

# Applying an intersectionality lens to the Theoretical Domains Framework: a tool for thinking about how intersecting social identities and structures of power influence behaviour

Nicole Etherington (✉ [netherington@ohri.ca](mailto:netherington@ohri.ca))

Ottawa Hospital Research Institute

Isabel Braganca Rodrigues

University of Waterloo

Lora Giangregorio

University of Waterloo

Ian D. Graham

Ottawa Hospital Research Institute

Alison M Hoens

University of British Columbia

Danielle Kasperavicius

St. Michael's Hospital

Christine Kelly

University of Manitoba

Julia E. Moore

The Center Implementation

Matteo Ponzano

University of Waterloo

Justin Presseau

Ottawa Hospital Research Institute

Kathryn M. Sibley

University of Manitoba

Sharon Straus

St. Michael's Hospital

---

## Methodology

**Keywords:** Intersectionality, knowledge translation, theoretical domains framework; behaviour change, implementation science, determinant framework, intervention development, barriers, facilitators

**Posted Date:** January 24th, 2020

**DOI:** <https://doi.org/10.21203/rs.2.21766/v1>

**License:**  This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

**Version of Record:** A version of this preprint was published at BMC Medical Research Methodology on June 26th, 2020. See the published version at <https://doi.org/10.1186/s12874-020-01056-1>.

# Abstract

**Background** A key component of the implementation process is identifying potential barriers and facilitators that need to be addressed. The Theoretical Domains Framework (TDF) is one of the most commonly used frameworks for this purpose. When applying the TDF, it is critical to understand the context in which behaviours occur. Intersectionality, which accounts for the interface between social identity factors and structures of power, offers a novel approach to understanding how context shapes individual decision-making and behaviour. We aimed to develop a tool to be used alongside applications of the TDF to incorporate an intersectionality lens when identifying implementation barriers and enablers.

**Methods** An interdisciplinary Framework Committee (n=17) prioritized the TDF as one of three models, theories, and frameworks (MTFs) to enhance with an intersectional lens through a modified Delphi approach. The modified Delphi involved two rounds of online voting followed by a final majority vote. In collaboration with the wider Framework Committee, a subgroup considered all 14 TDF domains and iteratively developed recommendations for incorporating intersectionality considerations within the and its domains TDF. An iterative approach aimed at building consensus was used to finalize recommendations.

**Results** Consensus on how to apply an intersectionality lens to the TDF was achieved after 12 rounds of revision. Two overarching considerations for using the intersectionality-enhanced TDF were developed by the group as well as two to four prompts for each TDF domain to guide interview topic guides.

**Conclusions** Through an expert-consensus approach, we developed a tool for applying an intersectionality lens alongside the TDF. By considering the role of intersecting social factors when selecting, tailoring, and implementing KT interventions, they may become more effective.

## Contributions To The Literature

The Theoretical Domains Framework (TDF) is one of the most commonly used frameworks for identifying determinants of behaviour relevant to implementation. When applying the TDF, it is critical to understand the context in which behaviours occur; yet, traditional applications have often overlooked the interplay between social identity factors and structures of power.

Intersectionality is a central theoretical concept and social justice framework which accounts for this interplay. We aimed to develop a tool to be used alongside applications of the TDF that incorporates an intersectionality lens when identifying implementation barriers and enablers.

Our findings fill an important gap in knowledge translation research and practice, providing a tool that can help TDF users better understand the way barriers and enablers may play out differently based on individuals' unique lived experiences.

## Background

Knowledge translation (KT) is “a dynamic and iterative process” involving the synthesis, dissemination, exchange, and application of knowledge in order to improve health services, the healthcare system, and population health” [1]. We use the term KT to broadly refer to the implementation and dissemination of research-based evidence, though we recognize there are many terms that can be used to describe this process [2]. As the science and practice of KT has evolved, there has been increasing emphasis on using models, theories, and frameworks (MTFs) to guide and evaluate implementation processes and to understand implementation outcomes [3, 4]. A key component of the implementation process is identifying potential barriers and facilitators that need to be addressed.[5] The Theoretical Domains Framework (TDF) is one of the most commonly used frameworks to understand barriers and facilitators at the individual, organizational, or societal level [6, 7]. It synthesizes 33 theories of behaviour and behaviour change clustered into 14 domains, and has been used across a wide range of healthcare settings to identify determinants of behaviour and facilitate intervention design [8].

