

Closing the Mental Health Treatment Gap in South Africa: A Waves for Change Learning Brief



“South Africa has a reactive mental health system focused on treating the most severe conditions, rather than on prevention or providing early interventions”



Waves For Change

By fusing the rush of surfing with evidence-based mind/body therapy, Waves for Change (W4C), delivers community-based, child-friendly mental health services in under-resourced communities across South Africa. We promote mental health and prevent mental health disorders for children aged 10-16 years, living in communities with limited mental health service coverage. We target children growing up in adverse environments, where they are frequently exposed to prolonged environmental stressors such as violence and poverty, resulting in changes to the architecture of the developing brain through a toxic stress response.

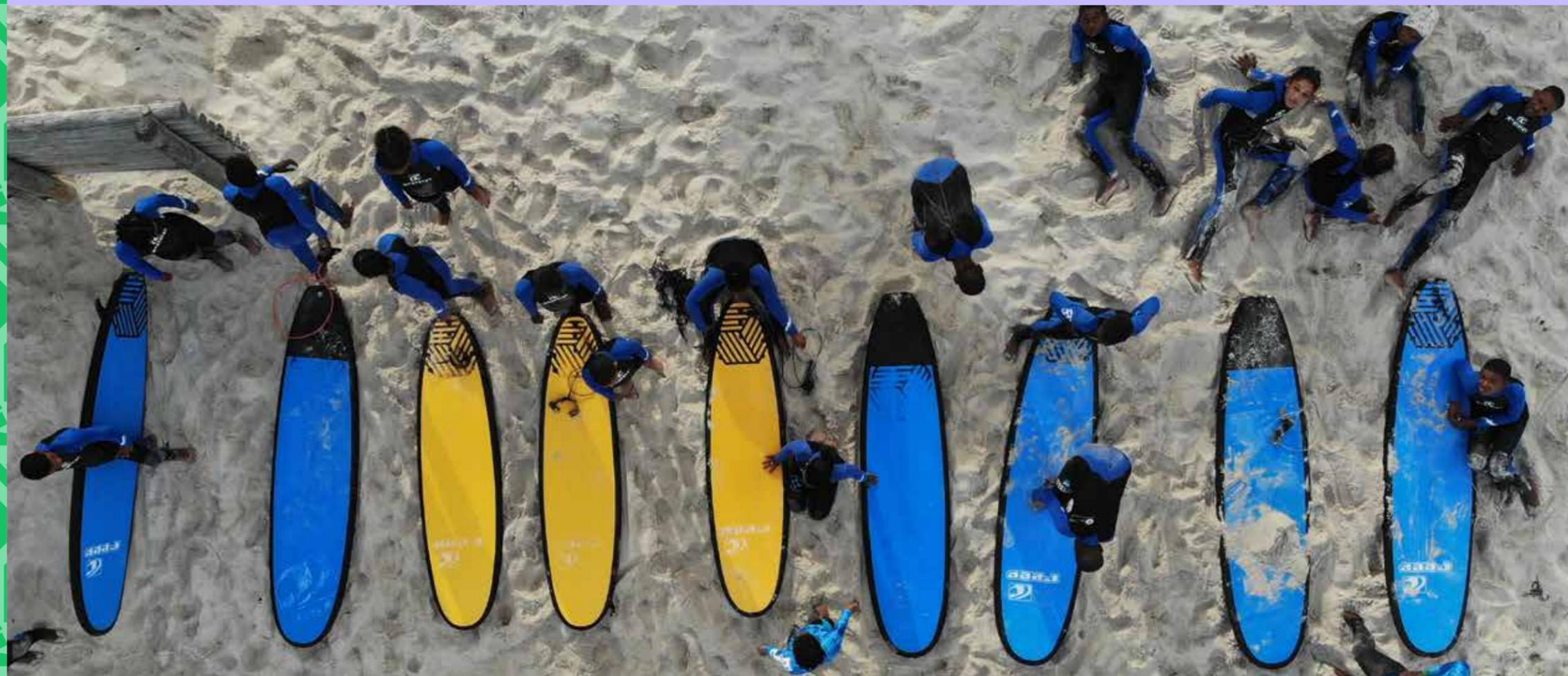
2011 
Waves for Change Surf Therapy programme was established

40 
Currently we serve 40 priority communities across 5 sites in South Africa

2,000 
Reaching 2,000 children (10-16 years)

45 
Local community coaches (18-25 years) are employed annually

Our Surf Therapy programme is underpinned by W4C's 5 Pillar Method. The method was co-developed with children and young people living in volatile communities, alongside mental health experts, through multiple research projects and consultations hosted by W4C between 2011 and 2022. The method identifies the 5 essential, active ingredients needed in group-based physical activity programmes to promote mental health in settings of adversity and trauma. In South Africa, W4C adopted surfing as the fun, challenging group-based physical activity through which the 5 Pillar Method is delivered.



