse is the deliberate inhalation of fumes or vapours given off from a substance for its intoxicating and mind-altering effect (National Drug Abuse Information Centre, 1998). Volatile solvents are a large and diverse group of chemical compounds located in hundreds of household and industrial products, including paint thinner, glue, gasoline, and correctional fluid (Dell and Beauchamp, 2006; Howard et al., in press). The health effects of inhaling can be acute, and include frostbite and burns, (Albright et al., 1999; Janezic, 1997), brain and nerve cell damage (Basu et al., 2004; Dewey, 2002), and sudden heart failure (Ballard, 1998; Willie and Lambert, 2004). The social effects are equally destructive, and include poor academic performance (Basu et al., 2004; Carroll et al., 1998), decreased mental wellness (Kurtzman et al., 2001; Mosher et al., 2004), and problem behaviour, such as delinquency (White and Hayman, 2004).

The rate of VSA among First Nations and Inuit youth, and youth generally, is not well documented in Canada. The most recent national survey on substance use and abuse among Canadians 15 and older found that 1.9% of males and 0.7% of females reported to have used a volatile solvent in their lifetime (Adlaf, Begin and Sawka, 2004). This is an increase from the 1994 reported lifetime solvent use rate of 1.2% of males and 0.3% of females (Canadian Centre on Substance Abuse, 1994). Canadian research indicates that the majority of solvent abusers are between the ages of ten and seventeen, with peak use between twelve and fifteen (Adlaf and Paglia, 2003; Barcelo et al., 1998; Youth Solvent

Addiction Committee, 2004). Volatile solvents are often the first mood-altering substance used by children and youth because they are readily available, inexpensive and easily concealed (Basu et al., 2004; Wille and Lambert, 2004).

Research and practice have indicated higher rates of VSA among youth experiencing disenfranchised life conditions. This has been documented among street youth, inner city youth, and some First Nations and Inuit youth living in select rural and remote areas of the country (Research Group on Drug Use, 2004; Manitoba Office of the Children's Advocate, 2003). VSA among First Nations and Inuit youth has been linked to high rates of poverty, boredom, loss of self-respect, unemployment, family breakdown and poor social and economic structures (Dell et al., 2003). These issues are connected to the historic impact of residential schooling, systemic racism and discrimination, and multi-generational losses of land, language and culture. For example, a 2003 report from Pauingassi First Nation in Manitoba revealed that half of the children on the reserve who were under 18 years abused solvents (Manitoba Office of the Children's Advocate, 2003).

Given the damaging bio-psycho-social and spiritual effects of VSA, and the myriad of impoverished social conditions surrounding chronic use, the treatment of youth who abuse solvents has largely demonstrated to be ineffective. The literature suggests that residential treatment programs for inhalant abuse rarely survive for a multitude of reasons, including the degree of difficulty that treating solvent users entails (Beauvais, 1990; Dinwiddie, 1994). Solvent abusing youth have been typecast as 'out of control' and

‘untreatable’. It has been widely accepted that brain damage from ingesting solvents is extensive and irreversible, though recent research (Cairney et al., 2004) and practice (YSAC 2008) have refuted this. Canada is an international leader in providing treatment for VSA to First Nations and Inuit youth with the operation of 5 of its 8 treatment facilities for over a decade.

### Residential Treatment for Volatile Solvent Abuse

In 1996, the decision to build several residential treatment facilities for volatile solvent abuse created significant uneasiness about which model of recovery they should operate under. There was a dearth of research on effective treatment approaches for youth VSA on which to draw, and conflicting theories about youth substance abuse residential treatment in general (Dell and Graves, 2005). There was some consensus among clinicians and researchers, however, that residential treatment can be helpful for individuals who have special needs or require intensive programming (Jumper-Thurman and Beauvais, 1997). In response, the emerging solvent treatment facilities in Canada formed the national Youth Solvent Addiction Committee (YSAC) as a mechanism to develop an overarching culture-informed approach to treatment, and to share individual centre successes and lessons to treating youth who abuse solvents. YSAC’s mission is to provide culturally-appropriate, therapeutic, inhalant treatment and community-intervention programming for First Nations youth and their families. YSAC is comprised of treatment centre Directors, field experts and representatives of the First Nations and Inuit Health Branch.

In line with the literature and understanding, the majority of youth who enter into the YSAC programs have extensive histories of mental, physical, social and spiritual abuse (YSAC, 2008). Focusing on the cultural foundation that the centres share, and their commitment to a strength-based approach to treatment and healing, YSAC guided the centres' early development with the concept of resiliency, that is, how well a person can recover or bounce back in spite of significant stress. Key to YSAC's application of the concept is the role of an individual's inner spirit; inner spirit is the "motivator and animator of one's life" (Dell, Hopkins, Dell 2005:5) and it is nurtured through traditional First Nations teachings and healing. Unique to YSAC's culture-based model of resiliency is that the concepts of inner spirit and community cannot be disentangled from one another, as is commonly done within a Western worldview. An individual's inner spirit is intertwined with their family, community and the land and cannot be separated or understood apart from them. Acknowledging this, YSAC expanded the Western concept of resiliency, which focuses on the individual, to include both the individual (inner spirit) and community. YSAC re-conceptualized resiliency as "...a balance between the ability to cope with stress and adversity and the availability of community support" (Dell, Hopkins, Dell, 2005:5) (see Figure 1). This holistic concept of resiliency is suggested to "assist youth in uncovering their inner spirit [and] strengthen their spirit by drawing on available community resources" (Dell, Hopkins, Dell, 2005:5).

**Figure 1: YSAC's Culture-Based Model of Resiliency**



YSAC began its work with resiliency by adopting the work of Wolins' and others on the seven resiliency dynamics (Wolins and Wolins, 1998; Resiliency Center). These dynamics were found to coincide with parallel conceptions of traditional teachings and holistic healing within First Nations culture (see Table 1). A key difference, however, is that two of the seven dynamics are integral to the definition of resiliency as conceptualized by YSAC and explained above: relationships (community) and insight (development of inner spirit). Both concepts underpin the understanding of an individual's ability to recover or bounce back in spite of significant stress, and are the focus of this article as it relates to a horse- assisted intervention. The main difference between a Western concept of resiliency and YSAC's is that from a Western worldview an individual has seven resiliency traits (including inner-spirit and community), whereas from within a First Nations worldview, YSAC identifies the foundation of the individual as being their inner spirit and relations with their collective community.

