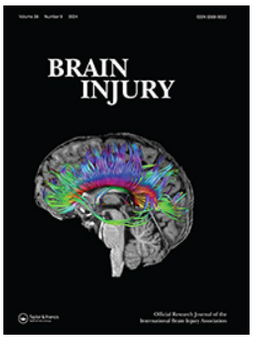

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Implementation of the strengths model of case management for people with a traumatic brain injury: a qualitative pre-implementation study

Pascale Simard[a,b], Samuel Turcotte[a,b], Catherine Vallée[a,c], and Marie-Eve Lamontagne[a,b]

[a]School of Rehabilitation, Université Laval, Quebec, Canada; [b]Center for Interdisciplinary Research in Rehabilitation and Social Integration, Quebec, Canada; [c]VITAM Center for Sustainable Health Research, Quebec, Canada

ABSTRACT

Introduction: People who sustain a traumatic brain injury (TBI) may have to live with permanent sequelae such as mental health problems, cognitive impairments, and poor social participation. The strengths-based approach (SBA) of case management has a number of positive impacts such as greater community integration but it has never been implemented for persons with TBI. To support its successful implementation with this population, it is essential to gain understanding of how the key components of the intervention are perceived within the organization applying the approach.

Objectives: Documenting the barriers and facilitators in the implementation of the SBA as perceived by potential adopters.

Methods: A qualitative pre-implementation study was conducted using semi-structured interviews with community workers and managers of the community organization where the SBA is to be implemented. Data were analyzed using a deductive approach based on the Consolidated Framework for Implementation Research (CFIR).

Results: The major barriers are associated with the intervention (e.g. adaptability of the intervention) and the external context (e.g. the impact of the pandemic). Perceived facilitators are mainly associated with the internal context (e.g. compatibility with current values).

Conclusion: The barriers and facilitators identified will inform the research team's actions to maximize the likelihood of successful implementation.

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Introduction

People with traumatic brain injury (TBI) often experience physical, cognitive, and psychosocial after-effects that persist over time (1). In fact, TBI can lead to many long-term consequences such as isolation (2), mental health issues (3), substance abuse (4), legal issues (5), cognitive impairment (6), stigmatization and poor social participation (2,7). These issues can persist for many years after the brain injury and even become permanent.

In contrast to the important medical and rehabilitation services provided to patients living with TBI-related sequelae, there are currently fewer community-based services to support them (1). Yet these patients stand to benefit from community-based interventions to improve their social functioning after a TBI (8) and to resume and maintain their life roles (9). The Strengths-Based Approach (SBA) is a community-based case management model that was originally developed for adults experiencing severe mental disorders (10). Nonetheless, a Canadian study suggests that the fundamental tenets of SBA is likely to meet some of the needs of the TBI clientele, in particular their flexible and person centered support needs related to their day-to day social participation in occupational activities and leisure (11).

The SBA is characterized by six guiding principles (10). The first principle is recognizing that each person has the capacity to change, grow and learn. In relation to this principle, the pioneers of the SBA point out that the practitioner's job is to ensure that a person has all the necessary conditions to grow, but that this ability is already inherent to the individual. Another key principle emphasizes the importance of building on individuals' strengths. The SBA advocates a focus on skills, talents and abilities rather than reducing a person to their diagnosis or alleviating symptoms. The third principle is to view the community as an important source of opportunities. The role of the practitioner is to mobilize these informal and formal resources to work toward the individual's goals and aspirations. The fourth guiding principle of the SBA is individuals' self-determination within the working alliance. The client is therefore the director of their recovery process and determines their objectives and the means to achieve them. The value of the worker-client alliance in the client's recovery journey is also part of this principle. Building a relationship of trust is essential to promotes individuals' self-confidence. The last principle highlights the need for direct intervention in the community to foster community integration and draw on natural resources (10). Finally, the SBA supports reclaiming the exercise of true citizenship and full community integration (10). To achieve greater community integration, the SBA promotes the creation of enabling niches which constitute safe environment where the person can put his strengths forward and successfully participate.

CONTACT Marie-Eve Lamontagne marie-eve.lamontagne@fmed.ulaval.ca Center for Interdisciplinary Research in Rehabilitation and Social Integration (CIRRIS), 525 Wilfrid-Hamel Blvd, Québec, Quebec G1M 2S8, Canada

In addition to its guiding principles, the approach includes specific assessments and intervention tools such as the Strengths assessment tool and the Personal recovery plan. A fidelity scale was also developed and validated to support transferability and implementation in other contexts (10,12,13).