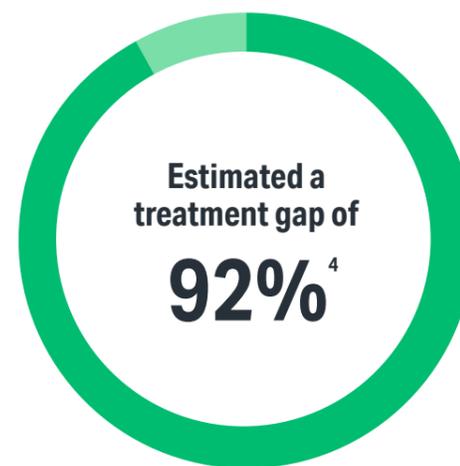
The Problem

“Child and adolescent mental health services are in crisis...let us not be found wanting (again)”

The latest edition of the South African Child Gauge³ focuses on child and adolescent mental health and how early experiences of adversity can affect people throughout their lives, often with great costs to the individual and society.

Children and adolescents are at particular risk of poorer mental health, which can perpetuate an intergenerational cycle of poverty, violence and ill-health. **Given the scale and intergenerational nature of violence against children in South Africa, our response to trauma needs to extend beyond dedicated psychological and psychiatric services. There are very few child and adolescent psychiatrists and mental health professionals, most of them work in urban centres and the private sector, making them inaccessible and difficult to scale on a constrained budget.**

Fewer than 10% of children and adolescents who need a mental health service, receive it. Cost effective, culturally appropriate interventions that young people want to be part of are therefore a huge national priority in order to close the huge service delivery gap.



The Solution

With Caring Coaches at the Heart

At W4C, we believe that a broader view of what's needed to create conditions where children and adolescents can thrive, needs to be prioritised.



Through Surf Therapy, participants also have the opportunity to be outside. Evidence demonstrates the psychological benefits of combining physical activity and being in natural environments^{5&6}, which builds on knowledge that being in nature nurtures well-being^{7&8}.



W4C's Surf Therapy Programme, underpinned by our 5 Pillar Method

The **5 Pillar Method** is the result of a PhD and associated child-led feasibility studies and evaluations with Universities of Cape Town, Western Cape, New School (New York) and Edinburgh Napier. Our studies worked with young people to identify the essential ingredients for a youth-friendly mental health service. They are:



Evidence and Community-based

Several therapeutic approaches guide the principles of the trauma-informed method, including ARC (Attachment, Self-Regulation, Competency)⁹, psychosocial education methods and positive youth development practices.

The W4C Surf Therapy programme creates a community-based referral pathway by providing training on how to identify a child with a mental health challenge and creating a simple referral process so children get access to support as soon as possible.



Once referred by schools, social workers, local clinics or other community partners, children attend weekly 2-hour Surf Therapy sessions for 10 months.



W4C coaches (18 - 25 years) trained in the 5 Pillar Method, and supervised weekly by debrief psychologists, lead group sessions of up to 60 children at one time (coach to child ratio of 1:7 max).

