



TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 20, 2021

**A new decade
for social changes**

www.techniumscience.com

ISSN 2668-7798



9 772668 779000

Theory of Change and agile community digital psychological interventions

Dana Rad^{1,*}, Gavril Rad¹

^{1,*}Aurel Vlaicu University of Arad, Faculty of Educational Sciences, Psychology and Social Work, Center of Research Development and Innovation in Psychology, Arad, B-dul. Revoluției, no.77, Arad, Romania

dana@xhouse.ro

Abstract. In today's world, where new technologies are rapidly evolving, it is critical to understand the advancement of individual well-being when engaging with the digital world. Via the benefits of the internet's vast scope, remote access, anonymity, and variety of formats, digital psychological therapies for mental wellbeing may help to improve access to mental health care. When technology is used to provide a therapeutic intervention, such as the internet, laptops, cell phones or tablets, and instant messaging systems, it is called digital intervention. For therapeutic approaches, evidence-based practice is critical, but there is disagreement on how to better promote real behavioral change. Digital Psychological Interventions framework for building and curating an information base for behavior improvement that can be used in the real world target the following services: (1) an intervention's smallest, most meaningful, self-contained, and reproable behavior change modules; (2) computational designs that determine how modules, entities, and context interact; and (3) customization algorithms, which are judgment rules for strategy adjustment. Theory of Change (ToC) is gaining popularity in the wider debate on how to improve the execution of improvement programs and how to benefit from implementation especially in the mental health field. We describe the ToC as a management technique, an approach based on outcomes that extends critical thinking to the planning, execution, and assessment of policies and programs designed to support progress. Theory of Change (ToC) is a form of technique for strategy, engagement, and assessment that is used to facilitate social change in the organization, volunteerism, not-for-profit, and governmental agencies. Theory of Change identifies long-term priorities before mapping backward to determine required preconditions. A Theory of Change is a high-level, or macro, If-Then argument that states: If something is achieved, then these are the expected outcomes. The outcomes pathway is a series of required conditions applicable to a specific area of operation that are diagrammatically positioned in logical relationship to one another and associated with arrows that imply causality. All change initiatives are based on certain assumptions, but developing a theory of change will help make those assumptions clear to ensure that they are as well-founded as possible in previous study and experience.

Keywords. Theory of Change, agile community digital psychological interventions

1. Agile Digital Psychological Interventions

In today's world, where new technologies are rapidly evolving, it is critical to understand the advancement of individual well-being when engaging with the digital world (Rad, Demeter, 2019; Rad et al., 2020; Rad et al., 2020). Via the benefits of the internet's vast scope, remote

access, anonymity, and variety of formats, digital psychological therapies for mental wellbeing may help to improve access to mental health care (Amoroso et al., 2011). When technology is used to provide a therapeutic intervention, such as the internet, laptops, cell phones or tablets, and instant messaging systems, it is called digital intervention. The use of digital media has increased dramatically in recent years. According to a previous survey, 80 percent of the population owns a cellphone, and about half of the population has internet access (Fu et al., 2020).

The generation of data to justify the implementation of evidence-based practices is a fundamental role of behavior change psychology (Kelly et al., 2010). Evidence-based practices necessitate not only a thorough review of an intervention's efficacy, but also the potential of the evidence-based practice to be interpreted and communicated for real-world application (Rotheram-Borus et al., 2012). There is ongoing debate on how to enhance the development process in order to achieve real-world evidence-based practice, such as creating a more rapid, relevant, and sensitive research enterprise; drawing on the logic of disruptive innovations; emphasizing the importance of the components of a multicomponent complex intervention; while emphasizing the need for a more iterative testing approach that best accommodates the complexities of behavior change (Reily et al., 2013; Craig et al., 2013).

For therapeutic approaches, evidence-based practice is critical, but there is disagreement on how to better promote real behavioral change. Digital Psychological Interventions framework for building and curating an information base for behavior improvement that can be used in the real world target the following services: (1) an intervention's smallest, most meaningful, self-contained, and reproable behavior change modules; (2) computational designs that determine how modules, entities, and context interact; and (3) customization algorithms, which are judgment rules for strategy adjustment. A generation phase, in which contender organizational concepts and structures of the three items are developed and evaluated for viability, and an assessment phase, in which impact size estimates/casual inferences are created, are all part of the agile science process. Early and frequent sharing is emphasized in this process. Agile research, if done correctly, could lead to a more rigorous evidence base for behavior change (Hekler et al., 2016).