The SBA has been used with various clienteles living with mental health disorders. Most implementation studies have had to adapt the approach to their clientele. Arnold et al. (14). conducted a feasibility study on the use of the strengths-based approach in a prevention program for high-risk youth. They concluded that it is possible to implement the strength-based approach with this specific clientele, but that there are application challenges that are unique to this group due mainly to the developmental differences between adolescents and adults (14). For example, the authors mention the relationship of dependency between the adolescent and their family and, in terms of cognitive development, adolescents' capacity to assess the consequences and potential risks of their actions. In relation to the SBA's adaptation to youth with mental health disorders, Mendenhall and Grube argue that the terminology used throughout the tools should be changed to make it more representative of the reality of teenagers (15). Despite the challenges described above, various experiences showed that the strength-based approach can be implemented with populations other than those for which it was originally developed, such as women recovering from partner abuse (16) or individuals transitioning from prison to community (17). However, to our knowledge, it has never been implemented with people living with the sequelae of a TBI.

To meet the needs of people living with TBI and to develop effective community practices, it is important to ascertain the SBA's adaptability to this context and population without losing its key components (e.g., guiding principles, tools).

As demonstrated in the field of implementation sciences, one of the first steps in the process is documenting facilitators and barriers (18). Consequently, to ensure successful implementation, the goal of this study is to document the perceived barriers and facilitators that could influence the implementation of the SBA within a local community organization for people living with TBI.

Methods

This pre-implementation study is based on a qualitative descriptive design (19). Descriptive designs are recommended when knowledge about a specific subject is poorly developed (19,20). Semi-structured interviews were conducted via Zoom with community workers ($n = 13$) and managers ($n = 2$) of the community organization serving people with TBI where the SBA is to be implemented. Ethical approval for the study was obtained from the ethics committee of the *Centre intégré universitaire en santé et services sociaux de la Capitale Nationale* (CIUSSSCN) (#2021–2157).

Participants

Community workers were recruited within a local organization whose mission is to provide services to approximately 500 individuals living with the chronic sequelae of moderate to severe TBI and their friends and family in Québec, Canada. Individuals living with TBI are directed to the organization once post-acute rehabilitation services have been completed. The time elapsed since the accident spans from 1 year to 45 years. The organization offers various programs and activities for people living with TBI, aimed at sustaining their ability to function following rehabilitation and promoting their social participation. There are five main programs offered by the organization: community respite services, community support service, day center, psychosocial support, and caregiver support groups. All employees who could potentially use the SBA in their practice were invited to participate in the study. Managers were also invited to share their perspective insofar as their input in the implementation of a new intervention can influence its success (21). A community worker knowledgeable of implementation process within community based association was appointed to facilitate the implementation process. She provided the list of all the employees who met the inclusion criteria. Participants were then recruited by e-mail by the first author (P.S).

Data collection

As a starting point for this pre-implementation study and to standardize stakeholders' knowledge of the strengths-based approach, a 30-minute virtual presentation was given to community workers by an SBA specialist (C.V) and community worker who had been successfully using this approach with individuals living with severe mental illness. Once all the employees had familiarized themselves with the main components of the SBA, they were invited to schedule an individual interview and a secure link for a virtual meeting was sent to each employee willing to participate in the study. Due to the pandemic-related sanitary restrictions in place, interviews were conducted via the ZOOM platform.

The interviews took place between February 15 and March 23, 2021. At the beginning of each interview, participants were provided a consent form, which was explained to them, as well as an overview of the main principles of the SBA of approximately 5 minutes. After training and pilot testing (22), the individual interviews were conducted by the first author (P.S), who until then was unknown to the participants. The interviews lasted an average of 35 minutes and the time range was from 26 minutes to 49 minutes. The interviews were recorded and transcribed verbatim.