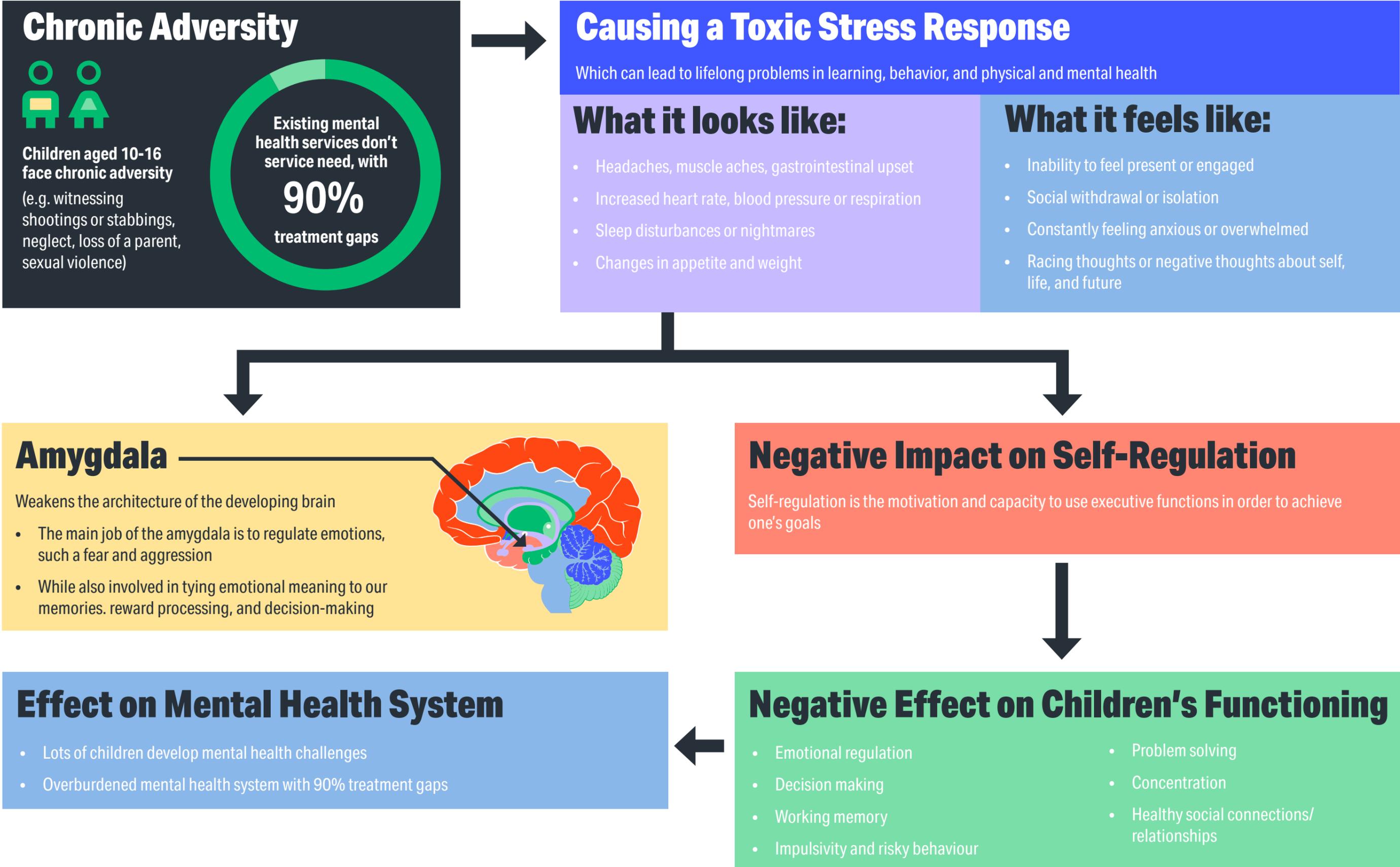


Transport for children referred is provided from home or school, ensuring children can get safely to and from the service.



Through evidence-based games and activities that children participate in on the beach and in the ocean, coaches support children to strengthen self regulation and social connectedness, and boost well-being.

