

Literature Review and Justification for Therapeutic Climbing Program

For The Hive Climbing and Fitness

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The four pillars at the foundation of The Hive Climbing and Fitness encompass community, climbing, education, and health and wellness. Expanding our community is at the forefront of The Hive. On a daily basis The Hive actively works to educate people from diverse backgrounds about the benefits of climbing. Climbing can be described as a sport, recreation activity, and/or even a lifestyle depending on who one asks. Climbing can be done outdoors or in specialised climbing gyms. Bouldering is a style of climbing that is highly accessible in a gym setting as it does not require equipment such as a harness or ropes. Climbing has many benefits that can increase one's health and wellness, and overall quality of life. Climbing is for everyone. Currently, climbing as a therapeutic intervention program is in its infancy. The benefits of climbing are supported by research studies, which demonstrate many therapeutic outcomes. Current research supports that climbing has benefits in the social, emotional, intellectual, and physical domains of wellness for people of all age groups. Therapeutic Climbing Programs have been studied in many clinical populations such as cancer survivors, children/youth with disabilities, individuals living with spinal cord injuries, adults diagnosed with depression, and many others. The Hive believes that people of all abilities should be able to access brave and inclusive space to enjoy the benefits of climbing. This paper will examine current research on the holistic benefits of therapeutic climbing programs, and will demonstrate the importance of offering such programs at The Hive for the betterment of our community.

To begin, we will examine the benefits within the social domain. Under the pillar of community, it is understood that social interaction can benefit our mental health. Starting a therapeutic climbing program has the potential to form new community bonds and strengthen community by inviting folks of all abilities and diverse backgrounds to participate in an inclusive learning environment. The social atmosphere of an indoor climbing gym contains many meaningful social elements such as a welcoming atmosphere, positive attitudes,

connectedness to others, and confidence building opportunities (Weinstock-Zlotnick, Janowski, and Wolff, 2022). Socially, climbing can enhance one's sense of belonging to a community (Gonzalez, 2019). Those who engage in climbing programs are usually intrinsically motivated, which increases a sense of interest and enjoyment with task goal orientation (Gonzalez, 2019). Benefits of higher motivation and goal orientation are important elements for the engagement and long-term commitment and interest in sport and exercise routines (Gonzalez, 2019). Understanding goal motivation and coaching strategies is essential to create the right therapeutic climbing program to benefit the needs of the community. Improvements in self-esteem, heightened self-efficacy, self-discipline, and an overall sense of accomplishment were found when youth participated in therapeutic climbing programs (Garst et al., 2016). It was found that 'friendship skills' were learned in therapeutic climbing programs as the program can serve as a peer support group (Allen et al., 2021). For youth who have learning disabilities, climbing can help build social development skills such as cooperation, responsibility, peer relationships, leadership skills, empathy, community integration, social status, and social mobility (Garst, Stone, & Gagnon, 2016). Climbing integrates the idea that there is collective growth, shared success, and lasting connection between climbers as they learn individually and as a team (Garst et al., 2016).

Following that, climbing promotes emotional health and wellness by linking confidence with tangible skills. Feelings of resilience, perseverance, and persistence were also found (Garst et al., 2016). Climbing in a group setting can activate intense emotions such as fear, pride, and anger, and be a format in which individuals can be exposed to intense emotions and overcome them with resilience (Luttenberger, Stelzer, Först, Schopper, and Kornhuber, 2015). In a learning environment, participants can practise learning new skills, self-awareness, managing expectations versus experience, focusing on the moment, self-limiting beliefs, self-efficacy, feelings of fear and trust, managing anxiety and panic, and

