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Adapting the Theoretical Domains Framework (Adapted TDF) for Implementation Support: What's Changed and Why

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Short Report

Keywords: determinants, theoretical domains framework, framework adaptation, COM-B, implementation support practitioners

Posted Date: November 13th, 2026

DOI: https://doi.org/10.21203/rs.3.rs-11401697/v1

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Additional Declarations: Competing interest reported. The Center for Implementation (TCI) is a social impact organization that provides implementation science training, technical assistance, and tools, some of which are offered at a fee. The adapted TDF described here is embedded in StrategEase (an online course and a free interactive online tool). Both authors are employed by TCI. The observations informing these adaptations were drawn from TCI's own courses, certification, and workshops. No TDF authors were involved in developing the adapted framework or in preparing this manuscript. Readers should weigh these interests in evaluating our claims.

Abstract

Implementation research (IR) frameworks are useful tools that were originally developed for a specific audience or purpose (e.g., researchers within a study) but are increasingly being adopted by other users to support their implementation work. Because of the mismatch between original intent and practical use, IR frameworks can be difficult to apply outside of research contexts. As a result, adaptations to IR frameworks are occurring in practice but are rarely documented or published.

The Theoretical Domains Framework (TDF) is a widely used behavior change framework that supports the identification of individual determinants (barriers and facilitators to change). This paper describes our adapted TDF, the rationale for each change, and the trade-offs involved in simplifying the framework.

Drawing on a decade of teaching and facilitation with over 2,000 professionals, we identified six recurring categories of confusion and adapted the framework accordingly: simplifying labels; splitting and merging domains (e.g., separating memory from attention and decision processes; folding optimism into emotions); removing three domains describing the process rather than determinants of change (goals, intentions, reinforcement); and recommending a dedicated contextual framework in place of one domain representing context.

This is not an empirical study of the adapted TDF; we are not claiming it is a stronger framework, only that it is more easily applied in practice.

Introduction

Implementation research (IR) frameworks are useful tools, but in practice, their application can be difficult (Nilsen, 2015; Birken et al., 2017). This is because IR frameworks are often developed for a specific audience and/or purpose (e.g., by researchers within a study); however, it has become commonplace for other types of users to adopt these frameworks to support their implementation work. As a result, adaptations to IR frameworks are occurring. Additionally, there are many documented challenges in applying frameworks from the Global North internationally (Means et al., 2020) necessitating adaptations to make them more widely relevant. While adaptations like these to IR frameworks are frequently made in practice, they are not documented or published.

The Theoretical Domains Framework

The Theoretical Domains Framework (TDF) is a widely used behavior change framework that supports the identification of individual determinants to change (also known as determinants). It was originally developed by a collaboration of behavioral scientists and implementation researchers in the UK (Cane et al., 2012) who drew on identified implementation-related behavior change theories and grouped these constructs into domains (Atkins et al., 2017; Cane et al., 2012). The TDF is embedded in the larger Behavior Change Wheel (Michie et al., 2011), and links directly to Capability, Opportunity, Motivation – Behavior (COM-B) theory (Michie et al., 2011). Consequently, the TDF has become one of the most

widely used frameworks in implementation science (Zhou et al., 2024; Mosavianpour et al., 2016). It has become a cornerstone in implementation science and change efforts across health, education, and social sectors.

While the TDF was originally developed for research purposes, it is increasingly being used in practice (Atkins et al., 2017). **The purpose of this paper is to describe a set of adaptations made to the TDF, the rationale for each change, and the trade-offs involved in simplifying the framework.** This is not an empirical study of the adapted TDF, and we are not arguing that this is a stronger framework than the TDF, only that it is more easily applied in practice by those who occupy an ever-growing cadre of implementation support professionals.

How and why we adapted the TDF

Since 2018, XXX organization has trained over 20,000 professionals across over 100 countries in implementation science concepts, over 2,000 specifically on the TDF, which we use and teach implementation support practitioners (ISPs) to map individual-level determinants (Begna et al., 2026). Over the past decade, we have documented where people get confused, struggle to apply concepts, or repeatedly ask the same questions.

We drew specifically from three data sources: 1) an embedded activity in our online course, StrategEase (total participants enrolled = 812) asks learners to categorize qualitative data to TDF domains; 2) XXX organization's Level 1 Implementation Support Specialist Certificate (n = 152) requires participants to complete two in-depth TDF-related questions; and 3) during live workshops (n > 1000), participants map determinants (either their own or hypothetical scenarios) to the TDF.

Across these three sources of data, there were repeated questions and confusion reflecting six thematic categories:

1. Language/terminology confusion.
    1. For example, the term "behavior regulation" is widely used in psychology, but not by professionals in other disciplines (e.g., health, education, social services). The term required more explanation and examples of how it could be relevant to ISPs. The terms "beliefs about consequences" and "beliefs about capabilities" were often conflated due to similarity in phrasing.
2. Having one domain represent the totality of the context
    1. Professionals noted that the domain "environmental context and resources" is one domain that represents all context determinants. Resultantly, this was the TDF domain to which ISPs mapped their determinants the most. There are contextual frameworks that tease apart context into dozens of factors, such as the Consolidated Framework for Implementation Research (CFIR) (Damschroder et al., 2009).