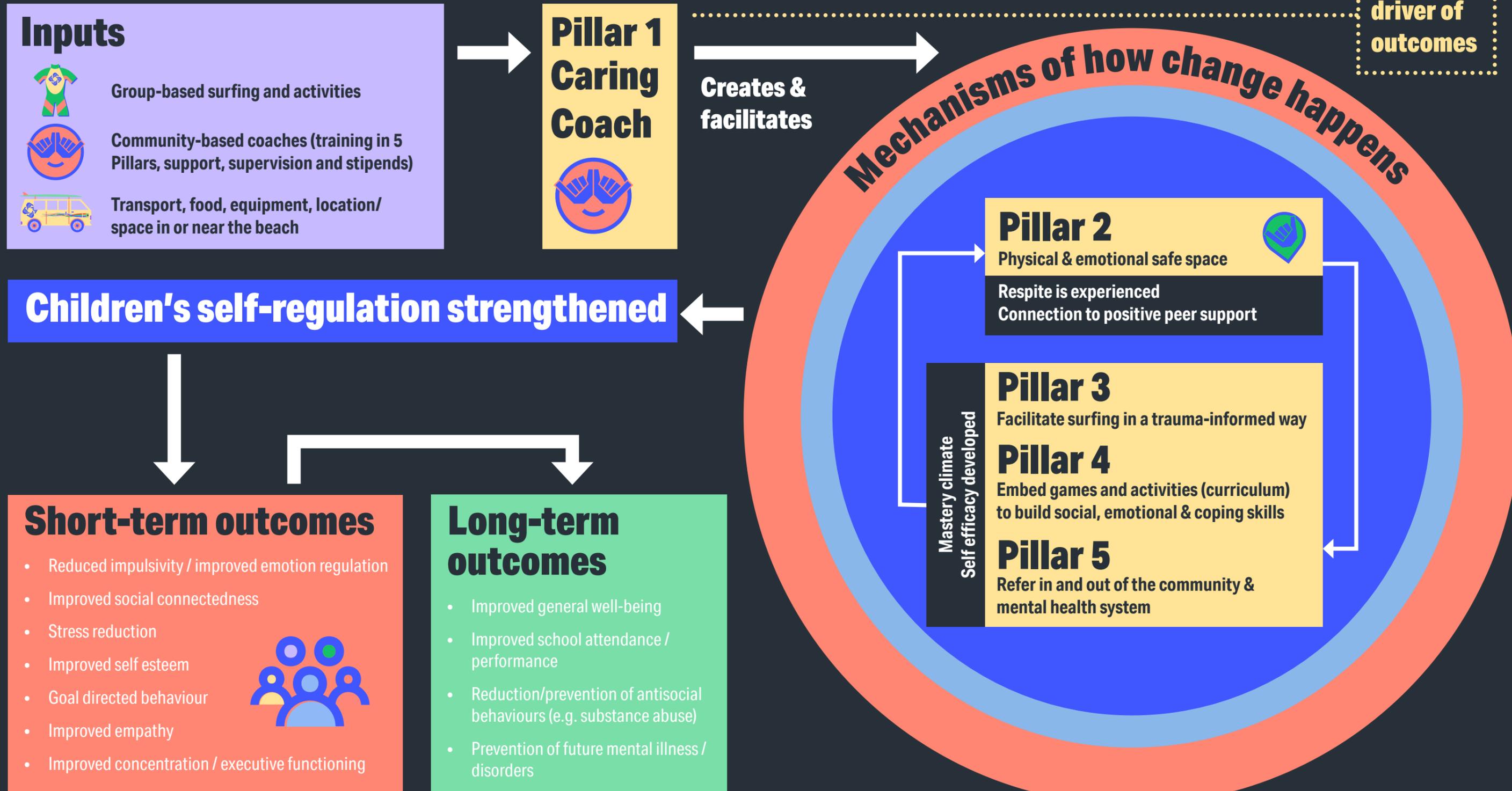
W4C's Theory of Change: The Problem



W4C's Theory of Change: The Solution for Children

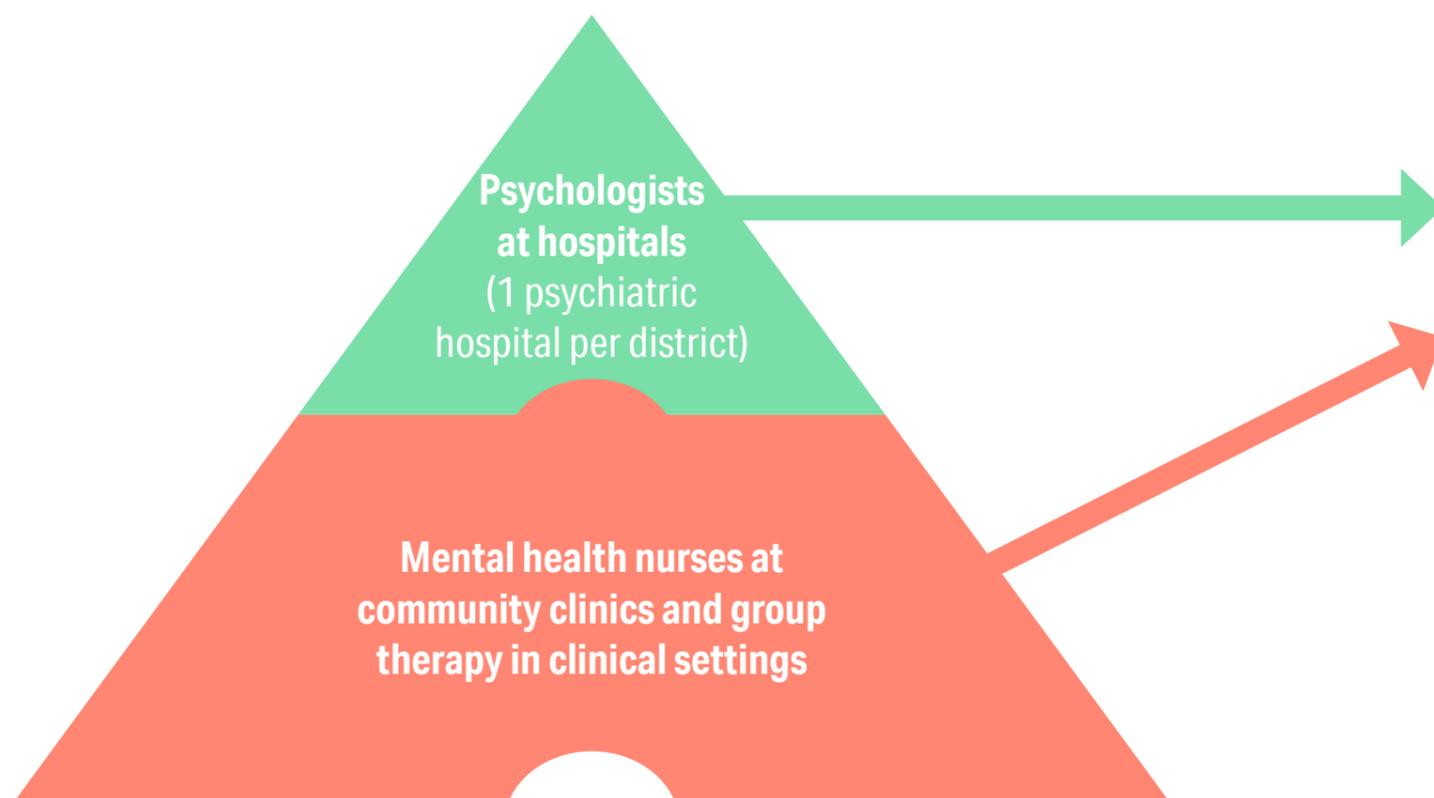
Surf Therapy underpinned by the 5 Pillar Method. Community-based, child-friendly mental health service

The key driver of outcomes



W4C's Theory of Change: The Solution for the Mental Health System

Delivering community-based mental health service to close mental health treatment gaps



Effective aftercare in community - children in this part of the system for treatment are less likely to have 'revolving door' with them going back
Children identified in trauma units (e.g. survivors of violence) get immediate and effective community-based support

- Toxic stress response addressed
- More serious mental health challenges do not develop
- Children who need clinical intervention, are identified earlier and supported
- Less children needing expensive treatment /becoming ill



Closing treatment gaps

Prevention / Early Intervention

W4C's Surf Therapy and 5 Pillar Method. W4C caring, community coaches that can task shift and take on a key role in the promotion of mental health



The result: Reduction of burden on mental health system

Improved productivity/ individuals not contributing to cycles of violence/ more productive in society/ not needing expensive treatment

An External Evaluation

In partnership with



Funded by



The Impact of Surf Therapy on Risk-Taking and Interpersonal Closeness Among Violence-Exposed Youth

Currently under review for publication in the Global Journal of Community Psychology Practice

Study Purpose and Method:

Using a multi-method evaluation to investigate the effects of W4C's Surf Therapy programme for at-risk youth, that incorporated self-report and behavioral measures. Exposure to violence, sensation seeking, stress, self-esteem, interpersonal closeness, and risk taking tendencies were examined over the course of W4C's Surf-Therapy program among child participants who speak different languages and come from various subcultures within Cape Town, South Africa. A secondary aim of the study was to determine the feasibility and utility of behavioral and self-reported measures administered in a naturalistic setting.

233 violence-exposed youth from South Africa participated in the evaluation. Participants who were enrolled in Surf Therapy completed self-report assessments of perceived stress, sensation-seeking, and interpersonal closeness, as well as behavioral measures of risk-taking and self-esteem. Data was collected from participants at two timepoints: at the start of Surf Therapy and after six months in the programme.