Interview guide and theoretical framework

A semi-structured interview guide was developed based on the Consolidated Framework for Implementation Research (CFIR) (23), which was chosen because of its comprehensiveness and to ensure that questions covered all levels of implementation. This model is widely used in pre-implementation studies and has proven to be effective in documenting factors that may influence the implementation of new interventions (21,24,25). Drawing on 19 theories, this model includes 39 determinants grouped in 5 broader domains that can influence the implementation of an intervention: intervention

characteristics, inner setting, outer setting, characteristics of the individuals involved, and implementation process.

The interview guide was first developed by P.S and validated by all the other members of the research team (ME. L; S. T; and C.V). The guide covers the five CFIR domain determinants of implementation. It consists of five main open-ended questions and 22 sub-questions. The guide was pre-tested with a community worker of the organization to validate its clarity. Participants were also asked to complete a socio-demographic questionnaire at the beginning of the interview to collect information such as their gender, level of education and the number of years of experience in the organization.

Data analysis

A trained analyst performed a descriptive analysis of socio-demographic data. Transcripts were de-identified and uploaded to NVivo software (26), and analyzed thematically using a deductive approach (27). With the support of an expert in qualitative analysis provided by the research center, a code tree was developed based on the CFIR constructs (21) in order to identify barriers and facilitators for each domains of implementation. Data were coded iteratively by the first author (P.S) and validated in part by the project's corresponding author (ME.L).

Trustworthiness

A number of strategies were used to ensure the rigor of our study. The interview guide was pre-tested to ensure that the questions are clear and the vocabulary appropriate. The use of a theoretical model, in this case the CFIR (23), for the data analysis supported the dependability of the study to the extent that CFIR categories are well defined and mutually exclusive. The preliminary results were presented to a small group of three participants and the research teams to validate the analyses. The presence of an SBA expert (C.V) into the research team, who ensure that the operational daily activities and training material where in coherence with the SBA tennets contributed to the robustness of the study. Finally, the local context within which the project was carried out is described in detail in this article to facilitate transferability.

Results

All community workers who could potentially use the SBA in their practice agreed to participate in the study. Therefore, a total of 15 interviews (six women and nine men) were conducted with community workers ($n = 13$) and managers of the organization ($n = 2$). All participants have a collegial degree in special care counseling. Their professional experience ranged from 8 months to 16 years (mean = 4.8 years; s.d. = 4.58 years).

Results are presented according to the importance of CFIR domain in the discourse of participants, as reveiled by the number of citations and the strengths of the comments provided. Perceived barriers were associated with four domains: inner setting (e.g., structural characteristics, available resources); external setting (e.g., patient needs); characteristics of the individuals involved (e.g., personal attributes) and characteristics of the intervention (e.g., adaptability). Perceived facilitators concerned three CFIR domains: inner setting (e.g., compatibility, culture, learning climate); external setting (e.g., network) and characteristics of the interventions (e.g., relative advantage, evidence strengths and quality).

Inner setting

The inner setting refers to the closest organizational context of the SBA implementing entity. This is the domain that was emphasized by participants. A number of elements pertaining to the different domain constructs emerged from the discussions, as participants felt that some of the characteristics of their context are likely to influence the implementation and use of the SBA. Among the determinants related to the inner setting, compatibility of the approach with their current intervention methods was one of the most discussed, as illustrated by this participant:

> Actually, concerning facilitators, I think within the organization we've always focused on the positive, this is our philosophy … I can't say we applied the SBA, but focusing on the positive, empowering individuals are things that we as a team in the organization have resonated with. – P15

Some participants explained that a recent restructuring within the organization might facilitate the implementation of the SBA. Rather than providing different type of services and sector, employee were assigned to a single sector in order to facilitate communication between community workers and to allow for greater scheduling flexibility. This restructuring generated mixed opinions as some felt that it can improve communication within teams, while others feared that tasks might become excessively routine:

> I have the impression that we won't be in each other's way as much and that we'll be able to move forward and not go over things someone else has already started working on. I feel like it'll be more to the point and that we'll struggle less to keep track of developments in each case. – P12.

Regarding the structural characteristics of the inner setting, one of the concerns raised is that some employees feared becoming isolated as a result of the restructuring. For example, only two employees were assigned to community support services and only a small number of community workers serve a large catchment area.