When applying the TDF (or any MTF), it is critical to understand the context in which behaviours occur [8–10]. Recently, KT researchers have called for greater incorporation of social and structural factors to enhance our understanding of the contextual influences on behaviour. For example, sex and gender have been cited as key factors to consider in KT research and practice [2]. Sex and gender, while important, are just two of the many different social categories which individuals concurrently occupy (e.g., ethnicity, geography, age, class). These intersecting social categories also interact with systems and structures of power (e.g., sexism, racism, ableism, ageism) [11–14].

The interface between social identity factors and structures of power is referred to as ‘intersectionality’[11, 12]. Intersectionality is a central theoretical concept and social justice framework emerging from women and gender studies. It provides a way to consider individual experiences within larger social contexts, highlighting how various intersections structure our everyday lives and interactions [15–17]. Initially developed by black feminist and critical race scholars in the 1980s [11], intersectionality has since grown to more broadly emphasize “the multiple ‘axes’ of power and difference that shape individuals’ positionalities”[18]. In other words, an individual’s lived experience cannot be reduced to a single characteristic, experiences can change over time and in different contexts, and privilege (i.e., social advantage) and oppression (i.e., social disadvantage) can be experienced simultaneously [11–14].

Though it has yet to be considered within KT, intersectionality offers a nuanced and comprehensive account of context, and uniquely and importantly can be used to consider how these factors intersect to shape individual decision-making and behaviour. Accounting for the diverse intersections of individuals’ lived experiences has the potential to increase the effectiveness and generalizability of interventions and enhance their sociological fidelity [19, 20].

Incorporating intersectionality within foundational KT MTFs is also consistent with established recommendations for adopting theory-driven approaches to KT[3, 4]. We therefore aimed to develop a tool that can be used alongside the TDF to incorporate an intersectionality lens when identifying implementation barriers and enablers.

# Methods

Our methodological approach is summarized in Fig. 1 and described below.

## Selection of the framework

An interdisciplinary Framework Committee was established to select models, theories, and frameworks (MTFs) to enhance with an intersectional lens. The committee was comprised of 17 members with expertise in KT or intersectionality and disciplinary backgrounds in community health, kinesiology, medicine, physical therapy, psychology, and sociology.

First, through a consensus-building activity involving the Framework Committee and community stakeholders, three key steps of the Knowledge to Action (KTA) Framework [21] were prioritized: a) identify problem (know-do gap), b) assessing barriers and facilitators to knowledge use and c) select, tailor and implement interventions[20]. Second, KT MTFs were mapped to these three steps and criteria for prioritizing MTFs for each step were developed by the Framework Committee. A modified Delphi approach [22] involving two rounds was then completed through online surveys, and a final majority vote was conducted to determine agreement on the top selected MTF for each step.

The Framework Committee prioritized the TDF, as part of the Behaviour Change Wheel (BCW), along with two other MTFs (Consolidated Framework for Implementation Research and Iowa Model of Evidence-Based Practice to Promote Quality Care). It should be noted that the TDF/BCW subgroup elected to consider the TDF separately from the Capability, Opportunity, Motivation and Behaviour components of the BCW based on its relevance to the select/tailor/implement stage of the KTA Framework. Prioritization was based on five criteria: familiarity, usability, testability, applicability, and acceptability [23]. Details regarding this selection process are described elsewhere [24]. The Framework Committee was then divided into three subgroups, one for each MTF.

## Enhancing the framework

The Principal Investigator (SS) approached the developer of the original TDF [7] to obtain support for enhancing the framework and to confirm that the committee was referring to the most recent version of the TDF. An interdisciplinary subgroup (six members) met via videoconference to identify types of intersectionality considerations that could be used alongside the TDF in general and then for each individual TDF domain. This approach was taken given application of the TDF to KT typically involves semi-structured interviews with particular questions and prompts to elicit perspectives about each of the 14 domains related to behaviour [8]. Discussions were facilitated by the Framework Committee Chair (JP) and the study research coordinator (DK). The TDF subgroup updated the Framework Committee on the results of their initial meeting, which provided suggestions on the intersectionality considerations.

The TDF subgroup selected types of considerations and members with expertise in intersectionality drafted the first set of overarching intersectional considerations designed to trigger reflection on

intersectionality-related issues for users of the TDF. The group also drafted specific prompts for each TDF domain that could be incorporated into interview topic guides.