**Table 1: Wolins’ Resiliency Traits**

<i>Wolins’ Resiliencies</i>	<i>Traditional Teachings</i>
Morality	Interconnectedness; respect; humility; faith
Humour	Teasing as acceptance and welcome; balances the seriousness of life; facilitates learning
Creativity	Survival; tool making; continuance of life
Initiative	Personal courage; integrity; freedom; autonomy; promotes wholeness and quality of life for all
Relationships	Kinship; sharing; unconditional love; generosity; community
Independence	Mastery; taking on of adult roles; courage; non-interference; reciprocity
Insight	Vision quest/fast; strength; knowing self in relation to all else; identify development in relation to gender, spirit name and clan

(Dell, C., C. Hopkins and D. Dell (2005). “Resiliency and holistic inhalant abuse treatment”. Journal of Aboriginal Health. pp. 6).

Intersections Between YSAC’s Culture-Based Model of Resiliency and a Western Health Promotion Approach

YSAC’s holistic concept of resiliency (i.e., its culture-based model of resiliency) is akin with a Western approach to health promotion. That is, neither focus solely on the eradication of an illness or disease. Substance abuse programming has generally *not* been holistic in its approach to and understanding of healing, but rather, predominantly disease based. From a health promotion perspective, health is understood to be a state of unity or balance across the physical, mental, social, and spiritual components of an individual’s well-being, rather than merely the presence or absence of disease. The historical drawback of the disease-based approach has been the majority placement of substance abuse outside the context of this understanding, as well as the community within which it takes place; there has been an absence of recognizing the precipitating impacts of the determinants of health.

The underlying assumption of a determinants of health perspective is that “reductions in health inequities require reductions in material and social inequities” (no page, internet source) (Public Health Agency of Canada, 2007). Quite simply, “[t]he conditions in which people grow, live, work and age have a powerful influence on health. Inequalities in these conditions lead to inequalities in health” (no page, internet source) (World Health Organization, 2007). In 2006, the Assembly of First Nations added to this understanding and proposed Indigenous-specific indicators of well-being. In addition to the determinants of health commonly applied within the mainstream (e.g., income and social status; education and literacy), First Nations-specific indicators were identified, including health care, land and resources, and language, heritage, and culture (Assembly of First Nations, 2006). Key to understanding their inclusion is recognizing the devastating impact that colonialism has had in the lives of First Nations peoples in Canada and globally.

Nowhere is the need for this understanding possibly more evident than within the VSA area for First Nations youth. Research has shown that chronic solvent abusers are disproportionately located in impoverished social environments and are most likely to use solvents as a coping mechanism (e.g., to suppress hunger) (Alberta Alcohol and Drug Abuse Commission, 2003; Bates et al., 2005; Corbett et al., 2005; Howard and Jenson, 1999; Liu et al. 2002; Perron and Loiselle, 2003; Van Til and Poulin, 2002). If VSA is to be fully understood, it cannot be separated from larger social factors (community) and individuals (inner spirit). The whole individual, alongside social and political processes

and structures, need to be accounted for in understanding and responding to any health issue, including VSA.

Once again, a Western philosophy of health promotion and YSAC's culture-based model of resiliency are complementary to one another. Both acknowledge the intersecting role of the individual and their larger community in determining health status. It will be illustrated in a later section of this article how the Cartier Equine Learning Center's EAL program exemplifies both, and from the intersecting perspectives of White Buffalo's VSA program, Cartier's EAL program, Elders' stories and the peer-reviewed literature. YSAC's culture-based resiliency model, however, additionally contributes understanding about how a First Nations worldview is necessary to provide relevant and comprehensive programming to First Nations youth. For example, as relayed, an individual's inner spirit is understood to be intertwined with their family, community and the land and therefore cannot be understood apart from them. There is potentially much to be learned from YSAC's culture-based model of resiliency that may be of assistance to both First Nations and Western health promotion responses to substance abuse.

#### White Buffalo Youth Inhalant Treatment Centre

The White Buffalo Youth Inhalant Treatment Centre is a six-month, First Nations residential treatment program for female adolescents. It is located on the Sturgeon Lake First Nation, near Prince Albert, Saskatchewan. The program is based on the concept of living therapy, which integrates four cornerstones of treatment that parallel teachings of the medicine wheel—spiritual, emotional, mental and physical. Underlying this

framework is adherence to YSAC's culture-based resiliency model. A foundational concept of the White Buffalo program is nurturing the inner spirit, which is practiced through traditional First Nations teachings and holistic healing (e.g., fasting, sweat lodge). Alongside this, through structured programming White Buffalo attempts to realign the youths' association with and reliance on their greater community. It is foundational in the First Nations worldview to see the world through the collective of community.

Putting its culture-based resiliency model into practice, it is important to convey that White Buffalo positions *itself* as a traditional nurturing community. In First Nations culture children are the product of unions; Children are not owned by their parents, but rather, are a gift whose rearing is a joint parental and community responsibility. White Buffalo's focus on a culture-informed community is demonstrated through traditional teachings and cultural direction provided by Elders, as well as the commitment and practices of treatment staff. The Elders focus their energies and gifts on reinforcing a sense of self, identity, and cultural understanding within the youth; the staff extends their energy and expertise to influence and support the youth through programming, recreation and cultural activities. Bonds are established (e.g., via a sense of community, kinship and culture) that support a continuum of care such that continued nurturing through contact at a distance often takes place when youth return to their home communities.

As highlighted, the youth who enter White Buffalo's residential program for solvent abuse have extensive histories of mental, physical, social and spiritual abuse. For

example, drawing upon White Buffalo's 2007 treatment intake data, 90% of the youth reported to have attempted suicide within the past year (YSAC, 2008). Given the dearth of empirical research to draw upon to develop and expand VSA programming, when an opportunity presented itself in 2005 to potentially integrate animal assisted learning, specifically the use of horses into White Buffalo's program, the merits of doing so were pursued. It is well-cited in the literature that animal assisted interventions, in particular those with horses (i.e., equine), is an increasingly popular adjunct to traditional modes of working with high need youth with histories of emotional and behavioural trauma (Drawe 2001; Ewing et. al., 2007; Lefkowitz, 2005; Reimer, 1999). However, a significant distinction to be noted is that the treatment centre views this approach as not entirely new, but rather, a return or (re)introduction to what is already known about the horse within a cultural context.