Implementing self-report measures for child participants, although time and cost efficient, has significant limitations, that include inconsistent reports of well-being due to developing abstract thinking and memory recall¹⁰ and frequent underreporting of "bad" behaviors (e.g. risk taking) and feelings (e.g. stress) and overreporting of "good" behaviors (e.g. exercise) and emotions (e.g. happiness) to please adults¹¹. As such, the evaluation incorporated behavioral and self-report measures based on programme aims and qualitatively observed improvements in self-esteem, social cohesion, and risk taking to examine youth participants' self-regulation and risk-taking, and perceptions of social relationships.

The process of programme evaluation also utilized a community member-facilitated, trauma-informed approach. The approach included training W4C Caring Coaches conducting data collection. W4C Caring Coaches assumed the leadership role of research assistants and collected participants' data so that the participants would feel more comfortable compared to data collection with an unknown adult, particularly of a different culture. Examining the methodological feasibility and utility of administering behavioral and self-reported measures in a low-resourced context with layperson research assistants was a secondary aim of the evaluation, which appeared to have been a feasible approach.

Data Collection Tools:

The study triangulated self-report measures and objective behavioral measures that were matched to their intended programme outcomes. Self-report measures and behavioral task instructions were translated and back-translated into isiXhosa and Afrikaans from English by multi-lingual W4C staff.

Trauma and Stress - Violence Exposure. Exposure to violence was evaluated with the 25-item Community Experiences Questionnaire (CEQ)¹². Participants rated on a scale from 1 (never) to 4 (lots of times) how often they had witnessed or directly experienced violence. The CEQ has subscales that assess exposure to violence through witnessing and direct victimization.

Interpersonal Closeness - The Inclusion of Other in the Self (IOS)¹⁵ questionnaire was administered to assess participants' closeness with others. Participants selected the picture that best depicts their relationship from a series of circular diagrams that represent degrees of overlap between two circles. Several items were modified to address perception of closeness with: "The people in your surf group," "Your surf coach," "Friends who are boys (or girls)," and "A person with the same (or different) skin color as you." The scale measured closeness and connection at an individual item level to examine specific changes in relationships and had acceptable internal consistency of .74.

Risk Taking - Risk-taking propensity was assessed with the Balloon Analogue Risk Task for Youth (BART-Y)¹⁶. Participants were asked to inflate a computer-generated balloon to earn an unspecified prize. With each pump of the balloon, participants earn a point and can choose to stop pumping the balloon and transfer the points to a permanent prize meter. If the balloon explodes when it is pumped, all of the points for that balloon are lost. There is a set number of balloons, and participants are presented with a new balloon after a prize transfer or balloon explosion. For each non-popped balloon, the number of pumps is recorded and averaged into the typical outcome variable, adjusted average pump count. Larger values are suggestive of higher risk-taking.

Sensation Seeking - The Brief Sensation Seeking Scale for Children (BSSS-C)¹⁷ was used to measure propensity toward risk taking and sensation seeking behaviors. Two sensation seeking items were eliminated due to lack of relevance and replaced by the items: "I would like to surf big waves even if there are sharks" and "I would like to surf at night." Items on the scale are averaged with the highest possible score being 4. Cronbach's alpha was acceptable (.68).

Tools that didn't resonate with children

The Perceived Stress Scale for Children (PSS)¹³ was administered to assess self reported stress during the past week on a scale of 0 (never) to 3 (a lot). Items were summed with the highest possible score being 39. The scale had poor consistency determined by Cronbach's alpha of .58, and as such the results of this tool were considered inconclusive.

Self-esteem was measured with a seven-block **Implicit Association Test (IAT)¹⁴**. Participants were asked to categorize attributes associated with pleasant or unpleasant and attributes belonging to the categories of Self or Other for the Self-Esteem IAT. Faster performance is expected when highly associated concepts and attributes share the same response computer key. The IAT yielded inconclusive data due to high inaccuracy rates (i.e. 58% of participants pressed the incorrect key at least 75% of the time). Qualitatively, on-the-ground W4C staff reported that participants had difficulty understanding the task, a report that is consistent with the IAT data produced.



Study Results:

Trauma - Participants endorsed high rates of exposure to violence, such that 100% of participants had witnessed violence and all but two participants (98.2%) had directly experienced violence.

Interpersonal Closeness - Data showed that **participants felt significantly closer with people in their lives at endline compared to baseline**. To assess for gender-based differences in perceived interpersonal closeness, including connectedness with female and male friends, the IOS was analyzed according to participant gender. Female participants reported feeling significantly closer to a friend and to her closest family member. Male participants reported feeling significantly closer with people who hold similar identities, namely with friends who are boys, and people who are from the same racial background.