understanding risk (Luttenberg et al., 2015). When it comes to mental health, climbing has been found to have therapeutic benefits of decreased depression and anxiety, which thereby improves psychological health and wellness (DelGrande et al., 2020). Schwarkoph, Dorscht, Kraus, and Luttenberg (2021) found that bouldering psychotherapy has high potential to be an alternate strategy for depression treatment. Each session of a therapeutic climbing program should address specific topics considered relevant for mitigating mental health problems. The format of a bouldering psychotherapy group study began with a mindfulness exercise, followed by the presentation of the topic of the session, two bouldering exercises, and they were designed to evoke underlying emotions and behaviours, in which the therapists could support and enable them to take part in new experiences (Luttenberg, 2022). After the 10-week bouldering psychotherapy group, participants had significantly improved symptoms of anxiety, interpersonal sensitivity, as well as positive health-related qualities of life including coping skills, positive body image, self-efficacy, and self-esteem (Luttenberg et al., 2022). The mental health benefits of climbing extend beyond the period of the program. For the bouldering psychotherapy group, the positive results were maintained until at least 12 months after the end of the program (Luttenberg et al., 2022).

Intellectual development and learning skills can be maintained and improved with climbing. Therapeutic climbing programs should include opportunities for exposure training, and activities that can serve as practical problem-solving training. Garst, Stone, and Gagnon (2016) found in their study that intellectual development in youth increased during and after their therapeutic climbing program. This intellectual/cognitive development occurred for youth of varying abilities in areas such as problem solving, focusing, goal setting, and time management (Garst et al., 2016). It was found that individuals with learning difficulties, such as Attention Deficit Disorder, improved their focus during the therapeutic climbing program (Garst et al., 2016). Bouldering psychotherapy encouraged participants to learn new skills in

a highly motivating environment in which they could practice new problem-solving patterns, which decreased dysfunctional behaviours (Luttenberg et al., 2022). Additionally, climbing provides us a holistic approach to strength and development both mentally and also physically.

There are many amazing physical health benefits of climbing. Some of these physical benefits are improved cardiovascular fitness, weight control, muscular strength, endurance, flexibility, bone health, and healthy fitness habits and routines (Garst et al., 2016). In general, climbing helps individuals be more physically aware and capable, especially for young girls as they feel more confident and capable in their physical strength and abilities which can be transferred to other areas of their life (Garst et al., 2016). Individuals living with physical disabilities can participate in therapeutic climbing programs and receive many health benefits. In the clinical perspectives from research done by Siegel and Fryer (2017), they recommended youth should be encouraged to go climbing as it is a beneficial health-enhancing activity because its is highly likely that youth will return to the activity repeatedly, which therefore increases their overall energy expenditure, activity levels and improves overall fitness. There is research supporting the benefits of adaptive group and individual therapeutic climbing programs. Adult Cancer survivors were studied in an 8-week climbing intervention program which found physical health benefits for all the women involved as each session began with a warm-up and dynamic stretch and ended with strength, conditioning, and stretching (Crawford, Vallance, Holt, Bell, Steed, and Courneya, 2017). For individuals living with spinal cord injuries, they are at high risk for cardiovascular disease as they are less likely to be physically active due to challenges associated with participation; however, climbing is a form of aerobic fitness that has been recommended by the American College of Sports Medicine as an activity to promote cardiovascular fitness (DelGrande et al., 2020). Physical activity and body-related interventions are effective in the treatment of

depression. Bouldering psychotherapy (BPT) combines physical activity with psychotherapeutic content which has been proven to be similarly effective on the treatment of depression, when compared to cognitive-behavioural therapy (CBT) (Luttenberg et al., 2022). A study done by Weinstock-Zlotnick, Janowski, and Wolff (2022) demonstrated physical health benefits of an individualised climbing program for a woman living with hemiplegic cerebral palsy with many health improvements carrying over in her activities of daily living.