Given the support for digital psychological interventions' short-term efficacy (Sander et al., 2016; Pasarelu et al., 2017), it's likely that these interventions could help narrow the mental wellbeing deficit (Holmes et al., 2018). People all over the world are seeing an increase in mental wellbeing issues as an effect of the COVID-19 pandemic, which has caused millions of people to physically separate themselves and posed significant obstacles to mental health-care programs (Brooks et al., 2020; Xiang et al., 2020). Digital psychological interventions for mental health issues, as recommended by some experts and the United Nations, could have the ability to offer appropriate mental assistance (Holmes et al., 2020).

Despite this, the efficacy of digital psychological interventions is unknown. Due to a lack of available randomized clinical experiments, previous studies (Naslund et al., 2017; Arjadi et al., 2015) were unable to conduct a meta-analysis of the results of digital psychological interventions. Two systematic studies (Jimenez-Molina et al., 2019; Barbui et al., 2020) found strong support for the effectiveness of psychosocial treatments for common mental health problems.

The applicability of digital psychological therapies has been a source of long-standing concern. In addition to the ability for technology to compromise privacy (Huckvale et al., 2015), the WHO states that rigorous assessment of digital health is needed to produce evidence and encourage the proper application and use of technologies. As a result, a comprehensive evaluation of the efficacy of digital psychological interventions is needed.

The systematic assessment of the effects of digital psychological interventions for specific mental health conditions, especially those that have been studied in less than ten trials, is one of the suggested potential directions (Fu et al., 2020) for the research community: anxiety, PTSD, and substance abuse. Given the persistent existence of most mental health disorders, it's also crucial to look at the long-term recovery consequences of digital psychological interventions. To provide more accurate and targeted treatments, more research is required to define particular mechanisms of treatment outcomes. Furthermore, the inherent heterogeneity of the treatments, testing environments, and implementation methods examined in analysis suggests that to increase reproducibility and comparability, robust international guidelines and standardized implementation programs are needed.

Finally, the findings of systematic studies and meta-analysis show that interactive therapeutic approaches in mental health services have the potential to close the gap in mental health treatment. This is especially true during and after the COVID-19 pandemic, when physical separation, the financial effects of quarantine policies, and a lack of social support all pose a threat to public mental health (Fu et al., 2020).

2. Theory of change

Theory of Change (ToC) is a form of technique for strategy, engagement, and assessment that is used to facilitate social change in the organization, volunteerism, not-for-profit, and governmental agencies. Theory of Change identifies long-term priorities before mapping backward to determine required preconditions (Brest, 2010).

Theory of Change describes the mechanism of change by describing causal linkages in an initiative, as well as its short-term, intermediate-term, and long-term consequences. The observed improvements are mapped as the outcome pathway, which shows each outcome in logical relationship to the others as well as temporal flow. The rationales or statements that justify why one outcome is linked to another are used to explain the connections between outcomes (Clark, Taplin, 2012).

Theory of Change innovates by (1) distinguishing between expected and real results and (2) requiring stakeholders to simulate their desired outcomes before deciding on ways of action to achieve those outcomes.

Depending on the planned application, Theory of Change will begin at any point of an initiative. A framework built from the start is the most effective at informing the planning process. Practitioners can make more conscious choices on policy and strategies by developing a change model. When monitoring and assessment results become accessible, stakeholders can refine the Theory of Change as research suggests. Reading program files, speaking with partners, and reviewing evidence will all be used to create a Theory of Change in retrospect. This is always performed during evaluations to focus on what has succeeded and what has not worked in order to evaluate the past and prepare for the future.

A Theory of Change is a high-level, or macro, If-Then argument that states: If something is achieved, then these are the expected outcomes. The outcomes pathway is a series of required conditions applicable to a specific area of operation that are diagrammatically positioned in logical relationship to one another and associated with arrows that imply causality. Outcomes in the pathway also serve as prerequisites for outcomes beyond them. Therefore, premature outcomes must be met before intermediate outcomes can be met; intermediate outcomes must be met before the next set of outcomes can be met; and so on. An outcomes pathway thus reflects the transition reasoning and its underlying collection of hypotheses, which are articulated in the rationales given for why particular relations occur between outcomes and in the theory storyline (Taplin et al., 2013).