Elements of the organizational culture were also discussed by participants. They stressed that their community-based organization is well known for its flexibility, which is perceived as a facilitator for using the SBA:

> If we want to try something, the organization will never say no. That's really fun, if we want to do something and it costs some money, they're happy to give it to us. That's a big plus and even within the team, if you lack ideas, you can ask and people will give you ideas too. – P2

This quote also reflects different constructs of the model such as learning climate, network and communications, and available resources. However, in relation to the learning climate, some participants explained that the organization has made some changes in the recent years and questioned its capacity to sustain additional adjustments. As regards

available resources, participants identified some factors, including time constraints and schedule overload, as potential barriers to implementation. The ongoing restructuring is also viewed as a means to alleviating these challenges. The ability to intervene directly in the community, as is currently the case, was also highlighted as a factor that facilitates the use of the SBA.

In relation to the implementation climate, none of the participants reported tension or need to replace the approach currently in practice with the SBA. This begs the question of the relative advantage of initiating change (discussed in the section on intervention characteristics below).

Outer setting

Two dimensions of the external context, as defined by the CFIR, were often discussed by participants: the patient needs and the local service network. Some participants identified barriers in relation to the needs of individuals with TBI, especially those experiencing severe and permanent sequelae. The examples cited include memory impairments and poor self-awareness, which can interfere with the realization of meaningful goals and engaging in personal projects (a key component of the SBA). Conversely, the observation was made that people with TBI and people living with mental disorder face similar issues, suggesting that the SBA is pertinent and easy to implement. Participants also stressed that mental health issues are a possible after-effect of TBI.

In relation with networking, participants stated having good relationships with other community organizations, which they felt is a facilitator for using the SBA.

Most participants also expanded on the impact of COVID-19 when describing the external environment. While some identified isolation in their personal habitation and reduced occupational and social activities due to lockdown as major barriers to the SBA, others pointed out that this less active period allowed the organization more time to focus on implementation:

> On one side, as I said, in terms of communication, with the pandemic, it's more challenging, but on the other, we have more wiggle room because activities have slowed down, so we've been able to get some things done. All in all, I think it was a good time to make a move. – P15

Characteristics of the intervention

Concerning the SBA itself, a number of elements emerged indicating the relative advantage of this approach in relationship to the current mode of intervention. Many participants commented that it would help to bring structure to their practice:

> I've been saying this since the beginning: the approach, yes, it's a philosophy, but what I find useful is that we can bring structure to interventions that we've been doing for years, except now [. . .] it's going to be more organized than the way we did things before. – P15

Another positive outcome expected of the enhanced structure is better cohesion within teams as a result of activities streamlining.

Some participants emphasized the SBA's impact in terms of nurturing their clients' self-esteem by focusing on their strengths and resources rather than their needs and challenges.

Participants brought up the similarity between the core values of the SBA and their own professional values. For example, one participant described how self-determination, as a core component of the SBA, resonates with her own perspective of intervention:

> [. . .] often, we tend to give more solutions because we want to help and we want the person to succeed, but actually, what's needed is this: to focus on the person and their expectations, not our expectations. It's really . . . if the person doesn't want to change this or that, it's their life, they have a right to do this, and it should be their choice. – P9

The fact that the SBA is a tried and tested method was identified as a facilitating factor for its implementation:

> I think that if the strengths-based approach has been tested and tried in mental health, this facilitates things for us in the sense that there's a good foundation, the research has been done and there's evidence that it's effective. -P10

The most common and frequently raised preoccupation concerns the organization's capacity to incorporate the SBA across services. Participants felt that it would be challenging for many services (i.e., community respite services and day center) to adapt, refine, or reinvent themselves to fully integrate the SBA. Some participants noted that the SBA may be more suited to community support services than other services offered by the organization.

Individuals involved

In relation to personal attributes, a number of community workers expressed a preference for practicality, concreteness, and action, arguing that delving too much into theory would make implementation more difficult for them. As they envisioned change within their organization, few participants perceived it as a source of stress or concern, and most viewed it as a positive development that they looked forward to implementing (individual stage of change). Some commented, however, that not everyone might feel involved (individual implication) to the extent that SBA components might not be integrated across services.