All in all, therapeutic climbing programs have the potential for many holistic benefits in the domains of social, emotional, intellectual, and physical health. A sense of social belonging and community is fostered in the gym environment and in group programs. Emotional wellbeing is supported by exposure to risk and intense emotions with the opportunities to be encouraged and supported for outcomes of increased feelings of joy, self-esteem, and resilience. Intellectual and cognitive skills and abilities can be enhanced through climbing programs with behavioural benefits of improved focus, problem-solving skills, goal setting, and time management. Climbing promotes many areas of physical health and wellness including cardiovascular fitness, strength, endurance, flexibility, and healthy fitness routines. The existing research supports and encourages therapeutic climbing programs to be created for greater community connections, climbing as a recreation activity to support individuals of all ability levels and skills, and education of the health and wellness benefits which align with the organizational values of The Hive.

Therefore, The Hive will begin offering a new therapeutic climbing program. Two group programs will be designed to suit individuals of all abilities, one youth and one adult group that will take place over 10 sessions. An individual single session trial program will be offered as well for both youth and adults. These programs will be adapted to meet the needs of the individual or group of individuals taking part in the therapeutic climbing program.

Under the direction of the Grants and Community Fundraising Coordinator, program and session plans will be created in collaboration with the community organisations or individuals who chose to participate in this therapeutic climbing program to meet the needs of the participants to ensure a beneficial therapeutic experience.

References

Allen, A., Hill, E., Williams, R., Viglietta, C., & Miles, D. (2021). Using Rock Climbing for Recreation Among Youth with Type 1 Diabetes: Evaluating the REACH Program. *Journal of Outdoor Recreation, Education & Leadership*, 13(2), 67–72.

Barry A. Garst, Garrett A. Stone, & Ryan J. Gagnon. (2016). Indoor Competition Climbing as a Context for Positive Youth Development. *Journal of Youth Development*, 11(2).

<https://doi.org/10.5195/jyd.2016.444>

Crawford, J. J., Vallance, J. K., Holt, N. L., Bell, G. J., Steed, H., & Courneya, K. S. (2017). A Pilot Randomized, Controlled Trial of a Wall Climbing Intervention for Gynecologic Cancer Survivors. *Oncology Nursing Forum*, 44(1), 77–86.

<https://doi.org/10.1188/17.ONF.77-86>

DelGrande, B., LaCoppola, C., Moriello, G., & Sanicola, K. (2020). Outcomes following an adaptive rock climbing program in a person with an incomplete spinal cord injury: A case report. *Physiotherapy Theory & Practice*, 36(12), 1466–1475.

<https://doi.org/10.1080/09593985.2019.1587799>

Luttenberger, K., Karg, H. N., Berking, M., Kind, L., Weiss, M., Kornhuber, J., & Dorscht, L. (2022). Bouldering psychotherapy is not inferior to cognitive behavioural therapy in the group treatment of depression: A randomized controlled trial. *British Journal of Clinical Psychology*, 61(2), 465–493. <https://doi.org/10.1111/bjc.12347>

Schwarzkopf, L., Dorscht, L., Kraus, L., & Luttenberger, K. (2021). Is bouldering-psychotherapy a cost-effective way to treat depression when compared to group cognitive behavioral therapy - results from a randomized controlled trial. *BMC Health Services Research*, 21(1), 1162. <https://doi.org/10.1186/s12913-021-07153-1>

Luttenberger, K., Stelzer, E.-M., Först, S., Schopper, M., & Kornhuber, J. (2015). Indoor rock climbing (bouldering) as a new treatment for depression: study design of a waitlist-controlled randomized group pilot study and the first results. *BMC Psychiatry*, 15(1), 1–10.

<https://doi.org/10.1186/s12888-015-0585-8>

Gonzalez, G. B. (2019). Motivation and Goal Orientation in Rock Climbers. *Journal of Sport Behavior*, 42(1), 48.

Weinstock-Zlotnick, G., Janowski, L. C., & Wolff, A. (2022). The role of hand therapy in facilitating participation in rock wall climbing: A case report of a woman with cerebral palsy. *Journal of Hand Therapy*, 35(1), 142–147. <https://doi.org/10.1016/j.jht.2020.10.013>