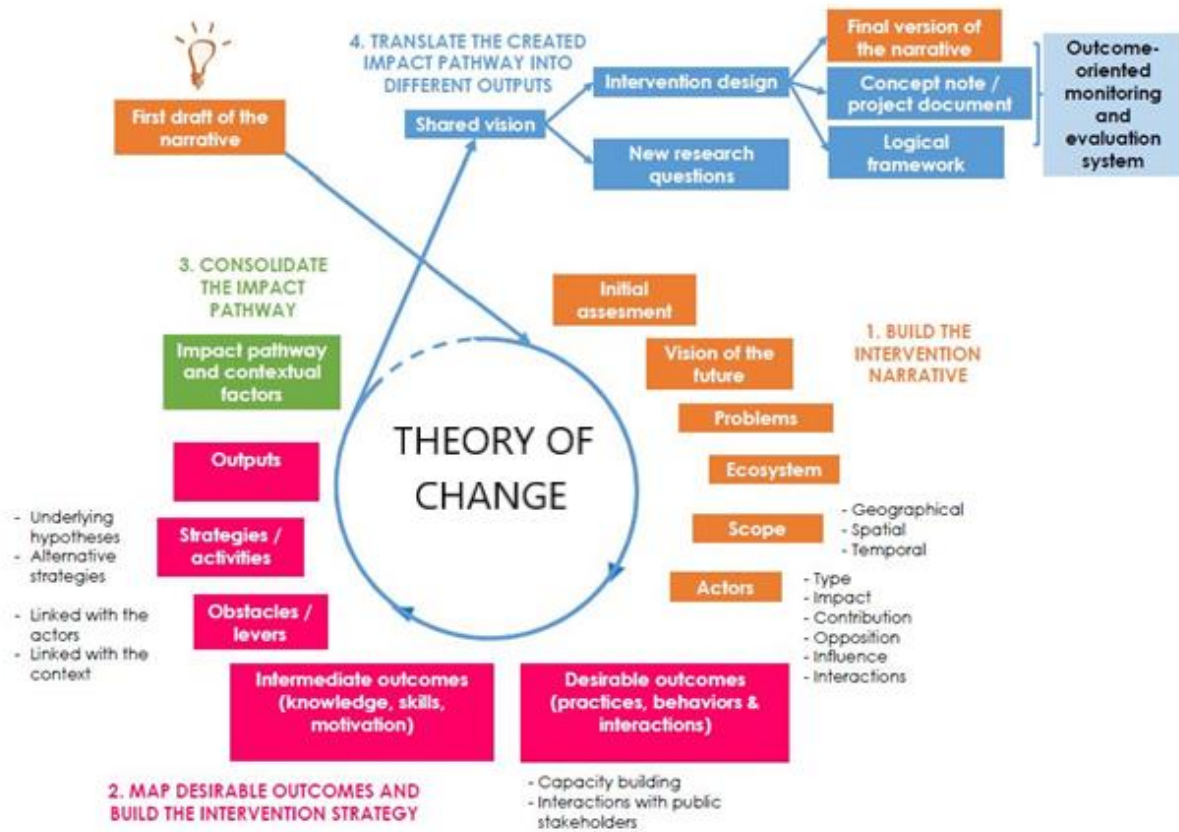


Figure 1. An Outcomes Pathway (*Author Impress, 2021*)

Identifying a workable long-term target and long-term results is a crucial first step in the process. The long-term objective should be one that everyone concerned knows and that the initiative will realistically accomplish. In this step, a qualified external facilitator is ideally suited to guide the community to consensus and precision. Since identifying a long-term target, the party considers: "What requirements have to be taken into consideration for us to achieve the proposed goal?" Any such necessary factors should be depicted as outcomes on the Theory of Change pathway, underneath the long-term result. These results serve as prerequisites for the long-term result. The method of defining preconditions begins, with basic concerns such as, "What must be in order for this result to be achieved?" and "Are these preconditions necessary to accomplish the desired outcome?" Participants in these sessions can use labels, sticky notes, and chart paper to define and coordinate results, surface conclusions, and establish indicators. The facilitator would then typically record the chaotic group work in digital format, allowing the material to be extended, edited, printed, posted, and otherwise handled as the idea develops.

The overall efficacy of any Theory of Change is determined by its potential to show progress in achieving outcomes. Evidence of results validates the hypothesis and suggests that the program is successful. As a result, the findings of a Theory of Change must be accompanied by metrics that direct and promote assessment. Indicators are used to operationalize outcomes, which means that they make them clear in concrete, tangible, and measurable terms. The relationship between indicator and result can be puzzling, but it can be simplified with the

following formula: “I’ll know [outcome reached] when I see [indicator].” Any result on the outcomes pathway should ideally have a predictor, but limited resources also make this challenging. Often groups want to identify priority results – that is, outcomes that they feel they would test if the hypothesis is to hold up. What are the results that must be implemented. In the very least, each result for which initial approaches would be planned should have at least one predictor.