3. Domains with overlap
    1. “Optimism” (and its flip, “pessimism” – which is often how people used this domain) is an “emotion,” so people questioned why this is a separate domain.
4. Domains that include multiple constructs
    1. In the domain “memory, attention, and decision processes”, most participants shared examples from their work referring only to memory, while excluding or ignoring attention and decision processes.
5. Domains describing something other than a true determinant.
    1. “Goals”, “intentions”, and “reinforcement” do not describe pre-existing capabilities and motivations, but instead link to the stages of change, and are closely related to the objectives that people develop as they contemplate and plan change. It was difficult for people to use these domains at the time that they typically apply the TDF.
6. Placement of domains that don’t align with people’s experiences
    1. Although social influences are theorized to relate to both opportunity and motivation within the COM-B, linking it visually to opportunity led many ISPs to overlook its motivational role – an interpretation they questioned.

Our goal was to build on TDF’s solid foundation, focusing on making it as usable as possible for our primary audience (ISPs), as well as for implementation teams, professionals, and researchers seeking to use it to inform implementation efforts.

Adapted TDF: What changed

Based on this feedback and input, we revised the TDF domains and definitions (see Fig. 1 and Table 1).

Table 1

Theoretical Domains Framework (TDF) domains, from original to adapted: each adapted domain is listed with its corresponding original TDF domain, the COM-B category it maps to, the rationale for any change, and its operational definition in the adapted framework

Adapted TDF Domain	**Original TDF Domain**	**Reason for change**	**Definitions**	**COM-B Category**
Knowledge	Knowledge	No change	The awareness of something and understanding key information about it.	**Capability**
Skills	Skills	No change	The ability to do something, based on practice, learning, or experience.	**Capability**
Memory	Memory, Attention, and Decision Processes	Split into two domains to surface an overlooked concept within the domain	The ability to retain and remember information when it's needed.	**Capability**
Attention / Decision Overload	Memory, Attention, and Decision Processes	Split into two domains to surface an overlooked concept within the domain Renamed “decision processes” to “decision overload” for conceptual clarity.	The ability to focus selectively on or be decisive about something.	**Capability**
Habits	Behavioral Regulation	Renamed “behavioral regulation” to “habits” for conceptual clarity	A practice or behavior that someone often does automatically/ without thinking about it.	**Capability**
Confidence in Capabilities	Beliefs About Capabilities	Renamed “beliefs about capabilities” to “confidence in capabilities” for conceptual clarity and to distinguish it from “beliefs about consequences”	Someone's belief in their ability to do something.	**Motivation**
Note: To operationalize opportunity, use a contextual framework.				

Adapted TDF Domain	Original TDF Domain	Reason for change	Definitions	COM-B Category
Role or Identity	Social/Professional Role/Identity	Renamed “social/professional role/identity” to “role or identity” for simplicity and conceptual clarity	Someone's beliefs or thoughts about their personal, professional, or social qualities and characteristics.	**Motivation**
Beliefs About Consequences	Beliefs About Consequences	No change	What someone thinks will happen if they do (or don't do) something.	**Motivation**
Emotions	Emotions	Optimism was included in this domain	The feelings that occur when someone is presented with or does something.	**Motivation**
NA	Optimism/Pessimism	Merged with “Emotions”		**Motivation**
NA	Goals	Removed since it is a stage of change or part of a strategy, not a determinant		**Motivation**
NA	Intentions	Removed since it is a stage of change or part of a strategy, not a determinant		**Motivation**
NA	Reinforcement	Removed since it refers to what happens after implementation begins/is part of a strategy, not a pre-existing determinant		**Motivation**
NA	Environmental Context and Resources	Insert a contextual framework (like the CFIR)		**Opportunity**
Influenced by Others (moved to Motivation)	Social Influences	Renamed “social influences” to “influenced by others” for conceptual clarity and moved to “motivation” when aligned with the COM-	How other people's expectations, interactions, and behavior shape	**Opportunity**
Note: To operationalize opportunity, use a contextual framework.				

Adapted TDF Domain	Original TDF Domain	Reason for change	Definitions	COM-B Category
		B, since the “opportunity” aspects of this domain are now covered by a contextual framework, but the motivational aspects remain.	someone's behavior.	
Note: To operationalize opportunity, use a contextual framework.				

Discussion

We were apprehensive about making adaptations to such an established and widely used framework, but seeing recurring themes in the data we were collecting made it clear that it was important not only to make adaptations but also to publicly document and acknowledge them.

Most of the changes we made were to improve clarity and were simple rewording or splitting apart/expanding constructs. The combined use of the TDF and the CFIR has been documented in the literature and is also used in practice (Birken et al., 2017). There were two conceptual changes we made. First, we removed three domains from the framework (goals, intentions, and reinforcement). When used retrospectively for evaluation, goals, intentions, and reinforcement make sense within the framework, but when used prospectively to plan for implementation, they stand out as part of the process of change rather than as determinants of change. Since our audience is ISPs and other professionals who use the TDF to design what they implement and select implementation strategies (Powell et al., 2015), these domains are not applied in the same way. We also moved social influences into the motivational domain. While the original TDF acknowledges that social influences span opportunity and motivation, it makes the most conceptual sense to us to move social influences into motivation as this conceptually aligns with how ISPs experience this domain. Additionally, contextual frameworks cover the opportunity aspects of social influences.