The Framework Committee reviewed the overarching considerations and list of prompts and provided comments. The subgroup considered these comments and conducted multiple rounds of review via web-meetings and email exchanges. When consensus on the items was achieved within the TDF subgroup, the Framework Committee drafted visualizations of the intersectionality considerations and the subgroup provided feedback. Draft visualization and prompts were created by the Framework Committee and final comments from the Framework Committee Chair were integrated. The Framework Committee Chair approved the final version of the intersectionality considerations for the TDF and associated visualization. The final version was incorporated into a tool for using intersectionality with KT frameworks.

## Results

Consensus on the intersectionality enhanced TDF was achieved after twelve rounds of revision (five full Framework Committee meetings, two TDF subgroup meetings, four review rounds (by email) for TDF subgroup, and one final review by Framework Committee Chair).

Suggested adaptation for “social/professional role” and “identity”

The TDF contains the domain “social/professional role and identity” as one category. Given that identity is a core concept within intersectionality which has traditionally been under-examined in applications of the TDF. Identity plays a key role in decisions and behaviours but can often be subsumed under “role”. To emphasize the importance of social identity and improve clarity, we present the domain “social/professional role and identity” as two separate categories, “identity” and “social/professional role”.

Overarching intersectionality considerations when applied to the TDF

Two overarching considerations for using an intersectionality lens with the TDF were developed. Table 1 provides the text that the subgroup developed when considering factors to enhance the TDF with an intersectional lens. This text was then included in the final version of the intersectionality tool.

Through the consensus process described previously, 53 prompts were developed to guide TDF interviews or questionnaires, with a median of 3 (IQR 2–4) considerations or questions per theoretical domain (Table 2).

## Discussion

This article describes the process used by, and deliberations of, our group to develop a tool for using an intersectionality lens with the TDF in order to enhance the science and practice of KT. The expert consensus process identified specific guiding questions for each theoretical domain. Researchers,

practitioners, and policy-makers engaging in KT can use the tool presented here as a guide for incorporating intersectionality into their own work.

Based on its content and widespread use [8, 25, 26], the TDF is a useful exemplar for enhancing a KT framework with intersectional considerations. While at first consideration the TDF may seem ‘individual-focused’, many TDF domains lend themselves to greater considerations of broader intersecting social factors, if operationalized accordingly. Specifically, the TDF domain of Social Influences has a number of constructs that speak to social factors, including ‘Power/Hierarchy’, ‘Group conformity’, ‘Social Pressure’, ‘Social norms’, ‘Social Pressure’. Similarly, the Social/Professional Role/Identity domain includes the following constructs: ‘Identity’, ‘Alienation’, ‘Group identity’. Intersectionality provides a way to further explore elements of context relevant to intervention design across micro, meso and macro levels. The considerations suggested within our tool draw attention to intersecting social factors and may encourage users to think about their implications on a wider scale.

While an individual’s demographic characteristics have previously been classified as one element of context [9], there has been limited discussion regarding the broader social implications of these demographics and especially their intersections. Intersectionality is more than just identifying independent sociodemographic factors – it is about the synergy of these factors within the individual as they relate to broader societal system. Further, when focusing on individuals as targets for changing behaviour, there is a risk that the behaviour can become “de-contextualized” from larger social structures [27]. In other words, the individual patient or clinician may be placed at the centre of the “problem” without exploring the larger context influencing barriers to the target behaviour. Larger systems and structures of power shape the social context in which interventions are implemented (e.g., ageism, sexism, ethnocentrism). For example, a racialized, immigrant home care worker may not be able to freely participate in surveys, interviews and other KT activities implemented by Canadian-citizen administrators for fear of affecting employment or citizenship status. Applying an intersectionality lens to the TDF enables factors such as these to be considered more explicitly in assessments of barriers and enablers and resulting intervention design. In addition, the prompts proposed by our enhanced version of the TDF may help to improve the quality of the information gained when conducting TDF surveys or interviews.

Our intent is not to replace the original TDF, but rather, to provide researchers and intervention developers complementary options, particularly when the problem they are targeting may be affected by intersecting categories and social structures. Our tool can also encourage users to think about intersectionality as it relates to a particular problem or intervention when they may not have previously considered it. Importantly, our intersectionality tool does not change the fundamental components of the TDF, but instead helps users consider the ways in which these existing barriers and enablers experienced and described in each TDF domain may play out differently based on people’s individual experiences of intersectionality. The approach suggested here may be used as a starting point as others may wish to modify or consider intersectional considerations differently when working with the TDF or additional MTFs.