Since Theory of Change's origins are in the field of monitoring and evaluation, advancements over the years have ensured that Theory of Change remains an invaluable tool for conducting assessments of a wide range of projects and organizations. Posing theory-based assessment questions also aids in focusing evaluation attention on core issues. In addition, there may be a need to choose the best indicators from among the many available, and “monitoring questions” may be used to choose the indicators that would be most useful. The monitoring questions are in the form of, “What do we actually need to know in order to plan grant-making aimed at achieving this outcome?” It is important to consider performance beyond just understanding what functions. Experience shows that simply copying or scaling an action rarely succeeds. A valuable challenge for monitoring and assessment is to collect enough information and understanding to foresee – with some degree of certainty – how an initiative and collection of activities could perform in a particular context, or how it needs to be changed to achieve comparable or better outcomes. We must also be able to integrate data from various experiments in order to form a more complete understanding of what is happening, how it is occurring, and, most critically, how context affects the initiative.

A ToC-based monitoring and assessment framework may be structured in a participatory manner, much as the implementation of a Theory of Change is. Grant administrators, for example, should be interested in selecting the results that are most important to them in their decision-making. Similarly, people on the ground should have feedback about which indicators to use and how to operationalize them, the tools and techniques of data collection to use, and the current data sources should be used to measure indicators.

It is a good idea to describe the Elements upon which your theory would be constructed. Initially, the main components are strategies, results (outputs and outcomes), impact, and simple causal links. Mechanisms, Assumptions, and more refined Causal Links should ideally be present, as well as, optionally, Inputs, Bottlenecks, Risks, and Context (Dhillon, Vaca, 2018).

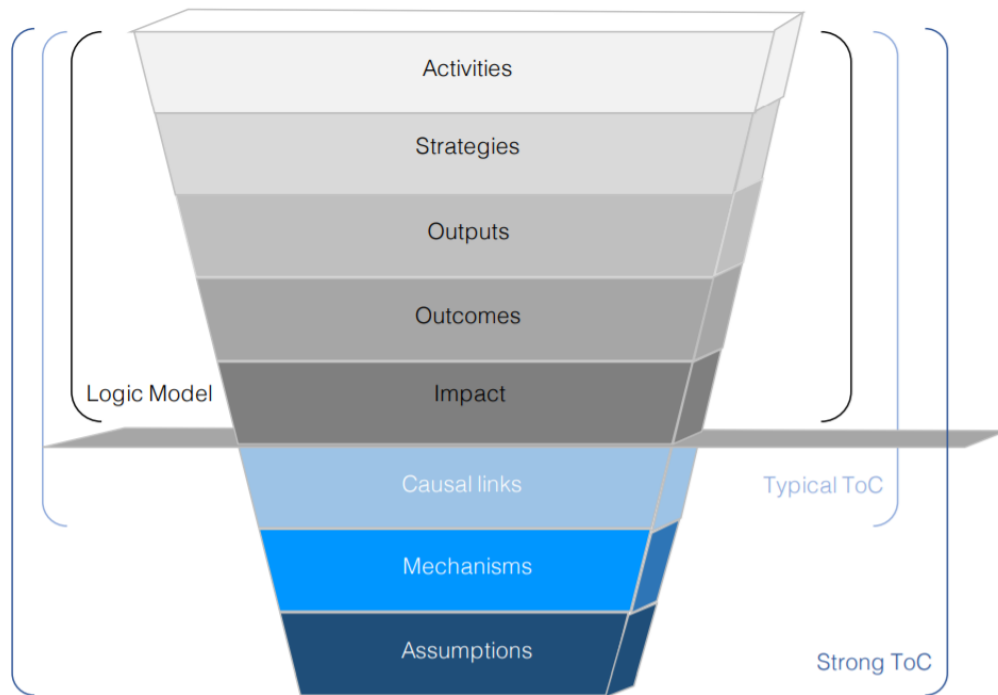


Figure 2. Layers of a Theory of Change (Author Dhillon, L., & Vaca, S., 2018).