Trade-offs of using the adapted TDF

Making adaptations to such a widely established and used framework involves trade-offs. For example, simplifying the domain names makes it harder to link some of these to the original theories from which they were derived, which could result in small changes to the meaning of these domains. Optimism is part of reflective motivation, while emotion is part of automatic motivation. By merging these together, the differences between reflective and automatic motivation have disappeared. We believe that the trade-offs are worthwhile if it makes the TDF more accessible to professionals without behavioral science expertise, as many of these professionals are not deconstructing motivation in this manner.

Limitations

This paper describes our adaptation of the TDF. It is not an empirically tested or validated version. Our observations were compiled over a decade of teaching and facilitation, rather than collected through a research study or systematic review. Our materials are also only available in English. If data were collected in other languages and with people from other sectors, different feedback may have been shared. Therefore, we offer this adapted TDF as one example of adapting the TDF, rather than a better version of the TDF.

Conclusion

As IR frameworks become more common, their use will expand beyond the research community for which they were designed. An excellent framework like the TDF can be powerful for users like ISPs with the right adaptations to make it relevant for their level of understanding of the concepts, and their intended use. We encourage other ISPs to apply the adapted TDF in their own work and share what they learn, and we see empirical evaluation of whether it improves usability and consistency of application as an important next step.

Declarations

Competing Interests

The Center for Implementation (TCI) is a social impact organization that provides implementation science training, technical assistance, and tools, some of which are offered at a fee. The adapted TDF described here is embedded in StrategEase (an online course and a free interactive online tool). Both authors are employed by TCI. The observations informing these adaptations were drawn from TCI's own courses, certification, and workshops. No TDF authors were involved in developing the adapted framework or in preparing this manuscript. Readers should weigh these interests in evaluating our claims.

Author Contribution

Both authors contributed to the conceptualization of this paper. JEM drafted the manuscript. SK reviewed and provided feedback on the manuscript. Both authors read and approved the final manuscript.

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Figures

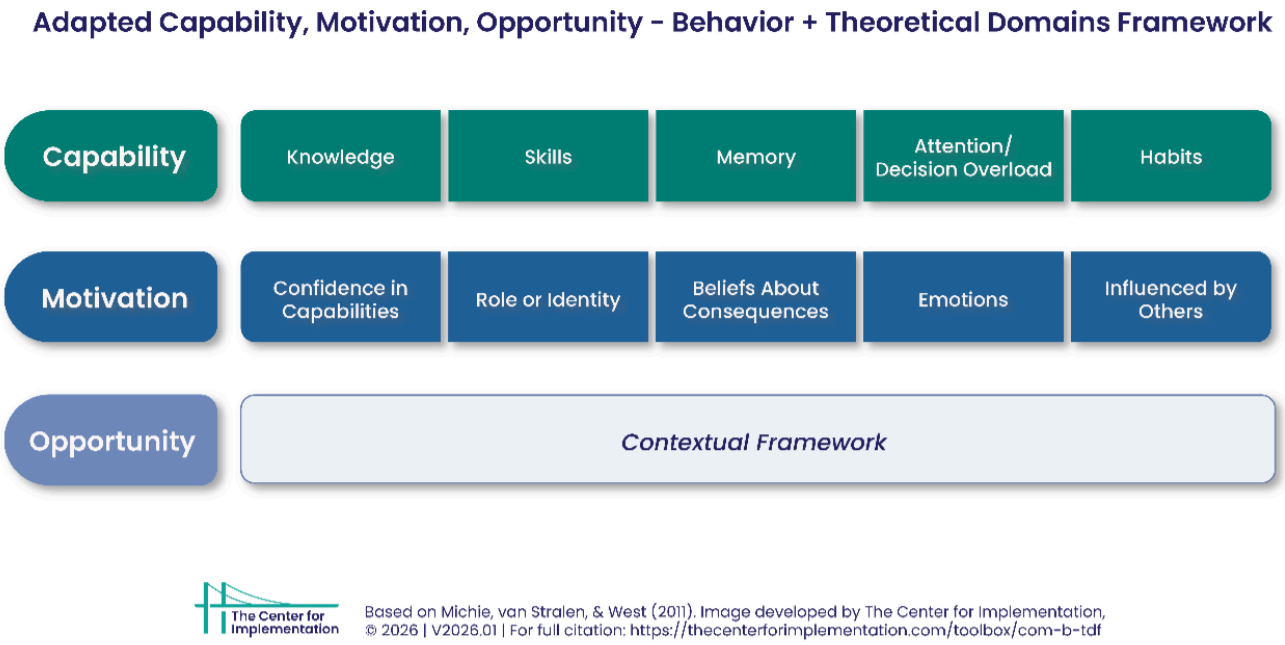


Figure 1

Adapted Theoretical Domains Framework (TDF) and COM-B