### The Horse

The Spanish introduced the horse to North America and First Nations people and communities. Since the point of introduction, the horse has had significant working (e.g., hunting and gathering) and ceremonial (e.g., Horse Dance) roles in the culture and lives of some First Nations. For some, the horse has historically been viewed with a profound sacredness, just as there is sacredness believed to be in all living things. The horse is specifically identified as having a strong spiritual power. The horse is seen to be a 'teller of truth' and desires to do the 'right thing'. Hence, it is believed that the horse will lead individuals in the 'right direction'. A horse's spirit is believed to be able to assist others in understanding their place in the circle of life. Lawrence (1998) explains that the Native

American “worldview...sees little distinction between people and animals and does not make the sharp separation between them that is characteristic of Western culture. The horse, like other animals, is viewed as occupying a vital role in the great circle of living creatures, not as representing a lower rung on the hierarchical ladder (or chain) of being” (137).

An Elder at White Buffalo shared a story that speaks to the important ceremonial role of the horse to First Nations. As he tells it, when he was a child during WWII, his home community organized a giveaway and powwow for the men and women who were serving in the military. Community members gathered to perform a traditional send off ceremony, and the ceremonial animals were guided in. At this point in history, the horse was adorned with regalia (e.g., shawls, beading, and ribbons). A typically slow and lethargic mare was one of the ceremonial horses, and as she entered the arena, on her own volition she stood on her hind quarters and circled it sideways in a ceremonial horse dance. She became animated, it was said, in response to the intent and spirit of the ceremony. This is one story that illustrates not only the horse’s sacredness and connection to ceremonial activities for First Nations, but also its intuitive nature.

### Equine Assisted Learning

Very little literature exists that specifically defines and describes EAL. Much of what has been written is vaguely identified within the broader area of Animal Assisted Therapy (AAT). AAT is an area that for the most part has been primarily based on an understanding of the use of small companion animals within the context of healing

relationships between animals and humans. The first documented empirical study that investigated both the healing benefits of animals and the potential benefits of animals as co-facilitators in therapy was published in 1962; Boris Levinson used his dog in therapy with children (Hallberg, 2004; Heimlich, 2001 as cited in Schultz, 2005; Levinson, 1984; Morrison, 2007). With ongoing interest and research in understanding the contributing factors that may enhance a person's sense of physical, psychological, and spiritual health and healing, the role of the animal has evolved to a place of significance with its inclusion in a range of therapeutic interventions and programs. Although a long-standing and growing body of literature exists related to the use of small animal companions in increasing one's sense of wellness, a more recent and less studied phenomenon gaining international growth and attention is a movement toward the inclusion of horses in learning programs. These programs specifically aim to develop and enhance an individual's communication skills, self-awareness, and ability to interact with others.

Equine Assisted Learning (EAL) is a relatively new field within the area of equine assisted programs and draws primarily on the tenets of experiential learning—learning through hands-on experience. While resonating with some of the “core values” (MacKinnon, 2007: 1) found within other equine assisted interventions (e.g. Equine Assisted Psychotherapy, Therapeutic Riding, Hippotherapy), in general terms EAL is an educational program that is facilitated within a group format and focuses on ground activities rather than riding. In EAL programs participants engage in structured, facilitator led sessions that include constant feedback related to participants' experiences (EAGALA, 2008; Horses and Humans Research Foundation, 2008; MacKinnon, 2007;

NARHA, 2008). The sessions are developed to provide opportunities for participants to become involved in situations that require interaction between the individual and the horse, and the individual with the group, and to reflect on these experiences in relation to self. The overall intent is to create opportunities whereby participants, through direct experience with the horse, learn about self and connect and internalize this awareness within the sessions as well as generalize this learning to other life situations (EAGALA, 2008; MacKinnon, 2007; NARHA, 2008).

Given the horse's superior intuitive nature, direct interaction with it is a unique experience. Yorke (2003) describes the unique difference between horses and humans based on categories of predator and prey, in that "...humans are predators and horses are prey which has required a significant degree of trust despite domestication" (2). The horse's intuitive nature has evolved as a mere function of survival; it is constantly attuned to its surroundings and the subtle communication within the herd as a response to ever-changing environments. In this way, horses have been observed to have acute communication skills within their social structures and highly adaptive behavioral responses within those structures (MacKinnon, 2007). Thus the horse has the ability to respond intuitively to human behavior and intent resulting in feedback from the animal that is immediate (Frame, 2006; Graham, 2007; Hallberg, 2004; Kersten and Thomas, 1997; MacKinnon, 2007; Shultz, 2005; Tramutt, 2003). This response creates opportunities for an EAL participant to react both cognitively and behaviorally in relation to the cues from the horse. In the broadest sense, EAL is an approach aimed at increasing life skills through hands-on doing, and has been identified as useful in building

communication, problem-solving, and team building skills, as well as enhancing personal awareness and a sense of self (MacKinnon, 2007; NARHA; Rothe et. al., 2005).

### Cartier Equine Learning Center and EAL

White Buffalo introduced EAL into its treatment program in collaboration with the Cartier Equine Learning Center in September, 2005. Located north of Prince Albert, Saskatchewan, Cartier's Centre is noted for becoming a leader in establishing industry standards in the area of EAL certification and program development (Saskatchewan Horse Federation, 2008). According to the Cartier Equine Learning Center, "EAL is an effective approach to human development through horsemanship" (MacKinnon, 2007:1). The Cartier EAL program "is a learner based educational experience with horses" (MacKinnon, 2007:1) that focuses on communication and the wisdom of the horse for its teaching ability. The program aims to achieve better understanding within individuals about themselves through participating in horse-focused exercises and debriefing about the exercises to bridge the gap between the arena-based experience and real life (MacKinnon, 2007).