In other terms, if you wish the reasoning to be considered a Theory of Change rather than a Logic Model, you must have Mechanisms and demonstrate how the actions will contribute to the outcomes without inconsistencies (Dhillon, Vaca, 2018).

There are graphic features that can be used to render the Mechanisms, which are normally simplified by arrows, more visible. Having them thicker, for example, and letting content inside them like in Figure 3.

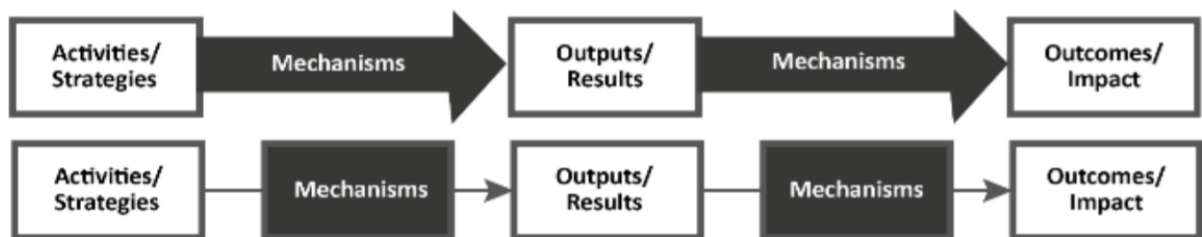


Figure 3. Representing Mechanisms (Author Dhillon, L., & Vaca, S., 2018).

Another option is to place the “visible” parts of the project on top (such as Activities, Results, and Impact) and the “less visible” parts on the bottom, as seen in the illustration section (Dhillon, Vaca, 2018).

There are several dimensions to consider when constructing a Theory of Change. The optimal degree of inclusion of each dimension can vary according to the intent of each Theory

of Change and its meaning (scope, timing, participants). While trying to be too prescriptive, certain features of a good Theory of Change are usually more attractive than others. We define “strong Theories of Change” as those with a lower risk of principle failure: the intervention was badly designed and did not succeed in practice (Patton, 2015). A Theory of Change is therefore strong because it is right to anticipate that the outcome of the series of events will logically contribute to program progress (Alkin, 2011). Figure 4 depicts a rubric that depicts the possible dimensions to measure in a Theory of Change as well as ranking recommendations.

It is generally accepted that basing an intervention logic on facts such as research, prior interactions, and so on is preferable to basing an intervention logic on the opinions of a single person (Funnell & Rogers, 2011). Similarly, but with a different dimension, a Theory of Change would be more impactful as it has already been thoroughly evaluated, as opposed to a theory that is being applied for the first time. As previously stated, precise causal relations are also essential in Theories of Change. A Theory of Change that gives precise indication about which elements are meant to induce which results is preferable to one that suggests the elements but does not explicitly define the interactions between them (Dhillon, Vaca, 2018).

A Theory of Change that describes the change in depth is preferable to one that is too synthesized and lacks adequate components. In the case of a highly complex operation, however, synthesis might be preferred to unnecessary detail. Another desirable characteristic of a Theory of Change is the provision of information on the relative value of each approach, performance, and result. While these components can seem to be similarly valid and significant in standard Theory of Change representations, some may carry greater weight than others. These distinctions can be reflected in a more robust Theory of Change. Finally, by engaging a variety of stakeholders to participate, a solid Theory of Change may be developed in a participatory manner. Such a Theory of Change is typically more powerful than one created solely by the organization's personnel and/or management. Beneficiaries' participation in the Theory of Change mechanism enhances transparency and credibility.

