

Shadow's Edge - Impact



A 3D mobile adventure game for teens facing a serious health challenge

Shadow's Edge is created for teens and young adults between 13 and 23 years old. The adolescents are facing serious health challenges (acute or chronic disease) and are dealing with trauma and disruption in their lives.

Objective: positively impact seven factors that build emotional resilience

The game invites players to reflect and journal on a series of relevant prompts they discover in the world of Shadow's Edge. The expression through writing and art in the game supports players to find a sense of empowerment, helping them integrate the situations they are facing, to heal emotionally and to build their identity along their journey: "Your illness does not define who you are, you do." The prompts are based on psychological principles from narrative therapy, positive psychology, and existential psychology and are written in a sensitive way so that teens can understand and internalize them. They are written to help players strengthen their capacity for seven factors research associates with emotional resilience:

1. Proactive Coping: dealing in a future-oriented way with a difficult situation; setting realistic goals
2. Mindfulness & Acceptance: the nonjudgmental focus on and acceptance of present moment experiences
3. Optimism: a mental and emotional attitude that future conditions will work out for the best
4. Emotional Regulation: the capacity to allow and deal with strong emotions
5. Derived Meaning: getting a sense of purpose through what is happening
6. Positive Self Identity: having a feeling of self-worth
7. Connectedness: being able to access the feeling of being supported and being able to reach out for help

Gameplay: a quest to restore a shattered city to life through writing and graffiti

The game takes place in a beautifully designed 3D urban world on the mobile device. Three guardians give the player the task to discover the pages of a lost journal. The player moves through the worlds of Disruption, Disillusionment and Discovery by responding to sensitive and relevant writing prompts. The journaling prompts help the teen to get started writing and expressing about their situation, also about topics that are difficult to talk about. An easy to use art editor provides graffiti stencils and tools to color the world. Through self-expression and discovering hidden wisdoms, the player restores the city of Shadow's Edge to life. Teens learn from their peers and receive positive feedback through protected sharing of their graffiti in an in-game Instagram-style sharing platform.

Based on research on emotional resilience and journaling

When teenagers are faced with a serious and often chronic illness, like cancer, cystic fibrosis or diabetes, they face a lot of challenges. Of course, there are the physical - which are treated by medical doctors, nurses and physical therapists and so on; the teenagers are well taken care of. Besides the physical challenges, there are also psychosocial challenges. The teens have to deal with uncertainty about the future, illness related symptoms, issues with body identity, their identity as a person, isolation and dependency¹. Also, adolescents with a chronic condition suffer more often than their healthy counterparts of depressive symptoms and low self-esteem². However, treatment focuses mainly on the physical aspects of the illness but not these psychosocial challenges. A way to help teens face these challenges, is building their emotional resilience³.

Narrative therapy is a form of psychotherapy that uses the narrative approach; it is based on the premise that persons make meaning of their lives through stories. Stories are used to make meaning of a situation and to make sense of one's life. One of the key aspects of the narrative approach is to re-author one's own story so that one is not living a

¹ Haase, J. E., Kintner, E. K., Monahan, P. O., & Robb, S. L. (2014). The Resilience in Illness Model (RIM) Part 1: Exploratory Evaluation in Adolescents and Young Adults with Cancer. *Cancer Nursing*, 37(3), E1-E12.

² Michaud, P. A., Suris, J. C., & Viner, R. (2007). The adolescent with a chronic condition: epidemiology, developmental issues and health care provision.

³ Haase, 2014

story that does not fit with one's identity⁴. One of the main reasons journaling helps is that it helps externalizing thoughts and feelings. The purpose of externalization, as used in narrative therapy is to separate the person from the problem, so that the problem can be viewed from different perspectives⁵. Externalization also helps to discover aspects of the self, as in "Who am I, what do I want in life, which things do or don't I like, what am I good at,"⁶. narrative therapy promotes changes in perspective, enabling distance from pain or trauma, and identifying skills and strategies for managing the process of hospitalization⁷. Another aspect is, that journaling helps develop a more proactive coping style and stimulated the participants to deal with their problems instead of avoiding them⁸.