The Cartier Equine Learning Center identifies its program as unique in that it offers participants a structured curriculum that incorporates a variety of 'building block' lessons and learning opportunities based on immediate outcomes and feedback. In addition to an objective-driven curriculum, a critical element to creating meaningful experiences for participants in the program is the approach used in the facilitation of the curriculum (MacKinnon, 2007). Key to the Cartier program is the high skill level of the facilitators,

who through their own expertise and understanding work to identify ‘teachable moments’ in the arena as the horses and participants interact. The facilitator guides the activities to “draw out the human-vs-horse dynamic and individual-vs-group interaction.”

(MacKinnon, 2007:5). A fundamental guiding philosophy of the program relates to the horse in that “[b]y their intuitive nature and innate sensitivity, horses can provide facilitators with a window into the participant’s personality. As facilitators listen to a horse’s non-verbal communication, together they have the ability to walk participants through to finding [potential] life-altering change” (4).

At the Cartier Equine Learning Center, the facilitators are keenly aware of their horses and so have a sense of predictability and thus control in looking for the teaching moments. It is also acknowledged by the Cartier Center that the facilitators need to be ‘like-minded’ with the horses in their approach to EAL, in that they too should be, for example, non-judgmental, honest and provide instant feedback. The Facilitators teach lessons in three domains: understanding (e.g., respect), skill (e.g., communication) and life (e.g., consequential behaviour) and apply the lesson content through ground work with the horse. (see Photo 1). As will be discussed in the next section of this article, compatibility between YSAC’s culture-based resiliency model and the EAL program is apparent in Cartier’s focus on individuals’ learning about themselves (inner-spirit) and applying the lessons to real life (community).

**Photo 1: Cartier's Equine Assisted Learning**



Intersecting White Buffalo and Cartier Equine Learning Center's EAL Program

Although not directly specific to EAL, there is some support in the available literature of a linkage between participating in Animal Assisted Therapy (AAT) and resiliency. For example, a study by Hayden (2005) found that resiliency, in particular the protective processes of resilience, is linked with equine facilitated psychotherapy in working with adolescents. This link is also identified in the work of Waff (2006) and her overview of a therapeutic program using animals with middle and high school aged participants. Waff highlights her understanding of the parallels between common treatment goals of AAT and resiliency characteristics put forward by Eggert, Thompson, Herting and Nicholas (1994 as cited in Waff, 2006) in prevention programs for at risk youth.

Given the dearth of research specific to EAL, and in particular the linkage with resiliency, in the remainder of this article we discuss how YSAC's culture-based model of resiliency is put into practice at White Buffalo through its offering of EAL. The aim is not to 'test' the effectiveness of EAL, but rather, to discuss the application and relay the applicability of the resiliency model to an EAL program. In particular, it is illustrated from the intersecting perspectives of White Buffalo's volatile solvent abuse program, Cartier Equine Learning Center's EAL program, Elders' stories, and the peer-reviewed literature. As indicated, YSAC expanded the Western concept of resiliency, which focuses on the individual, to include both the individual (inner spirit) and community. These fundamental components are reflected in the resiliency literature as the dynamics of insight and relationship. Resiliency has been re-conceptualized by YSAC as "...a balance between the ability to cope with stress and adversity and the availability of community support" (Dell, Hopkins, Dell, 2005:5).

### Inner Spirit/Insight

Inner spirit is highlighted in YSAC's conception of resiliency as the basic or beginning point of an individual. Spirituality is believed to be the foundation of First Nations reality, which is comprised of mental, physical, emotional and spiritual components. There is a connection made between a cultural activity (in this case the horse) and an individual's spirit (uncovering and strengthening it). "In the First Nations perspective, the attachment to a Creator and ways of accessing the Creator through spiritual ceremonies and practices are important factors in building resilience" (Dell, Hopkins, Dell, 2005:7). The spirit is represented in Wolins' work on resiliency as insight. Traditional First

Nations teachings define insight, or inner spirit, as vision quest/fasting, strength, knowing self in relation to all else, and identity development in relation to gender, spirit name and clan.

### *White Buffalo Treatment Program*

The White Buffalo program aims to nurture and/or renew the inner-spirit of youth. In addition to counselors and Elders, White Buffalo offers EAL to provide youth with a sense of connection to a non-human and culturally revered life form to help assist in reviving their spirit. As discussed, a First Nations worldview puts forth that an individual's inner-spirit is nurtured through participating in cultural activities and ceremonies. For White Buffalo, the horse helps to externally validate traditional values the youth learn in treatment programming; the horse puts into practice cultural teachings (e.g., horse reacts uniquely to youth who are expressing frustration). It is also important to note that the youth are typically fearful of the horse upon introduction, which is similar to how they initially respond to participating in traditional cultural programming (e.g., sweat lodge).

### *Cartier Equine Learning Center EAL Program*

Through Cartier's EAL program the horse may be a means to connect with the spirit of an individual in an unencumbered way. As relayed, the program is developed based on the understanding of a parallel process that occurs between the specific weekly learning objectives within the curriculum, and the connection and relationship between the EAL participant and the horse (MacKinnon, 2007). The youth learn through exercises with the

horse about others' and their own feelings and instincts. For example, they learn to understand or 'feel' when it is appropriate to approach a horse. From a First Nations worldview, in terms of knowing self in relation to all else, the horse is also identified as a connection with nature. The facilitators help the youth to develop this relationship with the horse in a non-judgmental way. The horse reads body language and intuitively understands what people do and not what they say (MacKinnon, 2007). The EAL participants are provided opportunities to learn about self through the horse's intuitive nature and being. (see Photo 2)

**Photo 2: Cartier's Equine Assisted Learning**



*Elder's Story*

According to the Elders, it is believed by some First Nations that all animals have a spirit whose purpose is to guide and help individuals. The animal spirit is integral to survival

and therefore this devout relationship with the animal spirit is viewed as personally significant to each individual. The horse spirit is a friend and teaches about sharing and the profound sacredness found within the act of sharing. The horse program gives the youth some sense of a connection with another life form. It fosters a connection that is based on the horse's ability to sense a person's spirit which becomes a unique and personal experience for each of the youth. Through the horse, the youth may be provided with opportunities to reflect on spirit and identity, and apply an interpretation that is meaningful in their own growth and self understanding.