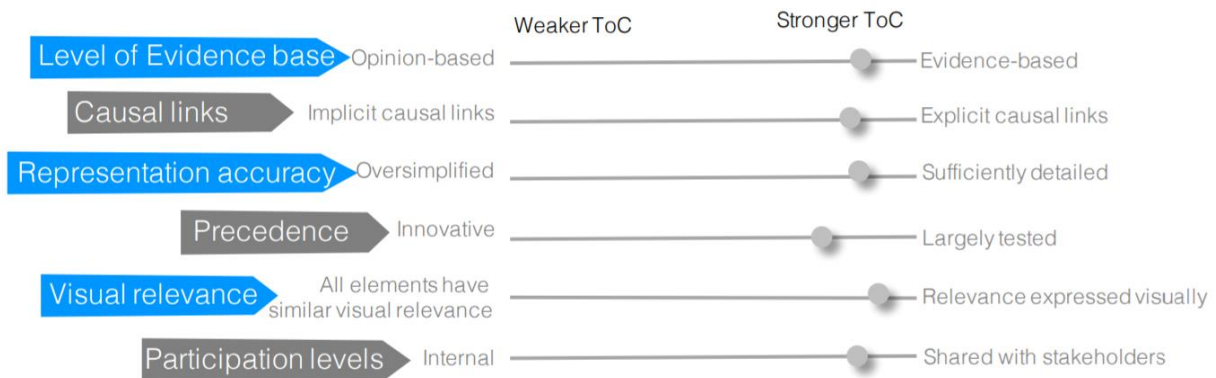


Figure 4. Rubrics of TOC (Author Dhillon, L., & Vaca, S., 2018).

A solid Theory of Change will strengthen all facets of an initiative, including its architecture, execution, tracking and assessment, strategic consequences, and, most notably, effects. Now that Theories of Change are well established as a practical instrument in the area of social change, we may explore changes in greater depth. It is proposed reinforcing current Theory of Change elements, adding new elements, using more advanced data visualization, innovation, and technologies, and aligning with other organizational resources to increase their

effect (Dhillon, Vaca, 2018). Theories of Change become ever more useful, practical, and impactful as a result of these developments in the field.

4. Implications and conclusions

The Theory of Change (ToC) tool is gaining popularity in the wider debate on how to improve the execution of improvement programs and how to benefit from implementation (Davis, 2004; Mackenzie, Blamey, 2005), especially in the mental health field. We describe the ToC as a management technique, an outcomes-based approach that extends critical thinking to the planning, execution, and assessment of policies and programs designed to support progress (Paina et al., 2017). ToC development typically entails an examination of how an action effected change in a specific environment, a review of the pathways by which this change is supposed to occur, and a mechanism for determining when and how change occurs. The ToCs typically consist of two parts: a visual representation of main factors, stakeholders, and change pathways, as well as a narrative description. The ToC narrative typically provides details about the context in which an action is undertaken, including social, political, and environmental conditions, the existing state of the concern, the agents that may affect change, a desired long-term change effect, an overview of the change process/sequence, and the underlying assumptions (Paina et al., 2017).

The articulation of basic assumptions on how change takes place is a key aspect of a theory of change (Reinholz, Andrews, 2020). These included assumptions on the essence of the circumstance and how it can moderate the change cycle, the preconditions that are required and sufficient to achieve the long-term outcome, the rationales that bind preconditions to one another and to long-term outcomes, the rationales about how strategies will achieve preconditions and the long-term outcome, as well as more. Since assumptions are often taken for granted and closely held, identifying and articulating them can be difficult (Argyris, 1976). Any conclusions can only come to light when facets of an effort collapse, so challenging assumptions is likely to arise in a change project. As a result, the initial formulation of a change theory should be informed by change research and analysis. Critically, change attempts often stall in a variety of respects. When some elements of a project become stalled or unsuccessful, change theory can be very helpful in driving sense-making and resolving.

Since assumptions can be established in a theory of change, articulating assumptions would require a mix of change theory and science. Community cultural capital and appreciative inquiry are two lenses that offer new forms of thinking about areas related to progress. These two lenses argue for a shift away from shortfall perspectives that emphasize what is missing or challenging and toward perspectives that emphasize current and complex abilities and achievements.

Community cultural capital is a concept that describes the knowledge, skills, abilities, and connections acquired and used by populations to

Appreciative inquiry is a method of approaching systemic transformation that suggests that organizations have an unlimited potential for improvement. Rather than concentrating on finding and addressing challenges, appreciative inquiry achieves progress by identifying, magnifying, and outshining positive qualities and successes throughout a company (Cooperrider & Whitney, 2001). This attitude toward change manifests itself in a change phase that entails polling several (or all) representatives of an organization to determine what is going well. Organizations improve in ways where they persistently raise questions, and the more constructive the questions posed, the more long-lasting and sustainable a change plan can be (Cooperrider & Whitney, 2001).

When applying appreciative inquiry to a change effort, it can expose conflicting or inconsistent conclusions such as these: members of the organization are not a valuable source of ideas on whether or how to improve; the aim of a change initiative is to solve problems; members of the organization are not a valuable source of ideas on what or how to change; Feelings like optimism, enthusiasm, and motivation are less important to the morale of an endeavor than quickly measurable victories (Cooperrider & Whitney, 2001).