Risk-Taking - Data showed scores between participants at baseline collection who had just begun surf-therapy and participants who had been enrolled for at least seven weeks demonstrated significant differences in risk-taking. Participants who had experienced at least seven weeks in the programmes exhibited significantly lower risk-taking behavior than participants who were new to the programme.

Sensation Seeking - Data showed a significant effect for sensation seeking from baseline to endline data collection, such that there was a significant reduction in reported sensation seeking at endline compared to baseline. An item analysis assessed how different types of sensation seeking could be either adaptive or maladaptive. Impulsivity and seeking dangerous experiences may be understood as maladaptive whereas bravery to try new or challenging activities could be adaptive. Data further revealed that male participants reported significantly less interest in high risk activities, such as wanting to "surf at night". By contrast, male participants also exhibited increased confidence as assessed by the item, "I'm the first one of my friends to try new things". Both male and female participants reported less interest in risky relationships with friends who "break the rules". Participants' interest in relationships with others who "do what they want" and "break the rules" was related to participants' sense of closeness with others.

Study Conclusions:

- There were clear connections between W4C's intended goals, outcomes described in qualitative work, and some key findings of the present evaluation.
- The programme aims to foster supportive relationships, which has been corroborated with qualitative data. One way interpersonal skills and relationships are fostered by W4C is through W4C Caring Coaches encouraging participants to check in with their peers to gauge one another's sense of safety and to provide support to their friends while in and out of the water. This process is aligned with approaches identified by¹⁸ that enhance resilience among participants of sport-based programmes. **Elements include receiving social support from adults, opportunities that enable young people to develop a sense of safety, and settings that help youth develop a sense of belonging. W4C's purposeful process that builds social support as a way to help foster participants' bravery to go in the water and that cultivates emotional awareness and regulation is reflected in the programme evaluation data.**
- **Participation in surf therapy is related to increased perceived closeness in meaningful relationships (i.e. friends and family) and decreased interest in relationships with people who do not support the cohesion of the group (i.e. friends who do what they want and break the rules).**
- W4C's surf therapy aims to strengthen participants' emotion regulation capabilities and positive life choices through group based exercises. **Qualitative data had previously indicated that participants' learn regulation skills, which is supported by the present evaluation's quantitative findings.** This is in line with a qualitative study from a Surf Therapy programme in Liberia, also utilising the W4C 5 Pillar Method, which revealed it produced a supportive, familial environment of physical and emotional safety, fostered new positive social connections, and cultivated coping skills.¹⁹
- **Findings indicate that participation in surf therapy improves self regulation and encourages positive life choices by strengthening participant inhibition and fostering their bravery and willingness to explore.** Similar findings were found in a recent review of the academic literature on surf therapy, Benninger and colleagues (2020) found consistent evidence that surf therapy increases self-concept, emotional regulation and social competency skills, engagement with school, and reductions in behavioral problems among youth in need of social and emotional support^{21&22&23}.
- Surf therapy is a challenging and interesting activity, which literature²⁴ identifies as an important element in youth programming. **The challenging nature of surfing, facilitated in a trauma-informed manner by caring adults appears to foster participant bravery and agency while also having positive effects on strengthening participant inhibition.**
- Outcomes elucidated in the present evaluation indicate that W4C's surf therapy strengthens safe relationships and self regulation among violence-exposed youth, which are widely recognized as fundamental aims in trauma-informed psychiatric interventions²⁵.