### *Peer-Reviewed Literature*

The concepts of inner spirit and insight are operationalized in the literature as an increase in self-esteem with Animal Assisted Therapy generally (Campbell-Begg 1998; Iannone 2003) and with horses specifically (Brouillette 2006; Frame 2006; Iannone 2003; Schultz 2007). Horses have been identified to be nonjudgmental, and as Reichert (1998) indicates, by possessing this characteristic the horse may be a useful medium in relation to enhancing a "sense of self-esteem and promote the expression of feelings" (177). Rothe et. al. (2005) further note that interaction with a horse can assist a young person in exploring "feelings, powers of intuition and energy, understandings of self, nature, relationships and communication" (375).

### Community/Relationships

Community, or relationships, is foundational to YSAC's understanding of resiliency. According to YSAC, "[t]he healing path supported by the [White Buffalo] program is

about making connections to one's self as well as the universal family of Creation. Youth drawing on community supports to strengthen their resilience is central to the Creation story" (Dell, Hopkins, Dell, 2005:8). This can be conceptualized as social connection within a Western worldview. The community is represented in Wolins' work on resiliency as relationships. Traditional First Nations teaching defines community, or relationships, as kinship, sharing, unconditional love, generosity, and a general sense of community.

### *White Buffalo Treatment Program*

Given the demographic background of the youth who enter the White Buffalo program, there is a significant absence of being able to bond with others (at the individual and community levels) due to a lack of trust and trusting oneself. The majority of the youth are survivors of abuse, and thus fear is a major emotional experience for them. In addition to providing the youth with a sense of teamwork in the EAL program, specific sessions focus on offering them a chance to develop and test relationships with others in the program, and more specifically, the horses. One particular session outcome is related to building personal self-confidence through trust. Although this outcome is achieved through several activities, one activity in particular requires the youth to approach and be present with the horse through physical touch; nurturing the animal through the act of direct care (e.g. brushing). Following this EAL session and upon their return to White Buffalo, the youth were observed demonstrating a sense of increased self-nurturance through self-care. The connection between self-care and trusting relationships with oneself and others is a part of the cultural teachings at White Buffalo.

*Cartier Equine Learning Center's EAL Program*

The horse is a herd animal that exists within a complex hierarchy that includes a strict social order, expectations of behavior within the herd, and respect (MacKinnon, 2007). Based on this understanding of the horse, the Cartier EAL program curriculum focuses on mutual trust and respect, including the value of relationships. The horse may be a 'safe' starting point for learning trust (internally in individuals and externally with others) and consequently overcoming fear, and developing healthy relationships. In the EAL program the youth learn to trust the horse because more often than not they begin by being afraid of it. In establishing a trusting relationship with the horse, the youth also learn that there are others they can trust (e.g., the program facilitators), and ideally will begin to look to others for support in their lives. This includes maintaining relationships with White Buffalo treatment staff once they return to their home communities, trusting other horses and their spiritual connection when they return home, and seeking out healthy community supports. (see Photo 3).

**Photo 3: Cartier's Equine Assisted Learning**



*Elder's Story*

One of the Elders shared how when he raised horses he periodically sent them out to pasture. One time a particular horse fell ill, and knew to return from the pasture to his stable (home) to be cared for. He was provided with medicine, and when he felt well enough, he returned on his own volition to the pasture. The Elder shared this story as an analogy of how the youth were coming 'home' to White Buffalo for VSA treatment. The youth are learning, through the trusting relationships that they develop at White Buffalo and the EAL program, that they are part of a supportive community.

### *Peer-Reviewed Literature*

The concept of resilience and the importance of building external protective factors (e.g., social support networks) has been identified in the literature as contributing to individual health and well-being (McNicholas and Collis, 2006). Social support can include the interpersonal reciprocity that may occur through involvement in relationships, and can be challenging for individuals who experience difficulty trusting themselves and others. The literature generally supports that opportunities to interact with animals provide a starting place to begin to explore and develop trust with another living being (Latella, 2003). McNicholas and Collis (2006) support, for example, that “[s]ocial signals from animals are less complex than from humans, and the reduced processing load may permit a greater degree of social understanding and social interaction than would be otherwise possible” (69). Specific to the horse, Graham (2007) writes that “[t]rusting relationships are demonstrated in various interventions that require specific interactions between horse and participant such as brushing or caring in other ways for the horse” (48). Additionally, given its vulnerability and sensitivity, relationship building is often easily established (Johnson, 2001; Karol, 2007). Although not EAL specific, though given the dearth of available related research, some equine assisted interventions have demonstrated an increase in trust/unconditional love and acceptance among participants (Iannone, 2003; Johnson, 2001). There has also been an increase in community involvement identified through horseback riding programs (Iannone, 2003).

### Conclusion and Next Steps

Research and practice have indicated higher rates of volatile solvent abuse among youth experiencing disenfranchised life conditions. This is true for some First Nations youth in Canada. Both inner and external strength are vital to coping with the effects of economic, social, psychological and spiritual stresses. The Youth Solvent Addiction Committee, and each of its treatment centres, apply a culture-based model of resiliency to treating and healing from volatile solvent abuse. The model focuses on assisting youth in uncovering their inner spirit and strengthening their spirit by drawing on available community resources. YSAC has drawn upon Wolins' and others' work on resiliency and parallel conceptions in traditional teachings and holistic healing within First Nations culture. The White Buffalo Youth Inhalant Treatment Centre has applied its understanding of the culture-based resiliency model in the programming it offers, including EAL. This article has addressed two significant gaps in the literature as they relate to EAL, First Nations community health and their intersection: (1) a theoretical model—YSAC's culture-based resiliency model—has been applied to an EAL program through the intersecting perspectives of White Buffalo's volatile solvent abuse program, Cartier Equine Learning Center's EAL program, Elder's stories, and the peer-reviewed literature; and (2) through the example of EAL, the compatibility and contributions of YSAC's culture-based resiliency model with a Western population health perspective have been illustrated.