Other beliefs that might be latent in a theory of change may be revealed by change research. When faced with clear proof of the methods' efficacy, it's tempting to believe that scientists would be persuaded to follow evidence-based activities. However, studies on why faculty use evidence-based instructional methods show that they focus on personal experiences even more than scientific evidence (Dancy et al., 2016). As a result, a theory of change that involved providing data in order to maximize their interest and desire to use evidence-based methods should rethink ideas on how to use evidence in making coherent decisions. Scientists may believe that permanent change can be achieved by a single, significant change event rather than through diligent, continuous commitment to long-term progress. Given this aspect, literature shows that even the most promising ongoing improvement will lead to reversal if sustainability is not explicitly addressed (Reinholz et al., 2019).

Thus, change initiatives are based on certain assumptions, but developing a theory of change will help make those assumptions clear to ensure that they are as well-founded as possible in previous study and experience.

References

- [1] Alkin, M. (2011). *Evaluation essentials: From A to Z*. New York, NY: The Guilford Press.
- [2] Amoroso, C., Flores Arango, J., Bailey, C. (2011). World Health Organization; Geneva: 2011. Call to action on global eHealth evaluation: consensus statement of the WHO global eHealth evaluation meeting, Bellagio, Italy, September 2011.
- [3] Argyris, C. (1976). Single-loop and double-loop models in research on decision making. *Administrative Science Quarterly*, 363–375.
- [4] Arjadi, R., Nauta, M.H., Chowdhary, N., Bockting, C.L.H. (2020). A systematic review of online interventions for mental health in low and middle income countries: a neglected field. *Glob Ment Health (Camb)*, 2:e12.
- [5] Barbui, C., Purgato, M., Abdulmalik, J. (2020). Efficacy of psychosocial interventions for mental health outcomes in low-income and middle-income countries: an umbrella review. *Lancet Psychiatry*, 7, 162–172.
- [6] Brest, P. (2010). *The Power of Theories of Change*. Stanford Social Innovation Review. Spring.
- [7] Brooks, S.K., Webster, R.K., Smith, L.E. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *Lancet*, 395, 912–920.
- [8] Clark, H. & Taplin, D. (2012). *Theory of Change Basics: A Primer on Theory of Change (PDF)*. New York: Actknowledge.
- [9] Cooperrider, D., & Whitney, D. (2001). A positive revolution in change: Appreciative inquiry. *Public Administration and Public Policy*, 87, 611–630.
- [10] Craig, P., Dieppe, P., Macintyre, S., et al. (2013). Developing and evaluating complex interventions: the new medical research council guidance, *Int J Nurs Stud*, vol. 50, 587-592. 10.1016/j.ijnurstu.2012.09.010.
- [11] Dancy, M., Henderson, C., & Turpen, C. (2016). How faculty learn about and implement research-based instructional strategies: The case of peer instruction. *Physical*