Implementation process

Finally, participants had very little to say about the implementation process, noting that they knew little about it. Nevertheless, many spoke of the importance of receiving feedback during rollout. On a different note, there were mixed feelings about potentially engaging clients in the SBA implementation process. Some participants expected reluctance on the part of certain users while others expressed enthusiasm at the idea of user involvement. The following quote illustrates how the participants gauged the effects that the SBA might have on users:

> I see this is something very positive because by giving [clients] back control over elements of the interventions, I think that we'll be able to better engage them. But, I think we have to be careful about their anxiety and take the time to explain things because, for me, it's a very positive thing for them to gain power back over their life and all that, but with people who've been getting support for a long time and are used to it, we have to help them transition, make sure they feel safe and proceed one step at a time. – P15

Participants also pointed out that potential user reactions include indifference and neutrality and that apathy, as a possible effect of TBI, can make it more difficult for clients to be involved as required in the SBA.

Discussion

In the subsequent paragraph, study results will be discussed, followed by suggestions for enhancing the utilization of SBA. The objective of this study was to highlight the main factors that can impede or facilitate the implementation of the SBA in a community organization offering services to people with TBI. Overall, the barriers and facilitators mentioned by participants related to the five core domains of the CFIR, namely the intervention, the inner and outer settings, the individuals involved, and the process of implementation.

Regarding the inner setting, a large number of participants deemed the approach compatible with current practices. In fact, they mentioned that they were already endorsing a strengths-based perspective. However, prior studies have cautioned against the apparent compatibility between the values and philosophy conveyed by the approach and those in force within potential adopter organizations (10). For example, in an implementation study carried out in a nonprofit organization, Schoenfeld et al. (28). noted: 'Although all services were ostensibly "strengths-based," there was no shared understanding of what being strengths-based meant in practice' (28).

In this project, to ensure proper understanding and use of the model, a training program will be built in close collaboration with the research team and leaders of the implementation within the organization. This program will also include external support from a community organization with experience in using the SBA. While initial training is important, organizational commitment is also a determining factor in quality implementation (29,30). For this reason, managers will be consulted for guidance at various times during the implementation process. Their participation in the training session will also be encouraged.

Participants brought up the lack of time as a potential barrier to implementation, which relates to the CFIR construct that has to do with available resources. This concern is also discussed in an article penned by Leblanc et al. who recommend that 'human and material resources management should be adapted during the transition period to ensure that stakeholders have access to the conditions necessary to deepen and master the approach [translation]' (29). To address this obstacle, the organization has already restructured its services in order to offer greater schedule flexibility to employees.

In relation to the outer setting, participants expressed concern about the potential negative impact of TBI sequelae (apathy, self-awareness and memory impairments) on client involvement. Such challenges were also reported in the study conducted by Leblanc et al. documenting the SBA implementation process by community mental health workers (29).

> Stakeholders did, however, mention some challenges related to the client base [. . .]. They felt that the approach was less suitable for clients who did not have specific plans, who had difficulty projecting themselves into the future and who did not wish to explore the unknown. The strengths-based approach is also more difficult to apply in a group intervention setting. [free translation of Leblanc and colleagues, p. 59] (29)

Along the same lines, regarding intervention characteristics, one of the main barriers that emerged from our analysis concerns the feasibility of integrating the approach in certain service sectors, in particular group activities and community respite services. Many participants felt that it would be challenging to fully implement the SBA. Schoenfeld et al. (28). have examined the tension between fidelity to the SBA and the need to adapt it to the local context. These authors suggest that adjusting the model to different organizational environments does not necessarily conflict with fidelity: 'Although remaining true to the intended design of a model has important implications for its efficacy during implementation, prioritizing perfect adherence above all else may be undesirable and even counterproductive' (28). Consequently, the adaptability barrier that emerged from our results can be overcome by tailoring the intervention to the organization's structure and sectors of activity. Meetings will be scheduled during the implementation process to discuss ways to adapt the tools to better meet client needs and the organization's various programs.

On the topic of intervention characteristics, Schoenfeld et al. (28). who described the experience of implementing the SBA in a nonprofit organization servicing youth, reported that 'for case managers specifically, knowing that they were all using the same framework and being held to the same standards, regardless of their program affiliation, was also an added benefit' (28). This is consistent with our results as one of the relative advantages perceived by participants is an increased sense of structure and cohesion. Schuetz et al. (30,31). note that each person has their own preferences regarding the degree of formal structure they find helpful in their work. The model provides structural leeway for community workers to implement it in a manner that takes into consideration specific client needs (31).