There are four key suggestions in terms of next steps research to help move the field of EAL forward, and particularly as it relates to First Nations community health. First, there

is a notable absence of empirical evidence surrounding the effectiveness of animal-assisted interventions, and in particular EAL. Although the literature highlights anecdotal accounts that indicate positive outcomes (Beck and Katcher, 2003), these are countered by an increasing number of authors who identify the need for well-designed and rigorous research through the use of comparison or control groups, standardized instruments, random samples, and increased sample sizes (Kaiser et al., 2004; Klontz et al., 2007; Mallon, 1992). Specifically, tests of physical, mental, social, spiritual, psychological, behavioural, academic, cultural, and cognitive aspects of an individual before, during and after participating in an EAL program would be insightful. Alongside this, consideration must be given to community-based and First Nations methodologies in the design and collection of such information (Castellano, 2004; Fletcher, McKennitt, Baydala 2000; Schnarch, 2004). With the growing number of equine-assisted programs, implementation of empirically and culturally sound outcome research and evaluation studies will be critical in demonstrating efficacy and contributing to the overall legitimacy of equine-assisted methods and their effectiveness specifically in improving the health of First Nations. Fine (2000) echoes this sentiment in relation to the broader area of animal-assisted interventions in her statement that “the lack of documentation and thorough investigation leaves a large void on the efficacy of this approach” (181).

Second, as noted, there is a serious absence of theoretical models and frameworks within both the broad area of animal-assisted and more specifically equine-assisted interventions (Brouillette 2006; Ewing et al. 2007; Reimer 1999). According to Kruger and Serpell (2006), a key concern cited in the literature is that “[t]he field of animal-assisted

interventions currently lacks a unified, widely accepted, or empirically supported theoretical framework for explaining how and why relationships between humans and animals are potentially therapeutic” (27). Although there is an array of diversity in the various animal assisted interventions, and within equine interventions specifically (e.g., EAL, Therapeutic Riding, Hippotherapy, and Equine Assisted Psychotherapy), it is important that there be consistency in understanding for the validity of the field generally. For example, a theory that explains the nature of the change process brought about by EAL (i.e., how change occurs) is virtually non-existent. For programs that are built on a theoretical foundation, it is important that this be documented and evaluated within the peer-reviewed literature. Alongside this concern, it is equally important to develop, document and evaluate the topic-specific and cultural competence of such programs for the populations they are being offered (e.g., First Nations youth who abuse volatile solvents). This is particularly important in Western Canada, where there is an increasing use of equine assisted programs with ‘at risk’ First Nations and Métis youth.

Third, in viewing itself as a nurturing community, White Buffalo is considering how an EAL program may contribute to community building beyond its residential treatment centre into the surrounding Sturgeon Lake First Nation. This idea is based on White Buffalo’s and other community organizations’ positive experiences with EAL through the Cartier Equine Assisted Learning Program. The development of EAL is being envisioned as part of a larger health plan to increase the emotional, mental, physical and spiritual wellness of the Sturgeon Lake First Nations community. In particular, EAL in combination with cultural programming could be a means to address an underserved

segment of the community where the effects of drugs and alcohol are being identified. As well, having the program directed and 'owned' by the Sturgeon Lake First Nation supports self governance and could be a viable means of improving its social, political and economic well-being. Given this, the question of how gender relates to the horse generally, and EAL specifically, should be examined. The White Buffalo Youth Inhalant Treatment Centre is an all female program, and different mastery skills are associated with males and females in First Nations culture (e.g., female nurturance). This is consistent with the literature that examines animals and gender specific nurturing behavior in children; it is an identified area in need of further study (Mallon, 1992). Related, its is also an area that requires further documented understanding from the community level (e.g., Elders) and accounting more generally for similarities and differences in the cultural role and understanding of the horse and teachings among First Nations in Canada.

A fourth and final recommended next step for the future, although on a grander scale, is applying YSAC's culture-based resiliency model within the field of substance abuse generally. We have highlighted in this article the compatibility between YSAC's culture-based model of resiliency and a Western health promotion approach. Although they are not equitable, they compliment one another. Both account for the individual and community in their approaches to understanding and responding to health needs. And YSAC's model further contributes the understanding that the concepts of inner spirit and community cannot be disentangled from one another, as is commonly done within a Western worldview. An individual's inner spirit is intertwined with their family,

community and the land and cannot be understood apart from them. It follows that there is potentially much to be learned from YSAC's holistic approach to treatment and healing that can be of assistance to both First Nations and Western health promotion responses to substance abuse.

## **Bibliography**

Adlaf, E., Begin, P. and Sawka, E. (2005). Canadian addiction survey (CAS): A national survey of Canadians' use of alcohol and other drugs. Prevalence of use and related harms. Detailed report. Ottawa: Canadian Centre on Substance Abuse – specialized data runs.

Adlaf, E. and Paglia, A. (2003). Drug use among Ontario students 1977-2003. Detailed OSDUS findings. Toronto: Centre for Addiction and Mental Health.

Alberta Alcohol and Drug Abuse Commission (2003). The Alberta youth experience survey 2002. The use and abuse of illicit drugs among Alberta youth. Edmonton: AADAC

Albright, J., Lebovitz, B., Lipson, R. and Luft, J. (1999). Upper aero-digestive tract frostbite complicating volatile substance abuse. *International Journal of Pediatric Otorhinolaryngology* 49(1): 63-67.

Assembly of First Nations (2006). First Nations' Wholistic Approach to Indicators. Meeting on Indigenous Peoples and Indicators of Well-Being. Aboriginal Policy Conference, Ottawa.

Ballard, M. (1998). Inhalant abuse: A call for attention. *Journal of Addictions and Offender Counselling* 19(1): 28-32.

Barcelo, A., Jones, B. and Grobe, C. (1998). Provincial student drug use survey. Highlights 1998. New Brunswick: New Brunswick Department of Health and Community Services.

Basu, D., Jhirwal, O., Singh, J., Kumar, S., and Mattoo, S. (2004). Inhalant abuse by adolescents: A new challenge for Indian physicians. *Indian Journal of Medical Sciences* 58(6): 245-249.

Bates, B., Blenkinship, S., Boreham, R., Hills, A., McGee, A., Sinclair, R. and Speight, S. (2005). Smoking, drinking and drug use among young people in England in 2004. Leeds: Health and Social Care Information Centre.

Beauvais, F. (1990). Inhalant Abuse Among Sioux Indians. Bea Medicine Department of Anthropology. Unpublished manuscript.

Beck, A. and Katcher, A. (2003). Future directions in human-animal bond research. *American Behavioral Scientist*, 47(1), 79-93.