## Limitations and strengths

We recognize that it may seem cumbersome to consider all 53 prompts alongside standard operationalizations of TDF topic. We encourage researchers and intervention developers to choose the intersectionality prompts that best fit with their particular focus.

Although our approach is limited by the relatively small number of experts involved in the consensus process, those involved represent a diverse range of academic disciplines and experiences. In the future, researchers may wish to further refine the work presented here through a larger consensus process with even greater diversity. It will also be important to study user perspectives and experiences when using operationalizing the TDF with and without intersectionality-prompts. Indeed, future research could compare the original TDF and the intersectionality-enhanced TDF to determine whether any new information gained would affect the nature of the intervention developed and its ultimate impact.

When using intersectionality to enhance KT MTFs, researchers may wish to consider the implications of engaging MTF originators, particularly if they decline support. In our case, the TDF originator was supportive of the work. A larger question for the KT community to address how we can continue to advance the science and practice of KT with intersectionality even when it modifies the original intended use of prior work. From our perspective, using an intersectionality lens alongside the TDF is a step toward a more contextualized and inclusive KT. If the main purpose of theory is to be a representative summary of factors known to affect a given phenomenon [28], it stands to reason that incorporating factors that tend to be under-represented to date using intersectionality can serve to continue to refine theory.

Finally, it will be important for researchers to continue to work with many diverse groups to understand how to use intersectionality alongside the TDF while respecting nation or culture-specific knowledge systems. Please see Appendix A for a project limitations statement as it relates to our context in Canada.

## Conclusions

Through an expert-consensus approach, we developed a tool for applying an intersectionality lens to the TDF. By considering the role of intersecting social factors when selecting, tailoring, and implementing KT interventions, they may become more broadly applicable and ultimately effective.

## Abbreviations

BCW

Behavior Change Wheel

KT

knowledge translation

MTFs

models, theories, frameworks

TDF

## **Declarations**

### **Ethics approval and consent to participate**

Not applicable.

### **Consent for publication**

Not applicable.

### **Availability of data and material**

Not applicable.

### **Competing interests**

### **Funding**

This project is funded by the Canadian Institutes of Health Research (CIHR) through a three-year Team Grant: Impact of Gender on Knowledge Translation Interventions. Total Grant Funding - \$447,000 (CAD).

### **Authors' contributions**

NE: conceptualized and developed the initial draft of the manuscript, contributed to acquisition/interpretation of data, approved the submitted version, agreed to be accountable for the accuracy and integrity of the manuscript.

IBR, LG, IDG, AH, CK, DK, JM, MP, JP, KMS: contributed to acquisition/interpretation of data, substantially revised the manuscript, approved the submitted version, agreed to be accountable for the accuracy and integrity of the manuscript.

SS: conceptualized and developed the larger project, contributed to acquisition/interpretation of data, substantially revised the manuscript, approved the submitted version, agreed to be accountable for the accuracy and integrity of the manuscript.

## Acknowledgements

IDG is a recipient of a CIHR Foundation grant (FDN#143237)

SS is a Tier 1 Canada Research Chair.

KMS is a Tier 2 Canada Research Chair.

## References

1. Canadian Institutes of Health Research. Knowledge translation. 2016.
2. Tannenbaum C, Greaves L, ID G. Why sex and gender matter in implementation research. *BMC Med Research Methodol* [Internet]. BioMed Central; 2016 [cited 2017 Jan 26];16:145. Available from: <http://bmcwomenshealth.biomedcentral.com/articles/10.1186/s12905-015-0251-9>
3. Brehaut JC, Eva KW. Building theories of knowledge translation interventions: use the entire menu of constructs. *Implement Sci.* 2012;7:114.
4. Eccles M, Grimshaw J, Walker A, Johnston M, Pitts N, Baker R, et al. Changing the behavior of healthcare professionals: the use of theory in promoting the uptake of research findings. *J Clin Epidemiol* [Internet]. BioMed Central; 2005 [cited 2017 Sep 25];58:107–12. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0895435604002562>
5. Graham I, Logan J, Harrison M, Straus S, Tetroe J, Caswell W, et al. Lost in knowledge translation: time for a map? *J Contin Educ Health Prof.* 2006;26:13–24.
6. Cane J, O'Connor D, Michie S. Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implement Sci.* 2012;7:37.