Connecting to the individual stage of change, some participants apprehend the implementation process as a source of stress and challenge. These findings concur with those reported by Briand et al. (32). in a study focused on the implementation of the SBA in seven mental health agencies:

> The fact that the intervention required changes in daily practices, that it represented a change in the way of doing things, and that it was perceived as complex and not always adaptable to on-the-ground realities, contributed to resistance in some teams at the beginning of the implementation, which faded over time. (p. 9) (32)

To mitigate this, focus groups will be held with the participants throughout rollout to ensure that the process is informed by their perceptions and adjustments are made accordingly along the way.

Finally, the implementation process was the least discussed by participants as they were least familiar with this component. However, this study will help to identify key elements that will serve to better orient the implementation process. An integrated knowledge transfer mobilization strategy will be used throughout the implementation to increase stakeholder ownership of the project (33). A champion who will support the research team in the process has already been identified within the organization. As mentioned in the literature, the presence of a champion is an important factor in promoting the sustainability of the innovation insofar as it guarantees that the implementation process is informed by the reality, culture and values of the organization (34). Based on the results of this study, additional leaders may be appointed to ensure greater engagement and consideration of the specificities of each service in the approach's adaptation. To the extent that the shortage of time has been identified as a major barrier, it will be important for managers to ensure that community workers have paid time to focus on the implementation.

This study shows that in order to move toward successful implementation, it is necessary to emphasize the SBA's relative advantage, to uphold compatibility and to rely on the existing flexibility within the organization. However, it also stresses the importance of paying attention to the full range of client needs as well as to the characteristics of the organization's programs in order to consistently develop well-adapted strategies.

Strengths and limitations

The relevance of this study is supported by the knowledge-to-action [KTA] framework (18). The KTA Framework outlines seven important steps in knowledge mobilization (18). One of these components is assessing the potential barriers and facilitators of knowledge use. Applying a well-documented and comprehensive model (CFIR) to guide data collection and analysis has added to the rigor of this study.

Our study is exploratory in nature and it was conducted in the specific context of a Canadian community organization; therefore, caution must be exercised in generalizing the results. The prevailing culture of flexibility was an important facilitator; however, it is worth noting that not all organizations share this attribute, which could potentially give rise to various challenges in different settings. The emphasis placed by the participants on the internal context suggests that investigating other types of organizations servicing people with TBI would be of interest. Nevertheless, the barriers and facilitators pertaining to the implementation of the SBA that this study has brought to light can also be further explored. In fact, data collection occurred very early in the implementation process and participants had only a general theoretical idea of the intervention. Therefore, it would be useful to replicate it later on in the implementation process to document new difficulties or opportunities that community workers might come across and that might influence the way they use the SBA in their practice. The primary contribution of this study resides in laying the groundwork for adapting the SBA to working with TBI-affected individuals, thereby increasing the community integration opportunities for this vulnerable population.

Conclusion

By identifying barriers and facilitators, this pre-implementation study will enable us to design community worker training and to adapt the intervention to the organization's context. In summary, this study demonstrates the need to adapt the approach to the environment of the adopting organization while preserving its key components. In the process of implementing the SBA, the organization will explore ways to adapt and integrate this evidence-based approach. Finally, the effectiveness of the original SBA model has been extensively demonstrated. This study is a form of direct support that allows the organization to gain access to effective intervention methods that can genuinely benefit its service users and their loved ones.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix I

Summary of perceived barriers and facilitators to the implementation

CFIR domains	Barriers	Facilitators
Inner setting	Available resource (e.g., time constraints and schedule overload) Structural characteristics	Compatibility of the SBA with their current intervention methods Organization's culture (e.g. flexibility and creativity encouraged) Ability to intervene directly in the community
Outer setting	Needs of individuals with TBI (e.g. those experiencing severe sequelae may have difficulty with self-perception and memory impairment)	Origin of intervention (Similar issues faced by people living with TBI and people living with mental disorder) Good relationships with other community organizations
Characteristics of the intervention	Adaptability of the SBA within the various sector of the organization	Relative advantage of the approach (e.g., will bring structure and better cohesion within the teams)
Individuals involved	Learning climate (highly theoretical content, need for concrete application)	Most viewed it as a positive development that they looked forward to implementing (individual stage of change)
Implementation process	Potential user reactions include indifference and neutrality Apathy, as a possible effect of TBI	Importance of receiving feedback