- Review Physics Education Research, 12(1), 010110.
<https://doi.org/10.1103/PhysRevPhysEducRes.12.010110>.
- [12] Davies, R. (2004). Scale, Complexity and the Representation of Theories of Change. *Evaluation*. 10(1):101-121. doi:10.1177/1356389004043124.
- [13] Dhillon, L., & Vaca, S. (2018). Refining Theories of Change. *Journal of MultiDisciplinary Evaluation*, 14(30), 64-87.
- [14] Fu, Z., Burger, H., Arjadi, R., & Bockting, C. (2020). Effectiveness of digital psychological interventions for mental health problems in low-income and middle-income countries: a systematic review and meta-analysis. *The lancet. Psychiatry*, 7(10), 851–864. [https://doi.org/10.1016/S2215-0366\(20\)30256-X](https://doi.org/10.1016/S2215-0366(20)30256-X).
- [15] Hekler, E.B., Klasnja, P., Riley, W.T., Buman, M.P., Huberty, J., Rivera, D.E., Martin, C.A., (2016). Agile science: creating useful products for behavior change in the real world, *Translational Behavioral Medicine*, 6(2), 317–328. <https://doi.org/10.1007/s13142-016-0395-7>.
- [16] Holmes, E.A., Ghaderi, A., Harmer, C.J. (2018). The Lancet Psychiatry Commission on psychological treatments research in tomorrow's science. *Lancet Psychiatry*, 5, 237–286.
- [17] Holmes, E.A., O'Connor, R.C., Perry, V.H. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *Lancet Psychiatry*, 7:547–560.
- [18] Huckvale, K., Prieto, J.T., Tilney, M., Benghozi, P.J., Car, J. (2015). Unaddressed privacy risks in accredited health and wellness apps: a cross-sectional systematic assessment. *BMC Med*, 13, 214.
- [19] Jimenez-Molina, A., Franco, P., Martinez, V., Martinez, P., Rojas, G., Araya, R. (2019). Internet-based interventions for the prevention and treatment of mental disorders in Latin America: a scoping review. *Front Psychiatry*, 10, 664.
- [20] Kelly, M., Morgan, A., Ellis, S., et al. (2010). Evidence based public health: a review of the experience of the National Institute of Health and Clinical Excellence (NICE) of developing public health guidance in England, *Soc Sci Med*, vol. 71, 1056-1062. 10.1016/j.socscimed.2010.06.032.
- [21] Mackenzie, M., Blamey, A. (2005). The Practice and the Theory: Lessons from the Application of a Theories of Change Approach. *Evaluation*. 11(2):151-168. doi:10.1177/1356389005055538.
- [22] Naslund, J.A., Aschbrenner, K.A., Araya, R. (2017). Digital technology for treating and preventing mental disorders in low-income and middle-income countries: a narrative review of the literature. *Lancet Psychiatry*., 4, 486–500.
- [23] Paina, L., Wilkinson, A., Tetui, M. et al. Using Theories of Change to inform implementation of health systems research and innovation: experiences of Future Health Systems consortium partners in Bangladesh, India and Uganda. *Health Res Policy Sys* 15, 109 (2017). <https://doi.org/10.1186/s12961-017-0272-y>.
- [24] Pasarelu, C.R., Andersson, G., Bergman Nordgren, L., Dobrean, A. (2017). Internet-delivered transdiagnostic and tailored cognitive behavioral therapy for anxiety and depression: a systematic review and meta-analysis of randomized controlled trials. *Cogn Behav Ther.*, 46, 1–28.
- [25] Patton, M.Q. (2015). *Qualitative research and evaluation methods: Integrating theory and practice (4th ed.)*. Los Angeles, CA: Sage.
- [26] Reinholz, D.L., Andrews, T.C. Change theory and theory of change: what's the difference anyway?. *IJ STEM Ed* 7, 2 (2020). <https://doi.org/10.1186/s40594-020-0202-3>.

- [27] Rad, D., & Demeter, E. (2019). Youth Sustainable Digital Wellbeing. *Postmodern Openings*, 10(4), 104-115. doi:10.18662/po/96.
- [28] Rad, D., & Demeter, E. (2020). A Moderated Mediation Effect of Online Time Spent on Internet Content Awareness, Perceived Online Hate Speech and Helping Attitudes Disposal of Bystanders. *Postmodern Openings*, 11(2 Supl 1), 107-124. <https://doi.org/10.18662/po/11.2Sup1/182>.
- [29] Rad, D., Dixon, D., & Rad, G. (2020). Digital Outing Confidence as a Mediator in the Digital Behavior Regulation and Internet Content Awareness Relationship. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 11(1), 84-95. <https://doi.org/10.18662/brain/11.1/16>.
- [30] Riley, W.T., Glasgow, R.E., Etheredge, L., Abernethy, A.P. (2013). Rapid, responsive, relevant (R3) research: a call for a rapid learning health research enterprise, *Clin Translat Med*, 2013, vol. 2, 1-6. 10.1186/2001-1326-2-10.
- [31] Rotheram-Borus, M.J., Swendeman, D., Chorpita, B.F. (2012). Disruptive innovations for designing and diffusing evidence-based interventions, *Am Psychol*, vol. 67, 463. 10.1037/a0028180 3951837.
- [32] Sander, L., Rausch, L., Baumeister, H. (2016). Effectiveness of internet-based interventions for the prevention of mental disorders: a systematic review and meta-analysis. *JMIR Ment Health*. 2016, 3:e38.
- [33] Taplin, D., Clark, H., Collins, E., & Colby, D. (2013). *Technical Papers: A Series of Papers to support Development of Theories of Change Based on Practice in the Field (PDF)*. New York: Actknowledge and The Rockefeller Foundation.
- [34] Xiang, Y.T., Jin, Y., Cheung, T. (2020). Joint international collaboration to combat mental health challenges during the coronavirus disease 2019 pandemic. *JAMA Psychiatry*, doi: 10.1001/jamapsychiatry.2020.1057.
- [35] Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education*, 8(1), 69–91. <https://doi.org/10.1080/1361332052000341006>.