7. Michie S, Johnston M, Abraham C, Lawton R, Parker D, Walker A, et al. Making psychological theory useful for implementing evidence based practice: a consensus approach. *Qual Saf Health Care* [Internet]. BMJ Publishing Group Ltd; 2005 [cited 2017 Feb 4];14:26–33. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/15692000>
8. Atkins L, Francis J, Islam R, O'Connor D, Patey A, Ivers N, et al. A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implement Sci* [Internet]. Implementation Science; 2017;12:107–12. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S0895435604002562>
9. Squires JE, Graham I, Bashir K, Nadalin-Penno L, Lavis J, Francis J, et al. Understanding context: A concept analysis. *J Adv Nurs*. 2019;0–3.
10. Nilsen P, Bernhardsson S. Context matters in implementation science: A scoping review of determinant frameworks that describe contextual determinants for implementation outcomes. *BMC Health Serv Res*. BMC Health Services Research; 2019;19:1–21.
11. Crenshaw K. Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Rev*. 1993;43:1241–99.
12. McCall L. The complexity of intersectionality. *J Women Cult Soc*. 2005;30:1771–800.
13. Collins PH. *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment*. New York: Routledge; 2000.
14. Hankivsky O. An Intersectionality-Based Policy Analysis Framework [Internet]. 2012. Available from: [www.sfu.ca/iirp/ibpa.html](http://www.sfu.ca/iirp/ibpa.html)
15. Hankivsky O, Doyal L, Einstein G, Kelly U, Shim J, Weber L, et al. The odd couple: using biomedical and intersectional approaches to address health inequities. *Glob Health Action* [Internet]. Taylor & Francis; 2017 [cited 2017 Nov 18];10:1326686. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/28641056>
16. Hankivsky O. Rethinking care ethics: On the promise and potential of an intersectional analysis. *Am Polit Sci Rev*. 2014;108:252–64.
17. Hankivsky O. Women's health, men's health, and gender and health: Implications of intersectionality. *Soc Sci Med* [Internet]. Elsevier Ltd; 2012;74:1712–20. Available from: <http://dx.doi.org/10.1016/j.socscimed.2011.11.029>
18. Rice C, Harrison E, Friedman M. Doing Justice to Intersectionality in Research. *Cult Stud - Crit Methodol*. 2019;
19. Marshall M, Silva D De, Cruickshank L, Shand J, Wei L, Anderson J. What we know about designing an effective improvement intervention (but too often fail to put into practice). *BMJ Qual Saf*. 2017;26:578–82.
20. Sharma S, Boet S, Kitto S, Reeves S. Interprofessional simulated learning: the need for 'sociological fidelity.' *J Interprof Care* [Internet]. Taylor & Francis; 2011 [cited 2017 Feb 5];25:81–3. Available from: <http://www.tandfonline.com/doi/full/10.3109/13561820.2011.556514>

21. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W, et al. Lost in knowledge translation: time for a map? *J Contin Educ Health Prof.* 2006;26:13–24.
22. Humphrey-Murto S, Varpio L, Wood TJ, Gonsalves C, Ufholz LA, Mascioli K, et al. The Use of the Delphi and Other Consensus Group Methods in Medical Education Research: A Review. *Acad Med.* 2017;92:1491–8.
23. Birken SA, Rohweder CL, Powell BJ, Shea CM, Scott J, Leeman J, et al. T-CaST: An implementation theory comparison and selection tool. *Implement Sci. Implementation Science;* 2018;13:1–10.
24. Thiyagarajah K, Moore J. Intersectionality and Knowledge Translation. OSF; 2018 [cited 2019 Nov 1]; Available from: <https://osf.io/mf7hz>
25. Flottorp SA, Oxman AD, Krause J, Musila NR, Wensing M, Godycki-Cwirko M, et al. A checklist for identifying determinants of practice: A systematic review and synthesis of frameworks and taxonomies of factors that prevent or enable improvements in healthcare professional practice. *Implement Sci.* 2013;8.
26. Richardson M, Khouja CL, Sutcliffe K, Thomas J. Using the theoretical domains framework and the behavioural change wheel in an overarching synthesis of systematic reviews. *BMJ Open.* 2019;9:1–16.
27. Kitto SC, Sargeant J, Reeves S, Silver I. Towards a sociology of knowledge translation: the importance of being dis-interested in knowledge translation. *Adv Heal Sci Educ [Internet]. Springer Netherlands;* 2012 [cited 2017 Feb 5];17:289–99. Available from: <http://link.springer.com/10.1007/s10459-011-9303-6>
28. Nilsen P. Making sense of implementation theories, models and frameworks. *Implement Sci.* ???; 2015;10:1–13.
29. Stinson J. How does Intersectionality Relate to Indigenous and Western Linking Frameworks? [Internet]. 2018 [cited 2019 Dec 5]. p. 3–5. Available from: [www.criaw-icref.ca](http://www.criaw-icref.ca).
30. Kasperavicius, D., et al. Embedding intersectionality: Building intersectional infrastructure for Evidence-Based Implementation Practitioners. Poster presented at: 11<sup>th</sup> Annual Conference on the Science of Dissemination and Implementation in Health. December 4, 2018; Washington, D.C.