¹⁸ <https://www.ejp.gov/nicjrs/virtual-library/abstracts/safe-havens-contributions-youth-organizations-healthy-adolescent> | ¹⁹ <https://jsfd.org/2020/11/01/i-feel-happy-when-i-surf-because-it-takes-stress-from-my-mind-an-initial-exploration-of-program-theory-within-waves-for-change-surf-therapy-in-post-conflict-liberia/> | ²⁰ <https://www.gicpp.org/en/article.php?issue=36&article=206> | ²¹ Amanda Hignett, Matthew P. White, Sabine Paul, Rebecca Jenkin & Mad Le Froy (2018) Evaluation of a surfing programme designed to increase personal well-being and connectedness to the natural environment among 'at risk' young people. Journal of Adventure Education and Outdoor Learning, 18:1, 53-69 | ²² Colpus S, Taylor J. Ride every challenge: The Impact of Surfing on 100 Young People facing Personal and Emotional Challenges. British Journal of Sports Medicine 2014;48:1581 | ²³ https://www.researchgate.net/publication/318149732_Psychological_and_Physiological_Effects_of_Compensatory_Mind_Tramaticity_Pilot_Randomised_Controlled_Study | ²⁴ Gamble MA, Arbreton PAJ. Safe havens: The contribution of youth organizations to healthy adolescent development. Philadelphia, PA: Public/Private Ventures; 1997. | ²⁵ Ford, J. D., & Blaustein, M. E. (2013). Systemic self-regulation: A framework for trauma-informed services in residential juvenile justice programs. Journal of Family Violence, 28(7), 665-677

Main Findings:

Participation in Surf Therapy among participants, each of whom endorsed exposure to violence, led to significant reductions in impulsivity, risk-taking behaviors and sensation seeking.

Literature²⁶ shows that impulsivity involves the inability to self-regulate, inhibit, and control that impulse, and studies have indicated a positive association between childhood impulsivity and later development of depression²⁷. As such, a decrease in impulsivity and maladaptive risk-taking behaviour or sensation seeking, are associated with improved self-regulation.

Participation in Surf Therapy also increased participants' sense of interpersonal closeness and social connectedness.

Literature²⁸ shows that people who feel more connected to others have better ability to self-regulate. The ability to relate to others is highly associated with self-regulation of one's emotions. Interventions to improve emotion management in young adults may also need to repair issues of social connectedness in this group²⁸. In addition, social connectedness is related to lower levels of anxiety and depression, as well as higher self-esteem, greater empathy for others, are more trusting and cooperative²⁹. As such, social connectedness generates a positive feedback loop of social, emotional and physical well-being.

Study Implications:

Caring community coaches were acknowledged to be the core ingredient in the 5 Pillar Method that drives programme outcomes.

These coaches create an enabling, trauma-informed environment, where mental health promotion protective factors are present and W4C participants can learn and practice self-regulation skills with caring coaches who come from the same communities as the participants.



Implications on access to mental health services and closing the mental health treatment gap:

W4C's surf therapy is facilitated by non-clinician community members, which enables programme scalability, and fosters cultural-specificity of the intervention and an emotionally and physically safe space. W4C's 5 Pillar Model has been identified as a promising solution for community based mental health promotion/early intervention programming.

²⁶ Carver, C. S., Johnson, S. L., & Joormann, J. (2009). Two-mode models of self-regulation as a tool for conceptualizing effects of the serotonin system in normal behavior and diverse disorders. *Current Directions in Psychological Science*, 18(4), 195-199. | ²⁷ Brodsky, B. S., Oquendo, M., Ellis, S. P., Haas, G. L., Malone, K. M., & Mann, J. J. (2001). The relationship of childhood abuse to impulsivity and suicidal behavior in adults with major depression. *American Journal of Psychiatry*, 158(11), 1871-1877. | ²⁸ <https://files.eric.ed.gov/fulltext/EJ1220207.pdf>
²⁹ <http://ccare.stanford.edu/uncategorized/connectedness-health-the-science-of-social-connection-infographic/#:~:text=People%20who%20feel%20more%20connected,trust%20and%20cooperating%20with%20them>

What's Next?

Experts³⁰ define trauma-informed physical activity as an appealing and accessible program that includes: safety, collaborative and clear communication, caring instructors trained in trauma-informed care, and emotion-awareness and regulation exercises^{31&32}.

There is an exciting opportunity to utilise the W4C 5 Pillar Method to optimise other existing after school and sport/physical activity spaces across under-resourced communities to deliver effective prevention and early intervention programming, to reduce the burden on the mental health system at a much bigger scale.

Sharing and Scaling the W4C 5 Pillar Method: Training lots of existing community coaches

Evidence from the 5 Pillar Model being utilised across all W4C Surf Therapy sites has shown it to be an efficacious, trauma-informed intervention for violence-exposed youth.



Psychologists
at hospital
(1 psychiatric
hospital per district)

Mental health nurses at
community clinics and group
therapy in clinical settings

Prevention / Early Intervention

Caring community coaches from other after school and sport-based programmes optimised for mental health promotion, using the 5 Pillar Method



Extremely high rates of trauma and adversity for children aged 10 to 16