Impact Study with 55 adolescents between August – October 2017

During our beta phase between August and October we ran an impact study with 55 players, between 13 and 22 years old, mainly from the US (90%) and from Europe (10%). Players were recruited online via support groups and through a mailing to hospitals and health related foundations. 50% of the players were dealing with a physical illness, 20% with mental illness and 30% chose not to disclose what kind of health challenge they were dealing with. The types of conditions players reported dealing with include cancer, chronic lyme disease, brain tumor, kidney disease, organ transplants, amputation or depression.

Data Collection Method

Players signed up to play over a period of four weeks for 20 – 30 minutes per day. Before starting to play they completed a baseline survey asking them to self-assess their capacity against the seven factors influencing emotional resilience outlined above. At the end of the four weeks they answered a series of questions about their game play experience and completed the emotional resilience questionnaire again. Players received an online voucher of USD 75 for completing the required gameplay and both surveys.

Results indicate a positive impact on four factors of emotional resilience

As feedback to gameplay, players described:

- a change in connectedness, with 81% of players reporting they tried to better understand others since having played and 73% reporting they realized more clearly other teens think and feel the way they do
- a change in positive self-identify with players reporting they felt creative (84%) and real (73%)

The comparison of the before and after self-assessment of the seven factors impacting emotional resilience has three areas that were consistently rated higher in the second survey across study participants:

- change in optimism (an average of +6% higher rating)
- change in positive self-identity (an average of +4% higher rating)
- change in emotional regulation (+3% higher rating).

In addition, the follow-up survey asked open questions on gameplay. We received many quotes that describe a shift in how players relate to their situation:

- "The game does make you expose your feelings if you are honest and challenges you to continue to believe healing does come." – David (14)
- "The game did give my mind some sense of peace, especially when I had the thought of reviving a devastated city. Revitalizing a lost word makes me feel happy and fulfilled." – Joshua, 13+
- "The game helped me relive stress, cope with new challenges, and makes me feel less alone in my struggles. I loved being able to process ideas directly related to my situation. I felt like the journal prompts were written just for me!" – Katrina, 23

Limitations of the Study: This was an in-house study without a randomized sample and control group.

Follow-up study at Lurie Children's Hospital Chicago Ongoing

The Northwestern University Feinberg School of Medicine / Lurie Children's Hospital Chicago conducted a clinical trial using the Shadow's Edge game as an intervention. The study investigated the impact of gameplay with 177 adolescents and young adults who were in final stage of cancer directed treatments at Lurie Children's between December 2018 and March 2020. The study showed playing Shadow's Edge has a positive impact on identity exploration and identity formation Adolescents and young adults did endorse higher levels of personal or ideological identify exploration and social and interpersonal identity exploration. Playing the game moved them further along on the continuum of identity exploration of personal, career interests and social roles - which is appropriate for the developmental stage of this age group. Please contact feedback@shadowsedge.com to receive detailed study results.

⁴ O'Connor, S., Ferguson, E., Carney, T., House, E., & O'Connor, R. C. (2016). The development and evaluation of the paediatric index of emotional distress (PI-ED). *Social psychiatry and psychiatric epidemiology*, 51(1), 15-26.

⁵ Keeling, M. L., & Bermudez, M. (2006). Externalizing problems through art and writing: Experience of process and helpfulness. *Journal of marital and family therapy*, 32(4), 405-419.

⁶ Penn, P., & Frankfurt, M. (1994). Creating a participant text: Writing, multiple voices, narrative multiplicity. *Family Process*, 33, 217-231.

⁷ Quiroga, A., Jiménez, J. V., Beltrán, G. A., Casas, V., & López, B. N. (2016). A narrative approach to addressing pain in hospitalised paediatric patients: Handicraft and digital interventions. *International Journal of Narrative Therapy & Community Work*, (4), 77.

⁸ Keeling et al. (2006)