## Tables

**Table 1. Overarching considerations when using the intersectionality-enhanced TDF**

It is important to be mindful that though many TDF domains focus on the individual, individuals are impacted by systems and structures of power (e.g., think about how one’s self efficacy is shaped by those in power in the education system). Further, also reflect on how the TDF domains intersect with each other (e.g., think about how the domains of skills, optimism, and identity intersect).
Ask yourself: “Have those delivering and impacted by the intervention/policy, representative of diverse intersecting categories, been involved in the development of the intervention/policy?”



Table 2. Intersectionality suggested prompts for each TDF domain

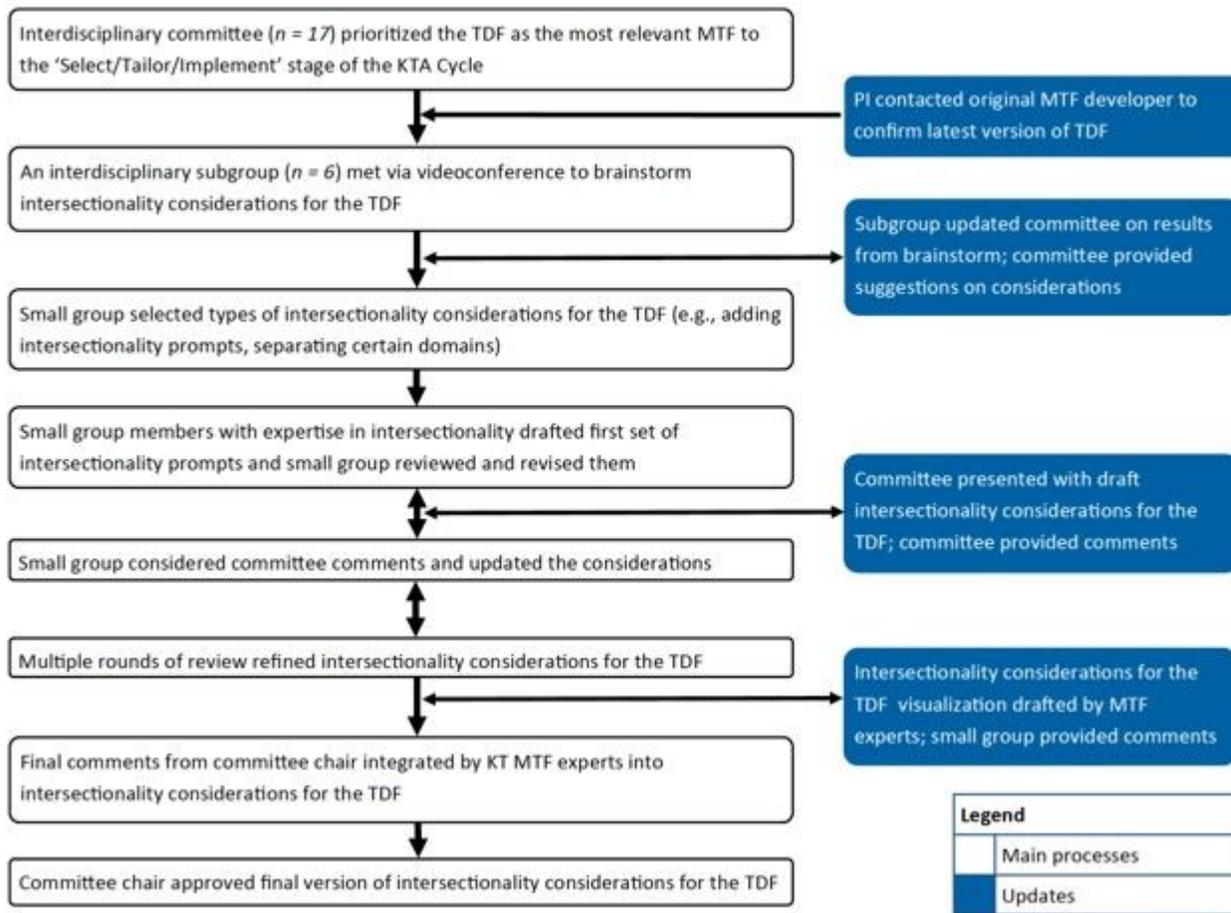
Theoretical Domain	Definition of domain <sup>1</sup>	Intersectionality Prompts
Identity	One's self concept, including one's perception of relevant intersecting and interacting social categories.	<p>Tell me a little bit about who you are as a person. What categories (e.g., race, gender) are important for someone else to know when they are exploring enhancing the way that you work? How do you think these factors affect you doing [target behavior]? Prompt: some people talk about their language/accents, gender, where they live, who they know, etc. [list categories described by respondent]</p> <p>How do these categories intersect to define you?</p> <p>Do you feel these categories influence others' perceptions of you? If yes, how does this shape how you engage with [target behavior]?</p> <p>Are there any categories (e.g., gender) that you feel influence [target behaviour]? How do you think they intersect to influence [target behaviour] for you?</p> <p>Are there social identity categories that you have observed as important for influencing others' engaging in [target behavior]?</p>