Brouillette, M. A. (2006). The psychological impact of equine-assisted therapy on special education students. *Psychology*. Minnesota, Walden University. PhD.

- Burton, H. (2003). Case studies of adults receiving horse-riding therapy. *Anthrozoos*, 16(30) 263-276.
- Cairney, S., Maruff, P., Burns, C., and Currie, B. (2002). The neurobehavioral consequences of petrol (gasoline) sniffing. *Neuroscience and Bio-behavioral Reviews* 26(1): 81-89.
- Campbell-Begg, T. (1998). Promotion of transactions during animal-assisted group therapy with individuals who are recovering from chemical addictions. New York: USA. D'Youville College.
- Canadian Centre on Substance Abuse and the Centre for Addiction and Mental Health (1999). Canadian Profile. Alcohol, Tobacco and Other Drugs. Ottawa: Canadian Centre on Substance Abuse.
- Carroll, A., Houghton, S. and Odgers, P. (1998). Volatile solvent use among western Australian adolescents. *Adolescence* 33(132): 877-889.
- Castellano, M. (2004). "Ethics of Aboriginal research". *Journal of Aboriginal Health*. 1(1), p. 98-114.
- Corbett, J., Akhtar, P., Currie, D. & Currie, C. (2005) Scottish schools adolescent lifestyle and substance use survey (SALSUS) national report. Smoking, drinking and drug use among 13 and 15 year olds in Scotland in 2004. Scotland: The Child and Adolescent Health Research Unit, The University of Edinburgh.
- Dell, C. and Beauchamp, T. (2006). Youth Volatile Solvent Abuse: Frequently Asked Questions. Ottawa: Canadian Centre on Substance Abuse.
- Dell, C. and Graves, G. (2005). Designing a tool to measure the impact of client length of stay on treatment outcome: Overview. Ottawa: Canadian Centre on Substance Abuse.
- Dell, C., Hopkins, C. and Dell, D. (2005). "Resiliency and holistic inhalant abuse treatment". *Journal of Aboriginal Health*. pp. 4-12.
- Dell, C., Ogborne, A., Begin, P. Roberts, G., Ayotte, D., Blouin, M. and Dell, D. (2003). Youth Residential Solvent Treatment Program Design: An Examination of the Role of Program Length and Length of Client Stay. Ottawa: Canadian Centre on Substance Abuse.
- Dewey, S. (2002). Huffing: What parents should know about inhalant abuse. *Reclaiming Children and Youth* 11(3): 150-151
- Dinwiddie, S. (1994). "Abuse of inhalants: A review." *Addiction* 89(8): 925-939.

Drawe, H. L. (2001). An animal-assisted therapy program for children and adolescents with emotional and behavioral disorders. United States—Kentucky, Spalding University.

Equine Assisted Growth and Learning Association. Date last accessed March 12, 2008; <http://www.eagala.org>

Ewing, C., MacDonald, P., Taylor, M., & Bowers, M. (2007). Equine-facilitated learning in youths with severe emotional disorders: A quantitative and qualitative study. *Child and Youth Care Forum* 36, 59-72.

Frame, D. (2006). Practices of therapists using equine facilitated/assisted psychotherapy in the treatment of adolescents diagnosed with depression: A qualitative study. Unpublished doctoral dissertation. New York University School of Social Work.

Fletcher, F., McKennitt, D, Baydala, L. (2007). Community capacity building: An Aboriginal exploratory case study. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health* 5(2), 9-31.

Graham, J. (2007). An evaluation of equine-assisted wellness in those suffering from catastrophic loss and emotional fluctuations. Unpublished doctoral dissertation, University of Utah. Salt Lake City.

Hallberg, L. (2004). Not just horse'n around? Evaluating equine assisted psychotherapy as a therapeutic intervention in a mental health setting. Unpublished master's project. University of Regina, Regina, Saskatchewan, Canada.

Hayden, A. (2005). An exploration of the experience of adolescents who participated in equine-facilitated psychotherapy: A resiliency perspective. Unpublished doctoral dissertation. Alliant International University: San Diego.

Howard, M., Balster, R., Cottler, L., Wu, L., and Vaughn, M. (in press). Inhalant use among incarcerated adolescents: Prevalence, characteristics, and predictors of use. *Drug and Alcohol Dependence*.

Horses and Humans Research Foundation – About EAAT. Date last accessed Mar. 27, 2008. [http://www.horsesandhumans.org/About EAAT Terminology.html](http://www.horsesandhumans.org/About_EAAT_Terminology.html)

Howard, M., and Jenson, J. (1999). Inhalant use among antisocial youth: Prevalence and correlates. *Addictive Behaviors* 24: 59-74.

Iannone, V. (2003). Evaluation of a vocational and therapeutic riding program for severely emotionally disturbed adolescents. Unpublished doctoral dissertation. The Catholic University of America, Washington.

Janezic, T. (1997). Burns following petrol sniffing. *Burns* 23(1): 78-80.

- Johnson, C. M. (2001). Relationships with animals as a component of the healing process: A study of child abuse survivors. Ohio, The Union Institute.
- Jumper-Thurman, P. and Beauvais, F. (1997). Treatment of volatile solvent abusers. *Substance Use & Misuse* 32(12&13):1883-1888.
- Kaiser, L., Spence, L., Lavergne, A., & Vanden Bosch, K. (2004). Can a week of therapeutic riding make a difference? A pilot study. *Anthrozoos*, 17(1), 63-72.
- Kersten, G. and Thomas, L. (1997). Straight from the horse's mouth: The truth about equine-assisted therapy. *The Counsellor*, November/December, 25.
- Klontz, B., Bivens, A., Leinart, D., & Klontz, T. (2007). The effectiveness of equine-assisted experiential therapy: Results of an open clinical trial. *Society and Animals*, 15, 257-267.
- Kruger, K. and Serpell, J. (2006). Animal-assisted interventions in mental health: Definitions and theoretical foundations. In A. Fines (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (2<sup>nd</sup> ed.) (pp. 21-38).
- Kurtzman, T., Otsuka, K., and Wahl, R. (2001). Inhalant abuse by adolescents. *Journal of Adolescent Health* 28(3): 170-180.
- Latella, D. (2003). Animals as a therapeutic modality: A curriculum model for occupational therapy. Connecticut, University of Bridgeport.
- Lawrence, E. (1998). Human and horse medicine among some Native American groups. *Agriculture and Human Values* 15(2), 133-138.
- Lefkowitz, C. I., Prout, M., Bleiberg, J., Paharia, I., Debiak, D. (2005). Animal-assisted prolonged exposure: A treatment for survivors of sexual assault suffering posttraumatic stress disorder. *Society & Animals* 13(4): 275-295.
- Levinson, B. (1984). Human/companion animal therapy. *Journal of Contemporary Psychotherapy* 14(2), 131-143.
- Liu, J., Jones, B., Grobe, C., Balrom, C. and Poulin, C. (2002). New Brunswick student drug use survey 2002. Highlights report. New Brunswick: Department of Health and Wellness.
- MacKinnon, T. (2007). At the Heart of Equine-Assisted Learning. Saskatchewan: M.E.S. Ltd.
- Mallon, G. (1992). Utilization of animals as therapeutic adjuncts with children and youth: A review of the literature. *Child and Youth Care Forum* 21(1), 53-67.