Social/Professional Role	A coherent set or expectation of behaviours and displayed personal qualities of an individual in a social or work setting	<p>Do you believe there are intersecting categories that influence your social or professional role? Do you think they influence in a positive, neutral, or negative way?</p> <p>How do you think your intersecting categories influence your role?</p> <p>How do you think your intersecting categories influence your sense of belonging with your team at work?</p> <p>Do you think your intersecting categories influence their beliefs on whether you should or should not perform [target behaviour]?</p>
Emotion	A complex reaction pattern, involving experiential, behavioural, and physiological elements, by which the individual attempts to deal with a personally significant matter or event	<p>How do you think the intersection of [categories listed by participant] (e.g., intersection of occupation and ethnicity) relates to the feelings you have toward [target behaviour]?</p>
Reinforcement	Increasing the probability of a response by arranging a dependent relationship, or contingency, between the response and a given stimulus	<p>Are there rewards for engaging in [target behaviour] that are relevant to the groups you belong to/identify with (e.g., financial awards for female junior scientists)? Are these rewards important to you?</p> <p>Are there incentives not to do [target behaviour] that relate to the groups you belong to or identify with (e.g., engaging in behaviour will reinforce negative gender stereotypes about leadership)?</p>
Knowledge	An awareness of the existence of something	<p>Do you think there is enough evidence for [target behaviour]? How might the intersection of [categories listed by participant] (e.g., intersection of education, age, socioeconomic status) influence whether you think there is enough evidence or not?</p> <p>Where and how did you learn about [target behaviour]? How might the intersection of [categories listed by participant] (e.g., intersection of ethnicity and religion) impact your knowledge about [target behaviour]?</p> <p>From your perspective, what knowledge is required to change or improve [target behaviour]?</p>
Skills	An ability or proficiency acquired through practice	<p>What, if anything, about the intersection of the categories you belong to or identify with makes it easy or hard to [target behaviour]?</p>

		<p>How have your life experiences shaped the social skills required to engage in [target behaviour]?</p> <p>How might structures of power (e.g., racism) impact your access to acquiring skills required for [target behaviour]?</p> <p>Do you think your intersecting categories make it harder or easier to physically do [target behaviour] compared to other people? Why?</p> <p>Have you attended or engaged in any training to do [target behaviour]? If not, why not? In what ways might your intersecting categories influenced whether you attended or how you experienced training related to [target behaviour]? Are there considerations for future training you feel are important based on your experience?</p>
Memory, Attention, Decision Processes	The ability to retain information, focus selectively on aspects of the environment and choose between two or more alternatives	<p>When was a time you forgot to do [target behaviour]? Are there any pieces about your life or personal story related to your intersecting categories that played a role?</p> <p>When was a time you actively decided to do or not to do [target behaviour]?</p> <p>Are there any pieces about your life or personal story that played a role in the decision to do or to not do [target behaviour]? If so, what are they? How and why did they influence your decision?</p>
Behavioral Regulation	Anything aimed at managing or changing objectively observed or measured actions	Are there any specific traditions, practices, or resources from your socio-cultural background that do or would help you make [target behaviour] a habit?
Social Influences	Those interpersonal processes that can cause individuals to change their thoughts, feelings, or behaviours	<p>How do the social groups you belong to/identify with influence [target behaviour]?</p> <p>Do you think the intersecting categories of others influence their beliefs related to [target behaviour]? How?</p> <p>What do you think are other peoples' perceptions of you doing [target behaviour]? Do you think they think it is important to do or not to?</p> <p>Do you feel pressure by the social groups you belong to/identify with to do or not do [target behaviour]? How might these feelings or pressure intersect?</p> <p>What are others' expectations about [target behaviour]? How do their expectations intersect with your expectations about [target behaviour]?</p> <p>How might others' intersecting categories influence their expectations about your engagement in [target behaviour]?</p> <p>Do particular social groups of other people influence your expectations of yourself related to [target behaviour]?</p> <p>Do you feel you have power within the social groups you belong to identify with? How may this feeling of power or lack of power influence [target behaviour]?</p> <p>How might internalized oppression (e.g., internalized racism) impact [target behaviour]?</p> <p>Are there social groups that you do not belong to/identify with that may influence [target behaviour]?</p> <p>How do the people in your life talk about [target behaviour]? What intersectional categories do they belong to? What do they say about [target behaviour]?</p>
Environmental Context and	Any circumstance of a person's situation or environment that	How do your intersecting categories influence your access to the resources you need to do [target behaviour]?

Resources	discourages or encourages the development of skills and abilities, independence, social competence, and adaptive behaviour	<p>Have the groups you belong to/identify with experienced specific benefits or challenges in your current context? How might these benefits or challenges intersect and influence [target behaviour]?</p> <p><i>(e.g., Have you faced racism, ableism, or structures operating in society that create inequalities and reinforce exclusion)</i></p> <p>Have you experienced benefits based on the groups you belong to/identify with (e.g., others identify your professional role based on your gender)?</p> <p>How does where you live and work impact your experience of [target behaviour]?</p> <p>How does your level of education impact your experience of [target behaviour]?</p>
Optimism	The expectation, hope or confidence that things will happen for the best or that desired goals will be attained	<p>How does who you are as a person (e.g., intersection of gender and age) make you hopeful about doing [target behaviour]?</p> <p>How does the intersection of [categories listed by participant] (e.g., intersection of education and socioeconomic status) make you pessimistic about doing [target behaviour]?</p>
Beliefs about Consequences	Acceptance of the truth, reality, or validity about outcomes of a behaviour in a given situation	<p>What do you think the impact is of doing [target behaviour]? What, if any, of your intersecting categories do you think influences your belief that doing [target behaviour] will [outcome stated by participant, e.g. improve healing]? Why or in what ways?</p> <p>If you haven't engaged in [target behaviour], can you describe what you think would happen if you did [target behaviour]? How did you come to this description? How might your intersecting categories influence this description?</p>
Beliefs about Capabilities	Acceptance of the truth, reality, or validity about an ability, talent, or facility that a person can put to constructive use	<p>What about who you are as a person (e.g., intersection of education and gender) makes it easy or difficult for you to engage in [target behaviour]?</p> <p>What about who you are as a person (e.g., intersection of your home in the community and age) makes you more or less confident to make this change? Why?</p> <p>How might experiences of discrimination or oppression based on intersecting categories impact beliefs about your capabilities to do [target behaviour], either for yourself or for others?</p>
Intentions	A conscious decision to perform a behaviour or a resolve to act in a certain way	<p>How motivated are you to do [target behaviour]? What about who you are as a person (e.g., intersection of education and age) makes you motivated or not motivated?</p> <p>How does who you are as a person (e.g. intersection of gender and age) influence whether you have a plan to do [target behaviour]?</p>
Goals	Mental representations of outcomes or end states that an individual wants to achieve	<p>How much of a priority is engaging in [target behaviour] for you?</p> <p>What about who you are as a person (e.g., intersection of socioeconomic status and gender) influences whether or not you want to engage in [target behaviour] relative to your other priorities?</p>

<sup>1</sup>Definitions adapted from Atkins et al.[8]

## Figures



**Figure 1**

Process summary taken by Framework Committee to develop intersectionality considerations for the TDF

## Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [Appendix.docx](#)