McNicholas, J. and Collis, G. (2006). Animals as social supports: Insights for understanding animal-assisted therapy. In A. Fines (Ed.), *Handbook on animal-assisted therapy: Theoretical foundations and guidelines for practice* (2<sup>nd</sup> ed.) (pp. 49-71).

Morrison, M. (2007). Health benefits of animal-assisted interventions. *Complementary Health Practice Review* 12(1), 51-62.

Mosher, C., Rotolo, T., Phillips, D., Krupski, A. and Stark, K. (2004). Minority adolescents and substance use risk/protective factors: A focus on inhalant use. *Adolescence* 39:489-502.

National Drug Abuse Information Centre (1988). Deaths due to volatile solvent abuse. *Stat Update, Number 8*.

North American Riding for the Handicapped Association, Inc. Date last accessed, March 2, 2008: <http://www.narha.org>

2003 Pauingassi First Nation report on solvent abuse. (Manitoba Office of the Children's Advocate). Sourced in Winnipeg Free Press, Wednesday, August 24., 2005. "Manitoba's sniff crisis has given birth to a tragic trend...Babies that smell like gas". D. O'Brien. pp. A1-A2.

Perron, B. and Loiselle, J. (2003). Enquete quebecoise sur le tabagisme chez lese eleves du secondaire (2002). Ou en sont les jeunes face au tabac, a l'alcool, aux drogues et au jeu? Montreal: Institute de la Statistique du Quebec

Public Health Agency of Canada What is the Population Health Approach? Accessed February 29, 2008: <http://www.phac-aspc.gc.ca/ph-sp/phdd/approach/approach.html#health>

Research Group on Drug Use (2004). *Drug Use in Toronto*. Ontario: Toronto Public Health.

Reichert, E. (1998). Individual counselling for sexually abused children: A role for animals and storytelling. *Child and Adolescent Social Work Journal* 15(3), 177-185.

Reimer, D. (1999). Pet-facilitated therapy: An initial exploration of the thinking and theory behind an innovative intervention for children in psychotherapy. Massachusetts, Massachusetts School of Professional Psychology.

Resiliency Center, The Resiliency Center *Definitions*, 2002.  
<http://www.resiliencycenter.com/definitions.html>

Rothe, E., Vega, B., Torres, R., Soler, S., Pazos, R. (2005). From kids and horses: Equine facilitated psychotherapy for children. *International Journal of Clinical and Health Psychology* 5(2), 373-383.

Saskatchewan Horse Federation. Date last accessed Mar. 27, 2008.  
<http://www.saskhorse.ca/pages/about.php>

Schnarch, B. (2004). "Ownership, Control, Access, and Possession (OCAP) or self-determination applied to research. A critical analysis of contemporary First Nations research and some options for First Nations communities. *Journal of Aboriginal Health*. 1(1), p. 80-95.

Schultz, B. (2005). The effects of equine-assisted psychotherapy on the psychosocial functioning of at-risk adolescents ages 12-18. Unpublished counselling thesis, Denver Seminar, Denver.

Substance Abuse and Mental Health Services Administration (SAMHSA) (2003). Substance Abuse Treatment Advisory. Breaking News for the Treatment Field. US: Centre for Substance Abuse Treatment. 3(1).

Tramutt, J. (2003). Opening the gate: Cultivating self awareness and self acceptance through equine-facilitated psychotherapy. Unpublished master's paper, Naropa University, Boulder, Colorado.

Van Til, L. and Poulin, C. (2002). P.E.I. student drug use survey 2002. Highlights Report. P.E.I.: Department of Health and Social Services.

Waff, M. (2006). Therapeutic Animal Interactions and Life Skills for Prevention Programs. Date last accessed Sep. 4, 2007.  
<http://www.tails4prevention.org/prevention.html>

White, V. and Hayman, J. (2004). Australian secondary students' use of over-the-counter and illicit substance in 2002. Monograph Series no. 56. Australia: Australian Government Department of Health and Ageing.

Wille, S. and Lambert, W. (2004). Volatile substance abuse: Post mortem diagnosis. *Forensic Science International* 142(2-3): 135-156.

S. Wolin and Wolin, S. (1998). Bound and Determined: Growing Up Resilient in a Troubled Family. New York: Villard Press.

World Health Organization (2007). Achieving Health Equity. From Root Causes to Fair Outcomes. Interim Statement. Accessed January 13, 2008:  
[http://www.who.int/social\\_determinants/resources/csdh\\_media/csdh\\_interim\\_statement\\_final\\_07.pdf](http://www.who.int/social_determinants/resources/csdh_media/csdh_interim_statement_final_07.pdf)

Yorke, J. (2003). The therapeutic value of the equine-human relationship in recovery from trauma: A qualitative analysis. Unpublished master's thesis, Wilfred Laurier University, Ottawa, Ontario, Canada.

Youth Solvent Addiction Committee. Date last accessed Feb 29, 2008.  
<http://www.members.shaw.ca/ysac/>

Youth Solvent Addiction Committee (2004). Positive messages build positive minds: Inhalant abuse prevention curriculum manual. Second edition. Youth Solvent Addiction Committee.